93d Congress }
1st Session }

COMMITTEE PRINT

IMPLICATIONS OF MULTINATIONAL FIRMS FOR WORLD TRADE AND INVESTMENT AND FOR U.S. TRADE AND LABOR

REPORT TO THE COMMITTEE ON FINANCE OF THE UNITED STATES SENATE AND ITS SUBCOMMITTEE ON INTERNATIONAL TRADE ON INVESTIGATION NO. 332-69, UNDER SECTION 332 OF THE TARIFF ACT OF 1930

COMMITTEE ON FINANCE
UNITED STATES SENATE
RUSSELL B. LONG, *Chairman*

FEBRUARY 1973

Printed for the use of the Committee on Finance

U.S. GOVERNMENT PRINTING OFFICE
89-020 O WASHINGTON : 1973

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402
Price $9.25 domestic postpaid or $8.50 GPO Bookstore
Stock Number 5270-01708

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WASHINGTON, D. C. 20436

THE CHAIRMAN

January 16, 1973

Honorable Abraham A. Ribicoff
Chairman, Subcommittee on International
Trade of the Committee on Finance
United States Senate
Washington, D.C. 20510

Dear Mr. Chairman:

I am transmitting herewith 25 copies of the report of the Tariff Commission's study of the implications of multinational firms on the patterns of world trade and investment and on United States trade and labor. The Commission made the study pursuant to letters from you and Senator Russell B. Long, Chairman, Senate Finance Committee, dated April 21, 1971. I am also transmitting a copy of the report to Senator Long.

This study is the first undertaken by the United States Tariff Commission on U.S.-based multinational corporations (MNCs) and their implications respecting the international trade, and related matters, of the United States. The study is comprised of eight chapters printed in three volumes. Volume I, or Chapter I, is a summary of the study. Volume II incorporates Chapters II through V which cover such subjects as the implications of the MNCs on the balance of payments of the United States and selected host countries, and their effects on world trade, investment and international finance. Volume III, which embraces Chapters VI through VIII, covers the implications of such concerns on technology transfers, labor, and certain aspects of the legal issues involved in their operations.

The rapid growth of the multinational corporations and their pervasive influence on many aspects of world trade since the end of World War II has had a profound influence upon the economy of the United States and other countries, and accordingly poses many political, legal, economic, and social issues of considerable importance. While the study endeavors to treat with many of these issues, a full, definitive, and comprehensive evaluation of all of the ramifications involved has, understandably, not been completely possible. A major factor, of course, as in any study of this magnitude and complexity, has been the limitation of resources, including particularly the type and quality of available research materials. Inasmuch as most of the limitations are commented upon in the individual chapters, they need be discussed here only briefly in general terms.

As indicated in the Introduction, or Chapter II, of the study, extensive use of a variety of research materials was made. However, the primary data were obtained from the Bureau of Economic Analysis of the U.S. Department of Commerce. Although this study could not have been undertaken without these data, which are yet to be fully exploited for the purpose, they do impose significant limitations both with respect to their nature and the scope of the analytical uses that can be made of them.

In particular, it is to be observed that much of the data obtained from the BEA was from a special census taken of the operations of MNCs for the calendar year 1966. The results of that special census were in turn supplemented by a sample survey of the operations of the MNCs for the calendar year 1970, necessitating a complex procedure of both matching data in the two surveys as well as expanding the 1970 sample in an effort to provide comparability for the two years. The technique employed, while permitting considerable analysis not heretofore possible, had certain obvious disadvantages. The 1966 census embraced all known U.S.-based MNCs, covering some 3,400 U.S. parent companies and about 23,000 foreign affiliates. On the other hand, data relating to the 1970 operations of the MNCs were estimated on the basis of a sample survey of some 298 U.S. parent companies with about 5,200 foreign affiliates. In addition, certain significant data respecting foreign affiliates in which U.S. concerns held less than a majority interest were unavailable, as were certain substantive data on the operations of subsidiary concerns of the foreign affiliates of U.S.-based MNCs. A notable gap relates to the lack of data respecting the imports of the foreign affiliates of U.S. concerns from third countries.

In addition, certain other disadvantages were inherent under the circumstances. The practical necessity of having to use data already available, rather than collecting original source materials tailored to the specific needs or requirements for the study at hand, imposed unfortunate limitations on both the scope and depth of the analysis. Comparisons based on two bench-mark years--in this case 1966 and 1970--are essentially static and prevent effective perception of possible shifts in trends or of other dynamic characteristics of the operations of the MNCs during the short 4-year period in question. 1/

1/ In this connection, it is important to note that the activities of the MNCs, which have been pronounced in the relatively short span of years since the end of World War II, are known to have accelerated sharply in the 1960's, and more comprehensive current data could conceivably show they are now experiencing different behavior patterns.

Further, the difficulties imposed by the procedures involved in the use of an unlike data base for the two bench-mark years were increased by the failure of the respondents to answer fully with respect to certain key data. In turn, these difficulties were magnified for the reason that such data were reported to the BEA in confidence and, to prevent unauthorized disclosure, were released to the Commission in many cases only in the form of incomplete aggregated estimates. 1/

Notwithstanding these problems, the study is, as noted, based upon a wealth of information not heretofore available and presents insights into the significance and nature of the operations of MNCs that would not otherwise have been possible. Clearly, however, from the standpoint of the subject's economic, and possibly legislative significance, there is margin for considerably more substantive research into an area of such magnitude and complexity.

The Commission understands that the Committee plans to publish the report. We would appreciate being advised when the Commission may release it.

Sincerely yours,

Catherine Bedell
Chairman

Enclosures

1/ Data on 1970 employment by the MNCs, for example, were lacking or only partially available for about 600 of the foreign affiliates and for about 30 of their parents in the sample; about a third of the total data reported in 1970 was subject to disclosure considerations which necessitated numerous estimations.

(v)

P R E F A C E

This presentation of the results of the Tariff Commission's study on multinational firms consists of three volumes. Volume One contains a brief statement of the principal findings of the study, followed by a series of summaries of each of the study's eight chapters.These summaries present the findings in somewhat more detail, along with descriptions of some of the supporting evidence. At the end of each paragraph in these summaries will be found (in parentheses) a notation of the pages in the main texts of the chapters where full discussion of the paragraph's subject matter appears. The texts themselves are bound in Volumes Two (chapters I through V) and Three (chapters VI through VIII).

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VOLUME I

SUMMARY OF THE FINDINGS OF THE STUDY

The basic frame of reference for this study is inherent in its title, as transmitted to the Commission from the Subcommittee on International Trade, Committee on Finance, U.S. Senate. The Commission was asked to study "The Implications of Multinational Firms for World Trade and Investment and for U.S. Trade and Labor." Therefore, the research has centered on how the MNCs impact upon world trade, world investment, U.S. trade, and U.S. labor. The research included certain other topics which expand but do not fundamentally alter the study. Among these were:

(1) An extension of the focus on "trade" alone, to a consideration of the impact of the MNCs on the balance of payments as a whole;

(2) A study of the MNCs' role in the international monetary system;

(3) An examination of how the MNCs may have affected flows of technology between the United States and other countries;

(4) A look at some of the legal implications of multinational business.

The conclusions emergent from the research are stated below.

The Impact of U.S.-based Multinational Firms on World Trade

The U.S.-based MNCs are important in world trade, but they do not dominate it, because the bulk of their foreign output--especially in manufacturing industries, the most dynamic sectors of MNC expansion--is sold locally in the countries where it is produced. The MNCs (both parents and affiliates) account for about a quarter of world exports of all commodities and about a fifth of world exports of manufactured

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goods. The MNCs' worldwide exports, notably their exports of manufactured goods, are growing faster than those of the world as a whole--but the growth of MNC-related trade, at least in the 1966-70 period covered in this study, has not been fast enough to produce more than marginal changes in the MNCs' shares of the world trade aggregates.

The Impact of Multinational Firms on World Investment

United States-based direct investors exert a significant influence on the rates and patterns of fixed capital formation in many host countries. This influence is strongest in the manufacturing industries of the Industrial West; in some countries, many of the most important of these industries depend in fact on capital formation by U.S. owners as a principal source of growth and dynamism.

U.S. direct investors in manufacturing spent a total of $6.5 billion on new plant and equipment abroad in 1970, over 42 percent more than in 1966. In six countries--the United Kingdom, France, West Germany, Belgium-Luxembourg, Mexico, and Brazil--which account for almost half of the worldwide total, the MNCs' capital spending in manufacturing rose even faster, by roughly 65 percent. Worldwide, only three industries--chemicals, machinery, and transportation equipment (mainly automotive products)--account for two-thirds of total investment outlays by affiliates of U.S. firms. Broadly speaking, the patterns of foreign direct investment by U.S. firms, viewed across the different branches of manufacturing, tend rather closely to follow their patterns of investment in the United States.

The addition of Canada to the six countries mentioned in the

preceding paragraph fills out the basic seven-country sample for which detailed analysis has been conducted in several parts of this study. In 1970, the U.S.-based MNCs accounted for 13 percent of all capital spending in manufacturing in these countries. In the industrial "backbone" sectors--metals, machinery, and transportation equipment--the proportion is considerably higher, at 22 percent. In machinery alone, it is even higher. Thus, with capital spending at these rates, the MNCs have an important role to play in determining both the sizes and patterns of capital outlays in these countries.

With the exception of West Germany--where the MNCs' plants are roughly as efficient as local plants--U.S. investment in manufacturing generally is much more productive than is new capital put in place by local firms. The Americans have a considerable asset in their ability to allocate capital flexibly, concentrating mainly on the fast-growing, dynamic sectors of manufacturing, where productivity ratios are higher than in the rest of manufacturing. This helps to inflate the impact of U.S. investors on the buoyancy of the industries in which they place most of their investments.

The foreign affiliates of U.S. firms are largely independent of their parent enterprises for financing. Most of their financial life is conducted abroad, and net flows of funds between parents and affiliates are but a small piece of an enormous volume of moving funds.

The Impact of Multinational Firms on U.S. Trade

Do the MNCs displace domestic production by importing more from their affiliates, and do they hamper U.S. exports by using affiliate

output to serve foreign markets?

Viewing aggregate U.S. exports and imports across a spectrum of 29 manufacturing industries, there is a fairly close association between levels of foreign investment and levels of U.S. exports--that is, the industries which are the larger direct investors abroad also tend to be the generators of the larger amounts of U.S. industrial exports, and vice versa for the less important foreign investors. Similar associations also appear between foreign investment levels and U.S. imports, but they are weaker. These aggregate results appear along with strong associations between overseas investment levels and both MNC-related exports and MNC-related imports. The reason for the stronger association on the export side in aggregate trade lies in the MNCs' 62 percent share of total U.S. exports of manufactured goods, which contrasts favorably with their 34 percent share of imports of manufactures.

The foregoing evidence suggests that the MNCs play a larger role as exporters than as importers. But the evidence relates only to the levels of trade. It also is necessary to identify the influence of the MNCs on recent changes in U.S. trade, and to ascertain whether this influence is adverse for the U.S. trade balance.

The problem of isolating and measuring the MNCs' impact on changes in trade levels (new exports and new imports) is difficult. There is no identifiable association between the extent to which foreign investment activity is strong in an industry and the extent to which either (a) that industry has experienced greater import penetration of its

domestic markets, or (b) the ratio between the industry's aggregate imports and exports has changed.

The MNCs could be affecting changes in U.S. exports and imports in either or both of two ways: (1) through their "direct" effect, which should be observable in their own export and import performance, in shipments from and to the United States; and (2) through their "indirect" effect, which is the substitution of foreign affiliates' production for U.S. exports in foreign markets. Industry-by-industry estimates of the direct effects suggest that the MNCs' performance has been highly favorable. From 1966 through 1970, they generated $3.4 billion more in new exports than in new imports, whereas non-MNC firms in manufacturing produced $3.6 billion more in new imports than new exports. Similar estimates for the indirect effects indicate a net gain in new U.S. exports of $400 million over the same period.

Taking the direct and indirect effects together, there were sixteen industries in which net increases of U.S. exports in the amount of $7.3 billion appeared; there were eight industries in which net decreases (or net new imports) totalling $3.4 billion appeared--the total sample size having been reduced from 29 to 24 industries because of unavoidable combinations of industries in the course of the analysis. The overall result for all manufacturing, therefore, shows the MNCs' impact on changes in U.S. trade from 1966 through 1970 to have been favorable by $2.9 billion in net new exports.

This "net" estimate, however, is built up from results for individual industries which vary very widely. In the figures for combined direct and indirect effects, the results range from a positive impact

(net new exports) of $1.4 billion to a negative one of $1.9 billion. The performances of the remaining 22 industries are widely spread between these two extremes. The essential result of the analysis, therefore, is the highlighting of these wide variances in performance. There is no "rule" about trade performance which governs all industries. Each industry's record must be considered separately from the records of the others and the deeper the level of disaggregation, the more accurate the results.

The Impact of Multinational Firms on U.S. Labor

The main question here is whether the spread of multinational business has reduced employment in the United States. This question cannot be answered conclusively, because both the analysis and the answer must depend on crucial assumptions about:

(a) How much of the MNCs' investment abroad was made to preempt foreign markets that would have been lost to foreign competition anyway; and

(b) What portion of the markets now served by the MNCs' affiliates abroad could have been served by U.S. exports of domestic merchandise in the affiliates' absence.

Nevertheless, it is possible at least to estimate the outer bounds of what the direct employment effects of MNC activity in manufacturing may have been. The most pessimistic estimate assumes that if there were no U.S. plants abroad, foreign countries would not replace the output of those U.S. plants with local production but would import the entire output from the United States. Under these assumptions, the presence of U.S. plants abroad represents a net loss of 1.3 million U.S. jobs. A second estimate assumes that foreign countries would replace half the output of their U.S. plants from their own production and import the remainder from the United States. Under these circumstances there is a net loss of 400,000 U.S. jobs.

An attempt was made to frame a set of assumptions that has more realism than those of the first two estimates described. These assumptions assert that, in the absence of the U.S. MNCs, foreigners would not have substituted their own plants for those of the MNCs, but that U.S. exports could reasonably be expected only to have maintained the shares of world exports of manufactures that they held in 1960-61, rather than to have taken completely all the markets served abroad by the MNCs' affiliates. Under these assumptions, the net employment effect in manufacturing shows a gain of roughly half a million U.S. jobs.

Once again, the important point brought out by this analysis is that the employment effects vary widely among industries. Even under the "pessimistic" assumptions of the largest estimate of employment losses, there are a few industries in which gains appear nevertheless. Thus, in the case of employment effects as well as that of trade effects of MNC activity, final judgments can be made only on an industry-by-industry basis.

The Impact of the MNCs on the U.S. Balance of Payments

The principal characteristic of aggregate U.S. balance of payments performance in the second half of the 1960's was, in a word, "deterioration" on a rather grand scale. Yet the MNCs played no role in this deterioration. In the 1966-70 period, their position with respect to the "Basic Balance" (the current account and long-term capital accounts combined) improved by $2.8 billion. Non-MNCs in the private sector, on

the other hand, showed a deterioration of $3.3 billion, so that the aggregate decline for all private sector transactions was $500 million. Most of these changes occurred in the current account (the sum of trade and services transactions, interest and dividend remittances, and unilateral transfers such as pension payments).

In the overall balance of payments, transactions with Canada and Japan have been the chief factors responsible for the deteriorating aggregate U.S. performance. Excluding these two nations, in fact, reveals an actual improvement over the 1966-70 period--by about $1 billion on current account and $1.7 billion in the basic balance. The MNCs were an important factor in the adverse shift of the U.S. balance of payments with Canada--chiefly because of trade in autos. In the Japanese case they improved their position--a sharp contrast against the general deterioration of the U.S. balance of payments with Japan on non-MNC account.

The MNCs' Role in the International Monetary System

The international money markets have many participants. It is beyond dispute that the persons and institutions operating in these markets have the resources with which to generate international monetary crises of the sort that have plagued the major central banks in recent years. As a group, private institutions on the international financial scene controlled some $268 billion in short-term liquid assets at the end of 1971--and the lion's share of these assets was under the control of multinational firms and banks headquartered in the United States. This $268 billion, all managed by private persons

and traded in private markets virtually uncontrolled by official institutions anywhere, was more than twice the total of all international reserves held by all central banks and international monetary institutions in the world at the same date. These are the reserves with which central banks fight to defend their exchange rates. The resources of the private sector outclass them.

Because $268 billion is such an immense number, it is clear that only a small fraction of the assets which it measures needs to move in order for a genuine crisis to develop. The international money market, possessing such a _masse de manouevre_ as well as an efficiency and flexibility unknown in the past (even the recent past), can focus with telling effect on a crisis-prone situation--some weak currency which repels funds and some strong one which attracts them.

Because such a small proportion of the resources of the MNCs is needed to produce monetary explosions, it appears appropriate to conclude that destructive, predatory motivations do not characterize the sophisticated international financial activities of most MNCs, even though much of the funds which flow internatioaally during the crisis doubtlessly is of MNC origin. Rather, the important role of the MNCs has been to provide the primary creative force in the development of the international money market, a market which is now fully institutionalized as a reality of international financial life. This is the sense in which the MNCs indeed have altered the conditions around which the policies of governments are framed.

Technology, R&D, and the Multinational Firm

Multinational corporations based in the United States dominate the development of new domestic technology. They also are the principal institutions through which technology in its various forms is exported and imported. As reflected in massive royalties and fees--net inbound flows of which reached nearly $2.3 billion in 1971, with the MNCs accounting for an estimated 90 percent--exports of technology outweigh imports by a factor of more than ten to one. Net inbound royalties and fees are considerable relative to total R&D spending in the United States. In 1970, for example, they were equivalent to about 11 percent of the $17.9 billion spent on R&D by all industries, and to about 23 percent of total R&D spending ($10.1 billion) financed by company rather than Federal funds.

High technology industries, characterized by high levels of R&D spending by the MNCs relative to total domestic sales of all firms in those industries, have tended in recent years to put more new direct investment abroad (compared with investment at home) than have the medium and low technology industries. New domestic investment by the high technology industries from 1966 through 1970 was about 3.7 times as great as the MNCs' new foreign investment--but in the medium and low technology industries the levels of new domestic investment were nine and ten times larger than the amounts of new capital placed abroad.

Inasmuch as the high technology MNCs are the major developers and exporters of U.S. technology, as well as the major investors

abroad, it would seem almost a foregone conclusion that the MNCs must have had a causal role in the United States' recent declining comparative advantage as a trader of high technology products. This is not the case. The high technology industries are prominent as generators of MNC-related exports of high technology goods from the United States, but much less prominent with respect to MNC-related import trade in the same class of products. More important, changes in MNC-related trade (new exports and new imports) over the 1966-1970 period show the MNCs clearly outpacing the non-MNCs in the high technology industries as generators of net new exports (new exports less new imports). Over the period, the MNCs in the high technology industries generated some $6.1 billion in net new exports; the non-MNCs in the same industries generated about $2.1 billion in net new imports. Thus, the MNCs outperformed their non-multinational U.S. competitors by about $8.2 billion. Set against these direct effects were indirect effects which, at the most, may have cost U.S. exporters some $1.5 billion in new shipments due to the competition of the MNCs' foreign affiliates in foreign markets. Therefore, the MNCs appear on balance to have helped rather than hindered the expansion of U.S. trade in high technology goods.

Some Legal Implications of Multinational Business

The study's treatment of legal matters is limited to five major subjects: (1) U.S. and foreign antitrust regulations and practices; (2) tax issues and their impact on multinational business; (3) The jurisdiction of international tribunals in foreign investment controversies; (4) Extraterritorial features of the Securities and Exchange Act; and

(5) U.S. foreign direct investment controls.

U.S. and foreign antitrust laws

The United States antitrust laws are based on the premise that a freely competitive economic system is the most efficient and desirable one. This view is not necessarily shared by America's trading partners and competitors, who sometimes feel that restrictive business practices are not *per se* undesirable and may, in many instances, be beneficial to economic growth and development. American efforts to regulate the conduct of MNCs through application of the antitrust laws internally and extraterritorially have in the past engendered both conflict with the laws of other nations and criticism by foreign and domestic experts. Foreign nations are concerned with what they view as inroads into their regulatory jurisdiction by the laws of the United States.

Tax Issues

Although varying opinions exist as to the effects of tax factors on international investment, it is felt generally that while tax considerations always are relevant, they seldom are dominant in the MNC's decision to invest abroad. United States tax laws in the foreign area have been criticized from points of view both favoring and discouraging foreign direct investment.

International tribunals

International tribunals, such as the International Court of Justice of the U.N., adjudicate controversies between nation states. Private parties may have claims brought before international bodies if the state of their citizenship is willing to espouse the claim. Jurisdiction over any dispute depends on the consent of the states involved to

permit adjudication by an international organization and to be bound by any decision. States which consent to jurisdiction often have the habit of attaching qualifying clauses to their declarations of consent that can effectively vitiate any decision on the merits. An international tribunal has the right to determine its own jurisdictional scope and generally will not decide a case which could prejudice the rights of third parties before the court. A party cannot lay its claim before an international tribunal until it has exhausted its local remedies. Practical problems with international tribunals include the lack of judicial review of decisions, the high cost of litigation, the diverse backgrounds of judges (which make a unified legal approach difficult), and--most important--the lack of power to enforce decrees.

Extraterritoriality of the Securities and Exchange Act

The SEC Act can apply extraterritorially to isolated acts outside the United States which result in transactions that are prohibited within the United States. The multinational corporate entity which desires either to issue securities in the United States or to participate in isolated transactions in U.S. securities may find itself subject to the requirements of the Securities and Exchange Act.

U.S. foreign direct investment controls

In general, these controls set limits on the amount of investment which can be made by U.S. investors in foreign business organizations during a calendar year. The regulations also prohibit holding certain "liquid foreign balances" and impose reporting requirements. The controls have been criticized domestically as being inequitable and burdensome and as forcing the borrowing of funds abroad--although some

argue that forcing the financing of the MNCs' investments into foreign capital markets has a favorable balance of payments effect. Foreign criticisms concern the possibility of U.S. encroachment on national sovereignty and possible prejudice to the rights of foreign minority stockholders in the MNCs.

Summaries of the Chapters

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Chapter I. Introduction

The spread of multinational business since the end of World War II ranks as one of the major events of modern economic history. The purpose of this study is to analyze its costs and benefits. Emphasis is placed on the United States, but much attention will be given to key foreign countries in which the operations of the U.S.-based multinational corporations (MNCs) are important. (pp. 77-78)

Social and economic developments of this magnitude always have mixed effects; they bring benefits and costs. Seeking first whatever balance between the two may exist in the aggregate, the study also aims for the more detailed perspective needed for an understanding of the character of the particular gains and losses involved. (p. 78)

The present chapter is no more than its title implies--an introduction to this complex subject, which, so far as extant research and knowledge are concerned, remains on the frontiers of the principal disciplines it touches: economics, international law, and history. The aims of this chapter are to pose the necessary questions, place them in reasonable perspective, and describe briefly how the remainder of the study will proceed. After a brief discussion of the genesis of the study, the MNC is defined--in terms of how the concept will be used operationally in the study--and the outline of the project as a whole is briefly described, along with a short résumé of the sources of data and information that have been tapped to do the job. Subsequent sections

discuss the historical antecedents of the modern MNC (there are few of them) and trace the general outlines of its expansion in the current century, especially since 1950. There follows a review of the commonly stated reasons for foreign direct investment, after which an attempt is made to outline all the alleged evils and virtues that have been attributed to the MNC by its detractors and its friends. Against this background, the major questions for research are summarized.(pp. 84-86)

History and modern development of the MNC.--For centuries, merchants and bankers served as the prime movers in economic contacts that took place among nations. Perhaps the fullest development of the merchant firm as an institution was found in the great charter trading companies of the 17th and 18th centuries. These were essentially alliances between governments (contributing sovereignty, authority, and sanctions) and private persons (contributing capital) to gather under single, coherent managements the political, military, and economic tasks of colonial expansion. (pp. 89-91)

Except in size and management efficiency, the modern MNC bears little resemblance to these merchant colossi. It is an offspring of the industrial revolution (the child of its old age, some think). With the possible exception of multinational banking, which is growing very fast, international business today is dominated by companies involved in some way with making things--either as extractors of raw materials and fuels, or as manufacturers of all manner of products.(pp 91-94)

During the 50 to 75 years before the middle of this century, one could catch only glimpses of the development of multinational business

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that was to come later. The resource-based, extractive industries of the industrial economies were the first to leave their home countries in search of investment opportunities, as domestic mineral and fuel reserves became, or threatened to become, inadequate to meet the insatiable demands of the advanced nations. However, foreign direct investment in manufacturing soon followed. Even before the turn of the century, a few of the largest U.S. firms had established production abroad--General Electric and Singer, for example. Generally, however, the industrialists of the major European countries had a head start on their U.S. colleagues in the foreign-investment field. Their economies had industrialized somewhat sooner than the United States and, more important, they were smaller; it took relatively less time than in the United States for a growing firm to look towards foreign markets for faster-than-average sales growth. As recently as 1950, European direct investments in the United States exceeded U.S. investments in Europe by a few hundred million dollars. Worldwide, investment patterns tended to follow patterns of political influence of the home countries. The Europeans concentrated on the colonial empires of Asia and Africa, plus Canada, Australia, and South Africa, while the U.S. investors focused on Latin America, where the Monroe Doctrine had carved out a significant sphere of influence. (pp. 91-94)

The outbound flow of direct investment from the United States "took off" only after World War II; its book value literally skyrocketed from less than $12 billion in 1950 to $78 billion in 1970. Both its geographic focus and its industrial character changed equally as dramatically. For

many years, Canada was the favorite site for the U.S. direct investor, and it is still important. But the stock of U.S.-owned capital in Western Europe caught up fast, surpassing the Canadian figure for the first time in 1969. Meanwhile, U.S. direct investment in the less-developed countries (LDCs)--including Latin America, a traditional preserve of U.S. capital--has grown much more slowly than investment in the industrial countries during the last two decades. The relative decline in the importance of the LDCs as sites for direct investment is partly connected with parallel deemphasis on investment in the extractive industries relative to investment in manufacturing. Mining, oil, and agricultural investments abroad have expanded much more slowly than investments in manufacturing industries, which almost tripled their foreign holdings from $11 billion in 1960 to $32 billion in 1970. Manufacturing now accounts for the largest single share (41 percent) of U.S.-owned overseas direct investment. (pp. 94-106)

To sum up--multinational business, developed out of direct investment activities which the Americans have dominated since World War II, has centered increasingly on U.S.-owned manufacturing enterprises in the advanced economies of Western Europe and Canada. Other industries and the LDCs have received increasingly smaller shares of total outbound capital flows over the last two decades. (pp. 94-106)

Why does direct investment capital move abroad?--The question of why direct investment capital moves abroad can seem exceedingly complex. Slicing through to fundamentals, however, there are two basic motivations for placing direct investments outside the home country, aside from the obvious one of the extractive industries, which dig where the oil and ores are. By far the more important motivation is to tap foreign markets, which absorb more than 90 percent of the output of U.S.-owned foreign firms. This is sometimes cast in terms which stress the need to preserve or preempt market shares from actual or potential competitors, both U.S.- and foreign-based. It also appears in more positive forms, which stress the marketing strategies of large firms whose continued rapid growth must depend on developing new markets outside the home base, markets whose more or less unique requirements often cannot be efficiently served via exports from domestic operations. There are many refinements, variations, and subtleties that can be added in describing this market-oriented motivation, yet they all relate to the essential characteristic--that capital moves because of opportunities or threats appearing in foreign markets. The salesman's viewpoint rules. Cost considerations take second place. (pp. 108-128)

Cost factors, the second basic motivation for capital flows, count first only in a particular set of circumstances. Here, there is also a market-focus element, but it relates to domestic, not foreign markets. The cases of this class in which U.S. firms have shifted production abroad, usually to LDCs, are famous and controversial, although they do not account for a very large portion of total U.S. foreign direct investment. These are the consumer electronics, footwear, toy, and apparel industry cases (plus some others), where foreign output is almost all returned for sale in the U.S. market and where cost considerations--principally the search for low-wage labor--played the major role in the decision to invest abroad.(pp. 114-119)

The MNCs as villains: the alleged problems.--In the United States, public and private criticism center primarily on economic issues. There have been clear-cut and well-publicized examples of domestic factory shutdowns, with output from these now-defunct enterprises replaced by imports from new, "runaway" plants built overseas by foreign direct investors. Unemployment and greater import penetration of the U.S. market have resulted. Many critics have generalized from these cases to allege that such developments, or the potential for them, are a basic, general characteristic of multinational enterprise. This criticism is bolstered by a related

one, namely, that, even where "runaway" investment is not important and import penetration from overseas investments is minimal, U.S. exports to foreign markets are damaged heavily by competition from the output of U.S.-owned plants in those markets. The alleged result is less U.S. production for export, more unemployment in export industries, and an adverse effect on the trade balance. (pp. 129-130)

Critics allege, too, that the balance-of-payments effects are even more widespread than merely those occurring on trade account. Admitting that dividend and profit remittances now reach large proportions, they wonder if these may not be too small and come too late in relation to continued heavy outflows on capital account. Looking at the United States' heavy surplus in "royalties and fees," they question whether these may not simply measure an inadequate return on outbound transfers of technology which the MNCs have relinquished forever to foreigners from the scientific and technological patrimony of the United States. Finally, they view the murky, highly technical, international financial activities of the MNCs and ask whether their allegedly disruptive effects on the international monetary system may not be leading to chaos. (pp. 139-145)

Abroad, these kinds of economic arguments pale in importance. Foreigners are more convinced, in general, of the economic benefits of multinational business, at least as seen from their points of view.

They make political arguments and stress social questions. They fear the prospect of foreign domination of their industries. They fear that the MNCs may soon be too large to control, so that on basic questions of national policy--especially economic objectives--the MNCs can subvert governments' intentions. They worry that the admitted economic benefits of the MNCs' presence in their countries could be denied them should the MNCs opt to arrogate the gains to themselves via unchecked monopolistic abuse of market forces. (pp. 131-133,137-38)

The MNCs as heroes: the alleged advantages claimed by the MNCs and their friends.--The MNCs' boosters argue that the terrors cited by the critics are absent or, even if present, they do not characterize most multinational firms' activities and are insignificant compared with the economic and social benefits that the MNCs bring to the world as a whole and to individual countries. These benefits are centered on the results of efficient management, better marketing, and economic integration. They mean more employment, higher wages, and higher living standards--plus, some say, a more stable world because the MNCs are getting powerful enough to keep governments from getting involved in wars that would upset the opportunities for continued international business on a large and profitable scale. (pp. 153-165)

The "runaway industry" argument is rejected by the MNCs' friends as an exaggeration of a real but small problem. They argue that the general result of MNC operations is, in the end, a net contribution to the U. S. balance of payments and a higher level of employment in the United States than there would have been in the absence of MNCs.

The companies themselves tend to argue defensively--that they "must" go abroad to protect foreign markets from predators, but that, in doing so, they try hard to be good corporate citizens and frame their operational policies to render minimum disruption and maximum benefit to the U.S. economy. In any case, they claim that their failure to go abroad would have left the United States worse off than it is. Others argue more positively--that the Americans are better at multinational business than anybody else and that, because of this, they have set the world on a course of growth and progress that redound to the concrete benefit of everyone, including the United States. An investment abroad is not automatically a loss for the United States, even if it is a gain for the foreigner; it is a gain for the United States as well, because of the "feedback" effects that come from the processes of faster growth, technological progress, and international trade. (pp. 160-163)

Crucial questions.--There are dozens of separate questions that must be asked and answered if research on the economic and social impact of the MNCs is to be done adequately. Just as in dealing with issues of trade, the balance of payments, investment patterns, international finance, technology, labor, and international business law are separate facets of the everyday existence of the large multinational company, so they must be separate chapters in a study of this sort. (pp.165-66)

Nevertheless, all the particular questions eventually boil down to one fundamental query: "Do foreign direct investments by U.S. firms

substitute for domestic investment in the United States, or do they complement it?" If the "substitute" relationship rules, then an economic loss for the United States follows upon a gain for the foreigner. Of course, the foreigner's gain may exceed the loss to the United States, in which case the world as a whole has gained--but this is an issue which, from the viewpoint of the U.S. national interest, must be squarely put. On the other hand, if complementarity occurs, it will not be difficult to find that all countries gain simultaneously. (p. 167)

Chapter II. Impact of the multinational firm on the United States and foreign balances of payments

The aim of this chapter is to describe and compare the balance of payments performance of the MNCs and the performance of the private sector of the United States as a whole, and then to make similar comparisons for seven key countries in which U.S. foreign direct investment is an important economic influence. These countries are Canada, the United Kingdom, Belgium-Luxembourg, France, West Germany, Brazil, and Mexico. (pp. 168-172)

Impact on the United States.--The principal characteristic of aggregate U.S. balance of payments 1/ performance in the second half of the 1960's was, in a word, "deterioration" on a rather grand scale. This was not necessarily true for the MNCs, however, when their record is compared with that of the non-MNC portion of the private sector. In 1970, the current account of the U.S. balance of payments remained in surplus by $5.6 billion, despite a decline of $1.6 billion over the 4-year period since 1966. The MNCs accounted for most of the 1970 surplus. They showed a positive balance of nearly $8.5 billion versus a non-MNC deficit of $2.8 billion. In the 1966-70 period, the MNCs' showing on current account improved by some $2.0 billion, as against a deterioration of $3.6 billion for the non-MNC portion of the private sector. In the trade account, the surplus generated by the MNCs ($2 billion) accounted for almost the entire surplus in 1970, whereas

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1/ See footnote 1, p. 172 of Chapter 2, for a brief description of how the balance of payments is constructed and of the terminology used in balance-of-payments accounting.

the non-MNC share had fallen by nearly $1.7 billion over the period, to a net trade balance of zero. Net services flows of $6.4 billion generated by the MNCs offset a non-MNC deficit on services of nearly $2 billion in 1970; the improvement over the period of nearly $2 billion on the MNCs' services accounts contrasts with a deterioration of almost $1.5 billion for the non-MNCs.(pp. 172-189)

Due to high net long-term capital outflows, the basic balance figures are smaller than those for the current account, but the worldwide results for the MNCs as opposed to non-MNCs correspond to those of the current account. In the aggregate, the basic balance surplus declined by about $500 million, falling from $4.2 billion in 1966 to $3.7 billion in 1970. But the contribution of the MNCs was strongly favorable, showing a net gain of $2.8 billion. This gain was composed of the aforementioned $2.0 billion improvement on current account, plus about $800 million on capital account--the latter arising partly from a reduction in long-term capital outflows and partly from an increase in inbound capital flows over the period. 1/ (pp. 189-194)

If the U.S. balance of payments is examined geographically, the United States shows a really serious deterioration in its bilateral balance of payments performance with only two countries--Canada and

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1/ This and subsequent discussions in this chapter stop short of considering liquid capital flows and their balance of payments effects. These flows have been unstable and they have tended to dominate the balance of payments in periods of monetary crisis. The MNCs have had a considerable hand in generating them. However, the discussion here aims to discover underlying, basic trends and relationships having to do with payments flows. Consideration of the highly unstable flows of liquid, short-term funds and of their monetary effects, which indeed are important, is presented in Chapters V and VI of this study.

Japan. In fact, excluding those two countries, the aggregate balance of payments with the rest of the world actually improved over the period, by about $1 billion on current account and $1.7 billion in the basic balance. In the Canadian case, the MNCs played an important role in the adverse shifts of the balances. With respect to Japan, however, the MNCs turned in an improving performance that contrasted sharply with the much larger general deterioration of the U.S. payments balances with Japan on non-MNC account. Interestingly, however, the MNCs' positive effect with respect to Japan--where U.S. direct investment is quite light--probably was relatively weaker than the effect generated by the MNCs in countries where direct investment by Americans is heavy. (pp. 195-201)

It is also of significance that, outside of Canada and Japan, the MNCs led the general improvement of the current and basic balances, with gains that consistently exceeded those realized in the aggregate between 1966 and 1970. This appears to be the case both for six European and Latin American countries in which MNC investment is heaviest (Mexico is an exception) and for a second category labelled "rest of world." However, the MNC surpluses among the Six arise chiefly from trade transactions, which in turn reflects the preponderance of manufacturing activities in the MNC operations in these countries. The "rest of world" group shows a different pattern--the contribution of MNC trade flows to the balance of payments nearly loses significance, while the income accounts (interest, dividends, and branch earnings) assume a very strong role. This result is linked

to the heavy weight of the extractive industries (including petroleum) in MNC investment in the non-industrial countries.(pp. 201-205)

Impact on other countries.--Because of data inadequacies, it has been necessary to limit consideration of the MNCs' impact on foreign balances of payments to a discussion only of the MNC affiliates' dealings with the United States and the payments flows which they generate. This approach has shortcomings--especially evident in the trade figures--which are discussed in the text on pp.207 through 209. However, several items of interest are captured by the data that are available, including all of the important flows that move between parent firms and affiliates. With this information, it is possible to reach some fairly definite conclusions about the effect on foreign balances of payments of the MNCs' dealings with their home country. (pp. 206-210)

The most consistent of these conclusions is that the MNCs, in their transactions with the United States, exert a uniformly large, negative impact on the current accounts of balances of payments of the host countries. (Conversely, of course, they have a favorable impact on the corresponding account of the U.S. balance of payments.) Except for Canada, moreover, this negative impact increased in size over the 1966-70 period. In Canada, the MNCs produced a strong current account gain for the global balance of payments over the period. (p. 210)

Despite the MNCs' uniformly negative impact on current account in foreign countries, however, most of the countries under review showed strongly positive current account performances on a global basis by 1970. The exceptions were Mexico and Brazil, both of which

had sizeable deficits to which the MNCs contributed in substantial part. In the capital accounts--which generally tend to be positive on a global basis--the MNCs' capital transactions with the United States tended to exert a strong positive influence in 1966 and 1970. To at least some extent, therefore, inbound, MNC-generated capital flows have the effect of offsetting sizeable current-account deficits.(pp. 210-212)

The offsets are not complete. Two of the seven countries showed global basic balance deficits in 1966 while three yielded up basic balance shortfalls in 1970. As for the MNCs, their overall effect on the basic balances was negative in six of the seven countries reviewed in 1966, and in five of the seven in 1970. Moreover, except for Canada and Mexico, the change in the MNCs' impact over the period was fairly strongly adverse--that is, the MNCs' adverse influence on the basic balances increased. Thus, the appropriate conclusion for the seven countries surveyed is that the MNCs, in their dealings with their parent country, exerted a large and growing negative or adverse influence on host-country balances of payments. Again, this is of course merely the obverse of the generally positive effect which the MNCs have been shown to have on the U.S. balance of payments. (p. 212)

Chapter III. The multinational firms in world trade

This chapter has the dual objectives of assessing the MNCs' impact on (a) world trade and (b) U.S. trade. In the former case, the U.S.-based MNCs are found to be important in world trade, but not to dominate it. The bulk of the output of the MNCs' majority-owned foreign affiliates (MOFAs) is sold locally in the countries where it is produced. The MNCs--both parents and MOFAs--account for about a quarter of world exports of all types of merchandise and for roughly a fifth of world exports of manufactured goods. Between 1966 and 1970, as world exports increased by 53 percent, the MNCs' global exports rose by 69 percent. Because of the MNCs' still relatively low share in the total, however, the faster growth of MNC-related shipments produced only marginal increases in their shares of total world exports. Thus, while the MNCs definitely are a dynamic force in world trade--expecially as regards rising exports of manufactured goods by the MOFAs--the MNCs cannot be said to have "led" the growth of world exports in any significant way.(pp.278-81)

The analysis of the MNCs' impact on U.S. trade covers a basic group of 29 manufacturing industries, with special attention to the wide differences in performance which arise among them. The first part of the analysis compares levels of MNC investment abroad with a number of aggregate and MNC-related U.S. export and import measurements. The aim is to discover whether high levels of overseas investment in an industry tend to be associated with high levels of U.S. exports, U.S. imports, or both--conversely for industries in which overseas investment has been relatively small. The findings are that industries which are the

larger investors abroad also contribute the most to aggregate U.S. exports, whereas industries in which MNCs are less important also are less important exporters. There may be a similar, but considerably weaker relationship on the import side. Moreover, there appears to be no association between the extent to which an industry does or does not invest heavily abroad and the extent to which either (a) aggregate imports increased their penetration of the industry's domestic market in the 1966-70 period, or (b) the ratio of the industry's imports to its exports changed during the period. (pp. 321-330)

On the other hand, levels of investment abroad do correlate strongly with both exports and imports that are generated specifically by the MNCs. The export effects thus measured spill over to affect aggregate export trade because, in general, the MNCs account for a large share of U.S. exports of manufactured goods--62 percent. The import effects of MNC-generated trade affect aggregate imports only weakly, however, because the MNCs' average share of total imports of manufactured goods is much lower, at 34 percent. (pp. 322, 330-331)

The final sections of this chapter focus on comparisons, industry-by-industry, of the changes in trade (new exports and new imports) generated by the MNCs and by non-MNCs. There are two possible ways in which the MNCs could be affecting U.S. exports and imports. The first of these--the "direct" effect--consists of the observable changes in the MNCs' own trade performance, i.e. the U.S. exports and U.S. imports which they themselves generate. The second possible impact--the "indirect" effect--is that produced by the alleged robbery of

markets from U.S. domestic exports by the MNCs' foreign affiliates. (pp. 333-34)

A separation of the MNCs' from the non-MNCs' performance in generating new trade over the 1966-70 period shows a generally favorable direct effect on the MNCs' part. The MNCs rang up a balance of net new exports (new exports minus new imports) of $3.4 billion, whereas the non-MNCs showed a rising deficit, an increase of $3.4 billion in net new imports. However, there was wide variation in the performances of the MNCs in individual industries. The results ranged from $717 million in net new exports to $230 million in net new imports. (pp. 334-344)

Estimates of the indirect effects depend on an important assumption about whether, in the MNCs' absence abroad, U.S. exports of domestic goods would have been able to capture the overseas markets served by the MNCs' foreign affiliates. The assumption adopted strives for realism in postulating the degree to which U.S. exports are competitive abroad. It takes as a standard U.S. exports' shares of the aggregate market served in 1966 by U.S. exports and affiliates' sales combined. It then posits that U.S. exports, in the absence of the affiliates, could reasonably be expected to have garnered half of whatever increased shares of the market the affiliates actually obtained in the 1966-70 period. The analysis then proceeds to estimate what U.S. exports would have been under the assumption adopted, and to compare these estimates with the actual levels of U.S. exports in each industry in 1970. If the estimates were higher, a "loss" of exports was involved for the U.S. as a result of affiliate activity abroad; if they were lower, a "gain" occurred. (pp. 345-346)

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The results of these calculations show an estimated net gain in new U.S exports, via the indirect effect, of about $400 million. Once again, there were wide differences among gains and losses in different lines of activity. The largest individual industry gain was $1.4 billion in new U.S. exports; exports in this industry were that much larger in 1970 than they would have been in the MNCs' absence abroad. The largest estimated loss is $1.8 billion. (pp. 346-350)

Finally, the gain/loss calculations for both the direct and indirect effects are combined and the overall results are arranged in two groups--those industries which showed net gains in new exports and those which showed net losses. For manufacturing as a whole, the estimated net effect of MNC activity on changes in U.S. trade in the 1966-70 period was an overall gain of $3,850 million in net new exports. Sixteen industries showed net gains aggregating to $7,285 million. They considerably outperformed the eight industries of the second group which produced net losses totalling $3,435 million. Clearly, therefore, an important result of the entire analysis is to demonstrate how widely the effects--both direct and indirect--vary among industries. No analysis in this field is complete without due attention to these variations. (pp. 350-352)

Chapter IV. Impact of the Multinational firm on world patterns of investment

U.S.-based direct investors have had a major impact on both the rates and patterns of gross fixed capital formation in host countries around the world. The influence of the U.S. direct investor in the manufacturing industries of the industrial West has been pervasive, and many of the most important of these industries depend in fact on capital formation by U.S. owners as a principal source of growth and dynamism. (p. 391)

In the years 1966 through 1970, capital spending in manufacturing in the United States and seven key countries selected for analysis in this report 1/ totaled more than $245 billion. Almost exactly half of this occurred in the United States. Despite variability in some respects, certain convergent tendencies can be recognized among investment rates in the United States and those in the seven countries which collectively account for two-thirds of U.S. overseas direct investment activity. Industry groups which showed average growth in investment greater than the mean for manufacturing as a whole in the United States had the same tendencies abroad relative to average investment growth rates abroad. The most notable exceptions were in the United Kingdom. Moreover, there are close similarities between investment patterns in the United States and those in the other seven countries averaged as a group. Not only are the proportions of total investment accounted for by each major

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1/ Canada, United Kingdom, Belgium-Luxembourg, France, West Germany, Brazil, and Mexico.

industry group similar in magnitude, but the rankings of industries as spenders of capital funds also are nearly identical. (pp. 393-397)

In 1970, total plant and equipment spending in manufacturing by U.S. direct investors abroad reached $6.5 billion, up more than 42 percent from $4.6 billion in 1966. In six countries of the sample group (Canada excepted), capital outlays of U.S.-owned affiliates rose half again as fast as spending of U.S. affiliates in the world as a whole; they increased by roughly 65 percent, from $1.9 billion to $3.1 billion, and raised these countries' share of the world total from 41 percent to 48 percent. Worldwide, only three industries--chemicals, machinery, and transportation equipment (essentially motor vehicles)--account for about 66 percent of total investment outlays by U.S. affiliates. For the seven sample countries, the proportion is even higher--70 percent. Broadly speaking, the patterns of foreign direct investment by U.S. MNCs, viewed across the different branches of manufacturing, tend to follow their patterns of investment in the United States rather closely. (pp. 399-410)

When capital spending data for the U.S. MNCs are compared with total figures for manufacturing in the economies in which they operate, the results are impressive. They show that, in 1970, out of total manufacturing capital expenditures of $29.7 billion in the seven countries combined, affiliates of U.S. firms accounted for no less than $4.2 billion, or 13 percent. In the industrial "backbone" sectors--metals, machinery, and transportation equipment--the proportion was far greater, or 22 percent. With capital spending at these rates,

the U.S.-based affiliates clearly exert a major influence on both the size and patterns of capital outlays in the manufacturing sectors of these seven countries. This characteristic is particularly marked in Europe, in the large, highly developed, diverse economies which by most measures are rivals to the United States in industrial sophistication. Among the individual sectors of European industry, the role of the Americans stands out starkly in the machinery branches. Here, the Americans account for about a quarter of total capital investment flows, and the proportion rises even higher if transportation equipment (the automotive industry) is included. (pp. 410-414)

With the single exception of West Germany, U.S. investment in manufacturing in the seven host countries is generally more productive than is new manufacturing capital formation generated by local firms. In West Germany, the productivity ratios for U.S.-based firms and local firms are about equal. (pp. 414-416)

These productivity comparisons are calculated for all manufacturing rather than on an industry-by-industry basis. A reason for the wide gaps between MNC productivity and all-firm productivity abroad is traceable to the MNCs' ability to allocate capital flexibly. The MNCs, better able to place their investment in dynamic, highly productive industries, not only show better productivity but also tend to become more important investors in the fastest growing and most productive industries of the host countries.(pp. 417-418)

A review of the broad outlines of MNC financing strategy indicates that, in large measure, foreign affiliates of U.S. firms are largely

independent of their parent companies for financing. Most of their financial business is conducted outside the United States, and net flows of funds between parents and affiliates are but the tip of an enormous iceberg of churning funds. A set of sources/uses estimates of funds received and paid by all U.S. MNC affiliates in the five-year period 1966-70 reveals a cumulative flow on the order of $130 billion--roughly $25 billion a year. Only about 15 percent of this total was used for profit remittances to parent firms at home, an amount identical with cumulative flows of capital from those firms on the "sources" side of the ledger. The remaining 85 percent or so was divided about equally between additions to fixed capital and increases in working capital. In the "sources" column, the important point is that about 85 percent of affiliates' funds came from non-U.S. sources. About a third of this consisted of affiliate borrowing outside the United States; the rest was generated internally by the affiliates, principally via depreciation and related charges and retained earnings. (pp. 418-26)

This information sheds light on an important question surrounding the operations of the MNCs. If the movement of the MNCs abroad is to be viewed as a loss of some sort to the U.S. economy, it becomes necessary to judge whether this loss could have been averted, or whether the failure of the MNCs to invest abroad might have inflicted a still greater loss. The MNCs contend that, in their absence, the markets which they now serve--partly from the U.S., partly from affiliates--would have been lost to foreign competition. Their opponents argue otherwise, that the danger of foreign competition is overblown and that

the affiliates' production could have remained at home and remained competitive in world markets. The data on actual fixed capital spending by the MNCs in host countries, seen in relation to overall capital formation in these countries, seems to suggest that the MNCs' performance could not easily have been matched by local investors. But an analysis of the financing of this investment as well as the affiliates' working capital needs--about 85 percent of which were generated out of foreign savings anyway--suggests that, indeed, competitive foreign investment in the MNCs' place would have been feasible within the limits of foreigners' resources. (426-429)

This chapter concludes with a brief analysis of the financial results of MNC operations, as revealed in accounting statements. The data show an enormous expansion of affiliates' worldwide sales between 1966 and 1970, a 66 percent jump from $109 billion in the earlier year to $180 billion in the later one. Manufacturing industries account for about half of the total value of sales. The affiliates' foreign corporate income tax payments rose somewhat more modestly. They reached $11 billion in 1970, or 43 percent of pre-tax net income. U.S.-based manufacturing affiliates paid foreign governments some $2.9 billion in income taxes in 1970, which amounted to 59 percent of their pre-tax earnings of $4.9 billion. Depending on whether after-tax profits are measured in terms of sales or total assets, rates of profitability run about 5 to 6 percent for all industries and somewhat less, 4 to 5 percent, in manufacturing. (429-434)

The financial experience of the affiliates shows some sharp contrasts with that of their parent firms operating domestically in the United States. Much of the contrast arises from the period used for the comparison--1966 through 1970--which turns out to have been one of boom-ending-in-recession in the United States and recession-culminating-in-boom abroad. But these contrasts highlight an important point: the ability to diversify internationally can insulate the MNC from the vicissitudes of the business cycle in any one country or region, thus smoothing, in the long run, the curves of sales, incomes, profits, and tax payments as reflected on consolidated statements. (pp. 433-434)

Still another point which emerges from the analysis is that tax "rates" imputed by comparing tax payments with net incomes before taxes turn out to be roughly the same in the United States as abroad. If anything, they appear to be slightly lower in the United States. This evidence permits a tentative inference that there may be little incentive--from a tax viewpoint--for the MNCs to try to maximize their foreign incomes at the expense of domestic operating results. If anything, the incentives may work the other way; it may pay to make U.S. consolidated income look as good as possible by transferring funds as affiliate "costs," to declare it at home, and to pay taxes on it at home. (pp. 434-435)

Chapter V. Multinational firms in international finance

This chapter takes a hard and detailed look at the activities and effects of MNCs operating in the international financial and monetary systems. The present chapter is market-oriented. That is, it describes the kinds of markets in which the MNCs conduct their financial business, the effects of the MNCs on these markets, and how the MNCs have changed them. The aim of the analysis is to assess the degree to which the growth of multinational business has or has not altered the realities of financial market size, structure, and behavior which lie behind the efforts of governments to construct a stable, workable international monetary system. The chapter concludes with an evaluation of the role of the MNCs in the crisis situations which have rocked and threatened the founcations of the international monetary system in recent years.(p. 453)

Chapter V gives little emphasis to policy issues themselves or to the problem of how governments, acting separately or in concert, might try to solve the dilemmas of the existing international monetary system. Such discussion would be outside the scope of the study.(p. 453)

One of the great historical developments of the past 15 years in the Free World economy has been the progressive intermingling of its money and capital markets. This integrative development is a sharp break from traditional patterns, and three features stand out as important.(pp. 457-475)

First the Eurocurrency markets and the Eurobond market (or the international bond market in general) play a crucial role as the mechanisms through which the process occurs. Unlike earlier periods when analogous but not nearly as pervasive developments also occurred, a single, powerful, national financial system does not play the role of integrator. This role is filled instead by a pair of international markets that stand outside of and are largely uncontrolled by authorities of the separate national economies that are affected by the process. Secondly, strong tendencies for an international equalization of interest rates emerge as both a result and symptom of the integration process. Third, it has become increasingly difficult, sometimes impossible, for the central bank authorities of any one country to move in directions which run counter to international money and capital market trends, because the markets react with inflows or outflows of funds that most domestic monetary systems cannot stand for long periods. Thus, even if a country's exchange parity is not in such serious disequilibrium that an exchange rate modification is called for, a perverse movement of national interest rates can force such a change because of an economy's vulnerability to massive, highly volatile flows of short-term funds. (pp. 475-76)

Because of their importance as the pivotal, "integrator markets," the international bond market and the Eurocurrency markets are described in some detail. These markets are large. In 1971, the international bond market 1/ handled $5.2 billion in new public issues, plus a large

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1/ Includes any issues sold outside the country of the borrower.

but undetermined amount of privately placed, medium-term financing. As estimated by the Bank for International Settlements (BIS), total assets in the Eurocurrency markets aggregated $71 billion at the end of 1971; of this, the Eurodollar component was by far the largest, at $54 billion. Other material in these sections marshals information on how these markets are supplied with funds, who the borrowers are, and how the markets function; the purpose of the analysis is to show how the integrator functions of the markets actually are carried out.(477-506)

The growth of the international money and capital markets and the expansion of international business enterprise have been accomplished in the last decade or so by an equally significant development of multinational banking. As in the case of business firms, American banks have led with a vast increase in the number and asset holdings of their foreign branches. The growth of both types of institution has had visible symbiotic elements: the expansion of each type of institution and market has fed upon the growth of all the others, so that it no longer is possible to say who, in particular, caused it all.(506-17)

It can be said, however, that a central, if not exclusive, feature of the development of international financial markets in recent years has been their orientation to serving the financial needs of the MNCs. Therefore, the analysis focuses on the MNCs and how they operate in the international financial markets. (p. 517)

Corporate treasurers have developed a panoply of dazzling new techniques and rituals to serve the centralized management and control of their far-flung financial interests. Slicing through to fundamentals,

however, one can see that the practices of the MNCs, the kinds of transactions they conduct, are not much different in character from those of any kind of firm in international business, whether or not it is a direct investor. They are, however, better-managed, technologically superior, more flexible, and--most important--designed to process bigger volumes of transactions faster than in even the recent past. (pp. 517-531)

Basic to the efficient, centralized management of the finances of a large multinational corporation is the existence of only one or a few central profit centers with the ability and the resources to plan the firm's worldwide operations in fine detail. The financial activities of the firm are conducted within the framework of these plans, and, ultimately, they center on the management of cash flow. The basic objectives of the financial manager are to cut costs by increasing efficiency, as well as to protect and, if possible, increase the value of the firm's financial assets. Three rules prevail: (1) funds must be moved to where they are needed; (2) interest costs are to be minimized; and (3) exchange risks are to be avoided. In the multinational firm, these rules sometimes conflict--exchange risks may be avoidable only at the cost of a higher interest rate, for example--so that International Money Management (IMM) can become a matter of judgement and risk-weighing. Yet neither the objectives nor the rules change. In all its other aspects--many of which are described in this section of the chapter--IMM, despite its fascinating sophistication and complexity, is merely a matter of financial technology. (pp. 517-526)

That the many participants involved in the international money market are capable of generating crisis situations for the international monetary system is beyond dispute. As a group, they commanded short-term, liquid assets estimated at about $268 billion at the end of 1971, of which the lion's share was under the control of multinational firms and banks headquartered in the United States. This $268 billion, all managed by private persons in a private market which is virtually uncontrolled by any sort of official institution, amounts to more than twice the total of all international reserves held in all central banks and international monetary institutions in the world at the same date. These are the reserves with which central banks fight to defend their exchange rates. The resources of the private sector outclass them. (531-40)

Because $268 billion is such an immense number, it is clear that only a small amount of the assets which it measures needs to move in order for a genuine financial crisis to develop. With its increased efficiency and flexibility, the international money market is fully capable of focusing, with telling effect, on a crisis-prone situation--some weak currency which repels funds and some strong one which attracts them. Yet precisely because such a small proportion of the resources of the MNCs are needed to produce monetary explosions, one can conclude with some certainty that the vast majority of the MNCs can be absolved of the charge of "speculation," defined as risking rather than protecting assets. Either they merely make marginal adjustments to move "with the market"--which is a protective rather than a speculative

act--or they sit tight while at most a very few of their number move large balances about in a speculative manner. (pp. 540-543)

While it is not appropriate to conclude that speculative behavior characterizes the international financial activities of the great majority of MNCs, it is appropriate to stress that they have been a primary creative force in the growth of the international money and capital markets. This is the sense in which the MNCs indeed have altered the international realities around which the policies of governments--and the international monetary "system" in general--are framed. (pp. 544-46)

Chapter VI. Technology, R & D, and the multinational firm

As a group, the multinational corporations based in the United States exert an enormous impact on the development of new domestic technology. They dominate R&D spending in the United States to the extent that their activities virtually determine the amounts and patterns of R&D outlays in manufacturing industry. (pp. 555-558)

The MNCs have also become the principal institutions through which technology in its various forms is exported and imported. As reflected in massive royalties and fees, U.S. exports of technology outweigh imports by a factor of more than ten to one; net inbound flows of royalties and fees reached nearly $2.3 billion in 1971, with the MNCs accounting for an estimated 90 percent. While net payments figures appearing in the royalties and fees accounts of the balance of payments cannot be presumed to serve as an adequate measure of the amounts of technology that have flowed into and (mainly) out of the United States in the past, 1/ they indicate clearly that, in the aggregate and for a number of individual industries, net in-bound royalties and fees are significant indeed relative to total R&D spending in the United States. In 1970, for example, they were equivalent to about eleven percent of the $17.9 billion

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1/ The payments figures include pro-forma levies against foreign affiliates by their U.S. parent companies to support domestic R&D budgets; they also include inaccurate and sometimes unrealistically low prices attached to licenses and similar technological transfers to related and unrelated foreign concerns. Accordingly, there is no direct correlation between the amounts shown in the balance of payments accounts and the amount of the technology transfer that might actually have occurred.

spent on R&D by all industries, and to nearly a fourth of total R&D spending ($10.1 billion) financed by company rather than Federal funds. (593-604)

The high technology domestic industries are defined as those with high levels of R&D spending by the MNCs relative to total domestic sales of all firms in those industries. They have shown a strong penchant in recent years for putting more new direct investment in place abroad (in comparison with investment at home) than have the medium and low technology industries. From 1966 through 1970, new foreign direct investments by the MNCs in the high technology industries were more than 27 percent as large as their new domestic investments, whereas the comparable ratios for the medium and low technology industries were 11 percent and 10 percent, respectively. Thus, new domestic investment by the high technology industries still was about 3.7 times as great as the MNCs' new foreign investment--but in the medium and low technology groups the levels of new domestic investment were nine and ten times larger than the amounts of new capital placed abroad. (pp. 562-569)

Given the MNCs' preponderant roles as both the generators and the exporters of U.S. technology, as well as evidence that the technologically most advanced industries are investing abroad faster than the less advanced industries, it would seem almost a foregone conclusion that the MNCs must have contributed to the United States' declining comparative advantage as a trader of high technology products. Yet this is not the case according to the available evidence. An examination of U.S. trade in 1970 shows that there are fairly strong positive relationships between levels of technology in various industries (as measured by R&D intensity)

and levels of MNC-related export trade, whereas no statistically meaningful relationships can be found with respect to MNC-related import trade. More important, however, changes in MNC-related trade (new exports and new imports) over the 1966-70 period show that the MNCs in the high technology industries have clearly outpaced the non-MNCs as net exporters. (pp. 570-579)

Although the net export record of the MNCs has been highly favorable in comparison with non-MNCs in the high technology industries, there may have been some erosion of U.S. export markets by the sales of MNC affiliates abroad in the high technology industries. Analysis of the worldwide market shared by U.S. exporters on the one hand and by the foreign affiliates of the MNCs on the other, suggests that the erosion that may have come from this source over the 1966-70 period probably did not exceed $1.5 billion, or 18 percent of the increase in the affiliates' total foreign sales of high technology goods in the same period. Thus, the indirect erosive effect was, at worst, small relative to the affiliates' total foreign sales of $16.6 billion in the high technology group (excluding transportation equipment) in 1970. (579-81)

There are grounds for an inference that, as a matter of strategy, the MNCs do not, on balance, export their first-line technology either to their own affiliates or to unrelated foreigners. Rather, this first-line technology tends to be retained in plants at home, to generate new exports and compete effectively with imports in the same class. This hypothesis "explains" the continued, strongly favorable, direct impact of the MNCs on U.S. trade, and it suggests that the large and rapidly

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rising income from royalties and fees comes mainly from exports of technology of a slightly older and less competitive variety than that which is retained for domestic use. The rather small MNC-related losses in U.S. dominance of trade in high technology goods that come indirectly from their affiliates' foreign sales--losses which are more than offset by the gains from the MNCs' direct effects on U.S. trade in the same goods--may be due partly to an unavoidable necessity to meet foreign competition on the foreigners' home ground. U.S. technological hegemony cannot be total, and in a limited number of fields of high technology production, other industrial countries have come abreast of U.S. technology to the point where the competitiveness of a few U.S. industries in a few lines of production is, at best, marginal. (p. 604)

Chapter VII. Impact of the multinational firm on labor in the United States and abroad

As a major force in the United States and world economies, the MNCs also have a major impact on labor in the United States and in the key industrial countries in which they operate most heavily. As employers, the MNCs dominate in the United States and have a very strong influence in Canada. For other countries, they are less important but not negligible. Because their productivity abroad is generally far higher than the productivity of competing local firms, the MNCs tend to account for a far larger share of total output (sales) in manufacturing than of total employment. (pp. 605-634)

In every country, the MNCs compensate their labor about as well as do local firms. There are some variations but no real departures from this general rule--except in the United States, where the MNCs generally are the high-wage employers in their respective branches of manufacturing. In Canada, their "match" with local standards is very close (probably because the MNCs are so influential that they themselves set the standards), whereas in Europe, while the "match" is good, there appears from the data to be a slight tendency for the MNCs to under-compensate their workers relative to local norms. In Mexico and Brazil, the reverse is true; while the MNCs conform generally to local wage standards, they appear to pay just a little more in many cases. (pp. 620-629)

In the United States, the productivity performance of the MNCs is about as good as the national average in most industries. Abroad, however, it is much poorer than in the MNCs' parents' operations in the United

States--but it is considerably better than the national averages for the industries and countries in which the affiliates operate. Thus, the MNCs' productivity record falls about midway between U.S. levels and average levels prevailing abroad. (pp. 629-634)

Wage levels and productivity measurements are combined in estimates of unit labor costs, which constitute probably the best single variable to use in measuring the ways in which the MNCs--or any firms--interface with their labor. In the United States, the MNCs are high-cost firms. Their much higher wages and only average productivity performance relative to non-MNC firms in their industries lead to unit labor costs that are significantly higher than the national averages. In the industrial countries abroad, however, the MNCs' affiliates show unit labor costs that are lower--significantly lower--than those for all firms in these countries. At the same time, the MNCs' labor costs in most countries are roughly equal to or slightly lower than the all-firm average for domestic U.S. industries. In other words, the MNCs abroad do not perform very much better, in unit labor cost terms, than is the standard for performance in U.S. manufacturing, but in the process they obtain a significant advantage over their foreign competition and over their own parent firms in the United States. (pp. 634-642)

The foregoing paragraphs summarize very briefly the first main substantive section of this chapter--Part B--which surveys the employment, output, and cost factors involved in the MNCs' relations with their labor. Part C then moves on to focus on the impact of the MNCs on levels of employment in U.S. manufacturing. It presents three separate estimates--

on three different sets of assumptions--of the net effect which the MNCs have had in terms of "job losses" or "job gains." (pp. 645-672)

In making such estimates of losses or gains, it is essential to adopt explicit but artificial assumptions about "what would have happened" if the MNCs had not taken their capital abroad. These assumptions describe hypothetical worlds. They have to be concerned with two basic questions:

(1) In the MNCs' absence, would foreigners (either the locals or thirty-country investors) have taken the place that U.S.-based MNCs now occupy as producers? That is, is it necessary to allow for "substitution" of foreign-owned productive facilities for U.S.-owned ones? To the extent that substitution is allowed to enter the reasoning, the amount of potential job losses has to be reduced because the argument has to say that the jobs would have been lost anyway in such a world.

(2) If the MNCs were not abroad, could U.S. products have captured and held the markets that the MNCs now serve--or does one have to allow for the possibility that foreign competitors indeed are capable of taking markets away from some U.S. producers? (pp. 645-650)

The first set of estimates presented is the most pessimistic possible one. It conforms fairly closely with the premises of the MNCs' critics, denying, by assumption, any possibility of "substitution" in production abroad, and asserting without equivocation that U.S. goods are totally capable of serving every market that the MNCs now serve, at identical prices. Under these assumptions, the MNCs' sales abroad convert to a "Gross Job Loss" for the United States equal to 2.4 million jobs. But

this loss is offset by certain gains which are specifically attributable, under the assumptions, to the operations of MNCs. These offsets include:

(1) U.S. employment required to manage and service overseas affiliates in "headquarters" establishments;

(2) U.S. employment involved in manufacturing goods exported to the MNCs' overseas affiliates;

(3) U.S. employment required to manufacture goods which satisfy the additional foreign demand for U.S. exports that stems from the contribution of the MNCs to the growth of foreign incomes; and

(4) The employment, in the United States, of affiliates of foreign-owned MNCs.1/ (pp. 651-655)

The sum of these offsets is equal to 1.1 million jobs in manufacturing. Subtracted from the "Gross Loss" already calculated, they yield a "net job impact" of only 1.3 million jobs--even under the extremely restrictive assumptions employed to make a first stab at the analysis. This 1.3 million figure should be interpreted as an upper bound--the outer limit or maximum possible net loss that conceivably could be attributed to MNC operations. (pp. 655-662)

The next set of estimates is based on a relaxation of the first assumption--the one about "substitution"--to allow exactly half of the MNCs' overseas investment in each industry to come under the

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1/ Throughout the analysis, the U.S. affiliates of foreign-based MNCs are subjected to assumptions symmetrical with those applied to U.S.-based firms' foreign affiliates.

threat of possible competitive investment by non-United States interests.1/ The analysis still holds to assumption #2, namely that U.S. exports can always be fully competitive with any other producer's goods. Under this new combination of assumptions, the net job impact drops radically, to a "loss" of just over 400,000 jobs. (pp. 662-667)

The third set of estimates takes a different approach, by altering assumption #2. It says that some U.S. exports could not take over the markets served by the MNCs, on the eminently plausible reasoning that, after all, the United States never had a 100 percent share of world trade in manufactures anyway. The question is, how much of a share should U.S. exporters be reasonably expected to be able to take and hold? Note that the analysis tries to build a reasonable "standard" against which the performance of the MNCs can be measured. The standard that was chosen was the United States' share of the industrial countries' exports of manufactured goods in 1960-61 (the average of the two years). This is recent enough not to be ancient history, and it characterizes a time when the U.S. trade accounts were solidly in the black and criticisms of the MNCs were mute if not entirely absent. (pp. 667-669)

After decision about what the "standard" for U.S. trade performance "ought to be" or "would have been," the procedure was to assume that U.S. exports could have captured those shares of the affiliates' foreign sales implied by the standard--and then to see how many jobs

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1/ Similarly, "50-percent substitution" applies to foreign direct investments in the United States.

might have been removed from U.S. manufacturing in relation to the gains that the MNCs have provided in the meanwhile. 1/ The analysis also returns to the rigid assumption of "no substitution allowed" to foreigners. The answer reverses the conclusions of the first two estimates. Now, there is a net gain to U.S. employment of approximately half a million jobs as a result of the MNCs operations. This may be the most reasonable of the three sets of estimates presented. (pp. 669-72)

The final section of the chapter--Part D--is a survey and evaluation of labor union reactions to the MNCs in the United States and abroad. These reactions can conveniently be arranged along a scale that runs from "permissive" to "protectionist." In general, organized labor movements outside the United States tend toward the "permissive." They identify certain faults of the MNCs--particularly their ability that results from operating in many places at once to "divide and conquer" labor unions in different countries--but foreign labor unions generally do not advocate the kinds of restrictions on the MNCs that would inhibit continued high rates of international fixed capital flow. Large segments of U.S. labor, on the other hand, take the opposite tack and oppose the MNCs' operations--partly because they consider unlikely any possibility for international labor solidarity or for the emergence of international fair labor standards, and partly because, being the unions of the best-paid workers in the world, they see the MNCs as a decided threat to job opportunities and high income standards in the United States. (pp. 673-685)

1/ Similar assumptions about foreign export shares are applied to foreign direct investments in the United States.

Spokesmen for U.S. labor have a coherent, partly documented argument which concludes that the MNCs wreak damage to U.S. labor. In some of its points, this argument is valid, but it has two main faults. First, it tends to lump together into a single package the "MNC Problem" and the "Decline in U.S. Trade Competitiveness Problem." An accurate assessment of both problems depends upon their analytic separation, as the materials of both chapter III and the present chapter indicate. Secondly, while labor spokesmen have had a commendable insight in seeing that the effects of MNC activity on labor must be examined "in the small," at as fine a level of industry detail as possible, they have proceeded to a general approach with respect to policy prescriptions. This approach, if adopted, could throw out certain identifiable benefits to labor of MNC activity--and it could be too weak to entirely compensate for some equally identifiable costs. The costs and benefits have widely variant incidence in different industries. (pp. 685-689)

Chapter VIII. Legal problems 1/

U.S. and Foreign Antritrust Regulations

U.S. antitrust policy.--The United States' approach to antitrust regulation in the international arena is governed by four statutes: The Sherman Antitrust Act, the Clayton Antitrust Act, the Webb-Pomerene Act, and the Federal Trade Commission Act. The Sherman and Clayton Acts have generated the greatest amounts of litigation and controversy. (p. 820)

Sherman was passed in 1890 and aims at maintaining freedom of competition in interstate and foreign commerce. Clayton was passed in 1914 to supplement the Sherman Act. Section 2 of Clayton is the Robinson-Patman Act of 1936 which generally condemns price discrimination within the United States. Section 7 of Clayton is its most important provision for purposes of this study; under Section 7, corporate mergers which lessen competition may be prohibited. The Federal Trade Commission Act, enacted with Clayton, gives the Federal Trade Commission concurrent jurisdiction in dealing with acts which are illegal under other antitrust laws--acts violative of Sherman, for example. The FTC also has power to curb other restrictive trade practices which have not reached the magnitude of antitrust actions. The Webb-Pomerene Act of 1918 provides a "carefully guarded exemption" from the antitrust laws to certain firms that participate in cooperative export associations. Although Webb-Pomerene would seem to represent a relaxation of domestic antitrust enforcement, its strict conditions have been viewed as actually reinforcing the Sherman Act. Import-related antitrust statutes include Section 73 of the Wilson Tariff Act

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1/ As noted in the Preface, the notations at the end of each paragraph in this summary refer to pages in the chapter text (pp. 818 through 930) where full discussion of the paragraph's subject matter and conclusions appear, along with footnotes as to reference sources.

which "voids" contracts in restraint of the import trade, and Section 337 of the Tariff Act of 1930 which prohibits unfair practices in the import trade and under which the President has the power to exclude imports. (pp. 821-822)

The eighty years of the Sherman Act have witnessed a growth in the reach of the Act through judicial interpretation to cover parties and acts outside of the territory of the United States. This development has permitted domestic courts to exercise jurisdiction over foreign nationals and over domestic corporations domiciled overseas. (p.827ff)

Under Sherman, the Courts have applied two tests: the "Rule of Reason" under which only unreasonable restraints of trade are illegal; and the "per se" test under which some acts (such as price fixing) are determined to be automatically illegal. A U.S. court can acquire jurisdiction over a foreign corporation if that corporation has such "minimum contacts" with the United States that the maintenance of the suit would not offend traditional conceptions of fair play and substantial justice. (p. 827)

Once jurisdiction over a foreign corporation is obtained, the domestic courts must then decide whether to apply the substantive law of Sherman extraterritorially. Case law development demonstrates that American courts will apply Sherman not only to acts taking place within the United States, but also to acts occurring outside the United States which have proscribed "effects" on American commerce. Through its reliance on the "effects" test, the Supreme Court has authorized an almost unlimited extraterritorial application of the Sherman Act.

Almost any commercial enterprise operating anywhere on the globe conceivably could have some "effect" on domestic commerce. (pp. 827-832)

Section 7 of the Clayton Act which is applied against anti-competitive mergers, does not require that a transaction causing a prohibited effect occur within the geographical confines of the United States. All that is required is that the anticompetitive effects be felt within "a section of the country." Thus, Clayton can be applied to enforce a U.S. public policy of promoting greater competition in a foreign market if the proscribed activities were found to have an anti-competitive effect within the United States. (pp. 832-833)

Although foreign businessmen express anxiety about entrance into the American marketplace out of fear that their worldwide operations will be subject to U.S. antitrust regulation, that fear apparently is groundless or at least substantially overstated. Mere presence of the foreign corporation inside the United States will not subject its overseas operations to U.S. regulation in the absence of a prohibited "effect" on U. S. commerce. (p. 834)

The United States has created a good deal of international resentment by the extraterritorial application of its antitrust laws. In the ICI-BNC cases of the early 1950's, a U.S. Federal Court ordered Imperial Chemical of Great Britain to re-transfer certain patents to DuPont. The British court refused to carry out this order. Thus, an American court ordered an act on British soil which conflicted with British law, and the British accordingly refused to extend comity to that part of the American decree. The Canadians have also become increasingly hostile to any dictates of U.S. courts which would require acts in Canada. (p. 835)

International efforts to prevent future antitrust conflicts have had some results. The Organization for Economic Cooperation and Development (OECD), in 1967, recommended international antitrust cooperation, with emphasis on such items as advance notification of antitrust action and co-ordination of enforcement policies.(pp. 835-836)

The United States also has taken steps to ameliorate international conflicts. Since the early 1950's, it has entered into a number of treaties containing restrictive business practices clauses, and it maintains a consultation procedure with the Canadian government. The Departments of Justice and State have an informal interagency consultation procedure in which officials of the two agencies discuss proposed antitrust action among themselves and often with foreign country representatives. These measures, if actively used, could help to smooth the way for continuing international co-operation and prevent some of the kinds of conflict between national states that have occurred in the past. (pp. 836-837)

EC antitrust policy.--The European Community (EC) owes its existence to the Treaty of Rome of 1957. As the Community grows into a more united political and economic entity, Community laws regulating business practices may gain pre-eminence over national laws as businesses transcend national boundaries and the wholly European firm develops. Presently, a dual system of national and community antitrust law exists. Each member nation maintains its own set of interior regulations, while anticompetitive acts between member States are governed by the Rome Treaty. (p. 838ff)

The European Coal and Steel Community (ECSC) Treaty was signed in 1952. It regulates only the relatively narrow field of coal and steel production within the European Community. The Rome Treaty preserved the ECSC Treaty and accordingly provided that its jurisdiction would not be infringed. Article 4 of the ECSC Treaty contains a general prohibition of discriminatory practices, import and export duties, and state aids. Articles 60 and 65 contain the provisions regulating competition and competitive practices. (pp. 839-840)

By far the most important EC antitrust provisions are those embodied in Articles 85 and 86 of the Rome Treaty, which apply to restrictive practices, discrimination, and market domination. Article 85 prohibits restrictive agreements and concerted practices. An important examption found in Article 85(3) exempts certain transactions from Article 85 sanctions if they can be found to stimulate the genera. economy and strengthen the position of member states. Article 86 prohibits abuse of a dominant position within the Common Market or a substantial part of it. (pp. 840-842)

The EC Commission is the antitrust governing body of the Common Market; and the Court of Justice of the European Community provides judicial review. The Commission receives advance notice of restrictive agreements and has the power to amend, approve, or nullify them. (p. 842)

EC antitrust law is a two-tiered system, including both community antitrust law and the antitrust laws of individual member states. The EC Commission has exclusive jurisdiction to impose fines and penalties for violations of Community antitrust law, while the Commission and the

national courts have concurrent jurisdiction to nullify or approve restrictive agreements. Community rules generally prevail in cases of conflict. The French and German antitrust laws are most similar to those of the Community; they employ the same basic approach of prohibiting of restrictive agreements, with exemptions in particular cases, and of supervising of market-dominating enterprises. (pp. 841-843)

One of the most interesting recent developments in EC antitrust law is the emergence of Article 86 as the vehicle by which mergers and acquisitions are to be controlled. The EC Commission clearly favors combinations among European firms to combat the American and Japanese multinationals. Article 86 has been promoted as the most effective means of permitting such combinations to achieve "dominant positions," while curbing mergers which have a flagrantly abusive effect. (pp. 845-847)

In the recent Continental Can case (December 1971), the EC Commission applied Article 86 to force Continental Can Co. of New York to divest itself of its newly acquired Dutch subsidiary upon a finding of abuse of a dominant position. Thus it is possible, given this precedent, that Article 86 will in the future see greater use in controlling mergers and acquisitions within the Common Market. Given the Commission's encouragement of combination of European firms, an interesting question concerns what the result in the Continental Can case would have been, had Continental Can been a European enterprise.(845-6)

There is a great philosophical difference between EC and U.S. views concerning antitrust. In the United States, an act falling

within one of prohibitions of the antitrust laws is voided. In the EC, however, even though a restrictive business practice may violate treaty provisions, it may still be permitted if it can be seen to stimulate the general economy and strengthen the competitive position of member states. (pp. 847-848)

The European businessman has an apparent advantage over his American counterpart in choosing his methods of sale and distribution as long as he can show that the restrictive practices engaged in will have the effects of increased efficiency and benefit to the economy. Decisions permitting certain restrictive practices to exist may be of a political rather than a strictly judicial nature. The European approach remains one of encouraging the growth of European industry to create rivals for the third-country industrial might of the United States and Japan. (p. 848)

Japanese anti-monopoly legislation.--At the conclusion of World War II, the Allied powers embarked upon a comprehensive program of breaking up the Japanese Zaibatsu (large conglomerate combines controlled by families) which had dominated Japanese industry and finance before the War. Pursuant to a 1945 Allied directive, the Japanese Ministry of International Trade and Industry (MITI) drafted a 1947 "Act Concerning Prohibition of Private Monopoly and Maintenance of Fair Trade" which, as amended, represents the present Japanese antimonopoly legislation. (p. 848ff)

The Act, as originally written, is a comprehensive policy of cartel control enforced by the Fair Trade Commission (FTC)--a quasi-

judicial agency which exercises its powers independently of the Japanese cabinet.(pp. 851-852)

Unfortunately, the Anti-monopoly Act soon witnessed a relaxation of its standards through the enactment of various exemptions. A 1949 amendment lessened the severity of the prohibitions against holding companies and interlocking directorates. A 1953 amendment relaxed the prohibitions and restrictions and authorized the formation of "depression" and "rationalization" cartels. Various other laws enacted after the 1951 Peace Treaty permitted exemption for various types of cartels such as those which would prevent "excessive" competition among smaller enterprises, cartels for export and import industries, and cartels for special rationalization.(p. 852ff)

From 1952 to 1962, anti-monopoly restrictions were relaxed and enforcement activities were curtailed. From 1962 to the present, a policy favoring consumer protection has developed. This development has been accompanied by an increasing number of cases brought before the FTC. FTC decisions are appealed to the Tokyo High Court and then to the Japanese Supreme Court. Although Japan certainly has not returned to a pre-war, Zaibatsu-dominated economy, the present anti-monopoly legislation does permit cartel development to a far greater extent than is permitted under U.S. antitrust laws. (pp. 852-856)

British antitrust law.--British antitrust law is governed by two statutes: The Restrictive Trade Practices Act of 1956 and a 1948 law which covers export practices and permits the monitoring of large firms' activities. A Monopolies Commission deals with situations

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in which one firm or a group of firms controls one-third or more of a market, and with restrictive agreements relating exclusively to exports. The 1956 Act provides for public registration of domestic restrictive agreements concerning goods. Once such an agreement is registered, a rebuttable presumption arises that it is contrary to the public interest. These agreements may be challenged and defended before a special court. (p. 856ff)

In practice, consent decrees have been issued to curb restrictive agreements; fines for contempt have rarely been levied. A 1964 law made resale price maintenance illegal and provided for public and private civil actions. Certain restrictive practices are permitted exemptions. A 1965 law provides for regulation of mergers between large enterprises through investigation by the Monopolies Commission. (859-60)

In sum, British antitrust law today is a comprehensive program of corporate regulation and consumer protection. The registration system demonstrates that some restrictive business practices may be tolerated where a furtherance of the public interest can be found. Upon full entry into the EC, Britain will also be bound by the antitrust provisions of the Rome Treaty. (p. 860)

<u>Canadian antitrust law</u>.--The basic Canadian antitrust statute is the Combines Investigation Act of 1952, as amended. A 1960 Act provides that the Attorney General of Canada may institute and conduct prosecutions under the Combines Investigation Act. (p. 861ff)

Offenses such as conspiracy and monopoly are classified as criminal and, as yet, there does not exist a well-defined private

civil damages remedy for violation of the Combines Act. Courts do retain the power to compel corporate dissolution or divestiture. (861-62)

The Canadian Anti Combines Law has been widely criticized as ineffective, due to lack of adequate sanctions. Revision of the legislation has recently been advocated to foster the emergence of large Canadian-controlled firms able to compete with the American multinationals which presently dominate the Canadian industrial scene.(p. 863)

Conclusions.--The United States antitrust laws are based on the philosophical premise that a freely competitive economic system is the most efficient and most desirable form of society. This view is not necessarily shared by America's trading partners and competitors who feel that restrictive business practices are not *per se* undesirable and may, in many instances, be beneficial to economic growth and development. (p. 864ff)

American efforts to regulate the conduct of multinational firms through application of antitrust laws internally and extraterritorially have in the past engendered both conflict with the laws of other nations and criticism by foreign and domestic experts. Foreign nations are concerned with what they view as inroads into their regulatory jurisdiction by the laws of the United States. (p. 865)

Because the European, Japanese and Canadian approaches favor combination and cartelization of domestic enterprises to compete with the U.S.-based multinationals, it seems probable that U.S.-based firms will face increasingly stiff competition from foreigh cartels. If the combined growth of the American-based multinational company is

found to be in the best interests of the United States, some consideration might be given to new domestic legal approaches to advance this goal. (p. 866)

Increased international cooperation and discussion <u>may</u> be one way of alleviating conflicts with the various antitrust laws of other national States, perhaps following the guidelines of the OECD recommendations. No evidence has as yet been presented showing that the vigorous application of American antitrust laws either encourages American foreign direct investment or discourages foreign investment in the United States to any significant degree. (pp. 866-867)

Tax Issues and the Multinational Corporation

<u>Historical development of U.S. tax policy</u>.--Except for a few notable exceptions, the United States tax treatment of foreign source income and of foreign persons has really developed only since the enactment of the 1954 Internal Revenue Code* (hereinafter IRC). Since 1960, the Congress has wrestled at length with the tax goals of encouraging the free movement of capital while attempting to secure revenue and balance-of-payments equilibrium. (pp. 868-870)

<u>Current U.S. tax treatment of foreign source income and foreign persons</u>.--The United States taxes its citizens and corporations currently on all income from foreign sources but allows a credit against the U.S. tax for foreign taxes paid where the income is earned. If a U.S. corporation operates abroad through subsidiaries, taxation

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*Note: All citations are to the 1954 Internal Revenue Code, as amended (IRC), unless otherwise specified.

occurs as the income is repatriated from the subsidiaries as dividends, interest, service charges, or in any other form. The American tax approach aims at tax neutrality for investment and thus at taxing foreign investment income at a rate at least as high as the prevailing U.S. tax rate.(pp. 870-872)

Jurisdiction to tax.--The broad power of the U.S. government to tax is limited only by the Constitution. Practical problems involve enforcement of domestic decrees extraterritorially and foreign government objections. The United States presently has jurisdiction to impose taxes on U.S. citizens, resident aliens, and domestic corporations based on their worldwide income.(pp. 872-873)

The foreign tax credit.--The credit against U.S. taxes for foreign taxes paid in the source country where income is earned developed out of a congressional recognition of the unfairness and discrimination involved in double taxation of income. Tax credits have been in the law since 1918, and have been restricted since 1962.(pp. 874-875)

Elimination of tax avoidance.--The present Section 482 of the 1954 IRC, as amended, seeks to prevent the use of "tax havens" by using foreign "base companies" incorporated in low tax jurisdictions. Under 482, the Internal Revenue Service Commissioner is granted power to consolidate accounts of related corporations to curtail tax avoidance through the shifting of profits among related companies. Immensely complex regulations issued by the Treasury in 1968 attempt to define an "arm's length" standard for intercorporate transactions.(p. 875ff)

Subpart F (IRC Sec. 952, hereinafter referred to as Subpart F) represents a limited exception to the general rule that profits of controlled foreign subsidiaries are taxed only as those profits are repatriated. In the case of certain "Subpart F Income"--income from controlled foreign corporations set up for the purpose of securing tax deferral on profits not resulting from the active conduct of a trade or business--the U.S. shareholders are taxed on that income regardless of repatriation. Certain exceptions from the harsh Subpart F treatment occur in the case, for example, of certain corporations in less developed countries. (pp. 877-879)

Prior to 1962, earnings of foreign corporations repatriated pursuant to a taxable liquidation, sale or exchange were taxable at capital gain rates. Section 1248, IRC--originally a part of the 1962 Revenue Act--treats such repatriations as dividends and subjects them to the higher rates for ordinary income. (p. 879)

Prior to 1962, it was possible to receive capital gains treatment for certain exchanges with a foreign corporation of a patent or like property described in Sections 351 and 361. Section 1249, enacted in 1962, subjects gain received from the above exchanges to ordinary income treatment. (pp. 879-880)

Section 367 permits tax-free transfers of property (including technological property) from a U.S. parent to a foreign subsidiary in certain situations *if* an advanced ruling is obtained from the Treasury. There must be no primary purpose of tax avoidance. (p. 880)

Interest equalization tax.--The Interest Equalization Tax of 1963 (IET) (see IRC Secs. 4911-4931) was designed to curtail American foreign portfolio investment and thus reduce the amount of investment capital leaving the country. The IET is a tax, ranging from zero percent to a maximum of 22.5 percent, payable by U.S. citizens or corporations on the acquisition of foreign stock or debt obligations. (p. 881)

Less developed countries and Western Hemisphere trade corporations.--Investments in less developed countries (LDCs) are congressionally favored and receive many advantages, such as relief from Section 1248, Subpart F, the IET, and a more favorable method of tax credit calculation. Western Hemisphere trade corporation tax preferences have been on the books since 1942 and were originally designed to increase industrial development in Latin America. Exporters who have separate manufacturing facilities in Latin America currently derive the most benefit from these preferences.(882-84)

Taxation of income of U.S. citizens earned overseas.--U.S. citizens who live overseas for certain specified periods of time receive annual exemptions from U.S. tax under Section 911 of the IRC. (p. 885)

Taxation of foreigners.--Generally, the United States taxes income of nonresident alien individuals and foreign corporations only as that income is earned from sources within the United States. The Foreign Investors Tax Act of 1966 applies normal tax rates only to income of foreigners and foreign corporations, "effectively connected with a trade or business within the United States"; a flat rate is applied to other income. The United States can now tax income of foreign

persons or corporations as long as that income is "effectively connected" within the meaning of IRC Section 864.(pp. 885-886)

Domestic international sales corporation.--The Domestic International Sales Corporation (DISC) is now embodied in IRC Sections 991-69. The DISC aims at increasing U.S. exports through granting tax deferral under certain circumstances to qualifying U.S. corporations engaged in exporting.(p. 887)

The IRC sections set out the requirements for qualification as a DISC. The typical DISC is a subsidiary of a parent manufacturing corporation. As loans from DISC to parent are permitted, the parent can take advantage of tax deferral. It is as yet too early to assess the impact of the DISC on U.S. exports, the balance of payments, and MNC operations.(pp. 887-889)

Tax treaties.--Tax treaties generally aim to eliminate double taxation and other foreign investment problems. They attempt to remove tax barriers to the international flow of capital, the movement of people, and the dissemination of technical knowledge. Tax treaties can assure uniform taxation of the multinational corporation and can cure current jurisdictional problems. (pp. 889-891)

The OECD draft model tax treaty of 1963 represents a first step in international cooperation in the complex international tax field. It revolves around the concept of a "permanent establishment" of a business for taxation purposes and can usefully serve as a model for future multilateral treaties. The United States currently has in effect some 23 bilateral tax treaties. (pp. 891-900)

Tax treaties attempt to achieve neutrality--in that investment policies are considered without regard to tax consequences--and equality--equal tax treatment of taxpayers who are in similar situations within the same jurisdiction. Several proposals exist concerning the optimum international tax treaty. (pp. 893-894)

United States tax laws in the foreign area have been criticized from points of view both favoring and discouraging foreign investment. A discussion of some possible alternatives to the present U.S. approach is found in the body of the text. (pp. 901-908)

Jurisdiction of International Tribunals in Foreign Investment Controversies

International tribunals, such as the International Court of Justice of the U.N., adjudicate controversies between nation states. Private parties may have claims brought before international bodies if the State of their citizenship is willing to espouse their claim. Jurisdiction over any dispute depends on the consent of the states involved to permit adjudication by an international organization and to be bound by any decision. States which consent to jurisdiction often have the habit of attaching qualifying clauses to their declarations of consent which can effectively vitiate any decision on the merits. (p. 909ff)

An international tribunal has the right to determine its own jurisdictional scope. A party cannot lay its claim before an international tribunal until it has exhausted its local remedies. Practical problems with international tribunals include the lack of judicial review of decisions, the high cost of litigation, the diverse back-

grounds of judges (which make a unified legal approach difficult), and, most importantly, the lack of power to enforce decrees.(pp. 909-916)

A principal area of future consideration in formulating effective policies to deal with disputes involving multinational corporations is the establishment of an international tribunal or tribunals vested with specific compulsory jurisdiction and compulsory enforcement power. This concept, however, poses great problems in that national states are unwilling to relinquish any of their sovereign power. The greater utilization of existing international judicial and arbitral facilities might be another alternative.(pp. 916-918)

Extraterritoriality of the Securities and Exchange Act

The Securities and Exchange Act of 1934 provides for measures to ensure the financial safety of investors in the securities markets through imposing registration and reporting requirements and attempting to prevent market manipulation, misrepresentation, "insider" trading, and other fraudulent transactions.(p. 919ff)

Section 30(b) of the SEC Act provides for an exemption from extraterritorial application of the Act in the case of persons conducting a business in securities outside the United States. The courts have held that 30(b) does not provide a blanket exemption; and dealings on an American exchange by foreigners may result in the application of the Act. Foreign issuers of securities may also be bound by the registration requirements of Subsection 12(g) of the Act if their issues of securities meet its criteria. (pp. 920-924)

Thus the SEC Act can apply extraterritorially to isolated acts outside the United States which have prohibited effects within the United States. The multinational corporate entity which desires to issue securities in the United States or which desires to participate in isolated transactions in United States securities may find itself subject to the requirements of the Securities and Exchange Act. (p. 923)

U.S. Foreign Direct Investment Controls

In 1968, mandatory limits were placed on U.S. foreign direct investment in an effort to counter growing balance-of-payments problems. The controls are managed by the Commerce Department's Office of Foreign Direct Investment (OFDI). (p. 925ff)

In general, the controls set limits on the amount of investment which can be made by U.S. investors in foreign business organizations during a calendar year. The regulations also prohibit holding certain "liquid foreign balances" of cash and impose reporting requirements. (pp. 925-930)

VOLUME II

CHAPTER I

INTRODUCTION

Genesis of the Study

On March 31, 1971, Senator Russell B. Long, Chairman of the Committee on Finance of the U.S. Senate, announced the establishment of a Subcommittee on International Trade, to be chaired by Senator Abraham Ribicoff, to examine policy questions associated with the shaping of a new international trade program for the United States. His announcement stressed the problem of unemployment in the United States, coupled with increasing imports and with the construction of overseas factories by U.S. multinational companies.

Senator Ribicoff, on April 21, 1971, requested the Tariff Commission to make four studies dealing with important issues in the field of foreign economic policy. One of these was to examine "The implications of multinational firms on the patterns of world trade and investment and on United States trade and labor."

The Tariff Commission instituted the requested study (Investigation No. 332-69) under section 332(g) of the Tariff Act of 1930, as amended, on April 30, 1971. Notice of the investigation was published in the <u>Federal Register</u> of May 5, 1971 (87 F.R. 8419).

The recent intense public interest in multinational companies has become focused in a strong clash of views, which is reflected in public discussions of the issues. Opponents of multinational business argue that corporations now expand overseas not so much to develop new markets

as to take advantage of cheap foreign labor to manufacture goods that are eventually sold in the United States or that are sold abroad but could have been exported from U.S. factories. Since the technological and management expertise that U.S.-owned companies have abroad is equivalent to that in U.S. plants, say the critics, the effect is to deprive U.S. workers of their normal productivity edge and ultimately of their jobs. The U.S. worker allegedly suffers a double loss--once when his plant is closed as production moves overseas, and again when imports from the new foreign facility replace U.S. domestic output from firms that have stayed at home.

Friends of the multinationals argue that the main reason plants are built abroad is that when the market for a product in a foreign country grows large enough to support a local plant, failure of the U.S. company to build that factory will result in its construction by a U.S. competitor or a foreign company--national or multinational. Supplying the foreign market by exports from the United States often is not considered a practicable alternative owing both to relatively higher costs in the United States and to the various trade barriers in the countries concerned. Industry leaders thus argue that if the U.S. multinational companies are forced to pull back within the U.S. borders they may not remain competitive with the leading foreign companies, and industrial leadership may pass to European or Japanese hands. This essentially defensive argument, moreover, is supplemented by a more positive one--that overseas foreign investment and the output associated with it tend to produce faster economic growth and rising levels of trade and employment for the world

as a whole. As a result, all parties gain: the country of the parent corporation, the host country, and even third countries which experience spillover effects.

The purpose of this study, as outlined by those who requested it, is to analyze the pros and cons of multinational business, with emphasis on its costs and benefits for the United States. A study of this sort not only must measure the impact of multinational business in an aggregate sense--on U.S. employment, economic and technological strength, and relations with other countries--but also must delve beneath the aggregated measures and examine the full spectrum of multinational business in sufficient detail to provide an adequate perspective on the entire issue. Whatever one's views on the multinational corporation (MNC) may be, it is beyond dispute that the spread of multinational business ranks with the development of the steam engine, electric power, and the automobile as one of the major events of modern economic history. Social and economic developments of this magnitude always entail a mixture of benefits <u>and</u> <u>costs</u>. Whether the balance in the aggregate turns out to be on the "benefit" or the "cost" side, a detailed perspective is needed for an understanding of precisely where the gains and losses are, so that public policy can be framed to preserve the gains and minimize the losses.

Limitations of the Research

Despite its bulk, this study must be construed as only a first attack upon a research problem of great scope and complexity. In many respects it is lacking in definitiveness and comprehensiveness. These

are deficiencies which can be rectified only through ongoing research--research which is now possible, using the valuable new collection of data developed by the Bureau of Economic Analysis of the Department of Commerce and now available in the Tariff Commission. Opportunities for further work abound both within and beyond this data collection. Among them, two examples are particularly apparent from the present study:

1. The need for a far more comprehensive study of the international legal implications of multinational business--a study which could be broken into parts, but which, in its totality, might occupy the attention of a team of legal scholars for many years; and
2. The need for major research on the effect of multinational business on U.S. trade and employment in specific industries. Chapters III and VII of this study clearly reveal that the differences in these effects as among industries are very wide--so wide, in fact, that calculations of "net" effects for all industries togethet, while not necessarily misleading, may not properly identify areas of concern for public policy.

There are many other possibilities. For example, the section dealing with taxes in chapter IV(pp434-35)relies heavily on homogenized data from the accounting records of the reporting concerns. Considerably more work is needed, including an analysis of differences in tax structures among host countries and the United States, the use of tax

holidays and other tax incentives for new investment by various countries, and the implications of tax rebates granted by foreign governments on exports of U.S. investors abroad. Other worthwhile projects might involve (a) an evaluation of the extent to which the reported values of U.S. exports and imports (by commodity group) are being influenced by the growing importance of transfer-pricing in trade among affiliated parties, and (b) the degree of concentration both in exports and imports as a result of the growing importance of the MNCs. Research into the magnitude of affiliates' trade with third countries, including Communist countries, would have merit.

Definition of "multinational firm"

The terms "multinational" and "international" have been used interchangeably in discussions of corporations with international operating interests. In the early postwar years these terms referred mainly to firms with a high percentage of foreign sales, which then were mainly exports from the home country. Later the definition became less precise as economists perceived the growing importance of foreign sales from direct foreign investments as opposed to exports. Today the term "multinational" is coming to be reserved for the relatively large companies that control most foreign investment. Multinational corporations also are often characterized by their large financial resources and unique management capability, which gives them the ability to exploit profit opportunities in almost any part of the world.

Multinational (or international) companies are classified by type of operation as service, resource-oriented, or manufacturing firms. Service corporations include international traders; construction companies; utilities; banks; insurance companies; steamship, airline, and hotel corporations; accountants; consultants; and other financial firms. Resource-oriented companies include mining, smelting, and oil companies, and those concerns producing timber or agricultural products. Manufacturing companies are those primarily engaged in production of and trade in manufactured products beyond the extraction or primary processing states.

It is difficult to define a "multinational company" precisely, because no quantitative limitations have ever been associated with the term. The typical multinational company is one with net sales of $100 million to several billion dollars. Direct foreign investment in manufacturing facilities in a number of foreign countries usually accounts for at least 15 to 20 percent of the company's total investment. "Direct" is generally thought to mean at least a 25-percent participation in the share capital of the foreign enterprise, i.e., a large enough share to imply operational control of the enterprise rather than portfolio investment. However, the published U.S. Department of Commerce data are based on equity holdings as low as 10 percent. In the mind of the public, these data for U.S. direct foreign investment are synonymous with U.S. multinational company foreign investment.

To European economists and analysts, a multinational company's direct investment is generally considered to be at least 20- to 25-

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percent participation in the share capital. Another widely accepted definition of "multinational company" is one which has a 25-percent or greater foreign content, defined as assets, employment, or income engendered from production abroad.

Additional ambiguities exist. For years some U.S. companies considered their Canadian investments to be essentially the same as U.S. investments and in their annual reports the term "foreign" referred to countries other than Canada. In the large Harvard Business School Multinational Enterprise Project, U.S. multinational companies were considered to be those in the Fortune "500" list with operations in at least six foreign countries; operations were not limited to manufacturing only. Today this would mean their annual sales would exceed $170 million.

Various definitional refinements have been proposed by several authors, and the field is replete with its own specific jargon. One definition describes a "transnational" company as one which operates in several countries but which compartmentalizes these activities rather than strategically planning and controlling its growth on a truly global basis as does the multinational company. Howard V. Perlmutter talks about "ethnocentric," "polycentric," and "geocentric" companies. "Ethnocentric" refers to a company which establishes itself abroad after a period of exporting but in which the foreign units are strongly governed from the home headquarters. The "polycentric" stage arrives when increased independence is given to the various national units, which function within a framework worked out in headquarters; now, the foreign units produce mainly for local markets. A "geocentric" company has

finally grown away from close identification with its country of origin and operates on a global scale from several large centers; both parent company and subsidiaries sell worldwide.

The broadest possible definition includes all firms—industrial, service, and financial--doing international business of all types, within a myriad of organizational structures. This obviously is too broad a categorization to have real content or operational usefulness for the study. Hence, to reduce the definitional problem to manageable proportions—

> The study will focus on all U.S. firms engaging in foreign direct investment in production facilities. Foreign-owned firms making direct investments in the United States are considered only in terms of their impact on U.S. employment (chapter VII). Greatest stress will be placed on manufacturing enterprises, which are the most important and relevant to the objectives of the project.

This definition allows coverage of the great majority of multinational firms, and the most important ones in terms of their quantitative and social impact on the U.S. and world economies. It also includes those kinds of firms which allegedly create the big problems and cause the greatest uproar in national and international debate.

The study will place lesser emphasis on two main groups of MNCs: the resource-oriented, extractive firms (e.g., the oil companies), and service as well as financial enterprises—hotels, banks, insurance companies, accounting firms, consultants, and the like. However, selected data for and analysis of these understressed kinds of MNCs will be introduced where essential or especially appropriate. For example, chapters V and VI, which discuss financial questions, will consider the

multinational banks. The balance-of-payments chapter (II) will specifically include all MNCs, of whatever type, in an attempt to present a picture of how multinational business in general affects the international transactions of the United States and a number of key foreign countries.

Method

The analytic thread that runs through much of the study is to consider the trade, investment, and financial behavior of the multinationals in the framework of balance-of-payments analysis, comparing the performance of the multinationals with their impact on national balances of payments—for both the United States and key foreign countries. This approach has a threefold purpose: (1) To provide a convenient and highly useful way of organizing the data; (2) to present the data in a form that can be readily compared with available, widely used, and more or less widely understood statistics on national balances of payments; and (3) to summarize and highlight the main elements of multinational activity as they impinge upon national economies. Subsequent analysis of the separate parts of these balances of payments—each of which corresponds to a discrete type of economic activity—will lead to more detailed discussion of important points.

Chapter I is the only portion of the study which violates some of the canons of definition and method set forth in the preceding two pages. It is basically introductory material for the study as a whole. As such, it needs to be rather more freewheeling and less rigorous than

the analytic parts of the study, in order to convey at the outset the sweep of the topic at hand, as well as to cite and then focus on the important issues. Throughout the chapter, however, the terms "investor" and "investment" refer primarily to "direct" investment capital--i.e., investment connected with the acquisition or control of productive facilities outside the home country. "Portfolio" investment, or the purchase of securities when no intention of acquiring or controlling a productive enterprise exists, is rarely mentioned or discussed—with the notable exception of the brief discussion of European investments in the United States.

Chapter II is the first of the more rigorous analytical chapters. It is concerned with presenting an overview of the basic trade and payments data for the United States and other countries. Chapter III proceeds to a more detailed discussion of trade. Chapter IV covers investment behavior. Chapter V discusses international financial and monetary developments and problems, and the role of the multinational firm in them. Chapters VI and VII discuss technology and labor, respectively, and thus represent a still further extension of some of the analysis and probing of chapters III and IV. Chapter VIII then picks up an important strand, covering the national and international legal questions raised by the multinationals' activities.

The principal chapters containing mainly economic analysis (i.e., chapters II to VII) are structured more or less as follows: First, the relevant data are presented to facilitate comparison of the MNCs' activity with the performance of economies as a whole in the subject area

under study--e.g., trade, investment, employment. The intention here is to gain some understanding of the weight of MNC activities in the various areas of economic life with which the study is concerned. Second--and perhaps more important for the purposes of reaching conclusions--the work moves beyond mere comparisons to apply various analytic techniques (under appropriate assumptions) in an effort to find cause-and-effect relationships between what the MNCs have done and the overall economic results.

Primary stress is laid on developments affecting the United States. However, considerable attention is also given to foreign countries and U.S. economic relations with them. The focus here is on seven countries which together account for about three-quarters of U.S. direct investment abroad: Canada, Mexico, Brazil, United Kingdom, France, West Germany, and Belgium. Data and analysis relating to Japan and LDCs such as Taiwan and South Korea also are introduced where appropriate.

Sources of Data and Information

The key input for this study is a special breakdown of industry and multinational company data made for the Tariff Commission by the Bureau of Economic Analysis (BEA) of the Department of Commerce. Most of this information is new and has not previously been published. In addition, the study draws on regularly published statistics of U.S. and foreign government agencies, industry groups, and international agencies (International Monetary Fund, International Bank for Reconstruction and Development, Organization for Economic Cooperation and Development, United

Nations, European Communities); on hundreds of recently published books and articles; on field-trip interviews and other personal contacts with leading authorities in the field, U.S. and foreign government officials, European Community (EC) officials, businessmen, bankers, and labor leaders both in the United States and abroad; and on the many special reports and studies of multinational business that are streaming into print as a result of recent intense interest in and controversy about the subject.

The BEA data cited in the preceding paragraph are derived from two surveys of U.S. direct investors abroad. These surveys covered 1966 and 1970, the former being a complete census of the "universe" of direct investors--3,400 firms with 23,000 foreign affiliates--and the latter a sample survey. The sample for 1970 covered 298 parent enterprises with 5,200 majority-owned foreign affiliates. 1/ Because the 298 parents of the latter group are the large firms which tend to predominate in the foreign direct investment field, the sample data represent a large proportion of the universe data, even though, when matched against the 1966 census as a benchmark, they account for only about 6 percent of all parent enterprises and their affiliates account for only some 23 percent of all affiliates. For example, in 1966 that portion of the universe which "matches" with the firms in the 1970 sample accounted for 52 percent of total assets and 65 percent of total sales of foreign affiliates of U.S. firms, 71 percent of all MNC-related U.S. exports, and 72 percent of all

1/ A majority-owned foreign affiliate (MOFA) is defined as a foreign corporation in which a single U.S. parent (and/or its affiliates) hold a 50-percent or greater voting interest.

MNC-related U.S. imports. The sample data were used to derive universe estimates for 1970 by a simple blowup procedure which increased the sample values by the ratios between the universe values and the matched sample values in the 1966 census. Individual figures thus obtained were then examined for reasonableness and, if necessary, corrected to eliminate errors. 1/

The BEA figures are comprehensive, covering almost all aspects of MNC operations that are of interest in this study. Included are figures on trade flows generated by the MNCs, domestic and foreign employment, payroll costs, sales, net income, tax payments, total assets, fixed assets, research and development (R&D) expenditures, and a host of related items. Most important, however, the data permit, for the first time, analysis at a fairly extensive level of disaggregation by industry and geographic area. Each of the data series provided to the Tariff Commission by BEA for 1966 and 1970 allowed for entries covering 54 separate industries--of which 38 were branches of manufacturing--and 18 countries or areas (including the United States). The present study uses much of these data, but it is safe to say that the material prepared by BEA has been far from fully exploited.

Like all data collections of this magnitude and scope, this particular one produced problems of consistency and accuracy as the task of

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1/ A common "error" was an excessively large blowup caused by very fast growth in a sample cell where the number of firms was small. Not all such errors could be corrected, of course, because, if small, they could not be identified as "unreasonable." Hence, there may be some residual bias--in an upward direction--for the estimates used for 1970 in some of the data series.

processing the information for use went forward. Areas in which these problems were especially acute are cited and discussed in the appropriate sections of the study. 1/ On balance, however, the data have proved to be remarkably resilient and amenable to analysis. The role of BEA in the Department of Commerce, the collector and principal processor of the data, should be singled out here for special praise.

Origins and Growth of International and Multinational Business

Long before the industrial revolution, international financial institutions originated with the famous banks of the 14th and 15th centuries in Mediterranean cities such as Venice, Genoa, and Barcelona, and with the marine insurance concerns which served the 15th century Italian traders. In later centuries the locus of international financial activity shifted to northern Europe. The Bank of Amsterdam was organized in 1689 to finance the Dutch East India Company; it was liquidated in 1819. The Compagnie d'Occident was organized in France in 1717 to trade with Louisiana and later reorganized as Compagnie des Indes, with a monopoly of foreign trade and the right to form customs; it collapsed in 1720 as a result of John Law's notorious financial activities. In the 19th century German banks were active in establishing subsidiaries in Italy, Rumania, Bulgaria, the Far East, and South America. During the same period, German merchant bankers--preeminently the Rothschilds--extended their activities and influence throughout Europe.

1/ See especially pp 267 through 271 in ch. III and pp 606 through 607 in ch. VII.

The 19th century, however, saw London develop as the world's most important financial center. Much of the early economic development of the United States--the canals and early railroads, for example--was financed with capital raised in London. Banks controlled in London were established throughout the British colonial empire, such as the Bank of British West Africa, Barclay's, and the Chartered Bank of India. Lloyd's of London, organized as an insurance concern in the early 18th century, continues to operate today as a worldwide organization underwriting almost any type of hazard.

International trading companies had their origins in the 17th century, when national trading companies were given charters to promote world trade on a monopolistic basis. Among the best known were the various East India companies chartered by Holland, England, Denmark, Spain, Austria, and Sweden. By far the most successful was the British East India Company, which was granted a charter by Queen Elizabeth in 1600. The charter conferred a monopoly on England's East India trade, with further authority to make and enforce laws in the territory. The British East India Company met substantial competition, particularly from the Dutch East India Company; however, England's dominant position as a naval power and its military conquests in India helped the company to become the wealthiest and most powerful world trading company of the 17th and 18th centuries. The company continued operation under charter renewals; its monopoly on trade was ended by legislative action in 1813, and its possessions were transferred to the Crown in 1858.

The major trading company operating in America at the time was the Hudson's Bay Company which was granted a charter in 1670. The charter granted the company a monopoly on trade of all lands in the Hudson Bay area and its tributary waters, along with land grants, legislative prerogatives, and judicial authority in the areas controlled. The Hudson's Bay Company met competition from a private company, the Northwest Fur Trading Company of Montreal. The two companies were amalgamated and continued operations in the area until 1869, when most of the land claims and rights of government were surrendered to the Crown. Although the company ceased to exist as a charter trading company, it has continued operation as a merchandising concern and now operates department stores in major Canadian cities.

International traders are no longer preoccupied with commodities such as tea, spices, silk, furs, and rum. Nevertheless, many of the international trading procedures and institutions developed by the colonial trading companies form the precedents for modern international trade.

The industrial revolution in Europe and in the United States during the 19th century generated a demand for raw materials which could not be supplied from local sources. The need for exploration and development of mineral and oil resources in remote parts of the world resulted in the organization and growth of the international resource-oriented companies; many of the companies which were so organized in the 19th century have grown into important present-day multinational concerns, which are

exemplified by companies such as the following:

Anglo American Corp. of South Africa (European)
Charter Consolidated (European)
Pechiney (European)
Standard Oil (United States)
Royal Dutch Shell (European)

As the industrial revolution spread with gathering strength throughout Europe and North America, manufacturing enterprise emerged as a potential new force in international business. Until about 1900, however, manufacturers in the industrial countries were concerned chiefly with developing their domestic operations and markets, limiting their foreign activities mainly to exports--often via the great trading companies and with the help of the international bankers of London. International investment activity by manufacturing concerns was not a predominant characteristic of transnational business life until well into the present century. The merchants and the bankers held sway.

By 1900, however, signs of change were visible. In the important industrial countries--the United States, the United Kingdom, and Germany, especially--a few manufacturing companies had grown to the practicable limits of their national markets, which forced them to look more carefully beyond their own national borders for market growth potential and which at the same time permitted them to handle foreign trade activities on their own, without the help of specialized merchant concerns. Both the incentive to invest abroad, as an alternative to or substitute for complicated and risky international trade, and the long decline of the great merchant companies were thus established. At the turn of the century, U.S. manufacturing companies which were operating

abroad already included such well-known names as National Cash Register, Eastman Kodak, Singer, Quaker Oats, and General Electric.

During the early 1900's the number of affiliates began to grow, but the growth remained limited in scope prior to World War II. It is estimated that in 1940 private investment by U.S. parents in foreign facilities amounted to about 9 percent of present U.S. investment abroad, with a book value of about $7 billion. Some of the larger pre-World War II international companies which have grown into substantial multinational concerns include the following:

Caterpillar Tractor Co.
Chrysler Corp.
Firestone Tire & Rubber Co.
Ford Motor Co.
General Electric Co.
General Motors Corp.
International Business Machines Corp.
International Harvester Co.
The Singer Co.
Coca Cola Co.
Eastman Kodak Co.
National Cash Register Co. (NCR)
Quaker Oats Co.

While U.S.-based multinational manufacturing activity did in fact arise during the first half of the present century, the international investment field nevertheless remained more or less the preserve of the Europeans. As recently as 1950, for example, European direct investment in the United States exceeded U.S. direct investment in Europe by a few hundred million dollars. Many large European companies had existed as models of multinationalism for decades. The foreign list includes such organizations as Royal Dutch-Shell, Unilever, Nestlé, the German chemical companies, and the Swiss drug companies (e.g., Ciba, Geigy, and

Hoffmann-LaRoche). Even so, European criticism of the alleged encroachment of U.S. manufacturing enterprise was heard even before World War I, with the rhetoric hardly different from that heard today. A book called American Invaders was written by one F.A. McKenzie in London in 1902. Mr. D. Ludwell published under the title America Conquers Britain in 1930.

Magnitude and Patterns of the Expansion of Multinational Enterprise Since World War II

The multinational company as we know it now "arrived" after World War II. It is characterized by many as a large manufacturing company which is concerned with moving not only merchandise but also capital, technology, and management across the national boundaries of its home country. Many lists of the most important multinational firms comprise about 300 companies, of which roughly two-thirds are U.S.-based.

The book value of U.S. direct foreign investment has grown continuously and rapidly since World War II, rising from $11.8 billion in 1950 to $32.0 billion in 1960 and to $78.1 billion in 1970. Moreover, among the primary commonly used indicators of world economic activity, the figure for direct investment by U.S. firms has grown more rapidly than the others (table 1). It has outpaced the expansion of the aggregate GNP of the industrial countries. In the years through 1960, it was well ahead of the growth of world trade; in the decade 1960-70, it kept pace roughly with the expansion of international trade—which not only was itself much more lively than in the previous decade but also was beginning to reflect international exchanges of output from international

investments already in place. Crude estimates indicate that there is roughly a 2-to-1 relationship between output values and asset values for direct investment capital. On this basis, output resulting from flows of direct investment capital to the industrial countries (the United States included) accounted for between five and ten percent of the total increase in aggregate GNP of these countries between 1960 and 1970.

Table 1.--Growth in trade, GNP, and foreign investment of industrial countries, 1950 to 1970

(Amounts in billions of dollars)

Economic indicator	1950	1960	1970*	Average annual growth (%) 1950-1960	Average annual growth (%) 1960-1970
World exports	60	128	310	7.8	9.3
U.S. exports (f.o.b., merchandise)	10.3	20.6	43.2	7.2	7.6
U.S. imports (c.i.f., merchandise)**	9.6	16.4	42.5	5.5	10.0
Exports of other industrial countries***	26.5	54.4	156.2	7.7	11.1
Imports of other industrial countries***	29.9	58.1	157.2	6.8	10.5
U.S. foreign direct investment (book value)	11.8	32.0	78.1	10.5	9.4
--of which: U.S. direct investment in industrial countries***	5.2	17.7	46.4	13.2	10.2
Foreign direct investment in the United States (book valud)	3.4	6.9	13.2	7.4	6.8
GNP of industrial countries** (including the United States)	449	873	1,923	6.8	8.2

* Preliminary.

** U.S. imports are reported c.i.f. to facilitate comparison with foreign import figures. The difference between f.o.b. and c.i.f. valuation is roughly 9% or 10% of f.o.b. values.

*** The United Kingdom, Canada, Japan, France, Germany, Belgium, the Netherlands, Italy, Sweden, and Switzerland.

Source: Survey of Current Business, Sept. 1971, p. 42; Policy Aspects of Foreign Investment by U.S. Multinational Corporations, U.S. Department of Commerce, Jan. 1972, pp. 7-14; International Financial Statistics, International Monetary Fund (several issues); United Nations Monthly Bulletin of Statistics (several issues).

Geographic trends in direct foreign investment

Historically the geographic pattern of foreign investment was set by the investing countries' spheres of political influence (including their colonial empires), and formal as well as informal arrangements of the cartel type. U.S. foreign investments were concentrated in the Western Hemisphere--Canada and Latin America--until the late 1950's. Canada, because of proximity, language, and common interests, was viewed for many years by U.S. companies almost as another state. Some of these companies' annual reports included the Canadian results with the domestic totals instead of in the foreign section. The United Kingdom, of course, likewise was a heavy investor in Canada. The Canadians welcomed this investment, which brought them rapid economic growth and a high standard of living at the cost of foreign economic domination of many industries. More recently, the Canadians have raised questions about this foreign domination, but they have not attempted to reduce it significantly. Latin America was the next most important area of U.S. investment because the Monroe Doctrine had preserved U.S. political influence against any encroachment by European interests, and because the South American continent was thought to offer tremendous opportunity for U.S. capital.

European investments naturally were concentrated in the colonial empires of Africa and Asia. The Europeans stayed out of the United States, and the United States stayed out of Europe, relatively speaking, until the late 1950's, partly because the competition would have been strong and partly because it was unthinkable; the cartel mentality was prevalent, and many U.S. businessmen of the period shared it with their

European colleagues. Moreover, the two World Wars tended to preempt the Europeans' resources, while the hostilities--not to mention the unsettled interwar period--raised doubts among potential U.S. investors concerning Europe's political stability, without which direct investments are considered very risky. Finally, the Germans, who with the British were the most likely candidates to invest in the United States, became extremely gun-shy after U.S. expropriations of their assets during both wars.

From the end of World War II until 1960, U.S. companies continued to invest heavily in Canada and Latin America, while beginning for the first time to invest significantly in Europe. By 1969, U.S. direct investments in Europe reached a book value exceeding that of investments in Canada. In 1970 the total of such investments in Europe was $24.5 billion, as against $22.8 billion in Canada. Investment in Latin America dropped from nearly a third of the cumulative total in 1950 to only 19 percent ($14.7 billion) in 1970, although it continued to grow slowly in absolute terms (see table 2).

Table 2.--U.S. direct investment abroad: Geographic breakdown, 1929, 1950, 1960, and 1970

(Billions of dollars)

Area	Book value at year-end			
	1929	1950	1960	1970
Canada	2.0	3.6	11.2	22.8
Europe	1.4	1.7	6.7	24.5
Japan	.3	-	.4	1.5
Other developed areas	-	.4	1.3	4.4
Latin America	3.5	4.4	8.4	14.7
Middle East	-	-	1.1	2.0
Other less-developed areas	-	-	1.4	4.6
Unallocated	.3	1.7	1.5	3.6
Total	7.5	11.8	32.0	78.1

Source: U.S. Department of Commerce. 1970 figures are partly estimated.

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The attractiveness of Europe to U.S. multinational companies was based on a combination of factors: large-market potential, comparability of production conditions with those in the United States, availability of skilled labor, and political stability. Most important, the realization in the early 1960's that the European Common Market would probably be successful triggered a large boom in investment by U.S. companies. Production in Europe seemed the best way to obtain access to a very rapidly expanding market that might eventually throw up high trade barriers as its customs union progressed toward completion—although, as the 1960's wore on, the "trade barrier" motivation lost importance. Further, for many industries, it was possible for the first time to build coordinated, large-scale production and distribution systems to serve the entire area rather than having to build small, uneconomic units in each of the important nations. The U.S.-based companies took advantage of this opportunity much faster than most of the European companies, which, for a variety of reasons, remained wedded to their own national economies.

The dollar volume of U.S. private investment in Europe has been just about matched by European investment in the United States. The former, however, is mostly direct investment in productive assets, whereas the European investment is mostly portfolio—equities and debt instruments of U.S. companies. Total foreign assets in the United States (most of them of European origin) grew about 9 percent a year between 1950 and 1970, climbing from $17.6 billion to $97.5 billion. Of the total in 1970, less than half, or $44.8 billion, was in long-term investments.

Of the rest, $47.0 billion consisted of liquid short-term assets, and the small remainder was in non-liquid short-term holdings. Direct investments were only 30 percent ($13.2 billion) of total long-term investments; the remaining 70 percent ($31.6 billion) was in portfolio instruments, which again clearly reflects the European bias toward easily saleable and therefore relatively liquid assets in preference to more risky direct investment ventures. The principal countries with direct investments in the United States are Canada, the United Kingdom, the Netherlands, and Switzerland. The investments themselves are largely in manufacturing (46 percent), petroleum (23 percent), and insurance (17 percent); the rest is in trade, finance, and miscellaneous industries.

There have been numerous explanations for the failure of the Europeans, whose advanced economies should support outbound private direct investments on a scale almost approaching that of U.S. companies, to exploit direct investment opportunities in the United States. Most of these explanations are partly specious, but together they constitute a package of powerful disincentives, at least as seen through European eyes.

Psychological factors play an important role. The sheer size of the U.S. market frightens away many foreign firms which do not understand the possibilities of serving only regional U.S. markets and which do not have extensive marketing organizations capable of serving the national market. There is also widespread fear of the competitive climate—a fear bred partly by the competition of U.S. firms on European soil. Even more important is a largely inaccurate but nevertheless very potent

distrust and misunderstanding of U.S. antitrust laws, which the European sees not only as alien to his own traditions but also as being applied with a capriciousness that he cannot reconcile with his desire to reduce the uncertainties in a market he would attempt to penetrate. In its extreme form, this distrust extends to wondering whether the U.S. penchant for applying the antitrust laws extraterritorially to U.S. firms operating abroad might not place a European-owned parent firm in the unhappy position of having to fight out an antitrust case in U.S. courts just because it happened to have a branch operation in the United States.

The principal economic explanation alleged for the slow flow of European direct investment to the United States lies in the relatively small size and limited maneuverability of the "typical" European firm. The archetypical continental manufacturing enterprise is a small- to medium-sized firm, usually closely held by family owners, with heavy dependence on bank rather than equity financing. It has little access to capital markets and little spare management capacity to explore foreign opportunities. As a result, it has neither the ability nor the financial power to enter the United States with direct investments in the same manner and on the same scale as U.S. firms--with plenty of management capacity and financing--have been able to penetrate European business. To be sure, there are exceptions. Many similarly small U.S. firms have successfully gone to Europe--and Europe is not without giant enterprises that are perfectly capable of moving direct investment capital anywhere in the world. Indeed, such firms are well represented in the United States with sizeable direct investment operations. The names are

familiar: Royal Dutch Shell, British Petroleum, ICI, Dunlop, Germany's BASF, the Swiss chemical firms, Brown-Boveri (a Swiss machinery firm), Nestlé, Olivetti--to mention only a few.

Japan has largely evaded the pronounced preference of U.S. companies to invest in industrial countries. By deliberate choice, Japan (in contrast to Canada, for example) has successfully restricted inflows of foreign direct investment in productive facilities. In 1970, U.S. direct investors' penetration of the Japanese economy amounted to a mere $1.5 billion, or 1.9 percent of the total book value of U.S. direct investment abroad.

An unexpected development in the pattern of U.S. direct foreign investment has been its deemphasis in less-developed countries in recent years. Historically, direct investment in less-developed countries has been half in the extractive industries, one-quarter in manufacturing, and one-quarter in all other fields. More recently, as the multinational companies developed to a fine art their skills in exporting technological and managerial knowhow, it seemed logical to many observers that by the late 1960's, at least, these companies would again turn their attention to the developing countries, this time with more emphasis on manufacturing because of the abundance of labor obtainable at low wage rates. But this has not occurred to date.

The reasons for its non-occurrence are several. In the aggregate, U.S. firms in the ranks of the multinationals are market-oriented rather than cost-oriented. They make sophisticated products sold mainly in the industrial societies. Thus, the LDC's, with their admittedly low-cost

labor but low levels of consumption and poorly developed distribution facilities, offer little incentive for direct investment to serve the local market. This explanation breaks down at least in part, however, in the many cases of territories or nations associated with the EEC, areas from which free access to the European markets is possible. Here, the MNCs may have been laggard in seizing the opportunities to produce for advanced markets from low-cost bases.

On the cost side, low-wage labor is not necessarily low-cost labor. While abundant, labor in some LDC areas can be and often is poorly trained, poorly disciplined, and unacculturated to the factory environment. These factors increase both management headaches and costs, and considerably reduce the attractiveness of low wages as an incentive to move capital.

Finally, U.S. MNC investors have come to fear "economic nationalism" in almost the same way that the Europeans fear U.S. competition. Even though a number of LDCs offer tax and other incentives--often very attractive ones--to U.S. investors, increasing incidence of nationalizations, expropriations, or just plain hostility to U.S.-owned MNCs in a large number of countries has led to a fairly generalized reluctance to invest in all LDCs on the grounds that "political stability" is lacking. The risks are great. Even while governments court foreign investors, the general population can become hostile. A revolution or coup d'etat (or an election) can bring to power new leaders who seize some or all foreign holdings, with or without compensation, or cancel contracts negotiated by the previous regime. The recent takeovers of oil-company holdings in

Peru, Bolivia, and Algeria, the expropriation of the Anaconda and ITT operations in Chile, the takeover of W.R. Grace's agricultural operations in Peru, and similar events in other countries have made the whole lot seem less promising for foreign investment. Even where the multinational companies are permitted to remain, they may face demands for local participation in ownership (e.g., the "Mexicanization" of U.S. sulfur companies in that country), imposition of special taxes or charges which apply to individual companies, and demands for local content (raw materials, components, management personnel, etc.). In summary, the investment climate in many less-developed countries is now considered to be poor.

The tendency to write off LDC investments as too risky may have gone farther than conditions actually warrant. Many of the restrictions put on foreign companies operating within their borders by the LDCs clash with the ideals of U.S. managers, who consider sharing ownership with the locals (often local governments), limits on profit repatriation, and local content requirements to be infringements on their prerogatives. However, these restrictions are not necessarily inconsistent with reasonable profit potential--especially if the opportunities to invest are sweetened by incentive programs that include tax holidays, subsidies, and other favors. Moreover, coups d'etat can bring in friendly regimes as well as hostile ones. In this respect, the Europeans, with their long colonial experience, and even the Japanese claim to have learned rather better than their U.S. colleagues how to do business in the LDCs at a profit.

Another hindrance to U.S. investment in less-developed countries is the emotional climate in the home country of the multinational companies. A multinational manufacturer in the typical developing country with a limited local market, usually must export from his foreign plant; and a major share of the exports normally go back to the home country. As has occurred with imports of television and other electronic assemblies manufactured by direct investors in Mexico and Taiwan, this can arouse strong protests against exports of jobs from the United States.

Industrial distribution of U.S.-owned multinational investment

As the net book value of U.S. foreign direct investment proceeded to more than double during the last decade, it became apparent that the growing weight of manufacturing enterprise in these investments was developing from a mere tendency to a strong trend. Manufacturing now accounts for the largest single share of this investment (41 percent in 1970), and it has shown the fastest growth of all types of U.S. enterprise abroad, having almost tripled from $11 billion in 1960 to $32 billion in 1970 (table 3). The extractive industries--petroleum plus mining/smelting--in first place in 1960 dropped to second place by 1970, with a share of 36 percent of the total in the latter year. "Other" fields, a potpourri of agricultural and service industries, bring up the rear with an aggregate share of 23 percent in 1970.

Table 3.--Book values of U.S. direct investment abroad: Industry breakdown, 1929, 1950, 1960, and 1970

(Billions of dollars)

Industry	1929	1950	1960	1970 1/
Manufacturing	1.8	3.8	11.1	32.2
Petroleum	1.1	3.4	10.8	21.8
Mining and smelting	1.2	1.1	3.0	6.1
Other 2/	3.4	3.5	7.0	17.9
Total	7.5	11.8	31.9	78.1

1/ Preliminary.
2/ Principally trade, transportation and utilities, and agriculture.

Source: Compiled from Survey of Current Business, U.S. Department of Commerce, October 1970 and October 1971.

There have also been pronounced shifts in emphasis on different branches within the manufacturing sector (table 4). From the years 1964-66 through 1970-72, the share of the chemicals industry in total outbound direct investment flows in manufacturing dropped from about 25 percent to 19 percent; transportation equipment--which includes mainly the automobile industry--dropped even more in relative terms, its share falling from more than 25 percent to 15 percent in the same period. On the other hand, the machinery industries (including both electrical and non-electrical machinery) showed faster growth than the average for manufacturing; their share increased from less than 24 percent to about 32 percent over the period. Similarly, the "other" category, which includes a wide range of industrial branches, increased its share from 26 percent to 34 percent.

Table 4.--U.S. foreign direct investment expenditures, by manufacturing industries, 1964-66, 1967-69, and 1970-72

(In millions of dollars)

Industry	1964-66	1967-69	1970-72 1/
Chemicals	2,642	3,500	3,900
Non-electrical machinery	1,807	3,400	6,700
Electrical machinery	709		
Transportation equipment	2,725	2,000	3,100
Food	548		
Paper	688		
Rubber	471	4,400	7,100
Non-ferrous metals	1,122		
Other	-		

1/ Estimated.

Source: Survey of Current Business, U.S. Department of Commerce, September 1971, pp. 27-30.

The Evolutionary Process

A domestic company usually does not become "multinational" by a dramatic reversal of previous policies and objectives. Instead it ordinarily develops along an evolutionary, long-term path which typically includes the following steps:

(a) Exporting abroad, selling through distributors.

(b) Setting up overseas sales subsidiaries.

(c) Building plants abroad (direct investment) for local assembly and/or full production.

(d) Giving the regional subsidiaries operating authority, at which point the parent company becomes mainly a coordinator and integrator, a planner and controller.

Many times during this long process the multinational company's management is evaluating alternatives to direct investment--such as licensing its knowhow for a product or process to foreign firms, possibly as part

of a joint venture or continuing to export only from the United States in which case it must evaluate the possibility of competitors (U.S.- or foreign-based) taking over the (foreign) market.

Even after a company becomes truly multinational, the foreign plants usually produce only part of the company's product line--not necessarily the most profitable products domestically but those products which it does not pay to ship, items which may have to surmount trade barriers, or "last year's model" (of an electronic assembly, for example). Typically, for each innovative new product, there is a period of time when the overseas market can and ordinarily will be served from the United States. But eventually the other industrial nations' manufacturers learn to copy it or even improve it, and the only way the U.S. producer thinks that he can stay competitive is to manufacture it abroad. When a product or process is no longer "new" or proprietary to the firm, competition can reduce its price to a level where import duties and shipping and distribution costs from a U.S. plant can eat up its profit margin even when the unit cost of manufacture is competitive with the foreign production cost. Added to this is the typical buyer's prefernce to buy from a local facility where the product can be delivered reliably on short notice without fear of dock strikes, shipping-line strikes, or problems with non-tariff barriers, and where technical personnel are available (in addition to the salesmen) to handle servicing problems.

Faster penetration of a foreign market can sometimes be accomplished by acquisition. This method of entry has been practiced by both European and American companies. Some of the more notable

examples of U.S. companies' takeover of European firms have occurred in the automobile, petroleum, computer, and electronic and electrical products industries. They include the acquisition of SIMCA and Rootes by Chrysler, Machines Bull by GE (now Honeywell), Deutsche Erdol by Texaco, Ferrania by 3M, and Litton Industries' acquisitions of Imperial Typewriter, Adler, and Triumpf Werke. European companies' biggest acquisition of U.S. companies in recent years have been in the chemical and petroleum industries. Imperial Chemical Industries (British) acquired Arnold, Hoffman and Atlas Chemical; BASF (German) acquired Wyandotte Chemical; Bayer (German) acquired Mobay (formerly joint venture with Monsanto) and Chemagro; Hoechst (German) acquired Hystrom Fibers (joint venture with Hercules); AKZO (Dutch) acquired International Salt; and British Petroleum made an agreement with Standard Oil of Ohio whereby it will eventually control the latter company (in addition to its purchase of part of Sinclair).

Motivational Factors in the Growth of Multinational Business

Need for command over vital resources

Some industries are so structured that their constituent companies are not profitable unless they are integrated from the basic raw material to the finished product. An important factor is whether the price or cost of critical raw materials or intermediate products is essentially the same to all producers of finished products, as in the case of textile companies which buy cotton and other fibers--or whether there is considerable variation in prices or costs to the various industrial consumers. The latter condition frequently exists when the supply of raw materials

is controlled by relatively few firms, some of whom may use them to make finished products, as in the case of the petroleum industry.

In the oil business a refiner which has to purchase its crude oil is at a considerable competitive disadvantage compared with the integrated companies with low-cost crude because, as the industry is structured, the cost of crude oil bears little relation to its price. "Commodity pricing," typical of products supplied from a multitude of sources, none large enough to influence the market (e.g., agricultural products), and whereby all users generally pay the same price, does not exist. Since a large, efficient refinery costs well over $200 million, capital cannot be risked unless the investor is assured there is a reasonable chance he will have a reliable supply of feedstock at competitive cost. The large oil companies feel they must control a major fraction of their raw-material sources. (This structure will change when the OPEC countries have majority control of Arab oil.)

The same reasoning applies to other extractive industries such as aluminum, copper, steel, and fertilizer materials. Companies in such industries are multinational because major ore deposits are outside the borders of the United States.

Some of these companies can be more multinational than they want to be. Developing countries sometimes insist that oil refineries and smelters be built next to the ore or crude-oil deposits in order to boost domestic production and employment. Along with an oil refinery the local government may insist on the construction of petrochemical plants. Thus, retention of an investment in a basic resource is often forced by

host-country policies to depend on expanded investment in processing facilities--and it is not unusual for the threat of nationalization or expropriation to hang over the entire operation.

Need for foreign-market access

Market access means having unprejudiced opportunity to sell a product in a given country at a competitive price. The multinational companies contend they must construct foreign plants in order to supply the foreign markets on a basis that is not only competitive but profitable enough to make the foreign sales effort worthwhile. They claim that the costs of exporting from U.S. plants would be excessive, for either or both of the following two reasons: (1) transportation, tariffs and other costs strictly related to exporting are too high; and/or (2) the production and marketing costs of operating from the United States are too high in relation to those that can be realized from a production base closer to the foreign market.

The very rapid growth of international trade in recent years, at rates exceeding the pace of GNP growth in most of the advanced countries, tends to belie the "excessive export costs" argument as a reason for investing abroad--especially as the multinational companies themselves are very heavy participants in world trade. International differences in other kinds of costs probably are much the stronger reason for movements of capital across national boundaries. These costs include, in addition to factory capital and labor costs, all those selling, administrative, and service costs that must be incurred to place a product

acceptable to the foreign buyer in his market at a competitive price.

For most non-proprietary products, U.S. producers operating plants abroad can expect to face stiff competition not only from local foreign producers but also from U.S. firms which may have entered a foreign market ahead of them. In the advanced countries that have been major recipients of U.S. capital (chiefly those of Western Europe and Canada), where the requisite product and process technologies are commonly available and capital equipment plus labor of comparable quality and cost can be found, the expense of actually making a product tends to equalize for all producers and often to be not much different from prevailing costs in the United States. Therefore, competition focuses on product differentiation, sales effort, and service.

"Product differentiation" means two things: (1) tailoring the product to the real or imagined requirements of the local buyer, and (2) embodying real or merely advertised differences in the product to make it "unique" compared with competitors' goods. The MNCs admit to both practices--in fact they claim that the necessity for such tactics is itself a major incentive to invest abroad, because the changes in the basic product become so great that the U.S.-made and the foreign-made items cease to be interchangeable. The simplest sort of product differentiation is a change in packaging, which certainly does not necessitate a shift in the locus of production. In French-speaking countries, Procter and Gamble's "Mr. Clean" reaches the shelves in packaging similar to that used in the United States, except that it is called "Monsieur Propre." More important, however, P & G claims that the stuff inside the bottle is chemically

a different product from that sold in the United States, because of the need to adapt to local tastes and washing habits. In this case--which is merely illustrative of a myriad of similar cases in the consumer durables, household chemicals, and processed food industries--the firms claim that the level of product differentiation is such that the item sold abroad is not compatible with production in the U.S. plant, and vice versa. Moreover, this phenomenon is not limited to the consumer goods industries; suppliers of industrial products claim that they must do the same thing, in order to meet foreign demand. Product differentiation is not necessarily the prerogative of the U.S.-owned MNC. The product strategies of Lever Brothers in the United States--a subsidiary of the Dutch firm, Unilever--are indistinguishable in their essentials from those of P & G in Europe. The same comparison could be made between Swiss-owned Nestlé in the United States and U.S.-owned General Foods in Europe.

Another important factor in gaining access to a foreign market is the ability to guarantee reliable, steady supplies to customers, whether they are industrial buyers or final consumers. Firms pondering the alternatives of exporting from U.S. bases and production abroad must weigh the additional risks inherent in depending upon ocean shipping, which cannot guarantee the same regularity of supply as land transportation. With a sales and service network in being and orders in hand, a company can be quickly convinced by one dock strike in the United States or in Europe that the only acceptable alternative is direct investment abroad.

The situation is different for innovative new proprietary products. Such products usually are not subject to head-to-head cost competition

during a lead time which lasts until local producers learn to copy them or devise substitutes for them. During that period, the firm has little reason to invest abroad. It sells to a foreign market with no other supplier, at prices which include a premium large enough to more than offset any additional costs or inefficiencies involved in selling via exports. However, the lead time for proprietary new products (sometimes dubbed the "technology diffusion cycle") has been shrinking rapidly in most industries as foreign economies have narrowed their technology gap with the United States. For example, DuPont's Corfam, a complex chemical product aimed at replacing leather, consumed 20 years of costly development effort, but after it was introduced it was less than two years before similar products--brought out by U.S., European, and Japanese competitors--were battling it in the market place.

A well-managed firm should be anticipating the erosion of its proprietary advantage in any product line it happens to be producing. As the pace of this erosion increases, overseas investment to preempt potential foreign competitors may take place even when U.S. exports of a product are at their peak--and even when the domestic R&D facilities of the parent firm are designing a new generation of product to take the old one's place in the export accounts as production of the increasingly copiable item moves abroad.

Logically, there should be little hindrance to market access via exported U.S. production to less-developed countries, which are too deficient in education, skills, and wealth to capitalize, unassisted, even on licensed technology, let alone basing their production on their own R&D.

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But those countries typically aim for rapid industrialization even when their production costs, at least initially, will be far higher than import prices. Examples abound in the automobile business where less-developed countries first have demanded construction of assembly plants (with local equity participation, perhaps), then have passed local content laws. Oil-rich countries demand refineries and petrochemical plants. So do oil-poor countries because, while they must necessarily accept imports of crude oil, they can insist on local refineries for converting it to finished petroleum products. The small, inefficient industries which thus may emerge are protected by "infant industry" tariffs or other protectionist measures. In the event market access is substantially closed to imports from outside suppliers in favor of local producers in this way, a U.S. exporter may have no alternative, if he is to maintain accessibility, but to establish a local subsidiary.

Scarcity of production factors in home country

A factor of production is "scarce" in a relative sense when it costs more in one country than in another. This applies equally to land, labor, capital, human capital (skills, management), raw materials, and intermediate products. The factors necessary for manufacturing expansion usually are present in some degree in every country, but it is their relative costs in different countries which partly govern the decision on where to locate production. The "scarcities" of the various factors are constantly changing due to inflationary forces, price stabilization activities of governments, wage agreements, or changes in tax, tariff,

and exchange rate policies. International comparisons of relative production costs, even in a single industry, are extremely complex and imprecise. Nevertheless, a stab at accurate forecasting of comparative cost trends over the life of an investment is rarely omitted when the option of investing abroad is pondered in the board room.

For most kinds of investment, however, market planning rather than cost calculation plays a paramount, usually decisive role. Typically, a large firm first decides to attack a market such as "the EEC," aiming for some given market-share goal via production somewhere within that market. Only at that point do comparative cost calculations enter into consideration, when the often more difficult decision has to be made regarding precisely where to place the new plant within that market. Mistakes are made. Corporate planning, like economics, is a highly inexact science.

There are few cases in which cost comparisons can be judged to have been the predominant factor in a basic decision to invest abroad rather than in the United States. The best examples may be in the consumer electronics, textiles, footwear, and some miscellaneous industries (e.g., toy manufacturing), where some investment decisions have been based strictly on labor cost comparisons and foreign market considerations were not a factor because all or nearly all of the output of U.S.-owned plants abroad is returned to the U.S. market. Yet such "pure" cases amount to a very small proportion of total U.S. direct investments abroad, most of which are in the relatively high-cost industrial countries.

Although foreign direct investment by the "runaway firm" which is interested principally in evading high production costs in the United States, represents but a small proportion of total U.S. direct investment overseas, it is common enough to have raised important social questions--especially for labor in the affected industries. Two essential characteristics delineate the kinds of industries in which developments of this sort are likely to occur: (1) the industries are generally labor-intensive ones in which labor costs represent a high proportion of the value of output; and (2) foreign investment to serve foreign markets is minimal (most or all of the output produced abroad being returned for sale in the U.S. market).

In radios, phonographs, and other consumer electronic products, U.S. companies were being outsold in the mid-1960's in the United States by lower-priced products imported mainly from Japan. Prior to the Kennedy Round negotiations, many electronics producers had insisted that rising imports represented a strong potential threat to their domestic operations. Significantly higher duties would have been necessary to blunt this threat, whereas the Kennedy Round ultimately lowered the relevant tariff rates. When imports began to soar by the mid-1960's, the affected U.S. companies began moving their electronic assembly plants to Mexico, Hong Kong, and Taiwan (or making arrangements with Japanese producers for domestic-label imports) and shipping the products back to the United States. Imports of these electronic products as well as those from other U.S.-owned foreign plants in labor-intensive industries such as toys, shoes, and wearing apparel have been the source of bitter public criticism of multinational

companies. Most specific examples in these industries fall into the "cheap foreign labor" category. Although imports of such products are small relative to total U.S. consumption of all products and relative to total production from U.S.-owned foreign plants, they have generated a highly emotional issue and are concentrated in some products which are highly visible to U.S. consumers and to critics of the MNCs.

It was not foreseen by post-World War II policy makers or even Kennedy-Round negotiators that consumer electronic products made by foreign producers and by U.S.-owned plants abroad would be imported back into the United States in such volume as to eliminate U.S. production of many product lines--that by 1970 total imports would account for about 90 percent of all U.S. domestic sales of household radios, 40 percent of black-and-white TV sets, 15 percent of color TV sets (whose imports only began around 1965), and 35 percent of phonographs--with U.S. production of all these items still trending strongly downward.

The policy makers--and the critics, whose strongest protests came only after the fact--probably failed to foresee several factors:

> The extraordinary rate of acceptance of foreign-made goods by U.S. consumers;
>
> The demonstrated ability of some foreign, low-wage countries to absorb relatively high rates of plant automation and to increase labor productivity rapidly; and
>
> The extent to which some foreign governments were willing and able to subsidize production for export by foreign investors in their economies.

It is rarely pointed out explicitly that, underlying the success of the "runaway industry"--and the success of imports in general--

in penetrating the U.S. market, there has been in the past decade or two a significant change in consumer tastes and buying habits. The "U.S.-Made" label no longer commands as high a degree of consumer loyalty as in the past. Imports have ceased to be categorized as either cheap goods of low quality or luxury items--principally because the increasing variety and quality of imports have rendered the categorization inaccurate. Imported goods now reach into every household as items of everyday consumption. Provided that an item meets their standards of quality and price, many U.S. consumers have reached a point of virtual indifference as between the foreign- or the domestically-made product.

Not all "low-wage" countries are primitive in the sense that they are unable to absorb and profit from the techniques and disciplines of modern production. Furthermore, modern technology in some industries is such that relatively unskilled labor can be combined with fairly sophisticated equipment. This contradicts the stereotyped notion of "high-technology" as a process in which highly skilled labor always must be available to operate advanced, complex kinds of capital equipment. Usually this is so, but in some industries the stereotype never has described reality. The possibilities for using unskilled labor abroad open up for some firms the opportunity to migrate to the "low-wage" countries which have reached a level of development at which they are ready to accept them, without significant divergence from productivity experience in the United States. Although the migration may not count for much in the overall exodus of capital from the United States, the displacement of workers in the United States has raised protests, in a generally

recessionary period when the rest of the economy has been unable to absorb them. In brief, the change was too fast.

Competitive attempts on the part of governments abroad to lure investment capital to their shores can distort investment patterns and attract capital that would not otherwise have come. Such incentive programs exist in both the advanced and the not-so-advanced countries. To be sure, they are often rendered ineffective by poor administration or reduced to complete unattractiveness by ancillary conditions of political risk which effectively keep the foreign investor out (see pp.102-103 above). Nevertheless, in some of the developing countries--Mexico and Taiwan, for example--generally stable political and economic conditions, plus broad, significant incentive programs backed by consistently friendly policies toward foreign investors have been eminently successful in drawing foreign investors that might otherwise have stayed away.

Home market saturation and the drive for growth

Home markets are rarely saturated, except in a relative sense. When the cost of developing new business is greater at home than abroad, the corporation may begin to think multinationally. This situation develops most commonly in a mature domestic corporation which has surplus funds and management capability for which it foresees only marginal opportunities in the United States.

In the manufacturing industries, even in the largest companies, the prime ingredient in conveying the image of management success is

growth in profits. Only the growing company will in the long run command a high price for its common stock; attract top personnel; operate modern facilities of optimum scale; and be able to obtain outside investment capital on the most favorable terms.

In all its product lines the typical large U.S. company reaches a market-share plateau, beyond which further market development may be too costly in relation to the returns anticipated. It may also fear government antitrust action. If it does not diversify, it must generally be content to grow no faster than the economy in general. But the reward system of American business makes it imperative to grow faster than that. Some such growth can come via introduction of new products from research or from licensing others' research. Acquisition of other companies offers additional potential. Foreign investment is a third way to grow, a way which is often cheaper, possibly more profitable, and always glamorous.

By investing and marketing abroad the company not only can start new growth from a low-market-share base but also it can usually make acquisitions to facilitate its entry. It can easily export its management and technological know-how by moving only a tiny group of employees abroad. By operating a full-fledged company in the foreign country it can offer a full line of service and managerial backup to the marketing effort. Profitability as well as growth may be higher in the foreign affiliate than at home. IBM is a prime example of this approach, all over the world. Dow Chemical, beginning only in the mid-1960's, using non-exclusive technology and producing its older products, is attempting to obtain a major share of the European chemical market. Like IBM, it is relying very little on acquisitions. In recent years its European operations have been more profitable than those in the United States. Some U.S. multinational companies, in contrast, have relied heavily on acquisitions in several countries in penetrating the European market; examples are Westinghouse and Chrysler.

Companies which remain within their own national boundaries usually find it difficult to take full advantage of major breakthroughs internationally. Part of the reason is that without international marketing position they lack the resources to exploit an innovative discovery. For instance, Pilkington, the British-based glass group with global sales of $270 million in 1968, perfected its revolutionary "float glass" discovery at about that time. Pilkington concluded that its capital resources were too small for it to build the new-generation flat glass plants in the world's leading countries, and therefore that its best recourse was to license the major glass companies in

the major markets to use it. Although this brought in money, the profits probably were less than those possible via direct investment, and licensing had the effect of solidly entrenching Pilkington's competitors should Pilkington ever want to meet them head on.

Incentives thrown up by different treatment under different sets of national laws, e.g., tax and other incentives

Tax and other financial incentives are a frequently mentioned motivational factor for location of foreign investments. Incentives can be in the form of outright export subsidies, tax exemption or postponement, general financial subsidies or loans, or special tariff treatment. Whether or not such incentives play a major role in attracting a given investment to a particular location, it is the job of the multinational company's tax department to "prevent tax leakage" by legal tactics to minimize taxes once the decision to invest is made. Some examples are the following:

Transfer pricing offers one opportunity. In intra-firm trade, a company which moves goods among subsidiaries in different countries can attempt--subject to the watchful eyes of tax authorities who are well aware of the technique--to price shipments in such manner that the bulk of profits is realized in subsidiaries located in low-tax countries. The low-tax affiliate sells dear and buys cheap in such non-arm's-length transactions. A variant of this tactic, which is not employed to the extent that it is suspected, especially by U.S. critics, is for the firm to channel transactions through a dummy "trading" corporation in a famous tax-haven country such as Liechtenstein. Still another variant, which may result in heavy repatriations of disguised profits to U.S. parents, is to

levy heavy charges on affiliates for technology license fees, shares of R&D expense, and various corporate "management" services. Among other things, this technique may result in considerable overstatement of the amount of "exported" technology we think we are measuring when we examine the sizable "Fees and Royalties" accounts in the balance of payments.

Tax incentives aimed to assist depressed regions have been successful in attracting U.S. multinational company investment. Scotland and Northern Ireland were especially popular in the 1950's. Germany also has such programs, and Belgium's are so generous that they have been criticized by other nations in E.C. councils. Italian subsidies attracted considerable investment in Southern Italy and Sicily but many of these were disastrous, e.g., the Celanese and Raytheon ventures which were not profitable. U.S. companies have been much more alert than European companies in discovering how to take advantage of such depressed area incentives. Through 1967, half the U.S. direct investment in Europe was in subsidized depressed areas, although the proportion probably has fallen in recent years. The subsidy can be 40 percent of the investment in the United Kingdom, 25 percent in France, and 20 percent in West Germany and Benelux, plus additional subsidies from districts and provinces.

Another example closer to home is the Mexican International Trade Zone created on the Mexican side of the International border. Multinational companies operating within the Zone can obtain tax relief from the local Mexican states in which they operate, and they are excused from paying Mexican tariff duties on materials used in manufacture. They are also exempt from U.S. tariff duties on certain materials exported from the

United States, used in manufacture, and embodied in goods returned for sale in the United States.

Tax havens, mentioned above, offer some additional examples of tax incentives. Until the Revenue Act of 1962, U.S. subsidiaries in Europe paid no U.S. income tax on profits until they were returned to the parent corporation. The tax haven incentives were reduced but not eliminated by later U.S. legislation. This has led many companies to select low-income-tax countries for financial, head office marketing, R&D, and other operations, even though the capital-intensive manufacturing facilities were located in other countries. Switzerland, Liechtenstein, Monaco, Bermuda, and the Bahamas became the home of many subsidiary corporations which collected and distributed or withheld part of the profits.

U.S. taxation policies may have some effect on direct investment capital outflows. The United States taxes its citizens and corporations currently on all income from foreign sources but allows a credit against the U.S. tax for foreign taxes paid where the income is earned. If a U.S. corporation operates abroad through subsidiaries, taxation occurs only as the income is repatriated from the subsidiaries as dividends, interest, service charges, or in any other form. This tax approach aims at tax neutrality for investment and thus at taxing foreign investment at rates at least as high as prevailing U.S. tax rates. However, there are some exceptions to this general objective of neutrality. Investments in LDCs are Congressionally favored and receive many advantages, such as

relief from certain sections of the Internal Revenue Code and the Interest Equalization Tax (IET), and a more favorable method of tax credit calculation. U.S. citizens employed abroad can receive certain tax exemptions, and Section 367 of the Code permits tax-free transfers of property (including technological property) from a U.S. parent to a foreign subsidiary in certain situations if an advance ruling is obtained from the Treasury and no primary purpose of tax avoidance is present. Critics of the MNCs have challenged these exceptions and exemptions. They also have argued that the allowance of credits--rather than deductions--for foreign taxes paid in fact overshoots the objective of tax neutrality, because only deductions--rather than credits--are allowed for taxes paid to states within the United States. In cases where the credit for foreign tax paid yields the firm greater advantage than the deduction allowed for state tax payments, it is argued that an incentive to invest abroad rather than in those states is thereby created.

Complex locational factors and "external economies"

It is well known that economic activities of given types tend to cluster in certain locations. A frequently cited textbook example is the U.S. automobile industry, centered in Detroit. Part of the reason for such clustering lies in access to raw materials and/or markets. Another part has to do with so-called "external economies" which are available to the firm although it does not have to pay for them directly. If two

major auto producers are located in a given town, they will draw near them a pool of appropriately skilled labor, a satellite community of parts and equipment suppliers, and possibly even a Chamber of Commerce and town government that are appropriately "auto-oriented." A third producer, locating in this environment, will have access to all these facilities without having borne the cost of assembling them. To him, they are "external economies" of producing in that place.

In the international context, an important point to stress is that precisely these kinds of locational incentives are at work in many places in the advanced countries and possibly even in some of the more progressive LDCs. The world has many Detroits. Thus, if two cities, one in the United States and one in Europe, offer identical locational opportunities--and even if costs of production in both are likewise identical--the firm may decide to open a facility in the European city strictly on the grounds of ancillary considerations: market access, trade barriers (great and small), subsidies and other incentives, or simple savings in transport costs.

As an MNC's network of plants spreads, the firm often discovers other possibilities, which have their analogue in the locational features of business in the United States. In the United States, the multidivisional firm is commonplace, with plants operating in many different regions and engaging in large amounts of cross-hauling of components and finished goods--some generated on the firm's own production lines, some purchased from far-flung independent suppliers and distributors. This is the

phenomenon of "multi-sourcing" in a domestic context. Internationally, the same development takes place. A large U.S.-owned firm with several plants in the United Kingdom and on the Continent will tend to specialize with each plant producing a product or a product line for the larger European market. In other cases, some plants will manufacture products with components purchased from independent firms. The largest, most sophisticated MNCs do this kind of sourcing on a worldwide basis, with control of the flow to and from their affiliates centralized at headquarters facilities in the United States or Europe.

"Multi-sourcing" of the international variety requires very high levels of management skill. It is a feature of the economics of location which can yield substantial efficiencies, and therefore cost savings, for the multinational firm. It is distinguished from its domestic equivalent by the scale on which it can be done internationally--and by the scale of the resulting efficiencies.

Currency under- and over-valuation

In a world of fixed exchange rates, firms domiciled in a country with a significantly overvalued exchange rate have a decided incentive to invest abroad. If the dollar is overvalued relative to, say, the Duetsche mark, a U.S. firm, spending dollars, will be able to put a plant in West Germany at less real cost than that of putting the same plant in the United States. If the new plant in Germany exports and invoices in dollars at prices identical with the prices prevailing ex-factory

in the United States, the proceeds have more real purchasing power internationally than exports from the U.S. plant, because the firm has paid its production costs in undervalued D-marks.

The actual extent to which capital flows during the 1960's may or may not nave been influenced by the overvaluation of the U.S. dollar is virtually unquantifiable. Moreover opinion is divided on the extent to which recent exchange rate realignments may reduce the size of capital outflows from the United States and increase the pace of inbound flows. There may be some of each.. However, the foregoing sections indicate that capital migrates for a host of excellent reasons in the modern world, so that the relatively minor exchange rate changes of 1971 may have little visible impact as their effects are swamped by other forces.

A Catalog of the Alleged Economic and Policy Problems Posed by "Spreading Multinational" Business

The diversity of interests which are affected by the growth of multinational companies almost guarantees that conflicts will arise among the interests of the United States, the host country, the multinational corporation, and its employees. Conflicts may arise over the distribution of foreign earnings, type of ownership, methods of capital financing, potential monopoly position, sources of components or raw materials, and wages. Any one of these factors or a combination may generate problems alleged to affect the balance of trade, balance of payments, tax revenues, employee compensation, a country's strategic position in an essential industry such as aircraft, or even basic national cultural patterns.

In the United States the major public issue resulting from growing multinational business is the alleged "export of U.S. jobs." Another concerns the balance of payments effects. In other countries the main problems seem to be potential domination by U.S. interests and competitive damage to indigenous industry from the foreign-owned multinational entrants.

The Idling of Labor and Other Productive Factors by the Outward Migration of Mobile Capital

The main shift in the U.S. political constellation on trade policy is organized labor's move to the protectionist camp. Several observers have noted that this cannot be explained by high unemployment. Labor was shifting in a protectionist direction even as unemployment was dropping steadily after 1962; it adopted a completely protectionist stance when unemployment stood at its post-Korea low in early 1969. Labor was reacting quite properly, of course, not to changes in aggregate employment but to an increasing incidence of localized unemployment that seemed to be related to foreign economic developments. Therefore, the likely reason for labor's shift in position probably lies in the improved competitive position of other countries and the dislocations caused by U.S.-owned multinational companies' operations. Because these multinational corporations are alleged to be rapidly exporting capital, management, and technology, which are much more mobile than is labor, the MNC has become a special target of criticism. Multinationalism has thus replaced technological unemployment as the major worry of many in the American labor movement.

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Lumped together by labor spokesman as "runaway industry" which sets up production facilities abroad while phasing out production at home are the companies which have done just that as well as other companies which have left their U.S. operations intact and used overseas plants to serve foreign markets. Labor spokesmen cite the fact that between 1961 and 1968 there were only 3.5 million jobs created in the U.S. economy, despite the Vietnam war and widespread prosperity. They allege that non-defense industries actually lost employment as a result of growing imports. Here again, two issues are lumped together--the question of rising imports in general and the question of the MNCs' actual role in generating them.

The U.S. Government has provided multinational companies with several tariff-saving provisions which aid their overseas operations. One is the use of items 807.00 and 806.30 of the Tariff Schedules of the United States. These provisions apply to articles assembled in foreign countries that contain fabricated components manufactured in the United States, or metal articles that are partially processed abroad. In each case the articles are subject to duty only on the value of foreign assembly or processing. Combined U.S. imports under tariff items 807.00 and 806.30 increased from $1 billion in 1966 to about $2.8 billion in 1971. These imports come typically from U.S.-owned factories over the border in Mexico or in other low-wage countries. The AFL-CIO has urged the deletion of these and similar provisions from the Tariff Schedules ever since 1967.

The United States-Canadian automotive agreement of 1965 is another sore point. Before the agreement the Canadian plants of the large U.S. automobile manufacturers, which had been established in response to the

high Canadian tariff on imported cars, were unable to operate economically because of short production runs. Even then, a full range of models was not being made in Canada; models that were not Canadian-made had to be imported despite the tariff. Out of negotiations with the U.S. Government about these matters came the automotive agreement which encouraged a two-way duty-free trade between the automobile companies across the borders and thus stimulated Canadian auto production. The direct effects on trade were substantial; U.S. imports of cars and parts from Canada rose from practically zero in 1964 to about $3.0 billion in 1971. The United States lost its traditional balance-of-trade surplus of about $500 million in automobiles and parts, sustaining a bilaterial deficit in such goods of about $800 million in 1971.

The Possibility of Monopolization and Cartelization on a Worldwide Scale and Conflict with Antitrust Law

U.S. law is based on the principle that "competition is a *per se* good." Price fixing and mergers which may lessen competition--including mergers that substantially affect U.S. foreign commerce--generally are illegal.

Under European (and most other countries') antimonopoly law, restraints of trade and price restraints are not *per se* illegal. While U.S. law tends to consider dominance as a violation, European law makes illegal only the misuse of a dominant position. European governments, and Common Market policy, consider concentrations and anticompetitive agreements beneficial if they lead to increased productivity, economic growth, technological

advance, or reduced prices. European antitrust laws, therefore, are not directed at breaking up cartels but at guiding them. Several of the European countries not only permit but encourage agreements among companies for the purpose of rationalizing production and regularizing the market. They have encouraged joint research and joint marketing, have permitted pricing agreements, and have not objected to export cartels to non-EEC countries.

These international differences in interpretation on antitrust issues are bound, sooner or later, to place the active MNC on a collision course with the courts. Usually, the U.S. courts are involved, as a firm's operations under the relatively more relaxed European system lead to challenges under stricter U.S. antitrust guidelines.

It should not be thought, however, that the Europeans, the Canadians, or others always welcome the Americans and their potentially restrictive business practices (when they exist) with a tolerant smile. Large U.S. firms operating in Europe and elsewhere are under constant suspicion, if only because of their sheer size in relation to the economies in which they have affiliates. It may be corporate policy at IBM to be an exemplary corporate citizen in every country in which it operates--and that policy is carried out with reasonable faithfulness--but IBM's control of 60 percent to 70 percent of the European computer market still rankles in every major capital on the Continent. To mention another example, Common Market officials admittedly raised no formal objection to Westinghouse's recent acquisition of ACEC, a large Belgian electrical equipment manufacturer--

but, privately, they opine that the deal was "just a little too easy" for the American firm.

Worldwide, the fear of over-heavy concentration of economic power in the hands of the MNCs is summed up in repeated statements of the following sort: "By 1990 (or some such Orwellian date), a mere handful (200? 300? 500?) of mammoth companies will totally dominate world economic life." Such forecasts suffer from the deficiencies of all crude trend extrapolations. Yet they effectively summarize a major body of world opinion which fears, in the relatively short term, the final emergence of the MNCs as an at least potentially irresponsible economic power center beyond the reach of national law.

Conflict with national taxation and other laws

Potential avoidance of taxes by such maneuvers as transfer pricing and the use of tax havens arbitrarily to concentrate profits in low-tax countries (or countries where the tax authorities are inefficient or corrupt) is a recognized problem which is slowly being solved by government officials acting within their own countries and in cooperation with others. Perhaps surprisingly, European government and EC officials remain rather calm over the issue of the MNCs' tax behavior. In general, they are confident that few instances of attempted tax evasion exist and that, when they do, national tax authorities have developed effective techniques for identifying and controlling abuses.

The chief strategy of tax minimization by multinational companies is manipulation of transfer prices. Subsidiaries can be instructed to

set high prices on intra-corporate shipments to high-tax countries, and low prices on those to low-tax countries. Customs officials are not without recourse when they suspect that transfer prices are unrealistic and are rigged to give parent or subsidiary a special benefit. A five to ten percent or higher increment may be added to the invoiced price for customs valuation in intra-corporate purchases. The complexities of pricing as it relates to customs duties, taxation, earnings distribution, and employee compensation are exemplified by problems recently encountered by Ford of England. Auto components manufactured by the firm had no open market price but were exported to the United States and used in the manufacture and assembly of Pinto automobiles. Since there was no specific export price available, an administered price had to be constructed by Ford that was both satisfactory to U.S. Customs for duty purposes, and satisfactory to the U.S. Internal Revenue Service for verifying the profits of the U.S. Ford Motor Company. The administratively determined price which Ford of England received for the components was a major factor affecting the profits of the subsidiary, the dividends to joint owners in England, corporation taxes to be paid in England, and wages to be paid to the firm's British employees.

The prevalence of administered or arbitrary intra-corporate pricing is a principal reason why multinational companies prefer 100 percent ownership of foreign subsidiaries. Minority stockholders of a subsidiary in a high-tax country like the United Kingdom, for example, would be deprived of their fair share of total profits if shipments came

in at prices which were set to minimize the worldwide tax liability of the U.S. parent corporation. Those minority stockholders might then have grounds to sue the parent company in a British or a U.S. Court--a nasty situation which the U.S. parent obviously would rather avoid by having no local minority stockholders to please.

In countries like India which have been known to impose special excess-profits taxes on a single company, it has been possible for the parent company to buy the plant equipment for one price, transfer it to the subsidiary at, say, a 50-percent price premium on a 50-50 debt-equity basis, and remit some profit home in the guise of interest. Transfer-price manipulation can be used for purposes other than tax optimization. When a country prohibits remittance of dividends, the transfer prices can be raised and the dividends taken out that way.

The use of tax havens for location of marketing, insurance, non-operating investment, and other financial functions of multinational companies is another cause for concern by the tax authorities, because they sometimes seem to serve no valid function other than tax evasion. Tax havens are countries which offer a low-cost, low-tax base for corporations' financial transactions and no accompanying restrictions on currency movements. They allow multinational companies to manipulate funds without having to tie down a large amount of capital in one place or without having to check constantly with government officials who are concerned about their national balance of payments.

Tax havens became popular because they allowed multinational corporations which had earned large profits in low-tax countries to make

use of those funds during the time lags before the tax authorities in their home countries made final balancing assessments. However, the manipulation of transactions can move even further, to actually concentrate profits in a low-tax "haven" country. For example, a tax-haven subsidiary may, in a paper transaction, "buy" a product for $2 from a low-labor-cost subsidiary in Hong Kong and then "sell" it to the Belgian subsidiary for $3 to reduce the tax in Belgium. Switzerland, which has served as a tax haven for many years, has been joined by Luxembourg, the Bahamas, Panama, Curacao, Liechtenstein, and others.

That the tax authorities in non-haven countries are not without recourse when abuses are suspected can be illustrated with a technique used by the Belgian government. In the example cited above, the essence of the procedure followed by the firm is to inflate the costs--and thereby reduce the profits--of its Belgian affiliate. The basic tactic need not apply only to tax-haven situations; it is practiced whenever the parent firm wishes to shift the locus in which profits ultimately are declared, and it can involve manipulation of all sorts of "cost" account payments: royalties and fees, research costs, intracompany trade, and equipment purchases. However, the Belgian tax authorities follow a simple procedure whenever they suspect such skullduggery. Instead of taxing a local subsidiary on the basis of its declared profits (or losses), the levy may be based on a negotiated percentage of the subsidiary's total expenditures (costs). The MNC is thereby forced (1) to justify its affiliate's expenditures in detail, and (2) to make every attempt to <u>reduce</u> rather than

increase its costs in order to avoid heavier tax liability. Unfortunately, this procedure can cause problems for legitimate research and development (R&D) subsidiaries (which have costs but no income) and for operating affiliates which realize legitimate losses.

Effect on host countries' industries

The capabilities and agressiveness of large U.S. multinational companies arouse fears in some companies of host countries that they will be pushed out of markets and be undercut economically. Although these threats may not materialize or may be offset by benefits to local industry, certain problems or negative effects have been noted. The entry and subsequent activity of a single large U.S. multinational company is frequently beneficial to all and may not disrupt local markets, but the fact is that several U.S. multinational companies often enter all at once. This simultaneous entry into an area of market opportunity is characteristic of oligopolistic competition in the United States in which the competing large enterprises employ similar methods of analyzing and exploiting new investment opportunities. One of their primary objectives is to maintain their share of the market, with the result that they tend to respond quickly to each other's strategic moves. This has happened in aluminum, tires, hotels, synthetic fibers, and agricultural machinery. It may result in overcapacity, labor shortages, and higher wage levels.

Local companies often are unable to borrow money (even in their own countries) on terms as favorable as those available to the multinational company, which can trade on the credit rating of a "prime name" U.S.

parent. Also, U.S. companies often come into tax-subsidized depressed regions which the local industries have (mistakenly) ignored. If they succeed, the local companies are faced with what they then allege is "unfair" or "distorted" competition. Finally, local businesses may be confronted suddenly with superior technological know-how and in response they cannot call on large, centralized R&D facilities as can the multinational company.

The thinking of the European Community's policymakers on these issues is coherent and instructive. Their basic premise is that the arrival of the U.S.-owned MNCs is not, in itself, a bad thing. In fact, the weight of evidence as the EC sees it is that the MNCs bring to Europe positive benefits in terms of employment, faster economic growth, more international trade, and higher levels of technology. However, the Eurocrats would like to see European-owned businesses develop on a multinational basis within the Community as vigorously as the U.S.-owned MNCs are penetrating the area. As barriers to such development, they cite the superior financial muscle of the U.S.-owned firm and its access to better capital market and banking facilities than smaller European competitors enjoy; the U.S. MNC's larger, home-based R&D effort; competitive national incentive programs to attract foreign investments; and the legal and tax barriers which still hinder cross-border mergers among EC firms. In the framing of Community policy, therefore, the stress is on removing the obstacles to the development of the "European" firm rather than on throttling the opportunities available to the Americans.

Balance-of-payments problems

A U.S. multinational company typically invests capital abroad which is "paid back" by after-tax profits plus depreciation (cash flow). After the pay-back period, the cumulative cash flow is increasingly on the plus side for the firm.

Balance-of-payments problems, seen from the national point of view, center on several facets of this mechanism. The earnings flows of a nation's overseas investors, if repatriated, should (after a lag of some years) more than offset the original outflow on long-term capital account. But complicating factors almost always exist, prompting some to fear that the positive effects on the balance of payments are too small and arrive too late. The question is not settled, however, and a major effort in later chapters of this study will be devoted to an analysis of the balance-of-payments effects of MNC activity, both for the United States and for selected, key foreign countries in which MNC activity is important.

Possible complications are manifold, and they can affect the balance of payments both positively and negatively. Some (or all) of the capital invested abroad may not come from the United States; it may be borrowed abroad. U.S. parent firms, once they have tested foreign markets to finance their subsidiaries abroad, may tend increasingly to use these markets to finance investment at home. In the first case, the balance-of-payments effect is "less negative" than the gross amount of foreign investment would indicate; in the second case, it is positive. On the negative side, profits that are not repatriated do not enter the balance of payments;

if they are left abroad, they never come home to offset the original capital outflow. Foreign investment could generate negative effects on the U.S. trade account, including, possibly, some displacement of U.S. exports by the foreign output of multinational companies' plants and/or some displacement of U.S. domestic production by imports from the MNCs' overseas affiliates. On the other hand, the affiliates may generate demand for U.S.-made goods at a faster rate than would foreign-owned firms operating in the same industries. Royalties and management fees also enter the picture, on the positive side. In some cases, they are merely disguised earnings flows; in other cases they represent income that accurately can be attributed to prior exports of processes and knowhow. A proper analysis--which is the major focus of chapter II of this study--must sort out these and other factors to ascertain where the "balance" lies.

International monetary problems

The past half-decade has been a period of severe crises in the international monetary system. It has also been the period of the most rapid expansion of multinational business in modern economic history. The juxtaposition of these two sets of events suggests a connection which has taken the form of an allegation that the MNCs have played a major destructive role in the recurrent monetary crises of recent years. That the MNCs have an important place in international monetary affairs now is beyond dispute; they are a major force in the world economy. However, their precise role in the recent crises is open to question. It may have

been quantitatively large or small. Even if it has been large, it is not settled whether it has been destructive or destabilizing. Finally, if the influence of the MNC is a destabilizing one, an analytic decision is required on whether the financial activities of the MNCs can in fact be controlled within the framework of a traditional, Bretton-Woods-type, fixed exchange rate system; or whether they are incompatible with such a system and therefore are uncontrollable by national governments except under some other sort of system. These questions will occupy two main chapters of the present study.

The principal elements of the debate over the MNCs' role in the recent crises center on the international cash management policies of the MNCs--the so-called International Money Management, or "IMM," techniques employed by corporate treasurers at headquarters facilities to rationally organize and manage the large pools of short-term funds available to the companies at any moment. A first point to be made is that not all MNCs employ IMM techniques, although their number is growing. IMM is a high art, involving considerable management skill and tight, centralized control systems. Some firms (even large ones) have not yet reached a level of international maturity in which IMM can be practiced effectively; either they are not sufficiently aware of the necessary technology (i.e., their management is backward), or they are growing too fast multinationally to bother yet about tight coordination of this growth. Other MNCs, as a matter of policy, prefer to allow maximum autonomy to each of their affiliates as an entity with ultimate profit responsibility, IMM is incompatible with such autonomy.

The ideal "ultimate' IMM system requires all affiliates to subordinate financial decision-making to a single super-treasurer at corporate headquarters. It involves comprehensive reporting of financial information--some of it on a daily basis via sophisticated communications systems--to headquarters, where information is pooled, scrutinized, and used as a basis for generating financial orders to "the field." The information and intelligence requirements are vast; and decision-making must be rapid.

What does IMM do? Its first main function is merely organizational. A very large MNC, with affiliates in many countries and transactions in many more, will find itself generating enormous numbers of transactions (both internal and external to the firm) which must be cleared across the foreign exchanges. Such transactions involve considerable cost. Therefore, IMM, by centralized management, can pool these transactions, often offsetting one against the other internally on the firm's books, so that costs are significantly reduced. It can identify unacceptable lags in payments it is supposed to receive and take steps, perhaps in cooperation with the firm's "lead" bank in the headquarters city, to reduce the lags and speed contributions to total cash flow.

The foregoing practices could be termed the "tactical" phase of IMM. Another phase, which could be termed "strategic," is potentially the main source of destabilizing international monetary flows. It involves the firm's dealings in two areas: the exchange markets and the

dovetail; the weak-currency country also happens to be the low-interest country. But in other cases, the objectives conflict. Exchange risk considerations may argue for going short in a currency, while interest rate considerations argue for going long. In these cases, judgmental factors enter, and IMM becomes a matter of weighing risks.

IMM practices potentially can cause problems for national monetary authorities, but the extent to which they do so is not now known. When the MNC moves rationally to reduce its exchange risk, it is generating flows of funds out of a weak currency--which contributes further to that currency's weakness. It also is moving funds into some strong-currency country, funds which find their way into local money markets and have an inflationary effect that local monetary authorities feel impelled to try to counter. When funds are moved for interest-rate reasons, the movements not only affect the exchanges but, more importantly, tend to bid up low rates (because there is more demand for low-rate money) and bid down high rates--thereby potentially subverting domestic monetary policy in both the high- and low-rate countries. In all these cases, it is not the fact of IMM that is in dispute, but the extent to which its effects actually are felt by central banks, the managers of monetary policy, and the exchange markets.

The foregoing discussion is cast entirely in terms of using IMM to avert risk, i.e., as a defensive tool. However, the MNCs have been accused of using IMM aggressively--of ceasing to employ it to protect assets and turning to actually risking assets to speculate on exchange rate changes.

money markets. As soon as an IMM system is in being, the firm should have at hand the necessary intelligence information with which to gauge very accurately its exchange risk exposure in every currency in which it deals. At the very least, this will improve the traditional response--hedging an exposure in a weak currency by selling that currency forward. But the MNC has more potent weapons than that. With a subsidiary operating in the weak-currency country, it can order that affiliate to start speeding up its payments to affiliates in strong-currency countries, while the latter will be directed to drag their feet in sending funds the other way. This is basically what "Leads and Lags" are all about. The objective is to reduce exposure in a weak currency, or preferably, to build up debt in that currency--which is exactly what the local affiliate would be ordered to do as it draws down balances by leading payments and lagging receipts. The MNC's gains from these practices are twofold: (1) foreign exchange risks are avoided to the maximum possible extent, so that the firm is not caught flat-footed by the devaluation of a currency; and (2) foreign exchange costs--which are higher than the costs of dealing in one's own currency--are minimized.

In the money markets, the problem concerns interest rates. Here, the objective is to have affiliates in countries where rates are low borrow, while subsidiaries in high-rate countries reduce debt. Then, the financial needs of individual affiliates can be met via intra-company payments, sometimes using the leads-and-lags technique described above. In some cases, exchange risk considerations and interest rate objectives

There is little evidence that IMM is used in this manner to an extent that would have much overall effect; but the question remains to be researched more fully.

The Multinationals' Escape from the Sovereign Power and Prerogatives of Both "Home" and "Host" Countries

One broadly stated allegation against the MNCs is that, with their enormous size and the flexibility that arises from being able to operate in many places at one time, the firms have ceased to be *de facto* corporate "citizens" of both home and host countries in any meaningful sense--regardless of whatever *de jure* forms their organizations may take. In short, neither parent nor affiliate, it is said, is responsive to the legitimate dictates of the national government in which it is legally domiciled. A corollary to this argument states that, when a firm has indeed become truly "multinational," with a worldwide perspective in its duction and market planning, its interests can often diverge from the economic policies of home- and host-country governments, with the result that these policies are subverted.

In reality, allegations of this sort are heard more often outside the United States than at home. The size of the U.S. economy and the subsequent pervasive power of the U.S. Government in the economic sphere far exceed the economic muscle of any other nation. Practically without exception, the MNCs have a stake in the United States that precludes in practical terms any attempt to enter into a head-on confrontation with the U.S. Government on a matter of fundamental policy. Moreover, not

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many MNCs, in the final analysis, are "world" companies with a truly international outlook; most of them remain basically U.S. firms which merely have significant international operations. Therefore, they remain oriented to the U.S. economic system and basically accountable to the U.S. Government.

A caveat is in order here, however. Since there never has been a major confrontation between the MNCs and the U.S. Government on an issue which vitally affects MNC interests, it is not entirely safe to say that such a confrontation would not lead to a challenge of U.S. policy by the companies. Some of the largest companies, which have vast economic powers and interests in the United States and together employ millions of people at home, nevertheless derive half or more of their total profits from overseas operations. It is not inconceivable that some major policy shift which would place those overseas profits in jeopardy could lead to effective evasive action on the companies' part.

Abroad, fears of the MNCs on the "sovereignty" or "accountability" issue are voiced frequently and loudly. They also take on an added dimension, as foreigners worry that, precisely because most of the MNCs are fundamentally U.S.-oriented companies, the firms themselves may serve as mere extensions of the U.S. Government, ordering their affiliates to hew to U.S. policies even when they conflict with the national economic policy interests of a host-country government.

In general, foreign suspicions that the MNCs are not accountable to host-country governments have found few grounds for validation in actual MNC preformance. It is to the MNCs' credit that, despite the probably real potential for disruption on which the suspicions are based, accountability has been the rule rather than the exception in virtually all countries. Nevertheless, the suspicions persist. Nine major examples of foreign complaints about the MNCs can be cited:

Size and economic power of multinational companies.--The leading multinational companies are very large in relation to individual national economies outside the United States. If GNP is considered comparable to a company's annual revenues, then General Motors is about the size of Belgium; Standard Oil of New Jersey is as large as Denmark; General Electric is the equivalent of Greece; and IBM is as large as Norway or Portugal.

This sheer size raises fears about the ability of the host government to continue to guide the national destiny when the big MNCs operate within its borders. There are worries that a country could become economically and even politically subservient to the power of giant multinational enterprises. Such extreme fears, however, almost never have led to concrete action. Most governments have acted on the premise that, for the moment at least, the benefits of the MNCs' actual presence outweigh the potential disadvantages.

There have been relatively few cases of wholesale nationalization or expropriation of foreign assets by host countries. Official responses to the MNC usually are limited to the commissioning of "studies" of the MNCs, directives to the local tax and antitrust authorities to watch the

foreigner especially carefully, measures to increase profit retention and reinvestment in the host country, and much talk. For the host government, the problem can be highly political. The strongest critics of the MNCs often are in the political opposition. They often are able to push to the point of radical policy shifts which would send the companies packing.

Trading With the Enemy Act of 1917 and the Export Control Act of 1949.--These acts forbid sales of many items to Cuba, North Korea, North Vietnam, Communist China, the USSR, and other countries. A U.S.-owned foreign subsidiary often finds itself in conflict with the host government which has either no such restrictions or different ones. The problem has become acute when the subsidiary enters a contract to supply components to a government-owned aircraft company, for example, and then that government subsequently contracts to supply those aircraft to a proscribed country. This situation occurred some years ago when General de Gaulle wanted to sell French aircraft to China. Because they contained some U.S. components, the U.S. Government managed to block the sale; but only after a strong and bitter argument with the French. There have been several similar cases, involving several friendly countries.

Capital export restrictions were imposed on U.S. multinational companies in 1968 to slow the outflow of capital for new overseas investment and thereby protect the balance of payments. In response, the MNCs shifted to European capital markets and the Eurobond market for a major share of their investment financing. This made many Europeans feel that they were

financing the take-over of their own industries by U.S. companies, either because the funds for such expansion came from their own nationals or because their monetary authorities were holding more dollars than they wanted as a result of our payments deficit. Also, host countries at times are critical of multinational companies' depletion of local capital which may be needed for other enterprises. Finally, they complain that heavy capital inflows can subvert a tight money policy. (The Eurobond market also affected the U.S. balance of payments because a substantial amount of the money going into these bonds was switched out of other dollar securities or diverted from investment in Wall Street.)

A concomitant provision of the capital export restrictions required that subsidiaries of U.S. companies repatriate part (up to 80 percent) of their earnings. The European countries felt this violated their sovereignty because these subsidiaries were registered as national companies in the host countries and were expected to cooperate in meeting their planning objectives.

Antitrust legislation of the United States is intended to protect competition in domestic American commerce and foreign trade without taking into consideration the domicile or nationality of the affected party. A European subsidiary that sells little or none of its output in the United States, yet possesses the potential for selling an appreciable fraction in the United States later, may not escape U.S. antitrust prosecution. The United States intervened in Gillette's acquisition of Bran, and Litton's acquisition of Triumpf-Adler in Europe, because both companies were making similar products in the United States. The United States forced the

dissolution of Mobay (joint venture of Monsanto and Bayer in the United States) years after its formation. With respect to Europeans' investments in the United States, the Europeans allege that the extra-territorial application of the antitrust laws will make European companies vulnerable even in the non-U.S. operations if they also operate in the United States. Another complaint concerns the uncertainty of antitrust prosecution--a firm never knows whether or when antitrust action will come.

Buy-American policy.--Although the policy is supposedly unofficial, U.S. companies' foreign subsidiaries often are under strong pressure from home offices sensitive to domestic critics and government suasion to buy U.S. equipment and supplies. Foreign countries have the same policies, of course. Their existence in Europe was the primary reason for some U.S. companies' entry into manufacturing in Europe. No country's hands are clean in the field of government procurement and "Buy-Local" policies.

Complaints related to ownership.--The U.S. multinational company almost always prefers wholly owned subsidiaries. Full ownership permits flexibility and selective centralization of management and thus realization of enhanced benefits of multinational operation. However, host countries usually prefer some equity participation by local residents, and laws sometimes are passed to enforce such preferences. One factor is the desire to share in the profits and operations of the local subsidiary; another stems from nationalistic suspicions of the centrally managed, wholly U.S.-owned subsidiary--i.e., suspicions that a management remote from the local area will make decisions which are adverse to the local economy. Once there are local minority (or majority) partners, arguments

ensue over transfer prices; reinvestment of profits versus paying them as dividends; appointments of host country citizens to top jobs; reluctance or inability of the local partners to put in additional capital to increase the growth rate; and the amount charged by the U.S. partner for patents, licenses, raw materials, and management services.

Acquisitions of foreign companies by U.S. companies bring additional complaints. After an acquisition is made, a number of changes may occur which are upsetting to the host country. National ownership of technology and knowhow is renounced to the proprietary interest of the U.S. parent; the top manager is often a U.S. national; the firm becomes subject to U.S. laws; there is possible loss of meaningful annual financial reports for the acquired company; the parent company may decide to cut production or shut-down the acquired company in favor of another operation in another country; and the R&D effort is likely to be concentrated in the United States.

Neocolonialism.--In addition to resentment of the financial power of American investors in foreign countries, there is resentment of cultural byproducts of multinational companies' foreign activities. American movies (even when made abroad), television programs, soft drinks ("Coca-Colonization"), and food products, for example, are favorite targets. Beyond these popular and perhaps inconsequential factors, however, the magnitude of American investment abroad has aroused more serious resentment with both economic and political ramifications. In 1968, U.S. companies owned 43 percent of the capital of all Canadian industry, and

along with a few other countries controlled 60 percent of Canada's mining and manufacturing companies. In the United Kingdom, U.S.-owned firms supplied 10 percent of the output of British factories and 17 percent of Britain's visible imports. Penetration of such proportions is perforce a matter for public policy concern.

Because most subsidiaries wre wholly owned by the parent company, local investors are excluded from attractive investment areas. If they want to invest in some of the leading industries of their countries, they must buy stocks of U.S. parent firms, yet foreign investors in such firms can have only a miniscule voice in determining the policies of these companies in their own countries.

Lack of reciprocity.--Foreign countries which generally have welcomed the investments of U.S. firms allege that there is a lack of corresponding opportunity for their companies to invest in the United States. Numerous federal and state laws and regulations hinder foreigners' rights to establish and conduct businesses in the United States. Foreign companies cannot invest in the United States in coastal shipping, domestic aviation, hydroelectric power generation, leasing or mining of federal lands, insurance, alcoholic beverages (in some states), many banking activities, and domestic radio communications. All officers of any firm that has defense contracts must be U.S. citizers.

Labor relations.--Labor unions everywhere have been unable, thus far, to cooperate and coordinate their strategies toward the MNCs internationally. They charge that the multinational companies play them off against one another by threats of shifting production from country to country. The many thorny problems of labor relations that have arisen because of MNC activity will be explored in detail in Chapter VIII of this study.

A Catalog of the Alleged Advantages of Spreading Multinational Business

Proponents of multinational business claim it is an efficient, productive mechanism for turning out an increasing flow of goods and services at reasonable prices and for bringing the world into closer harmony in the process. The result is faster economic growth and higher living standards in industrial nations and developing countries alike.

Efficient operation on a worldwide scale

The economic benefits to a given company from worldwide operation result in greater output and lower unit costs. That company then has at least the potential for supplying people with more, better, and cheaper goods. The benefits come mainly in production, research, finance, growth through geographic and product diversification, and more efficient management.

Production.--Thinking globally, managers of multinational companies coordinate production and sales worldwide. They take advantage of lower-cost raw materials or labor, proximity to markets, and the ability to eliminate costs such as transportation, tariffs, and payments to middlemen.

Worldwide integration brings economies of scale and also flexibility to operate factories more economically. For example, a company operating only in the United States whose sales of a product are increasing 10 million units per year has a difficult problem when it runs out of plant capacity if the most economic new factory which can be built has a capacity of, say, 100 million units per year. That new plant might have to be operated below the breakeven point for some years. But if the same company is a leader both in the United States and in the EEC, it can build the first plant in the United States, the second in Europe, and ship the product east, then west over a passage of time. A European company which operates only in Europe does not necessarily have the same problem. It could make a cartel agreement with its leading competitor whereby it builds the first factory, the competitor waits until the agreed-upon time to build the second, and they resell each others' goods depending on who is long in plant capacity.

Multinational companies can use plants in different countries to make different products, shipping components to any or all those countries (and others) to be assembled into final products. Ford builds Pinto engines in Britain and Germany for assembly into cars in the United States and Canada. Sperry Rand supplies the European market with electric shavers

from two plants in France and Germany, drawing on different labor pools but utilizing the same management.

Research.--There are advantages in doing research in one or two places for worldwide enterprise, and being able to spread the R&D expenditures over relatively large sales volumes. For example, many chemical companies budget about 3 percent of sales for R&D. A $2 billion company is more likely to make significant research discoveries than a $200 million compa y, and the fact that nearly all the large chemical companies are multinational is an aid in attaining large sales. These companies may establish technological intelligence offices in European countries and Japan to keep abreast of developments there; e.g., to find from similar organizations in those countries what technology is available free or for sale, or what is still in development that might offer possibilities for joint effort, or what market needs exist.

U.S. companies' actual research efforts are still generally concentrated at home, presumably because of communications advantages, government-sponsored programs, inertia, management limitations, or economies of scale. IBM is one of a growing number of exceptions; it has important laboratories both in the United States and abroad which are linked with a data transmission network for continuous exchange of research findings. IBM's numerous foreign laboratories get worldwide responsibility for certain products and systems once the specifications have been determined at headquarters. As one of the most progressive MNCs, IBM has recognized that

scientific talent, research ability, and advanced technologies themselves are to be found in abundance outside the United States.

One point that should not be lost is that, regardless of the location in which technology actually is generated by an MNC, the ownership of that technology falls into American hands whenever the firm is U.S.-based. Since it is increasingly evident that the capability to develop new technology is widespread outside the United States, the role of the U.S.-based MNCs may actually be one of preempting for the United States the proprietary control of foreign technology that might otherwise be owned by someone else.

Finance.--When a company escapes from the confines of its own capital and money markets, it obtains a flexibility and power for operations which simply are not available in the strictly national environment. Banking contacts multiply. Different national and local capital markets can be tapped--sometimes almost simultaneously--to raise the enormous packages of funds required to sustain the domestic and foreign investment programs of modern manufacturing industries. Working capital can be secured wherever interest rates are lowest and supplies are most ample; tight money and high interest rates at home no longer need force a slowdown in the company's operations. Tax liabilities can be minimized across national boundaries; International Money Management techniques can come into their own as a means of controlling the firm's financial affairs down to the smallest detail.

At the same time, risks multiply as a firm's exposures in different markets with different currencies grow. Tight financial control is a response to these risks. Historically, the financial uncertainties of international as opposed to domestic business have been one of the major barriers to its rapid growth. To the extent that the innovative financial techniques of the MNCs (and the multinational banks) have helped to reduce the riskiness of international finance, therefore, they have contributed to the faster growth of international business in general and to the closer integration of the world economy.

Diversification benefits arise mainly from foreign acquisitions of businesses already in being. "Grassroots" diversification projects--i.e., new-product development using a firm's own resources to create (or copy), produce, and market an item--usually are undertaken in the home country first; by the time they are taken abroad for investment, they are no longer new diversifications. In fact, foreign acquisitions usually represent an alternative to "grassroots" projects on a foreign site. They have several advantages:

(1) They allow rapid market entry, with fast achievement of acceptable market share, sometimes through concessions such as franchises and choice locations (e.g., a chain of retail outlets);

(2) They may yield proprietary control over a body of technological knowhow, which is more desirable than merely licensing it;

(3) There may be manufacturing advantages, such as desirable plant site in a port area, an exceptionally efficient plant, and/or a supply of scarce skilled labor that comes with the plant being acquired.

(4) An acquisition may cost less than its true worth. A typical candidate is the foreign company which lacks a strong research program or the necessary financial resources for optimum growth, or which is a family-controlled corporation with no suitable successor to ownership and management. Such companies may prefer U.S. purchasers because they might offer the best promise for continued development and greater competitiveness. More important, the Americans may pay more. Market-oriented U.S. firms are notorious in Europe for acquiring operations at prices the locals consider outrageously high, whereupon aggressive U.S. management achieves results that eventually reveal the prices as bargains.

The foregoing are advantages to the firm, but not necessarily to society as a whole. Such additional benefits arise when the new management transforms the acquired firm into a larger, more progressive, and more successful enterprise than it may have been in the past. This does not always happen, but when it does there is a social gain, which derives from the integration of the acquired business into the better-managed, more flexible, and more efficient structure of the parent MNC.

Management knowhow may be the premier U.S. resource. Exported to overseas operations, it returns substantial benefits. The company that operates in many countries with varying labor conditions, market demands, competitive practices, money-market rates, tax laws, etc., finds multiplying opportunities to improve financial results, growth, technology, and competitive stance--provided that it can closely coordinate all the parts of its operation.

Just as the more mature MNCs have discovered how to tap resources of foreign technology, they also have discovered how to mine reserves of foreign management talent. Thus, they export U.S. management know-how, but not necessarily U.S. management personnel. U.S. citizens are

almost as rare in the executive offices and on the professional technical staffs of the MNCs overseas as they are on the assembly lines.

The coordination of MNC operations requires planning and systemization of control of a high order. In the largest and most sophisticated MNCs, planning and subsequent monitoring of plan fulfillment have reached a scope and level of detail that, ironically, resemble more than superficially the national planning procedures of Communist countries. There are general goals set by top management, against which far-flung affiliates generate detailed operational plans for a year's, 5 years', or 10 years' activity. These localized plans then are fought out at the regional headquarters level, where goals, inputs, outputs, and financial needs are reconciled. The regional executive then carries "his" plan to a confrontation with his colleagues and top management at "the Kremlin" (U.S. headquarters), where still more reconciliations and compromises are made. The result is a set of norms for all levels of management to fulfill, with production inputs, outputs, sales goals, and financing requirements all detailed and coordinated as carefully as possible. During the life of a corporate plan, fulfillment is periodically reviewed, and appropriate pressures and rewards are conferred upon those who do not meet and those who do meet the plan targets. Without these devices, the large, complex MNC would disintegrate into chaos, thus forfeiting the advantages of managerial efficiency that may be its principal contribution to world economic welfare.

Higher Living Standards for the United States, for the World as a Whole, and for Individual Countries Abroad

To the extent that international movements of direct investment capital are a response to free market stimuli, well-settled economic doctrine holds that they should achieve a more rational international allocation of factors of production. This implies an expansion of world output and greater economic integration, with a concurrent tendency toward equalization of wage rates (at higher levels), interest rates, stocks of technology, and living standards among all the countries where direct investment takes place.

The kinds of data usually adduced to demonstrate the truth of such theoretically derived propositions are not conclusive, but they are highly suggestive. Some typical numbers for the United States are displayed in table 5. They purport to measure some key results of the economic performance of five U.S. industries which are leading foreign investors ("high-multinationals")--transportation equipment, machinery, electronics, chemicals, and scientific instruments--and to compare these results with those for the remaining manufacturing industries, which are not heavy investors abroad. The data indicate that the "high-multinationals" during the 1960's increased their domestic employment more than 1.8 times as fast as the "others," with domestic shipments growing 1.2 times and exports 1.4 times as rapidly. Moreover, the "high-multinationals" averaged about eight times as much expenditure on R&D as their less foreign-oriented counterparts.

Table 5.--Certain indicators of economic performance of U.S. "high multinationals" and "other" manufacturing industries, specified periods 1961 to 1970

Type of industry	Employment			Value of shipments		
	1961	1969	Growth rate, 1961-69	1961	1969	Growth rate, 1961-69
	Millions	Millions	Percent per year	Billion dollars	Billion dollars	Percent per year
High multinationals---	5.3	7.1	3.7	135	247	7.9
Other manufacturing industries----------	11.0	13.0	2.0	235	396	6.7

Type of industry	Exports			Percent of total R&D in U.S. industry		Percent of total expenditures for overseas manufacturing plants, 1967-70
	1961	1969	Growth rate, 1961-69	1964	1970	
	Billion dollars	Billion dollars	Percent per year			
High multinationals---	9.6	20.9	10.0	90	88	67
Other manufacturing industries----------	5.8	10.0	7.0	10	12	33

Sources: Employment, value of shipments, and exports from U.S. Department of Commerce publications; research effort from National Science Foundation publication NSF 71-39; overseas expenditures from Survey of Current Business and IRS (Form 959 data).

There is practically complete agreement that the overseas activities of U.S.-based MNCs contribute substantially to the levels of employment, overall economic growth, and foreign trade of foreign countries, especially the advanced industrial economies. Yet there are other, more subtle ways in which U.S. direct investment may have benefited foreign economies without necessarily inflicting corresponding cost on the United States. Since U.S. firms tend more than indigenous firms to seek out depressed areas (and local governments' incentive programs to help them), they have contributed relatively more to employment

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and economic activity in such areas, where the contribution really counts in terms of overall national welfare. The arrival of the Americans in many places has stimulated inefficient or "infant" local industries by forcing them to adopt "me-too" strategies in order to survive--or by swallowing them via acquisition. Often U.S. investors have been the first to introduce the latest technology or marketing practices; European car manufacturers readily admit that the U.S. MNCs have revolutionized auto marketing techniques on the Continent. In still other cases, the MNC may have been able to take risks which would not have been feasible for local firms; the development of Australia's vast iron ore deposits by MNCs from several countries is a good example. Finally, the attempts of American firms operating abroad to bring their foreign operations to a par with domestic operations in terms of technology (especially process technology) and management have led to widespread upgrading of management, and probably labor, skills abroad.

In short, local industries have been stimulated by the competition of U.S. firms. They have adopted the technologies and management techniques of the multinationals, and have hired away some of their staff. Ford's operations in Europe, for example, have supplied a generation of finance and purchasing officers who have fanned out through major European firms. Occasionally, the Americans have gone home whipped or have had to respond to competitive challenges they did not expect. Earlier in this century many American insurance companies pulled out of Europe because

local rivals, using many of the American companies' techniques, blunted their competitive edge. Woolworth, which spearheaded a revolution in British retailing, was overtaken by local competitors who developed even more effectively the basic high-volume, low-cost approach to variety goods marketing.

Perhaps the most difficult to measure of all the theoretical propositions about how international direct investment should benefit the world economy is the expected tendency for MNC activity to raise and more closely equilibrate wage rates in different countries. Clearly, enormous disparities in wages and their purchasing power exist; but this is not proof that MNC activity has not tended to narrow them, however slightly. Unlike other facets of MNC operations-- their impact on employment, economic growth, and international trade-- the wage question has not been subjected to even broad-guage scrutiny. Chapter VII of this study will attempt such analysis in detail, both for the United States and for selected foreign countries. Beyond that, other chapters will analyze more fully all of the principal economic benefits cited in this introductory subsection, with the hope that some factual flesh can be attached to the grandiloquent expectations of economic theory.

Increasing Interdependence of the World Economy, and Resultant Stimulation of National Self-Interest in Avoiding Conflict

The leading multinational companies increasingly require centralized planning and financial control to coordinate their global activities. Many observers allege that the MNCs are vitally interested in world peace because they must have open channels for the movement of materials, components, information, money, and people. War injures and distorts foreign trade in general; it could devastate the MNCs. They would lose their multinational advantages and character if war came to their areas of operation. Similarly, the host country possesses incentives to avoid war. If some of its important production facilities are multinational subsidiaries obtaining raw materials and components from other multinational affiliates, and shipping finished products to still others, severe disruption would occur in wartime.

The men who manage the great multinational corporations are a confident group. Many see themselves as riding a wave of social change which they themselves are helping to create. But they have one great fear, which surfaces in every international investment decision that they make: the fear of political instability. Local wars and locally unstable regimes can be tolerated by the MNCs because at worst they produce losses small enough to be written off, sometimes to the advantage of company tax planners. However, should a situation ever arise in which the major countries, including the United States, acting in their own national interests, would feel it necessary to alter the fabric of international political relationships in the West in such fashion that potential losses

could not be borne by the firms, then a logical extension of the allegation that the MNCs have a self-interest in avoiding such situations is that they might try to flex latent political muscles that they have kept carefully hidden in the past, or that they may not even realize they have developed.

Crucial Questions: Do the Problems--or "Costs"--Generated by the Spread of Multinational Business Outweigh the Advantages--or Benefits? Or Vice Versa?

The primary aim of this study is to present a valid and usable analysis of the impact of multinational business on the United States and world economies, with stress on the former. The analysis is to be expressed in terms of costs and benefits for society as a whole and the affected segments of it. The preceding 90 or so pages have done little more than introduce the subject, indicating roughly the size and scope of MNC activity to the present, summarizing the commonly stated reasons for the MNCs' rapid expansion since World War II, and outlining the bad and good things that critics and supporters have had to say about the MNCs. Against this background, the main issues now can be more clearly focused.

The crucial questions to be answered fall into two groups. The first is concerned with direct estimation of the impact of MNC activity. The key problems in this group are--

(1) What has the MNC done to the American and the foreign worker? How many jobs have been lost, how many created? What has happened to wage levels and working conditions? What have been the responses of organized labor movements? Even if the overall impact of the MNC has been satisfactory, what are the localized effects, and how serious are they for the people concerned?

(2) How have the MNCs affected U.S. foreign trade and the trade of other important nations? What role has the MNC played in the recent deterioration of the U.S. trade balance? Even if the overall effect of MNC trading is favorable from the U.S. point of view, are there pockets of negative effects in particular industries that are worthy of mention?

(3) Beyond just the question of trade alone, how has the MNC affected overall balance of payments developments in the United States and abroad? Is the overall influence of the MNCs on national balances of payments for the major countries so great that specific attention has to be given to the MNCs when balance of payments policies are framed?

(4) What have the MNCs done to the international monetary system? What has the system done to them? Given the answers to these questions, what are the implications for the future of the system?

(5) What influence have the MNCs had on U.S. and worldwide investment--its patterns, its growth, and the capital markets which finance it?

(6) What have the MNCs done for or against the technological strength of the United States?

The second group of crucial questions is broader, and more concerned with linking the assessment of the impact of the MNCs with an assessment of choices and alternatives. It includes such questions as--

(1) Suppose that the analysis reveals that the foreign direct investment activity of U.S. firms is depriving U.S. domestic industry of opportunities for exports of U.S. manufactured goods. Are the foreign direct investments nevertheless necessary to prevent U.S. firms' market share from eroding even further, as the MNCs' supporters claim, or would less investment lead to more domestic exports?

(2) Could imports of goods from U.S.-owned foreign plants be replaced by domestic production? If so, what might the costs be?

In the end, the entire MNC issue, seen from the U.S. point of view, boils down to the single query: "Is foreign direct investment a substitute for domestic investment or a supplement to it?" If it is a substitute, then some non-U.S. interests must be gaining from it, for if nobody gains, it would not occur. If it is a supplement, then it is likely that everybody gains.

CHAPTER II

IMPACT OF THE MULTINATIONAL FIRM ON THE U.S. AND FOREIGN BALANCES OF PAYMENTS

The U.S. Balance of Payments

Introduction

The balance of payments problems experienced by the United States during the past decade are well known. Although there are various standards of "balance" used in dealing with international trade and finance, the U.S. balance of payments has been in some degree of deficit by any standard in almost every year during this period. These deficits have occasioned a great deal of analysis and research seeking causes and solutions. Capital outflows in general and U.S. direct investment abroad in particular, which are debit or negative items in the balance of payments accounts, have come under especially close scrutiny. U.S. direct investment abroad more than doubled between 1962 and 1965, leading in the latter year to voluntary, and in 1968 to mandatory, controls, on such capital outflows.

The multinational corporation, as one of the principal sources of private capital movements, also has come under closer scrutiny. The impact of MNCs on the U.S. balance of payments arises predominately from the foreign direct investment made by these firms. Such investment affects the balance of payments in the following manner:

(a) When U.S. direct investment abroad is undertaken there is normally an outflow of capital from the United States. Even though such investment has been financed to a significant extent

in recent years by funds obtained abroad, it usually is accompanied by at least some transfer of capital from the parent company.

(b) Direct investments abroad generate a stream of earnings in subsequent years, part of which is remitted to the U.S. parent company in the form of dividends, interest, and branch profits. There may also be other types of remittances from the affiliates to the parent, such as royalties and fees for the use of patents and managerial services.

(c) There is a variety of possible merchandise trade flows generated by U.S. direct investment abroad. Capital equipment may be exported in connection with the establishment or expansion of productive facilities abroad, as well as to meet replacement needs. There may be exports from the United States of intermediate goods for further processing or assembly abroad by the affiliates. Some goods may be shipped to foreign affiliates for immediate resale, with the affiliates acting chiefly as foreign sales outlets for U.S. products. Foreign direct investment by U.S.-based MNCs may also indirectly stimulate demand for U.S. exports through income effects in the host country. On the other hand, U.S. exports may be displaced by the foreign subsidiaries' production and sale of goods that would otherwise have come from the United States. U.S. imports may likewise be affected by foreign direct investment, as some goods formerly produced by the parents are now produced at less cost by the foreign affiliates and shipped back to the United States.

(d) Other items in the balance of payments may be affected such as travel, transportation, payments of interest on foreign borrowings, and other servies related to the foreign investment. These items are generally minor relative to capital flows, income on direct investments, and merchandise trade.

(e) Direct investment in the United States by foreign-based MNCs also affects the U.S. balance of payments, the effects being more or less the reverse of those generated from foreign direct investment by U.S.-based MNCs. Such investment is small relative to U.S. direct investment abroad, but it has grown considerably in recent years.

One other potential impact of the MNCs on the U.S. balance of payments--and unfortunately one that has largely resisted quantification in a balance of payments context--results from International Money

Management, or "IMM," techniques employed by a growing number of MNCs to organize and rationally manage the large quantities of short-term funds available to the companies. Since the MNCs move money across international boundaries and foreign exchanges, as well as into and out of different money and capital markets with varying interest rates, IMM becomes a source of potential profit or loss in itself. One obvious use of IMM is to avoid foreign exchange risks to the maximum extent possible, so that the firm is not caught unprepared by the devaluation of a currency in which it holds liquid asets. IMM practices pose potential balance of payments problems if such practices help to generate large flows of liquid short-term capital into or out of a particular currency.

Methodology

Several analytic studies investigating the linkage between direct investment abroad and the balance of payments have focused on the recoupment period, or number of years required for an initial capital outflow to generate an equal inflow of investment income and net trade receipts. 1/ Unfortunately, the results of these studies vary considerably, depending crucially upon the initial assumptions made

1/ For example, P.W. Bell, "Private Capital Movements and the U.S. Balance of Payments Position," Joint Economic Committee, 87th Congress, 2nd Session, Factors Affecting the United States Balance of Payments, Washington, D.C., 1962; G. C. Hufbauer and F. M. Adler, Overseas Manufacturing Investment and the Balance of Payments, U.S. Department of the Treasury, Washington, D.C., 1968; W. B. Reddaway, et al., Effects of United Kingdom Direct Investment Overseas (Interim and Final Reports), Cambridge University Press, 1967, and 1968.

concerning the questions of whether investment abroad supplements or substitutes for investment by foreign firms, and whether investment abroad does or does not reduce domestic investment. In general, however, the studies suggest that in the short run direct investment abroad adversely affects the investing country's balance of payments, but that the ultimate long run balance of payments effects will be favorable. Perhaps the central point to be learned from such studies is that there is a dynamic process involved and time must explicitly be taken into account in assessing the effect of direct investment abroad on the balance of payments.

The aim of this chapter is not, however, to estimate recoupment periods or to determine whether U.S. direct investment abroad should be encouraged or discouraged in order to improve the U.S. balance of payments position. Rather, the focus here is simply to describe and compare the balance of payments performance of the MNCs with the performance of the private sector of the United States as a whole. Sufficient data on MNC-generated balance of payments flows are available for only 2 years, 1966 and 1970; although it is possible to compute rates of growth, etc., during this 5-year period, no attempt is made to relate income and trade flows in a given year with foreign direct investment undertaken in previous years.

Conceptually, the presentation of the data is rather similar to that followed regularly by the Bureau of Economic Analysis of the U.S. Department of Commerce in publishing the U.S. balance of payments

accounts in the Survey of Current Business. There is one major difference, however; all government transactions on current and capital account are separated from private transactions, and then aggregated together into a single net official account. The purpose of constructing the balance of payments in this way is to allow a more appropriate comparison to be made--namely a comparison of the performance of the MNCs, which engage in private transactions, with the payments performance of the rest of the "private" sector. The comparison takes the balance of payments accounts in their usual order of presentation; that is--trade, services, unilateral transfers, the current account, the capital account, and the overall balance of payments performance. Balance-of-payments signs are used throughout the chapter. 1/

An overview

Table 1 shows a summary of the balance of payments accounts for the private sector of the U.S. economy and for the MNC-generated portion of the private sector. It is drawn from the detailed tables A-1 and A-2 in the Appendix to this chapter. For the 2 years indicated, 1966 and 1970, the table highlights the importance of the MNCs in maintaining a merchandise trade surplus (especially in 1970), and a large and growing surplus on the private services accounts (principally

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1/ For those who may not be familiar with balance-of-payments concepts, the following is a brief description. The balance of payments is a set of accounts which measures, as comprehensively as possible, the transactions which generate financial flows into and out of a country. Inflows of funds are designated with a (+) and outflows with a (-), in standard accounting procedure.

(footnote continued on page 174)

Table 1.--U.S. private balance of payments summary: Aggregate, MNC-generated and non MNC-generated, 1966 and 1970 1/

(In millions of dollars)

Item	1966			1970		
	Aggregate	MNC-generated	Non MNC-generated	Aggregate	MNC-generated	Non MNC-generated
Merchandise trade balance	3,824	2,023	1,801	2,164	2,048	116
Exports	29,287	7,826	21,461	41,963	12,988	28,975
Imports	-25,463	-5,803	-19,660	-39,799	-10,940	-28,859
Balance on services	4,016	4,473	-457	4,453	6,400	-1,947
Dividends, interest, and branch earnings, net	3,786	3,370	416	4,150	4,802	-652
Fees and royalties, net	1,285	1,192	93	1,902	1,747	155
Other services, net	-1,055	-89	-966	-1,599	-149	-1,450
Remittances and other transfers, net	-613	0	-613	-1,012	0	-1,012
Balance on current account	7,227	6,496	731	5,605	8,448	-2,843
Long-term capital, net	-3,006	-3,252	246	-1,940	-2,422	482
Direct investment, net	-4,026	-4,026	0	-3,912	-3,912	0
Other long-term, net	1,020	774	246	1,972	1,490	482
Basic balance (Current Acct. plus long-term capital)	4,221	3,244	977	3,665	6,026	-2,361
Non-liquid short-term capital, net	-104	73	-177	-482	-531	49
Liquid short-term capital claims	-14	-150	136	252	351	-99
Balance on identifiable transactions	4,103	3,167	936	3,435	5,846	-2,411

1/ Excludes all government transactions on current and capital accounts.
Source: Principally from the Bureau of Economic Analysis, U.S. Department of Commerce; MNC data partly estimated by the Tariff Commission in consultation with the Bureau of Economic Analysis.

from income on U.S. direct investments abroad). The surplus on current account generated by the MNCs more than compensated for the net outflow of long-term and nonliquid short-term capital in both years. Of the $4.1 billion surplus on identifiable private transactions in 1966, almost $3.2 billion resulted from the operations of the MNCs. In 1970, the MNC-generated surplus on identifiable transactions had grown to $5.8 billion, while the balance on identifiable transactions for the aggregate private sector declined to $3.4 billion, indicating a steep decline and a negative balance for the non-MNC portion of the private sector.

Data broken down by major industrial sector--i.e., manufacturing, petroleum, mining and smelting, and "other" industries--are not available for all the balance of payments accounts, but such data are available for merchandise trade flows, income on direct investments abroad, and direct investment capital flows. These three categories

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The balance of payments accounts have three main parts, or groups of accounts. The first is the current account which includes all noncapital transactions such as merchandise trade, services (freight, insurance, royalties and fees, interest remittances, etc.), and unrequited (or unilateral) transfers (gifts, pension payments, etc.). The second is the capital account which measures flows of long- and short-term financial capital. The third is a section which measures the monetary movements through the banking system that are the counterpart to the current and capital account transactions; this is where the reserve accounts of the central band and government appear. Transactions which are not "identifiable" as belonging somewhere in these three groups of accounts are recorded in an "errors and omissions" account.

Because the balance of payments accounts include the central bank, which pays and receives reserves, the "balance" of all the accounts

(footnote continued on page 175)

together accounted for by far the largest portion of MNC-generated balance of payments flows. The available data indicate that manufacturing firms made the strongest positive contribution to the MNC-generated surplus on identifiable transactions, chiefly through their merchandise trade surplus. The "other" industrial sector also made a positive contribution; the major industries included in this category are agriculture, trade, insurance, and finance. The petroleum sector appeared to have essentially neutral effects on the balance of payments, with large deficits on the trade and direct investment capital accounts being "neutralized" by inflows of income from direct investment abroad which were larger than those received by any of the other sectors. The mining and smelting sector appeared to have had a negative effect on the balance of payments, with inflows of income on direct investments not completely offsetting deficits on the trade and direct investment capital accounts.

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is zero. That is, if all economic entities other than the central bank show a net deficit in their transactions with the rest of the world, then the central bank will have to pay out reserves (or accumulate debts) to the rest of the world in equal amounts--and conversely for a surplus situation. Yet a set of accounts which always balances at zero has little analytic meaning. Therefore, it is customary to "draw the line" and strike balances at various points within the accounts, depending on what one wishes to measure. All the transactions thus included "above the line" produce some net deficit or surplus that can be analyzed. All the transactions "below the line" will, by definition, produce a total equal and of opposite sign to the deficit or surplus so measured; they may sometimes be thought of as the transactions which "financed" or offset the deficit or surplus.

Among the more commonly used "balances" struck in the foregoing manner are the following:

(footnote continued on page 176)

The trade accounts

Trade performance of the U.S. economy as a whole.--The period 1966-70 witnessed a rapid growth in aggregate U.S. exports, from $29.3 billion in 1966 to $42.0 billion in 1970, an average annual increase of 9.4 percent. 1/ However, aggregate U.S. imports increased even more rapidly, from $25.5 billion in 1966 to $39.8 billion in 1970, an average annual gain of 11.8 percent (table 2). As a

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1. The current account, often with its components highlighted;
2. The capital account;
3. The current and capital accounts together;
4. The "Basic Balance," which combines everything in the current account with the long-term transactions of the capital account; this often is used as an indicator of underlying, long-run trends;
5. The "Liquidity Balance," which selects from all the accounts those items which affect the overall liquid asset and liability position of the nation; it measures the change in net liquid claims on the nation held by foreigners; and
6. The "Official Settlements" balance which essentially measures all the transactions contributing to reserve movements over the period; it recognizes that some of the surplus or deficit measured on other bases may have been financed by private sector lending or borrowing, thus precluding reserve movements.

None of these "balance" concepts is a "best" one. Which one is used in a particular analysis depends strictly on the focus of that analysis. In some treatments--such as that in this chapter--several of the "balances" are compared and contrasted for a broader understanding of what has happened to the structure of the balance of payments as a whole.

1/Trade data collected and reported by the Census Bureau, when used for balance of payments purposes, require adjustment as to valuation, coverage, and timing. The trade data used in this chapter are, wherever possible, on a balance of payments basis; such data exclude goods exported under U.S. military sales agency contracts and goods imported in connection with direct defense expenditures. Also, some government-related transactions remain in the "private" sector accounts. For example, the figures reflect private shipments that may have been financed through the Export-Import Bank or shipped under various tied foreign aid arrangements.

Table 2.--U.S. merchandise trade, aggregate and with majority-owned affiliates of U.S.-based MNCs, 1966 and 1970

(Millions of dollars)

Item	U.S. total	With majority-owned affiliates 1/				
		Total	Manufacturing	Petroleum	Mining and smelting	Other
	1966					
Exports	29,287	7,826	5,293	527	105	1,901
Imports	-25,463	-5,803	-2,719	-1,523	-682	-879
Trade balance	3,824	2,023	2,574	-996	-577	1,022
	1970					
Exports	41,963	12,988	9,042	733	105	3,108
Imports	-39,799	-10,940	-6,751	-2,657	-770	-762
Trade balance	2,164	2,048	2,291	-1,924	-665	2,346

1/ Industrial breakdown is by industry of affiliate.

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

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consequence of the more rapid growth in imports than in exports, the U.S. merchandise trade surplus (the excess of exports over imports) declined--from $3.8 billion in 1966 to $2.2 billion in 1970--continuing a trend apparent since the first half of the 1960's.

The share of total merchandise trade represented by manufactured commodities increased somewhat during the 1966-70 period. 2/ In 1966 some 71 percent of aggregate U.S. exports and 66 percent of aggregate U.S. imports consisted of manufactured commodities. In 1970, the corresponding shares were almost 75 percent for exports and 73 percent for imports. Virtually the entire merchandise trade surplus in both years resulted from trade in manufactured commodities. As would be expected, the United States normally has trade deficits in both petroleum and mining and smelting commodities, reflecting large imports of raw material not available in sufficient supply from domestic sources.

Trade flows generated by the MNCs.--As outlined in the introduction to this chapter, there is a variety of possible merchandise trade flows generated by foreign direct investment. A complete assessment of the MNCs' impact on U.S. exports and imports would entail estimating trade flows that would have occurred if the MNCs' foreign affiliates did not exist. Such trade flows would then be compared

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2/ "Manufactured" commodities correspond to those included in industry code no. 400 as used by the Bureau of Economic Analysis; that is, Division D, excluding Group 29, of the Standard Industrial Classification.

with those directly attributable to the existence of the foreign affiliates. A number of crucial assumptions would obviously have to be made in order to estimate what the pattern of U.S. trade would have been in the absence of foreign direct investments by U.S.-based and foreign-based MNCs.

For the more limited purposes of this chapter, one would ideally like to compare all trade flows that took place because of the existence of foreign affiliates of MNCs, both U.S.-based and foreign-based, with aggregate U.S. trade flows during the same period. However, the available data fall short of permitting this comparison, although they capture most of the necessary information. The MNC-related trade flows considered in this chapter will be limited to U.S. exports to and imports from majority-owned foreign affiliates of U.S.-based MNCs. 1/ Thus the focus here is on U.S. trade flows with the foreign affiliates of U.S. direct investors, rather than on the trade flows of the direct investors themselves. Exluded are other possible components of "MNC-related" trade flows, such as exports and imports of U.S.-based MNCs other than those to and from their majority-owned affiliates, and exports and imports of U.S. affiliates of foreign-based MNCs. Trade flows of U.S.-based MNCs other than those with their majority-owned foreign affiliates will, however, be considered in the following chapter which delves more extensively into the impact of the MNCs on world trade patterns.

1/ U.S. merchandise exports charged to foreign affiliates but shipped to others are excluded.

U.S. merchandise exports shipped to majority-owned affiliates of U.S.-based MNCs increased from $7.8 billion in 1966 to $13.0 billion in 1970, an average annual gain of 13.5 percent (table 2). U.S. imports from such affiliates, although smaller than exports, increased even more rapidly--from $5.8 billion in 1966 to $10.9 billion in 1970, an average annual gain of 17.2 percent. Because such trade flows grew more rapdily from 1966 to 1970 than did aggregate U.S. exports and imports (9.4 percent and 11.8 percent, respectively), they accounted for an increasing proportion of aggregate U.S. trade. In 1966, exports to majority-owned affiliates of U.S.-based MNCs accounted for 26.7 percent of all U.S. merchandise exports, but by 1970 the corresponding proportion was 31.0 percent. Likewise, U.S. imports from majority-owned affiliates of U.S.-based MNCs rose from 22.8 percent of aggregate U.S. imports in 1966 to 27.5 percent in 1970.

U.S. exports to and imports from majority-owned affiliates of U.S.-based MNCs are impressive not only because of the magnitude of the flows involved, but also because of their impact on the U.S. merchandise trade balance. In 1966, the surplus generated from trade flows with these affiliates accounted for over one-half of the total U.S. merchandise trade surplus. In 1970, almost the entire U.S. merchandise trade surplus resulted from trade with majority-owned affiliates of U.S.-based MNCs. As was the case with aggregate U.S. exports and imports, the surplus from trade with these affiliates resulted chiefly from trade in manufactured commodities, with trade deficits being experienced in the petroleum and mining and smelting sectors (see table 2).

Although the surplus generated by U.S. trade with majority-owned affiliates of U.S.-based MNCs increased slightly from 1966 to 1970, the more rapid growth in imports raises the possibility that in the future such imports could even exceed exports to these affiliates (as was the case with aggregate U.S. imports and exports in 1971). The subject of the MNCs' trade performance is explored more fully in chapter III, where more definitive conclusions are reached.

The private services accounts

Performance of the U.S. economy as a whole.--Aggregate receipts from the private services accounts increased from $11.7 billion in 1966 to $17.4 billion in 1970, an average annual increase of 10.3 percent (see table 5, p.188). Aggregate private payments rose from $7.7 billion to $12.9 billion during the same period, for an average annual gain of 13.8 percent. Despite the fact that payments increased faster than receipts, the surplus on the private services accounts (the excess of receipts over payments) increased from $4.0 billion in 1966 to $4.5 billion in 1970. Since 1966, in fact, the surplus on the private services accounts has been substantially greater than the merchandise trade surplus, even though aggregate receipts and payments of services have been only about one-third as large as merchandise imports and exports.

About 95 percent of the balance of payments flows included in the private services accounts arise from three categories of services:

(a) Receipts and payments by U.S. companies of interest, dividends, and branch earnings on direct investments. Also included in this category are receipts and payments of interest by U.S. residents on debt securities and bank deposits, and dividends on equity holdings.

(b) Receipts and payments by U.S. residents of fees and royalties for the use of intangible property or rights (patents, copyrights, trademarks, manufacturing rights, franchises, etc.), for the rental of tangible property, motion picture films and TV tapes and for the use of professional, administrative, and management services. 1/

(c) Travel, passenger fares, and other transportation (e.g., freight).

Table 3 shows the relative importance of each of the three above categories of services during the 1966-70 period (as a percentage of cumulative total private services flows):

Almost three-quarters of the cumulative receipts during 1966-70 of both fees-and-royalties and dividends, interest, and branch profits resulted from U.S. direct investment abroad. The corresponding amounts of cumulative payments of fees and royalties and of dividends, interest, and branch profits resulting from foreign direct investment in the United States were four-fifths and one-seventh, respectively.

Services flows generated by the MNCs.--In a balance-of-payments context, services flows generated by the MNCs are essentially of two types--receipts and payments of income on direct investments abroad (including fees and royalties) and receipts and payments arising from other services, such as travel, transportation, and income on portfolio

1/ For a note on the derivation of receipts of income on U.S. direct investments abroad, see the appendix to this chapter, pp. 264 and 265 .

Table 3.--Relative importance of principal balance of payments services accounts, as a percentage of cumulative flows of private services during 1966-70

Item	Receipts	Payments
	Percent	*Percent*
Dividends, interest, branch profits	47.0	26.9
Fees and royalties	14.4	1.1
Travel and transportation	32.6	66.9
Other private services	6.0	5.1
Total private services	100.0	100.0

Source: Compiled from the *Survey of Current Business* (June 1972).

investments. Data on the former type, which is considerably the larger of the two, are readily available from U.S. Department of Commerce sources, but data on the latter had to be estimated in order to assess the overall importance of MNC-generated services relative to the aggregate private services accounts. 1/

Estimated total receipts on the services accounts generated by the MNCs increased from $6.4 billion in 1966 to $9.6 billion in 1970, an average annual gain of 10.6 percent (table 5). Income on direct investments abroad (including fees and royalties) accounted for about three-quarters of the total receipts in both years. Estimated total payments on the services accounts generated by the MNCs increased from $2.0 billion in 1966 to $3.2 billion in 1970, an average annual increase of 13.2 percent; payments on foreign direct investments in the United States accounted for only about one-fifth of the total, the great bulk being payments for travel, passenger fares, and other transportation.

The estimated surplus on the MNC-generated services account increased from almost $4.5 billion in 1966 to $6.4 million in 1970

1/ The definition of "MNCs" adopted in chapter 1 focused on all firms making foreign direct investment, whether in the United States or abroad. Balance-of-payments statistics published regularly by the Bureau of Economic Analysis in Survey of Current Business show receipts and payments of income on direct investments under two headings--"Direct investment fees and royalties," and "Direct investment interest, dividends and branch earnings." The total amounts of these flows are, therefore, by definition attributable to the MNCs.

(see table 4). This surplus was substantially greater than that for the aggregate private services accounts ($4.0 billion in 1966 and $4.5 billion in 1970), indicating that the non-MNC account had a deficit on the services accounts in both years.

The fact that MNC-generated flows accounted for over one-half of aggregate receipts from private services but only one-fourth of aggregate private payments 1/ is not surprising considering that the book value of U.S. direct investments abroad at the end of 1970 was six times larger than the book value of foreign direct investments in the United States. It is to be expected, therefore, that MNC-generated receipts on the services accounts, which consist predominantly of income on direct investments would greatly outweigh MNC-generated payments on the services accounts.

Private remittances and other transfers

This account measures net private unilateral transfers of goods, services, cash, and other financial claims between U.S. residents and residents or governments of foreign countries. Receipts include transfers to U.S. private residents through post office money orders, inheritance and migrants' transfers, and various other inflows. Payments include personal remittances of U.S. residents to foreign residents, private parcel post shipments, cash and goods donated abroad, and inheritance and migrants' transfers.

1/ cf. table 5.

Table 4.--U.S. private services accounts, aggregate and MNC-generated, 1966 and 1970

(Millions of dollars)

Account	Aggregate private services	MNC-generated services
	1966	
Dividends, interest, and brance profits, net	3,786	3,370
Fees and royalties, net	1,285	1,192
Other services, net	-1,055	-89
Balance on services	4,016	4,473
	1970	
Dividends, interest, and branch, profits, net	4,150	4,802
Fees and royalties, net	1,902	1,747
Other services, net	1,599	-149
Balance on services	4,453	6,400

Source: Principally from the Bureau of Economic Analysis, U.S. Department of Commerce; MNC data partly estimated by the Tariff Commission in consultation with the Bureau of Economic Analysis.

Net private remittances and other transfers, although small relative to merchandise trade and services such as income on direct investments, have increased consistently in recent years--from $0.6 billion in 1966 to $1.0 billion in 1970, equivalent to an average annual rate of growth of 13.4 percent. Although there are no available data, the MNCs' role in effecting such unilateral transfers is believed to be small; for the purposes of this chapter it has been assumed that their share is nil.

The current account

The balance on current account is defined here as the sum of the merchandise trade balance, the balance on private services, and net private remittances and other transfers. Since all governement current account items are excluded, it is roughly equal to net private earnings on goods and services transactions with other countries, and it takes into account the amount of private goods and services given away through transfers.

The overall private balance on current account declined from $7.2 billion in 1966 to $5.6 billion in 1970, reflecting chiefly the $1.7 billion decline in the merchandise trade balance (table 5). The MNC-generated balance on current account, on the other hand, increased from $6.5 billion in 1966 to $8.4 billion in 1970, reflecting an equal increase in the balance on MNC-generated services.

From table 5 it is apparent that the MNCs played a crucial role in maintaining the overall surplus recorded on current account in the

Table 5.--U.S. private current account, aggregate and MNC-generated, 1966 and 1970

(Millions of dollars)

Item	Aggregate			MNC-generated		
	Credits	Debits	Balance	Credits	Debits	Balance
	1966					
Merchandise trade----------	29,287	-25,463	3,824	7,826	-5,803	2,023
Services--------	11,705	-7,689	4,016	6,424	-1,951	4,473
Net transfers---	-	-613	-613	-	-	-
Current Account--	40,992	-33,765	7,227	14,250	-7,754	6,496
	1970					
Merchandise trade----------	41,963	-39,799	2,164	12,988	-10,940	2,048
Services--------	17,351	-12,898	4,453	9,600	-3,200	6,400
Net transfers---	-	-1,012	-1,012	-	-	-
Current Account--	59,314	-53,709	5,605	22,588	-14,140	8,448

Source: Principally from the Bureau of Economic Analysis, U.S. Department of Commerce; MNC data partly estimated by the Tariff Commission in consultation with the Bureau of Economic Analysis.

two years considered. The divergent trends in the MNC-generated portion of the current account and the non-MNC-generated portion are striking. While the MNC-generated surplus on current account increased by almost $2.0 billion from 1966 to 1970, the non-MNC-generated portion of the balance on current account fell from a surplus of $0.7 billion in 1966 to a deficit of $2.8 billion in 1970.

The capital account

For all practical purposes, the balance-of-payments capital account of both the aggregate private sector and that portion of private sector flows generated by the MNCs consists of two categories of capital flows, direct investment and other capital. Outflows of funds for U.S. direct investment abroad are a negative (debit) item in the U.S. balance of payments, exceeded in magnitude only by merchandise imports in the current account. Since any reduction in such outflows improves the balance of payments, at least during the period in which they occur, much discussion in recent years has centered on the merits of reducing foreign direct investment by U.S.-based MNCs in order to improve the U.S. balance of payments.

Expansion in the book value of U.S. direct investments abroad can be financed either through additional injections of capital from the United States or through the reinvestment of a portion of the U.S. direct investors' share of the foreign affiliates' earnings. 1/

1/ The book value of U.S. direct investments abroad grew from $54.8 billion in 1966 to $78.1 billion in 1970; of the $23.3 billion increase

As just noted, the first method of financing entails a long-term capital outflow (debit) in the U.S. balance of payments account "Direct investments abroad." The latter method does not appear in the balance of payments accounts if the foreign affiliate is incorporated. If the affiliate is unincorporated, reinvested earnings are recorded as inflows of income on U.S. direct investments abroad (a current account credit) offset by an identical outflow of capital for direct investment. Flows of direct investment funds into the United States from foreign-based MNCs are treated similarly, but of course they have the opposite effect, being recorded as long-term capital inflows in the U.S. balance of payments account "Direct investments in the United States."

U.S. direct investment abroad more than doubled in size from 1962 to 1965; it was this sharp increase that led to the adoption in 1965 of voluntary, and in 1968 of mandatory, constraints on the use of U.S. funds to finance foreign direct investment. Since the establishment of these controls, U.S.-based MNCs have relied to a significantly greater extent on foreign sources of funds to finance

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in book value, $14.0 billion resulted from U.S. direct investment flows and $9.3 billion from reinvested earnings. The book value of foreign direct investments in the United States increased from $9.0 billion in 1966 to $13.2 billion in 1970. Manufacturing accounts for the largest share of direct investments; by the end of 1970 manufacturing comprised 41 percent of U.S. direct investments abroad and 46 percent of foreign direct investments in the United States. Total assets of foreign affiliates of U.S.-based MNCs are, of course, substantially larger than the book value of U.S. direct investments abroad, reflecting the affiliates' own foreign borrowing and foreign equity participation. Total assets of such affiliates increased from $124.8 billion in 1966 to an estimated $203.1 billion in 1970.

direct investment abroad, principally by borrowing through Eurobond issues or directly from financial institutions abroad. 1/ Such foreign borrowings by U.S.-based MNCs (including their domestic subsidiaries), or by their offshore finance subsidiaries if the proceeds are initially transferred to the U.S. parents, 2/ enter the balance of payments accounts as new issues of securities sold abroad by U.S. corporations and increases in long-and short-term nonliquid liabilities to private foreigners reported by U.S. nonbanking concerns. Such entries are recorded as capital inflows for balance of payments purposes and act as a partial offset to direct investment outflows in the immediate period. 3/ Funds borrowed abroad that are not immediately used to finance direct investment or transferred to the United States may be left on deposit abroad, which increases other corporate claims and is recorded as a capital outflow.

1/ For a summary of the results of a survey of the $11.5 billion of foreign borrowings reported to the OFDI as outstanding on December 31, 1970, see Foreign Direct Investment Program: Selected Statistics, U.S. Department of Commerce, Office of Foreign Direct Investments, July 1971, pp. 6-10.

2/ Foreign borrowings by foreign affiliates of U.S.-based MNCs do not directly enter the U.S. balance of payments accounts; such borrowings do not increase the book value of U.S. direct investments abroad, but do increase the total assets of the foreign affiliates. Data obtained by the Commission from the Bureau of Economic Analysis indicate that foreign borrowings by majority-owned affiliates of U.S.-based MNCs amounted to $4.6 billion in 1966. Other sources of funds for such affiliates in 1966 included $6.3 billion in internally generated funds (retained earnings plus depreciation). Net capital transfers from U.S. direct investors to their affiliates abroad added additional funds. See chapter IV of this study for a more detailed examination of the financial behavior of MNC affiliates.

3/ Repayments of the foreign borrowings in the future will, however, lead to larger outflows than would otherwise have occurred. Interest

Table 6 summarizes the identifiable balance of payments capital flows for the aggregate private sector and for the MNC-generated portion of the private sector. As may be noted from the table, outflows of funds for U.S. direct investment abroad increased from $4.1 billion in 1966 to $4.9 billion in 1970, approximately a 20 percent rise. 1/ Inflows of funds for foreign direct investment in the United States, while smaller than outflows of U.S. direct investment capital, grew much more dramatically, rising from only $86 million in 1966 to over $1.0 billion in 1970. The balance on identifiable capital flows, while still negative (indicating net capital outflows), "improved" from 1966 to 1970--by $1.0 billion for the aggregate private capital account and by $0.7 billion for the MNC-generated capital account. This "improvement" resulted chiefly from a combination of increased foreign direct investment in the United States and increased foreign borrowing by U.S. direct investors as a means of financing their own investment abroad.

Two other highlights should be noted from table 6. The first is that direct investment outflows tend to overshadow the other capital flows and to "pull" the overall balance on identifiable capital flows into deficit. The second is that the aggregate private capital account

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payments to foreigners on the borrowings will also constitute an annual outflow and partially offset some of the initial positive balance of payments effects of the foreign borrowings.

1/ The data used in this chapter for U.S. direct investment abroad differ from those published by the Bureau of Economic Analysis in the latest (June 1972) issue of Survey of Current Business; for an explanation of this difference see the appendix to this chapter, pp. 264 and 265.

Table 6.--U.S. private capital account, aggregate and MNC-generated 1966 and 1970 1/

(Millions of dollars)

Item	1966		1970	
	Aggregate	MNC-generated	Aggregate	MNC-generated
Long-term capital, net	-3,006	-3,252	-1,940	-2,422
Direct investment:				
Credit	86	86	1,030	1,030
Debit	-4,112	-4,112	-4,942	-4,942
Securities transactions:				
Credit	909	594	2,190	822
Debit	482	0	-942	0
Other long-term:				
Credit	705	180	1,310	1,112
Debit	-112	0	-586	-444
Nonliquid short-term capital, net	-104	73	-482	-531
Credit	296	279	902	987
Debit	-400	-206	-1,384	-1,518
Balance on nonliquid capital	-3,110	3,179	-2,422	-2,953
Liquid short-term capital claims 2/	-14	-150	252	351
Balance on identifiable capital flows	-3,124	-3,329	-2,170	-2,602

1/ Excludes all government transactions on capital account.
2/ Data on liquid liabilities to private foreigners generated by the MNCs are not available.

Source: Principally from the Bureau of Economic Analysis, U.S. Department of Commerce; MNC data partly estimated by the Tariff Commission in consultation with the Bureau of Economic Analysis. Also see the Appendix to this chapter.

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and the MNC-generated portion thereof are very similar in magnitude, not only for the overall balance on identifiable capital flows, but also for the individual capital flows that comprise it. Again this is not surprising considering the fact that the definition of "MNCs" adopted for this study focused on all firms making foreign direct investment, both in the United States and abroad. The total amount of direct investment flows, the largest single component of the capital account, is therefore by definition attributable to the MNCs.

Before leaving the capital account, it should be noted that table 6 above does not include U.S. liquid liabilities to private foreigners in the computation of the "Balance on identifiable capital flows." Although data are available for the aggregate private sector, none are available for the MNC-generated portion of these liquid liabilities. Since the aim of this chapter was to examine the impact of the MNCs on all of the private balance of payments accounts (and not just those flows related to direct investment), this omission is regrettable, especially in view of the size and volatility of such flows in recent years. This account amounted to a credit of $2,384 million in 1966, but a debit of $6,240 million in 1970; it seems highly plausible that at least some portion of these flows (probably a large one) arose from the operations of the MNCs. 1/

1/ The missing data are closely related to the International Monetary Management (IMM) policies of the MNCs. The analysis returns to this subject (although not specifically to a balance-of-payments persepctive) in chs. IV and V of this study.

Geographic patterns in the U.S. balance of payments

To assess the MNCs' impact on the balance of payments, it is useful to contrast overall private and MNC payments performance in different countries and groups of countries, including those where the MNCs' presence is important and those where it is not. Tables A-1 and A-2 in the appendix to this chapter contain a wealth of detail on this score, for seven key countries which account for the bulk of MNC investment and sales activity, plus "rest of world." This information is summarized in analytic fashion in table 7, along with payments data relating to Japan (see also table A-3), a country with which U.S. balance of payments performance has been weak, to say the least, in recent years, and in which MNC direct investment has been small due to stiff restrictions imposed by the Japanese authorities. The table's focus is on two measures of "balance"--the current account which summarizes mainly flows arising from trade and services transactions; and the so-called "basic balance," which combines the current account and flows on long-term capital account. The purpose here is to remove from consideration, to the extent possible, volatile short-term flows which may obscure underlying long-run trends in the data.

A breakup of the U.S. balance of payments into its geographic components reveals a number of strikingly divergent patterns--patterns which differ among areas as well as varying from the overall U.S. performance with respect to the world as a whole. To begin, it may be well to recapitulate the main characteristics of U.S. payments

Table 7.--Summary of U.S. private balances of payments, by key countries and geographic areas, 1966 an[illegible]

(In millions of U.S. dollars)

U.S. balance of payments with	Current Account				Basic Balance				Net change: 1966-1970			
	1966		1970		1966		1970		Current account		Basic balance	
	Aggregate	MNCs	Aggregate	MNCs	Aggregate	MNCs	Aggregate	MNCs	Aggregate	MNCs	Aggregate	MNCs
World	7,227	6,496	5,605	8,448	4,221	3,244	3,665	6,026	-1,622	1,952	-556	2,782
Canada	1,801	1,453	-363	329	353	324	-1,349	-294	-2,164	-1,124	-1,702	-618
Japan	-434	343	-861	624	-352	287	-952	514	-427	281	-600	227
World less Canada and Japan	5,860	4,700	6,829	7,495	4,220	2,633	5,966	5,806	969	2,795	1,746	3,173
Six other key countries	780	2,074	1,044	3,429	-351	986	649	2,536	264	1,355	1,000	1,550
Including:												
United Kingdom	-139	666	-520	880	-549	421	117	1,342	-381	214	666	921
Belgium-Luxembourg	148	272	507	460	32	168	437	384	359	188	405	216
France	295	328	467	812	248	244	175	396	172	484	-73	152
Germany	20	446	-139	665	-188	149	-161	463	-159	219	27	314
Brazil	51	116	308	241	-179	-172	-100	-95	257	125	79	77
Mexico	405	246	421	371	285	176	181	46	16	125	-104	-130
Rest of world	5,080	2,626	5,785	4,066	4,571	1,674	5,317	3,270	705	1,440	746	1,623

Source: Tables A-1 through A-3 in appendix to this chapter.

performance vis-a-vis the entire world. As noted in the preceding section, the current account remained in surplus in 1970 by $5.6 billion, although it had suffered a considerable deterioration of $1.6 billion, over the 4-year period since 1966. MNC performance was primarily responsible for the 1970 surplus. The MNCs showed a positive balance of nearly $8.5 billion versus a non-MNC deficit of $2.8 billion. In the 1966-1970 period, the MNCs' showing improved by some $2.0 billion on current account, as opposed to a deterioration of $3.6 billion for the non-MNC portion of the private sector. In the trade account, the contribution of the MNCs ($2 billion) accounted for almost the entire surplus in 1970, whereas the non-MNC share fell by nearly $1.7 billion over the period, to a net trade balance of zero. The net services balance with the world improved by $500 million to $4.5 billion but, again, credit is due in large part to the MNCs. Net services flows of $6.4 billion generated by the MNCs offset a non-MNC deficit of nearly $2 billion in 1970; the improvement over the period of nearly $2 billion on the MNCs' accounts contrasts favorably with a deterioration of nearly $1.5 billion for the non-MNCs.

Due to high net long-term capital outflows, the basic balance figures are smaller than those for the current account, but the worldwide results for MNCs as opposed to non-MNCs are analytically similar. In the aggregate, the basic balance lost ground to the tune of about $0.5 billion, falling from $4.2 billion in 1966 to $3.7 billion in 1970. But the contribution of the MNCs was strongly favorable, showing

a net gain of $2.8 billion. This gain was composed of the aforementioned $2.0 billion improvement on current account, plus about $800 million on capital account--the latter arising partly from a reduction in long-term capital outflows and partly from an increase in inbound capital flows over the period.

In the geographic breakdowns, only two countries--Canada and Japan--show a serious deterioration in the aggregate U.S. balance of payments performance. Together, they produced a $2.6 billion weakening of the current account and a $2.3 billion sag in the basic balance. These shifts more than accounted for the overall deterioration of the U.S. "private" balance of payments with the world as a whole. Excluding Canada and Japan, the aggregate balance of payments with the rest of the world actually improved over the period, by about $1.0 billion on current account and $1.7 billion in the basic balance.

The MNCs' roles in these changing payments relationships with Canada and Japan were sharply dissimilar. The MNCs had a clear influence on the deteriorating Canadian case, although they did not account for all of the adverse movement. Of the total adverse shift in the current account ($2.2 billion), they accounted for 52 percent, or $1.1 billion; their share of the basic balance slippage ($1.7 billion) was less--36 percent or $0.6 billion. Virtually all of the pronounced shift, in turn, can be attributed to the very considerable reversal of traditional trade patterns in automotive products which resulted from the United States-Canadian automotive agreement, which

affected the market strongly in the late 1960's. Explanations aside, however, the Canadian case stands out in table 7 as virtually the only one listed in which the MNCs can be said to have had any great influence on overall U.S. balance-of-payments weakness in the 1966-70 period.

The aggregate figures for Japan indicate that, unlike the Canadian case, the United States did not experience a shift from strong surplus to deep deficit; rather, it experienced a deficit that got worse, although the shifts in the balances were considerably smaller than for Canada, which must take first place as the source of U.S. payments weakness in the late 1960's. Further, the role of the MNCs in the payments relationships with Japan was clearly favorable from the U.S. point of view, showing a "perverse" tendency toward rising surpluses while the aggregate balance of payments with Japan continued to slip deeper into the red.

Other contrasts arise in the specific kinds of transactions from which the MNCs derived their contributions to the U.S. balance of payments with Japan, on the one hand, and the area of the Six, on the other. As table 8 shows, a favorable trade performance played a much lesser role in the Japanese case than in the six European and Latin American countries covered. The bulk of the MNCs' Japanese gains, in fact, arose in services transactions--preeminently in remittances on "royalties and fees" account, which obviously must exceed income remittances in the case of a country such as Japan

Table 8.--Contrasting U.S. Balance of Payments Performance by the MNCs in Six Countries 1/ and Japan, 1966-1970

(Amounts in millions of dollars)

	Six Countries 1/				Japan			
	Values		Change, 1966-70		Values		Change, 1966-70	
	1966	1970	Amount	Percent of 1966 value	1966	1970	Amount	Percent of 1966 value
Current Account	2,074	3,429	1,355	65	343	624	281	82
Trade Balance	1,351	2,196	845	63	207	294	87	42
Services Balance	723	1,233	510	71	136	330	194	143
Long Term Capital	-1,088	-893	195	18	-56	-110	-54	-96
	986							
Basic Balance	986	2,536	1,550	157	287	514	227	79

1/ United Kingdom, W. Germany, Belgium-Luxembourg, France, Brazil, and Mexico.

Source: Tables A-1 through A-3 appendix to this chapter.

where relatively little income-producing direct investment has taken place in comparison with the Six. This phenomenon, in turn, reflects the MNCs' attempts to enter the Japanese market via licensing of technology and processes, as an alternative to direct investment which has not been allowed in great amounts by the Japanese authorities. It is likely that the accompanying loss of control over the use of technology and over related marketing decisions--which generally is greater in the case of licensing to foreigners than in the case of technology transfers to facilities which a firm controls via direct investment--may contribute to a relatively weaker trade performance than that which would have been realized via direct investment.

Returning to table 7, the payments figures for the "Six" and "Rest of World" remain to be commented upon. As noted above, the aggregate U.S. payments balances with both areas improved over the period under consideration--the basic balance with the Six rose by $1.0 billion (to a surplus of $0.6 billion in 1970 as compared with a $0.4 billion deficit in 1966); and the "Rest of World" surplus climbed by $0.7 billion (from $4.6 billion to $5.3 billion). In both cases, the MNCs led, with current account and basic balance gains considerably larger than those recorded in the aggregate. Within the six-Country group, the biggest MNC gains were realized vis-a-vis the United Kingdom and Germany, which together recorded about 80 percent of the net increase in the MNCs' basic-balance surplus for the group. For Belgium-Luxembourg, the MNCs showed a gain, but it

was only about half as large as the aggregate gain. For France, the MNCs showed a $152 million basic-balance increase, as against an aggregate decrease of some $73 million, which implies a net deterioration of $225 million for the non-MNC portion of the private sector. For Brazil and Mexico, the aggregate and MNC basic balance changes are much the same; in both cases the MNC influence on aggregate performance is evident. The Brazilian numbers indicate a relatively small basic-balance gain--but the Mexican case stands out in the other direction. Although the amount of the aggregate and MNC deterioration vis-a-vis Mexico is far smaller than in the Canadian case, the role of the MNCs as the dominant cause of the worsening in the basic balance is much clearer.

Generally, the MNC payments flows in the six-Country group arises largely from manufacturing activities, which predominate in these countries. For the group as a whole, a favorable trade performance generated by these activities is the most important single influence on the balances. In the "rest of world" group, however, the petroleum industry and the extractive industries in general take on more importance, with the result that, in balance-of-payments terms, the largest contributor turns out to be the income remittances account. The following tabulation illustrates, with some pieces of the U.S. balance of payments data for the MNCs in 1970 (amounts in millions of dollars):

	Six Countries	Rest of World 1/
Current account balance-------	3,429	4,066
Trade----------------------	2,196	220
Services-------------------	1,233	3,846
of which: Dividends, etc.-	871	3,108
Long-term capital balance-----	-893	-796
Basic balance----------------	2,536	3,270
Trade balance as percent of--		
Current account balance-----	64	5
Basic balance---------------	87	7
Dividends, etc., as percent of--		
Current account balance-----	25	76
Basic balance---------------	34	95

1/ Excludes Canada and Japan.

In summary, there are several points to be noted from the foregoing discussion of the geographic patterns in the U.S. balance of payments and the MNCs' contributions to the payments balances with different countries and areas. The deterioration in the U.S. current accounts and basic balances, considered in the aggregate, was heavily dominated in the 1966-70 period by two countries--Canada and Japan. In the Canadian case, the MNCs played an important role in the adverse shift, a role closely related to the radical shift in the balance of trade in automotive products caused by the automotive agreement between Canada and the United States. Indeed, the Canadian case stands out as the one important example in the data wherein the MNCs can be said to have had a strong negative impact on the overall U.S. payments balance. There was one other case--that of Mexico--where the dominance of the MNCs in a deteriorating situation (from the U.S. point of view) is, if anything, more significant than with respect to Canada; but the amount of the change was small compared to the overall shift

in the U.S. position with the world as a whole. The Canadian case was so large that it greatly affected the total balance; the Mexican one was not. As regards Japan--the other main contributor to U.S. payments woes over the period--the MNCs countered the aggregate trend, turning in rising surpluses in the face of widening aggregate U.S. deficits. Japan is a country where MNC direct investment is relatively light. Comparison of the MNC performance here with that in countries of comparable size, but where MNC investment is much more extensive, suggests that the MNCs generally give a greater fillip to the overall U.S. balance of payments in countries where they are heavy direct investors than in nations where they are not. Moreover, the MNC gains in the Japanese case were limited largely to remittances on "fees and royalties" account; in countries where direct investments are significant, the gains are generally larger and better spread among the trade and services accounts.

Excluding Canada and Japan from the aggregate payments figures shows that both the current and basic U.S. balances with the rest of the world improved significantly over the period--and that the MNCs were in the lead, with gains that consistently exceeded those realized in the aggregate. This appears to be the case both for the six European and Latin American countries in which MNC investment is heaviest and for a second category labelled "rest of world." However, the MNC surpluses among the Six arise chiefly from trade transactions, which in turn reflects the preponderance of manufacturing activities in the MNC operations in these countries. The "rest

of world" group shows a different pattern--the contribution of MNC trade flows to the balance of payments nearly loses significance, while the income accounts (remittances of interest, dividends, and branch earnings) assume a very strong role. This result is linked to the heavy weight of the extractive industries (including petroleum) in MNC investment in the non-industrial countries.

Impact of the MNCs on Foreign Balances of Payments

Introduction

The focus of analysis now shifts radically. Whereas the preceding sections have surveyed the role of the MNCs in balance-of-payments flows as seen from the viewpoint of the United States, this section will view that same role as it affects the balances of payments of seven key foreign countries in which U.S.-based MNCs conduct the bulk of their activities--Canada, the United Kingdom, Belgium-Luxembourg, France, West Germany, Brazil, and Mexico.

Ideally, this analysis should be made with data that measures all payments flows generated by U.S.-owned MNCs operating within each country to be surveyed. It has not been possible to obtain such information, and the analysis must proceed with only a portion--albeit an important one--of the loaf. The data which form the basis for this section will compare the global balances of payments for each country with (a) that country's payments transactions with the United States, and (b) payments flows with the United States generated specifically by the MNCs. The global balances and the series (a) data are reasonably complete and comparable. The series (b) figures (the MNC data), however, are numbers from U.S. sources with the signs reversed; therefore, they are not strictly comparable with foreign payments figures. They are serviceable as indicating general orders of magnitude and directions of change, but not as precise measurements of MNC-related payments flows with the United States, as seen

from the foreign vantage point.

Because the MNC data relate only to transactions with the United States, they omit flows of interest to foreigners--namely, transactions with third countries that do not enter into the U.S. balance of payments accounts. For most items in the balance of payments, these flows probably are not very significant. Capital flows, income remittances, and "fees and royalties," for example, generally are transactions which take place largely between parents and affiliates and therefore can be expected to have been reflected in the available data. 1/ Trade flows, on the other hand, create a large problem. An immense amount of world trade is generated, outside the United States, by the MNCs. As an indicator of how important these flows are, available data show that majority-owned affiliates' exports to countries other than the United States in 1970 were an estimated $33 billion, compared with exports to the United States of $10 billion and local sales of $118 billion. The $33 billion figure for third-country trade cannot be inserted into the balance of payments analysis because comparable data on affiliates' imports--the other side of the trade picture--are not available.

One can only guess at the balance-of-payments effects on trade account that are not measured by the data. While manufacturing

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1/ An exeption is Eurobond financing, which can top capital markets in one or more countries to finance investment in another country. See Ch. V.

affiliates in the industrial countries may be net exporters to third countries--i.e., that the value of their goods shipped to non-U.S. buyers exceeds the value of their imports of raw materials, capital equipment, and components from non-U.S. sources, it is likely that affiliates in the extractive industries--preeminently the petroleum subsector--are net importers in the developed countries. Much of the crude oil exported from the Middle East, for example, finds its way to Western Europe and Japan. In the LDCs, on the other hand, the payments effects of manufacturing affiliates are largely indeterminate; some affiliates generate heavy exports (often as a condition for their being allowed to establish operations in a given country), while others have heavy import requirements and produce mainly for local markets. In the extractive industries of the LDCs, however, MNC affiliates generally are strong net exporters.

The MNC export data for the seven-country "core" sample of this study tend to support these guesses, although this support is highly tentative given the absence of the import information that would complete the picture. With the exception of Canada--where most MNC exports go to the United States--the figures for the industrial countries show MNC exports to third countries as a large multiple of comparable exports to the United States and as a significant share of total exports. For the two lesser-developed nations in the sample, however, affiliates' exports to third countries tend to be fairly small. The following tabulation illustrates, with estimated 1970 data (in millions of dollars):

Country	Total exports	MNC exports*	
		To United States	To others
Canada	16,133	5,849	1,570
United Kingdom	18,926	328	3,077
Belgium-Luxembourg	9,726	68	1,392
France	18,010	63	1,641
West Germany	34,120	415	2,304
Brazil	2,739	91	152
Mexico	1,399	71	52

*Majority-owned affiliates' exports.

Despite the foregoing dificiencies in the trade accounts, however, the available data capture at least some of the trade flows generated by the MNCs and a significant proportion of the other important payments flows--the services portions of the current account and parent-to-affiliate capital flows. For foreign governments, these are among the politically most sensitive items. Policymakers in most countries can and do control capital movements, and some feel that the MNCs use payments for "services" as a device for hiding profit remittances to the home country.

The sections which follow describe, for each of the seven countries under review, its global payments performance, its balance of payments with the United States, and, in this context, the impact of the MNCs' transactions with the United States on the global figures. 1/

1/ More detailed descriptions of the impact of the MNCs' transactions with the United States on the balances of payments of the seven key foreign countries are presented in the appendix to this chapter.

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The discussions of the individual countries are preceded by an overview and summary of the available information. Throughout, the foreign point of view is taken. Hence, the jargon changes--a surplus (labeled as "good") is a foreign surplus and may be a U.S. deficit (which heretofore has been called "bad"). Similarly, an "adverse" development is one seen as such through foreign eyes; it may not be "adverse" from the U.S. viewpoint.

Overview and summary

Some key balance of payments figures--showing the current account, the capital account, and basic balances--for the Seven are summarized in table 9. The most consistent result shown in the table is that the MNCs, in their transactions with the United States, exert a uniformly large, negative impact on the current accounts of these foreign balances of payments. Except for the Canadian case, moreover, this negative impact increased in size over the 1966-1970 period. In Canada, the MNCs produced a strong current account gain for the global balance of payments over the period.

Despite the MNCs' uniformly negative current account impact vis-a-vis the United States, however, most of the countries under review showed strongly positive current account performance on a global basis by 1970. The exceptions were Mexico and Brazil, both of which had sizeable deficits to which the MNCs contributed substantially.

In the capital accounts-which generally tend to be positive on a global basis (exceptions are the United Kingdom and France in 1966,

Table 9.--Balances of payments of seven key countries, 1966 and 1970

(In millions of U.S. dollars)

	1966			1970			Net change: 1966-1970		
	Global	With United States		Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs		Aggregate	MNCs
Current account balance:									
Canada	-933	-1,867	-1,453	1,208	-275	-329	2,141	1,592	1,124
United Kingdom	967	139	-666	2,916	520	-880	1,949	381	-214
Belgium-Luxembourg	-30	78	-272	914	-18	-460	944	-96	-188
France	172	-21	-328	310	-537	-812	138	-525	-484
West Germany	-286	-611	-446	322	-259	-665	608	352	-219
Brazil	74	-51	-116	-500	-308	-241	-574	-257	-125
Mexico	-310	-405	-246	-1,050	-421	-371	-740	-16	-125
Capital account balance 1/:									
Canada	3/ 1,132	961	1,052	3/ 601	877	662	-531	-84	-390
United Kingdom	-79	378	215	-219	-1,195	-38	-140	-1,573	-253
Belgium-Luxembourg	34	N.A.	100	-372	N.A.	115	-406	N.A.	15
France	-68	176	89	1,590	590	452	1,522	414	363
West Germany	885	252	335	1,166	29	310	281	-223	-25
Brazil	51	224	279	445	447	403	394	223	124
Mexico	233	220	102	452	356	425	219	136	323
Basic balance 2/:									
Canada	114	-756	-324	1,988	584	294	1,874	1,340	618
United Kingdom	1,138	549	-421	3,204	-117	-1,342	2,066	-666	-921
Belgium-Luxembourg	-18	154	-168	638	-46	-384	656	-200	-216
France	328	108	-244	916	-260	-396	588	-368	-152
West Germany	129	-436	-149	-276	-431	-463	-405	5	-314
Brazil	114	179	172	-168	100	95	-282	-79	-77
Mexico	-147	-285	-176	-596	-181	-46	-449	104	130

1/ Non-liquid capital, long and short term.
2/ Balance on current and long-term capital accounts.
3/ Includes net errors and omissions.

Source: Tables 10 through 16.

and the United Kingdom and Belgium in 1970)--the MNCs' capital transactions with the United States tended to exert a strong positive influence in both years. To at least some extent, therefore, inbound, MNC-generated capital flows have the effect of offsetting sizeable current account deficits.

Nevertheless, the offsets are not complete. As the basic balances show, two of the seven countries showed global basic deficits in 1966 while three yielded basic balance shortfalls in 1970. As for the MNCs, their overall effect on the basic balances was negative in six of the seven cases in the earlier year, and in five of the seven in 1970. Moreover, except for Canada and Mexico, the change in the MNCs' impact over the period was fairly strongly adverse--that is, the MNCs' adverse influence on the basic balances increased. Everything considered, therefore, the appropriate conclusion for the seven countries surveyed is that the MNCs, in their dealings with their parent country, exerted a large and growing negative or adverse influence on host-country balances of payments during the periods covered. This is, of course, merely the obverse view of the generally positive effect which the MNCs have been shown to have on the U.S. balance of payments.

The following sections indicate that the MNCs may have had a strong negative influence on the Europeans' trade accounts. It must be stressed once again, however, that these conclusions about the MNCs' influence on the balances of payments relate _only_ to their transactions with the United States. The omission of third-country transactions--chiefly trade flows--may be significant, especially for

the European countries, where there may be significant offsets from the affiliates' exports to other European countries--exports which are not measured by the available data.

Canada 1/

Transactions with the United States were a key factor in a very substantial improvement in the Canadian balance of payments over the 1966-1970 period--and the MNCs in turn had much to do with these changes. The improvement was dominated by the current account and, within it, the strongly improved balance of trade. Trade transactions with the United States by the MNCs played a key role here. The Canadian capital accounts actually moved adversely over the period--the global surplus was cut roughly in half--and the MNCs had their effect here as well. However, the gains realized in the current account more than offset the deterioration in capital transactions balances, with the result that the overall Canadian balance of payments, measured either as the basic balance or as the combination of current and capital accounts, showed roughly a tenfold increase in its global surplus.

United Kingdom 2/

The United Kingdom's balance of payments was characterized over the 1966-70 period by strong improvement, most of which occurred in

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1/ See table 10 and pp.230 through 235 in the appendix to this chapter.

2/ See table 11 and pp.236 through 240 in the appendix to this chapter.

Table 10.—The Canadian balance of payments [illegible] 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	-933	-1,867	-1,453	1,208	-275	-329
Balance of goods and services	-933	-1,831	-1,453	1,126	-336	-329
Trade balance	306	-803	-716	2,885	1,009	662
Exports	10,050	5,896	2,566	16,133	10,400	5,849
Imports	-9,744	-6,699	-3,282	-13,248	-9,391	-5,187
Balance of service account	-1,239	-1,028	-737	-1,759	-1,345	-991
Royalties, etc., net	2/	2/	-199	5/ -390	-406	-274
Dividends, etc., net	-873	-726	-548	-954	-905	-740
Other services, net	4/ -366	-302	10	4/ -415	-34	23
Transfers, net	0	-36	0	82	61	0
Capital Account (non liquid)	3/ 1,132	961	2/	3/ 601	877	662
Long term, net	1,047	1,111	1,129	780	859	623
Direct investment, net	726	658	1,116	469	341	643
Portfolio investment, net	617	362	0	585	587	0
Other long term, net	-296	91	13	274	-69	-20
Short term, net (non liquid)	3/ 85	-150	-77	3/ 179	18	39
Balance on Current and Capital Account	199	-906	-401	1,809	602	333
Basic Balance (Current a/c + long term capital)	114	-756	-324	1,988	584	294

1/ Excludes all government items to the extent possible.
2/ Not available.
3/ Includes net errors and omissions and liquid capital blows.
4/ Includes some government transactions.
5/ Estimated on the bases of a 1969 special survey.

Source: Appendix tables A-4 and A-5.

Table 11.—The British balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	967	139	-666	2,916	520	-880
Balance of goods and services	1,104	117	-666	3,024	493	-880
Trade balance	-160	22	-423	17	-305	-631
Exports	14,582	1,780	238	18,926	2,214	328
Imports	-14,742	-1,758	-661	-18,909	-2,519	-959
Balance of service account	1,264	95	-243	3,007	798	-249
Royalties, etc., net	72	-185	-174	2/ 58	-213	-206
Dividends, etc., net	812	-53	-142	1,516	484	-152
Other services, net	380	333	73	1,433	527	109
Transfers, net	-137	22	0	-108	27	0
Capital Account (non liquid)	-79	378	215	-219	-1,195	-962
Long term, net	171	410	245	288	-637	-462
Direct investment, net	25	396	396	-87	141	141
Portfolio investment, net	12	122	-63	-47	-78	-191
Other long term, net	134	-108	-88	422	-700	-412
Short term, net (non liquid)	-250	-32	-30	3/ -507	-558	-500
Balance on Current and Capital Account	888	517	-451	2,697	-675	-1,842
Basic Balance (Current a/c + long term capital)	1,138	549	-421	3,204	-117	-1,342

1/ Excludes all government items.
2/ Partly estimated.
3/ Includes trade credits only.

Source: Tables A-6 and A-7 in the appendix to this chapter.

the last few years of the period. This balance of payments strength was concerntrated in the services portions of the current account, and most of it was derived from transactions with areas other than the United States. The U.S.-based MNCs dealing with the United States were a consistent drag on the United Kingdom balance of payments. In all the major accounts, they showed a heavily negative countertrend to the generally favorable developments appearing in the global results. Without this negative influence, the British balance of payments would have shown even larger surpluses--to the tune of about a billion dollars.

Belgium-Luxembourg 1/

Overall, the Belgian balance of payments behaved somewhat like that of the United Kingdom. Gratifying improvement in the aggregate global balances was dominated by favorable developments in the current account, which more than offset significant capital account deterioration. As for the MNCs, they strongly resisted global current-account trends, accounting for large and growing deficits in their transactions with the United States; these were concentrated in the trade accounts. Unlike the United Kingdom experience, however, the capital transactions of the MNCs with the United States were fairly strongly positive; here, they countered in a favorable direction the movements observed in the global accounts. In the overall balance

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1/ See table 12 and pp. 241 through 244 in the appendix to this chapter.

Table 12.--The Belgian balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	-30	78	-272	914	-18	-460
Balance of goods and services	-62	70	-272	874	-30	-460
Trade balance	-114	28	-233	788	-122	-404
Exports	5,626	530	54	9,726	604	68
Imports	-5,740	-502	-287	-8,938	-726	-472
Balance of service account	52	42	-39	86	92	-56
Royalties, etc., net	-38	2/	-25	-58	2/	-49
Dividends, etc., net	22	6	-12	68	62	-7
Other services, net	68	36	-2	76	30	0
Transfers, net	32	8	0	40	12	0
Capital Account (non liquid)	34	2/	100	-372	2/	115
Long term, net	12	76	104	-276	-28	76
Direct investment, net	132	80	141	162	118	214
Portfolio investment, net	-134	-68	-30	-288	-124	-108
Other long term, net	14	64	-7	-150	-22	-30
Short term, net (non liquid)	22	2/	2/	-96	2/	39
Balance on Current and Capital Account	4	2/	2/	542	2/	-345
Basic Balance (Current a/c + long term capital)	-18	154	-168	638	-46	-384

1/ Excludes all government items. Data relate to the Belgium-Luxembourg Economic Union (BLEU).
2/ Not available.

Source: Tables A-8 and A-9 in appendix to this chapter.

of payments as measured by the basic blance, however, the MNCs' effect was substantially and increasingly negative. Whereas, in global terms, the Belgians were able to offset a poor capital account performance with an even better current account showing, the MNCs in their dealings with the United States turned in only a modestly favorable capital account record that fell far short of their heavily deteriorating current account performance.

France 1/

Changes in the French balance of payments--as well as the patterns of MNC influence on them--are generally similar to those already observed in the United Kingdom and Belgium. There was, again, a noteworthy improvement on current account, against which the MNCs showed a strong negative influence. A difference emerges for France, however: the principal factor that held down the overall growth in the global current account surplus was the emergence of deep deficit in the private transfers account rather than the activities of the MNCs. The French capital account improved mightily, and here the MNCs played a complementary, although relatively modest role. Overall, both the balance on current and capital accounts and the basic balance showed very considerable improvements over the period and solid surpluses in 1970--in global terms; the MNCs, in their transactions with the United States, did not do so well. Their overall balances showed deterioration over the 1966-70 period, and they ended 1970 with

1/ See table 13 and pp. 245 through 249 in the appendix to this chapter.

Table 13.--The French balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	172	-21	-328	310	-537	-812
Balance of goods and services	86	-43	-328	878	-594	-812
Trade balance	100	-412	-233	320	-776	-631
Exports	9,435	708	48	18,010	979	63
Imports	-9,335	-1,120	-281	-17,690	-1,755	-694
Balance of service account	-14	369	-95	558	182	-181
Royalties, etc., net	2/	2/	-81	2/	2/	-121
Dividends, etc., net	119	21	-36	378	107	-90
Other services, net	-133	348	22	180	75	30
Transfers, net	86	22	0	-568	57	0
Capital Account (non liquid)	-68	176	89	1,590	590	452
Long term, net	156	129	84	606	277	416
Direct investment, net	111	118	133	226	146	515
Portfolio investment, net	22	-18	-49	282	85	-44
Other long term, net	23	29	0	98	46	-55
Short term, net (non liquid)	-224	47	5	984	313	36
Balance on Current and Capital Account	104	155	-239	1,900	53	-360
Basic Balance (Current a/c + long term capital)	328	108	-244	916	-260	-396

1/ Excludes all government items.
2/ Not available.

Source: Tables A-10 and A-11 in the appendix to this chapter.

sizeable deficits, the result of strongly negative current account positions that were not fully countered by relatively modest positive contributions to the capital account.

West Germany 1/

As in the other European balances of payments surveyed in this chapter, the German current account is characterized by a growing surplus, offset in part by an increasingly negative influence--generated mostly in the earnings remittances accounts--of the MNCs in transactions with the United States. The long-term capital account swung from a healthy surplus in 1966 to substantial deficit in 1970. Net long-term capital inflows from the United States on MNC account declined somewhat, but most of the turnaround in the long-term capital account was due to a significant increase in net German investment abroad. As a result of these diverse changes, the German basic balance moved into deficit, but a substantial increase in short-term, non-liquid capital inflows pushed the overall balance on current and capital accounts to a much-increased surplus in 1970. In their dealings with the United States, the MNCs placed strong negative pressure on both the basic balance and the overall balance.

The balance of payments presentations used here deliberately ignore movements of liquid, partly speculative, short-term capital,

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1/ See table 14 and pp.250 through 255 in the appendix to this chapter.

Table 14.--The West German balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	-286	-611	-446	322	-259	-665
Balance of goods and services	577	-581	-446	1,875	-236	-665
Trade balance	2,956	-352	-225	5,837	85	-121
Exports	20,189	1,793	101	34,120	3,126	415
Imports	-17,233	-2,145	-326	-28,283	-3,041	-536
Balance of service account	-2,379	-229	-221	-3,962	-321	-544
Royalties, etc., net	-158	2/	-92	-251	-158	-132
Dividends, etc., net	-358	-76	-162	-242	-104	-458
Other services, net	-1,863	-153	33	-3,469	-59	46
Transfers, net	-863	-30	0	-1,553	-23	0
Capital Account (non liquid)	885	252	335	1,166	29	310
Long term, net	415	175	297	-598	-172	202
Direct investment, net	553	371	591	-387	103	216
Portfolio investment, net	-241	-170	-266	-208	-220	-63
Other long term, net	103	-26	-28	-3	-55	49
Short term, net (non liquid)	470	77	38	1,764	201	108
Balance on Current and Capital Account	599	-359	-111	1,488	-230	-355
Basic Balance (Current a/c + long term capital)	129	-436	-149	-276	-431	-463

1/ Excludes all government items.
2/ Not available.

Source: Tables A-12 and A-13 in Appendix to this Chapter.

in order to isolate and examine underlying, basic payments trends and relationships. Throughout the period under consideration, Germany was beset by repeated waves of such short-term capital movements, in which the MNCs had at least some part. It should be stressed that these are not examined here. Their monetary effects--which are the most important ones--are considered in chapters V and VI of this study.

Brazil 1/

The Brazilian balance of payments experience differs from that of the European countries surveyed above. Globally, it is characterized by considerable deterioration in the current account--in which transactions with the United States including those of the MNCs, had an easily identifiable role--offset in part by favorable capital account developments--also attributable in large part to the United States in general and the MNCs in particular. The overall global balance on current and capital accounts lost considerable ground between 1966 and 1970, shifting from substantial surplus to moderate deficit. Here, the surplus derived from the United States as a whole declined somewhat, although the favorable position of the MNCs vis-a-vis the United States remained essentially unchanged as a strong prop to the overall balance. The basic balance also swung unfavorably in global terms, with both the United States and the MNCs providing sizeable but declining surpluses.

1/ See table 15 and pp. 256 through 259 in the appendix to this chapter.

Table 15.—The Brazilian balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	74	-51	-116	-500	-308	-241
Balance of goods and services	29	-51	-116	-513	-308	-241
Trade balance	438	35	-58	232	-151	-131
Exports	1,741	600	33	2,739	670	91
Imports	-1,303	-565	-91	-2,507	-821	-222
Balance of service account	-409	-86	-58	-745	-157	-110
Royalties, etc., net	2/	-30	-28	2/	-31	-29
Dividends, etc., net	-197	-51	-28	-353	-113	-76
Other services, net	-212	-5	-2	-392	-13	-5
Transfers, net	45	2/	0	13	2/	0
Capital Account (non liquid)	51	224	279	445	447	403
Long term, net	40	230	288	332	408	336
Direct investment, net	74	288	288	107	337	337
Portfolio investment, net	3	-19	0	23	1	0
Other long term, net	-37	-39	0	202	70	-1
Short term, net (non liquid)	11	-6	-9	113	39	67
Balance on Current and Capital Account	125	173	163	-55	139	162
Basic Balance (Current a/c + long term capital)	114	179	172	-168	100	95

1/ Excludes all government items and errors and omissions.
2/ Not available.

Source: Tables A-14 and A-15 in Appendix to this Chapter.

Mexico 1/

As in the Brazilian case, the Mexican balance of payments showed starkly rising global current account deficits, offset in part by a fairly strong capital account performance, but not enough to prevent significant deterioration in the overall global balances. The Mexican current-account deterioration centered on escalating trade deficits, in which MNC trade deficits with the United States played a part. However, the MNCs contributed heavily to highly favorable movements in the Mexican capital account with the United States. In the overall balances, therefore, the MNCs' transactions with the United States showed some favorable changes over the 1966-70 period. Their basic balance deficit with the United States declined significantly, while the balance on current and capital accounts shifted strongly from deficit to surplus as a result of some fairly heavy nonliquid short-term capital inflows from the United States.

1/ See table 16 and pp. 260 through 263 in the appendix to this chapter.

Table 16.--The Mexican balance of payments, 1966 and 1970 1/

(In millions of U.S. dollars)

	1966			1970		
	Global	With United States		Global	With United States	
		Aggregate	MNCs		Aggregate	MNCs
Current Account	-310	-405	-246	-1,050	-421	-371
Balance of goods and services	-305	-450	-246	1,072	-483	-371
Trade balance	-420	-432	-179	-1,079	-483	-278
Exports	1,244	749	65	1,399	1,223	71
Imports	1,664	-1,181	-244	-2,478	-1,706	-349
Balance of service account	115	-18	-67	7	0	-93
Royalties, etc., net	2/	-46	-43	2/	-64	-59
Dividends, etc., net	-293	-129	-59	-687	-176	-88
Other services, net	408	157	35	694	240	54
Transfers, net	-5	45	0	22	62	0
Capital Account (non liquid)	233	220	102	452	356	425
Long term, net	163	120	70	454	240	325
Direct investment, net	82	70	70	2/	320	320
Portfolio investment, net	8	22	0	2/	-15	0
Other long term, net	73	28	0	2/	-65	5
Short term, net (non liquid)	70	100	32	-2	116	100
Balance on Current and Capital Account	-77	-185	-144	-598	-65	54
Basic Balance (Current a/c + long term capital)	-147	-285	-176	-596	-181	-46

1/ Excludes all government items and errors and omissions.
2/ Not available.

Source: Tables A-16 and A-17 in Appendix to this Chapter.

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Appendix A

Tables, with Accompanying Commentary

Table A-1.-- Balance of Payments of the U.S., by area, 1966

(Million of Dollars)

	World		Seven Key Countries																Rest of World	
			Total		United Kingdom		Germany		Belgium		France		Canada		Mexico		Brazil			
	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs	Sum	NBCs
Current Account, net	7,227	6,496	2,581	3,527	-139	666	20	446	148	272	295	328	1,801	1,453	405	246	51	116	4,646	[illegible]
Goods and Services, net	7,840	6,496	2,477	3,527	-117	666	-140	446	154	272	318	328	1,761	1,453	450	246	51	116	5,363	[illegible]
Trade, net	3,824	2,023	1,341	2,067	-22	423	-243	225	120	233	318	233	771	716	432	179	-35	58	[illegible]	[illegible]
Exports	29,287	7,826	13,498	5,172	1,758	661	1,553	326	689	287	1,016	281	6,736	3,282	1,181	244	565	91	15,759	[illegible]
Imports	25,463	-5,803	-12,157	-3,105	-1,780	-238	-1,796	-101	-569	-54	-618	-46	-5,965	-2,566	-749	-65	-600	-33	-13,306	[illegible]
Services, net	4,016	4,473	1,136	1,460	-95	243	103	221	34	39	0	95	990	737	18	67	86	58	2,880	[illegible]
Royalties and Fees, net	1,285	1,192	682	642	185	174	98	92	27	25	[illegible]	81	209	199	46	43	30	28	603	[illegible]
Credit	1,425	1,307	790	734	219	201	115	104	28	26	[illegible]	90	252	242	46	43	30	28	635	[illegible]
Debit	-1,110	-115	-108	-92	-34	-27	-17	-12	-1	-1	[illegible]	-9	-43	-43	0	0	0	0	-32	[illegible]
Dividends, etc., net	3,786	3,370	1,335	987	53	142	168	162	11	12	[illegible]	36	904	548	129	59	51	28	2,451	[illegible]
Credit	5,379	3,765	2,030	1,221	363	271	217	174	37	20	[illegible]	45	1,139	624	154	59	59	28	3,349	[illegible]
Debit	-1,593	-395	-695	-234	-310	-129	-49	-12	-26	-8	-42	-9	-235	-76	-25	0	-8	0	-898	-161
Other Services, net	-1,055	-89	-881	-169	-333	-73	-163	-33	-4	2	-106	-22	-123	-10	-157	-35	5	2	-174	40
Transfers, net	-613	0	104	0	-22	0	160	0	-6	0	-23	0	40	0	-45	0	1/	0	-717	0
Capital Account, net	-3,110	-3,179	-22,572	-2,172	-378	-213	-235	-335	-112	-100	-50	-89	-1,411	-1,052	-220	-102	-224	-279	-478	-1,007
Long term capital, net	-3,006	-3,292	-2,519	-2,217	-410	-245	-208	-297	-115	-104	-47	-84	-1,448	-1,129	-120	-70	-230	-288	-427	-1,035
Direct Investment, net	-4,026	-4,026	-2,735	-2,735	-396	-396	-591	-591	-141	-141	-133	-133	-1,116	-1,116	-70	-70	-288	-288	-1,291	-1,291
Credit	86	86	69	69	23	23	28	28	10	10	8	8	2	2	0	0	-2	-2	17	17
Debit	-4,112	-4,112	-2,804	-2,804	-419	-419	-619	-619	-151	-151	-141	-141	-1,118	-1,118	-70	-70	-286	-266	-1,308	-1,308
Portfolio Capital, net	427	594	-45	408	-122	63	293	266	32	30	74	49	-319	0	-22	0	19	0	472	186
Credit	909	594	491	408	-101	63	264	266	40	30	38	49	243	0	7	0	0	0	418	186
Debit	-482	0	-536	0	-21	0	29	0	-8	0	36	0	-562	0	-29	0	19	0	54	0
Other long term capital, net	593	180	2/ 201	110	2/ 108	88	2/ 90	28	-7	7	2/ 12	0	2/ -13	-13	2/ -28	0	2/ 39	0	2/ 392	70
Credit	368	180	110	110	88	88	28	28	7	7	0	0	-13	-13	0	0	0	0	258	70
Debit	225	0	91	0	20	0	62	0	-14	0	12	0	0	0	-28	0	39	0	134	0
Basic Balance (Current and Long Term Capital)	4,221	3,244	2	1,310	-549	421	-188	149	32	168	248	244	353	324	285	176	-179	-172	4,219	1,934
Short term private non-liquid capital, net	-104	73	-53	45	32	30	-28	-38	3	4	-3	-5	37	77	-100	-32	6	9	-51	28
Credit	296	279	156	156	69	69	13	13	4	4	12	12	54	54	7	7	-3	-3	140	123
Debit	-400	-206	-209	-111	-37	-39	-41	-51	-1	0	-15	-17	-17	23	-107	-39	9	12	-191	-95
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	4,117	3,317	-51	1,355	-517	451	-216	111	35	172	245	239	390	401	185	144	-173	-163	4,168	1,962
Liquid Private Capital Flows, net	2,370	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Credit	2,520	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Debit	-150	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Government transactions on current and capital a/c, net	-6,953		-889		17		-225		-14		-143		-268		-76		-180		-6,064	
Official Reserve Transactions Balance	3/ -466		1/		1/		1/		1/		1/		1/		1/		1/		1/	
Errors and Omissions, net	-302		4/ -944		4/ 107		4/ -183		4/ -72		4/ -801		4/ -16		4/ -169		4/ 190		4/ 642	

1/ Not available.
2/ Excludes net non-liquid long-term bank liabilities to private foreigners, which are grouped with line [illegible] in the BEA area breakouts. In this table such liabilities--which amounted to $[illegible] million--are included only in columns 1 and 19.
3/ Excludes net errors and omissions.
4/ Includes net transfers of funds.

Sources: Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-2.-- Balance of Payments of the U.S., by area, 1970

(Million of Dollars)

	World		Seven Key Countries																Rest of World	
			Total		United Kingdom		Germany		Belgium		France		Canada		Mexico		Brazil			
	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs	Sum	MICs
Current Account, net	5,605	8,448	681	3,758	-520	880	-139	665	507	460	467	812	-363	329	421	371	308	241	4,924	4,690
Goods and Services, net	6,617	8,448	699	3,758	-491	880	-297	665	514	460	495	812	-311	329	483	371	308	241	5,918	4,690
Trade, net	2,164	2,048	-198	1,534	305	631	-579	121	510	404	545	631	-1,613	-662	483	278	151	131	2,362	514
Exports	41,963	12,988	19,347	8,419	2,519	959	2,556	536	1,209	472	1,496	694	9,040	5,187	1,706	349	821	222	22,616	4,569
Imports	-39,799	-10,940	-19,545	-6,885	-2,214	-328	-3,135	-415	2,693	68	-951	-63	-10,653	-5,849	-1,223	-71	-670	-91	-20,254	-4,055
Services, net	4,453	6,400	897	2,224	-798	249	282	544	4	56	-50	181	1,302	991	0	93	157	110	3,556	4,176
Royalties and Fees, net	1,902	1,747	917	870	213	206	144	132	50	49	131	121	284	274	64	59	31	29	985	877
Credit	2,127	1,934	1,087	1,013	267	248	175	155	56	53	144	130	350	339	64	59	31	29	1,040	921
Debit	-225	-187	-170	-143	-54	-42	-31	-23	-6	-4	-13	-9	-66	-65	0	0	0	0	-55	-44
Dividends, etc., net	4,150	4,802	1,280	1,611	-484	152	349	458	-42	7	-30	90	1,198	740	176	88	113	76	2,870	3,191
Credit	8,182	5,585	3,345	2,015	617	417	537	494	52	39	152	122	1,615	779	233	88	139	76	4,837	3,570
Debit	-4,032	-783	-2,065	-404	-1,101	-265	-188	-36	-94	32	-152	-30	-417	-39	-57	0	-26	0	-1,967	-379
Other Services, net	-1,599	-149	-1,300	-257	-527	-109	-211	-46	-4	0	-151	-30	-180	-23	-240	-54	13	5	-299	108
Transfers, net	-1,012	0	-18	0	-27	0	158	0	-7	0	-28	0	-52	0	-62	0	1/	0	-994	0
Capital Account, net	-2,422	-2,953	-1,293	-1,405	1,195	962	-106	-128	-91	-115	-328	-452	-1,160	-662	-356	-425	-447	-403	-1,129	-1,548
Long term capital, net	-1,940	-2,422	-1,381	-1,516	637	462	-22	-202	-70	-76	-292	-416	-986	-623	-240	-325	-408	-336	-599	-906
Direct Investment, net	-3,912	-3,912	-2,386	-2,386	-141	-141	-216	-216	-214	-214	-515	-515	-643	-643	-320	-320	-337	-337	-1,526	-1,526
Credit	1,030	1,030	795	795	529	529	48	48	6	6	-27	-27	-238	238	0	0	1	1	235	235
Debit	-4,942	-4,942	-3,181	-3,181	-670	-670	-264	-264	-220	-220	-488	-488	-881	-881	-320	-320	-338	-338	-1,761	-1,761
Portfolio Capital, net	1,248	820	312	406	78	191	246	63	110	108	216	44	-352	0	15	0	-1	0	936	416
Credit	2,190	822	1,004	406	253	191	273	63	115	108	284	44	123	0	15	0	1	0	1,186	416
Debit	-942	0	-692	0	-175	0	-27	0	-5	0	-8	0	-475	0	0	0	-2	0	-250	0
Other long term capital, net	724	668	2/ 693	464	2/ 700	412	2/ -52	-49	2/ 34	30	2/ 7	55	2/ 9	20	2/ 65	-5	2/ -70	1	2/ 31	204
Credit	1,135	1,112	750	750	698	698	-49	-49	30	30	55	55	20	20	-5	-5	1	1	385	362
Debit	-411	-444	-57	-286	2	-286	-3	0	-4	0	-48	0	-11	0	70	0	-71	0	-354	-158
Basic Balance (Current and Long Term Capital)	3,665	6,026	-700	2,242	-417	1,342	-161	463	437	384	175	396	-1,349	-294	181	46	-100	-95	4,365	3,784
Short term private non-liquid capital, net	-482	-531	88	111	558	500	84	-108	-21	-39	-36	-36	-174	-39	-116	-100	-39	-67	-570	-642
Credit	902	987	442	442	564	564	-77	-77	-25	-25	-3	-3	-22	-22	4	4	1	1	460	545
Debit	-1,384	-1,518	-354	-331	-6	-64	-7	-31	4	-14	-33	-33	-152	-17	-120	-104	-42	-68	-1,030	-1,187
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	3,183	5,495	-612	2,353	675	1,842	-245	355	416	345	139	360	-1,523	-333	65	-54	-139	-162	3,795	3,142
Liquid Private Capital Flows, net	-5,988	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Credit	351	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Debit	-6,339	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Government transactions on current and capital a/c, net	4/-7,188		-1,660		77		-1,106		-57		-31		-465		-8		-70		4/ -5,528	
Official Reserve Transactions Balance	3/-9,893	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Errors and Omissions, net	-1,174	1/	5/-3,006	1/	5/2,787	1/	5/-4,480	1/	5/-528	1/	5/-2,260	1/	5/ 694	1/	5/-881	1/	5/ 62	1/	5/ 1,832	1/

1/ Not available.
2/ Excludes non-liquid long-term bank liabilities to private foreigners, which are grouped with line 53 in the BEA area breakouts. In this table such liabilities—which amounted to $83 million—are included only in columns 1 and 19.
3/ Includes net errors and omissions and an SDR allocation of $867 million.
4/ Includes an SDR allocation of $867 million.
5/ Includes net transfers of funds.
6/ Includes net errors and omissions.

Sources: Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-3.--Balance of Payments of U.S. with Japan, 1966 and 1970

(In millions of U.S. dollars)

	1966		1970	
	Sum	MNC	Sum	MNC
Current Account, net	-434	343	-861	624
Goods and Services, net	-412	343	-828	624
Trade, net	-629	207	-1,246	294
Exports	2,345	230	4,648	360
Imports	-2,974	- 23	-5,894	- 66
Services, net	217	136	418	330
Royalties and Fees, net	116	94	285	219
Credit	120	97	293	226
Debit	-4	-3	-8	-7
Dividends, etc., net	119	35	120	83
Credit	249	43	398	101
Debit	-130	-8	-278	-18
Other Services, net	-18	+7	13	28
Transfers, net	-22	0	-34	0
Capital Account, net	266	95	-628	-790
Long term capital, net	82	-56	-91	-110
Direct Investment, net	-56	-56	-129	-129
Credit	-24	-24	-1	-1
Debit	-32	-32	-128	-128
Portfolio capital, net	16	0	43	0
Credit	4	0	12	0
Debit	+12	0	+31	0
Other long-term capital, net	1/ 122	0	1/ -5	19
Credit	1/ 0	0	1/ 19	19
Debit	+122	0	-24	0
Basic Balance (Current a/c + Long-term Capital)	-352	287	-952	514
Short-term private non-liquid capital, net	184	151	-537	-680
Credit	-5	-5	2	2
Debit	+189	+156	-539	-682
Balance on Current and Capital Accounts (Net Liquidity Balance) 2/	-168	438	-1,489	-156
Liquid private capital flows, net	3/ 70	N.A.	3/ 13	N.A.
Credit	3/ 0	N.A.	3/ 0	N.A.
Debit	+70	N.A.	13	N.A.
Government Transactions on Current and Capital Accounts, net	-516		-658	
Official Reserve Transactions Balance 2/	-614	N.A.	-2,134	N.A.
Errors and Omissions, net	4/ 684	N.A.	4/ 946	N.A.

1/ Excludes long term bank liabilities to private foreigners.
2/ Excludes net errors and omissions.
3/ Excludes liquid liabilities to private foreigners.
4/ Includes net transfers of funds.

Source: Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-4.--Balance of Payments of Canada, 1966

(In millions of U.S. dollars)

	World	United States: Sum	United States: MNCs	Rest of World
Current Account, net	-933	-1,867	1/ -1,453	934
Goods and Services, net	-933	-1,831	-1,453	898
Trade, net	306	-803	-716	1,109
Exports	10,050	5,896	2,566	4,154
Imports	-9,744	-6,699	-3,282	-3,045
Services, net	-1,239	-1,028	-737	-211
Royalties and Fees, net	2/	2/	-199	2/
Credit	2/	2/	43	2/
Debit	2/	2/	-242	2/
Dividends, etc., net	-873	-726	-548	-147
Credit	450	178	76	272
Debit	-1,323	-904	-624	-419
Other Services, net	-366	-302	10	-64
Transfers, net	0	-36	0	36
Capital Account, net	3/ 1,132	3/ 961		3/ 171
Long term capital, net	1,047	1,111	1,129	-64
Direct Investment, net	726	658	1,116	68
Credit	731	596	1,118	135
Debit	-5	62	-2	-67
Portfolio capital, net	617	362	0	255
Credit	898	726	0	172
Debit	-281	-364	0	83
Other long-term capital, net	-296	91	13	-387
Credit	0	91	13	-91
Debit	-296	0	0	-296
Basic Balance (Current a/c + Long-term Capital	114	-756	-324	870
Short-term private non-liquid capital, net	3/ 85	3/-150	-77	3/ 235
Credit	85	16	-23	69
Debit	0	-166	-54	166
Balance on Current and Capital Accounts (Net Liquidity Balance)	199	-906	-401	1,105
Liquid private capital flows, net	-438	4/	5/	4/
Credit	0	4/	5/	4/
Debit	-438	4/	5/	4/
Government Transactions on Current and Capital Accounts, net	-92	5/		5/
Official Reserve Transaction Balance	-331	5/	5/	5/
Errors and Omissions, net	6/	6/	5/	6/

1/ U.S. (BEA) data with signs reversed.
2/ Not available. Include in "other services, net."
3/ Includes net errors and omissions and liquid capital flows.
4/ Not available. Included in non-liquid short-term capital flows.
5/ Not available.
6/ Not available. Included in short-term capital flows.

Source: IMF, Balance of Payments Yearbook, vol. 22, October 1971; DBS, Quarterly Estimates of the Canadian Balance of International Payments, March 1968 (preliminary); and Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-5.--Balance of Payments of Canada, 1970

(In millions of U.S. dollars)

	World	United States Sum	United States MNCs	Rest of World
Current Account, net	1,208	-275	1/ -329	1,483
Goods and Services, net	1,126	-336	-329	1,462
Trade, net	2,885	1,009	662	1,876
Exports	16,133	10,400	5,849	5,733
Imports	-13,248	-9,391	-5,187	-3,857
Services, net	-1,759	-1,345	-991	-414
Royalties and Fees, net	2/ -390	2/ -406	-274	1/ 16
Credit	2/ 99	2/ 44	65	1/ 55
Debit	2/ -489	2/-450	-339	1/ -39
Dividends, etc., net	-954	-905	-740	-49
Credit	504	316	39	188
Debit	-1,458	-1,221	-779	-237
Other Services, net	-415	-34	23	-381
Transfers, net	82	61	0	21
Capital Account, net	3/ 601	3/ 877	662	3/ -276
Long term capital, net	780	859	623	-79
Direct Investment, net	469	341	643	128
Credit	737	549	881	188
Debit	-268	-208	-238	-60
Portfolio capital, net	585	587	0	-2
Credit	585	587	0	0
Debit	0	0	0	-2
Other long-term capital, net	-274	-69	-20	-205
Credit	0	0	0	0
Debit	-274	-69	-20	-205
Basic Balance (Current a/c + Long-term Capital	1,988	584	294	1,404
Short-term private non-liquid capital, net	3/ -179	3/ 18	39	3/ -197
Credit	307	247	39	60
Debit	-486	-229	0	-257
Balance on Current and Capital Accounts (Net Liquidity Balance)	-1,809	602	333	1,207
Liquid private capital flows, net	4/	4/	4/	4/
Credit	4/	4/	4/	4/
Debit	4/	4/	4/	4/
Government Transactions on Current and Capital Accounts, net	5/ -343	4/		4/
Official Reserve Transactions Balance	1,466	4/	4/	4/
Errors and Omissions, net	4/	4/	4/	4/

1/ U.S. (BEA) data with signs reversed.
2/ Estimated on the basis of a special DBS Survey in 1969.
3/ Includes net errors and omissions and liquid capital flows.
4/ Not available.
5/ Excludes an SDR allocation of $127 million.

Sources: DBS, Quarterly Estimates of the Canadian Balance of International Payments, Fourth Quarter 1971; and Bureau of Economic Analysis, U.S. Department of Commerce.

Commentary on tables A-4 and A-5 (Canada)

Canada's global current account shifted from a deficit of $933 million in 1966 to a surplus of $1,208 million in 1970. A positive trade balance had the most significant effect on the current account; it rose from $306 million to $2.9 billion between 1966 and 1970. The principal source of this favorable change was a sharp rise in exports to the United States, primarily as a result of the APTA. In fact, the current account balance with the United States showed even greater improvement than the global figure, changing from a $1.9 billion deficit in 1966 to only a $275 million deficit in 1970. The multinationals contributed heavily to this improvement, decreasing their 1966 deficit with the United States of $1.4 billion to $329 million in 1970.

In 1966 Canada's imports from the United States exceeded the comparable exports by $803 million. By 1970, however, the situation had been reversed to a trade surplus of $1 billion, with the United States accounting for a third of the total Canadian trade surplus in that year. The multinationals also reversed their adverse position, moving from a $716 million trade deficit in 1966 to a surplus amounting to $662 million in 1970. Canada's overall exports showed a very healthy increase from $10 to $16 billion during the period, with the United States accounting for most of the gain. While total Canadian exports during that period rose by 60 percent, exports to the United States almost doubled, rising from $5.9 billion to $10.4 billion.

The MNCs increased their share of total exports to the United States equally significantly, from $2.7 billion (46 percent) to $5.9 billion (57 percent).

Imports showed significant increases as well but they were not as large as the increases in exports. Total Canadian imports increased from $9.8 to $13.2 billion. Most of Canada's imports originate from the United States, payments for which increased from $6.7 billion in 1966 to $9.4 billion in 1970. The MNCs imports from the United States, which account for about half of total Canadian imports, amounted to $3.3 billion in 1966 and rose to $5.2 billion in 1970.

The Canadian services accounts showed deficits in both 1966 and 1970 of $1,239 million and $1,759 million, respectively. Such outflows to the United States increased from $1.0 billion to $1.3 billion, as compared with global outflows of $1.2 and $1.8 billion respectively. The MNCs contributed heavily toward this deficit with the United States, accounting for an outflow of $737 million in 1966 that rose to $991 million in 1970. The bulk of the outflow was for dividends and other profit remittances to parent companies; these rose from $548 million to $748 million during the period. Royalties and similar payments by the multinationals increased from $199 million in 1966 to $274 million in 1970.

The global capital account 1/ surplus moved adversely between 1966 and 1970, from $1.1 billion to only $601 million. Again, the

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1/ Including errors and omissions and liquid capital flows.

United States dominated these flows, generating an inflow of $961 million in 1966 that decreased slightly to $877 million in 1970. No data are available for the MNCs' activities in capital account for 1966, but in 1970 the inflow was $662 million, or 75 percent of total capital flows from the United States. The net long-term capital inflow to Canada decreased from $1,047 million in 1966 to $780 million in 1970, with the United States and the multinationals accounting for most of it. The inflow from the United States in 1966 was $1,111 million and it fell to $859 million in 1970. The inflow of multinationals' capital in 1966 was $1,129 million, but the drop was more precipitous, to $623 million. The global direct investment inflow decreased sharply between 1966 and 1970, falling from $726 million to $464 million. This drop was even more noticeable in net direct investment by the United States, which fell from $658 to $341 million. At the same time, the multinationals lowered their inflow from $1,116 million to $643 million, or by almost 50 percent. 1/

In 1966 and 1970 portfolio investment remained substantial and changed but little from $617 million to $585 million, with the United States' portfolio investment rising from $362 million to $587 million. The multinationals had little effect on this account. "Other" long-term capital flows showed a deficit of $296 million in 1966 and of

1/ The total for the MNCs is higher than the overall net figure for the United States because of Canadian direct investment outflows to the United States, which were on the order of $450 million in 1966 and $300 million in 1970.

$274 million in 1970. The United States was the source of a $91 million inflow in 1966, which changed to an outflow of $69 million in 1970. The inflow in 1966 credited to the multinationals was $13 million; it became an outflow of $20 million in 1970. Global short-term capital flows shifted similarly, from a favorable balance of $85 million to an outflow of $179 million. In 1966, Canadians sent more short-term capital to the United States than they received, namely, $150 million. This deficit changed to an $18 million surplus by 1970. The multinationals' contribution of $77 million toward the deficit in 1966 changed to an inflow of $39 million in 1970.

There was a very significant change in the balance on current and capital accounts combined between 1966 and 1970, a very favorable swing from a small surplus of $199 million to a large one of $1,809 million. In 1966 Canada had a $906 million deficit with the United States, of which the multinationals accounted for $401 million. By 1970 both the United States as a whole and the multinationals showed inflows of $602 and $333 million respectively. The basic balance (current and long-term capital accounts) showed practically the same increase as did the balance on current and capital accounts, rising by $2 billion during the 1966-70 period. The $756 million deficit attributed to the United States in 1966 changed to an inflow of $584 million by 1970, while the multinationals in dealings with the United States bettered their effect on the balance from a $324 million deficit to an inflow of $214 in 1970.

Table A-6.--Balance of payments of U.K., 1966

(In millions of U.S. dollars)

	World	United States 2/		Rest of World
		Sum	MNCs	
Current Account, net	967	139	-666	828
Goods and Services, net	1,104	117	-666	987
Trade, net	-160	22	-423	-182
Exports	14,582	1,780	238	12,802
Imports	-14,742	-1,758	-661	-12,984
Services, net	1,264	95	-243	1,169
Royalties and Fees, net	72	-185	-174	257
Credit	302	34	27	268
Debit	-230	-219	201	-11
Dividends, etc., net	812	-53	-142	865
Credit	2,173	310	129	1,863
Debit	-1,361	-363	-271	-998
Other Services, net	380	333	73	-47
Transfers, net	-137	22	0	-159
Capital Account, net	-79	~~378~~	~~215~~	~~-457~~
Long term capital, net	171	410	245	-239
Direct Investment, net	25	396	396	-371
Credit	286	419	419	-133
Debit	-261	-23	-23	-238
Portfolio capital, net	12	122	-63	-110
Credit	183	21	0	162
Debit	-171	101	-63	-272
Other long-term capital, net	134	-108	-88	242
Credit	442	0	0	442
Debit	-308	-108	-88	-200
Basic Balance (Current a/c + Long-term Capital	1,138	549	-421	589
Short-term private non-liquid capital, net	-250	-32	-30	-218
Credit	0	37	39	-37
Debit	-250	-69	-69	-181
Balance on Current and Capital Accounts (Net Liquidity Balance) 1/	888	517	-451	371
Liquid private capital flows, net	-921	3/		3/
Credit	2,492	3/		3/
Debit	-3,413	3/		3/
Government Transactions on Current and Capital Accounts, net	-1,434	-17		-1,417
Official Reserve Transactions Balance 1/	-1,467	3/		3/
Errors and Omissions, net	-72	4/ -107		4/ 35

1/ Excludes net errors and omissions.
2/ U.S. data with signs reversed.
3/ Not available.
4/ Includes net transfers of funds.

Sources: IMF Balance of Payments Yearbook, vol 22, June 1971; Bound of Trade Journal, 1969 table 16; and Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-7.--Balance of payments of U.K., 1970

(In millions of U.S. dollars)

	World	United States 6/		Rest of World
		Sum	MNCs	
Current Account, net	2,916	520	-880	2,396
Goods and Services, net	3,024	493	-880	2,531
Trade, net	17	-305	-631	322
Exports	18,926	2,214	328	16,712
Imports	-18,909	-2,519	-959	-16,390
Services, net	3,007	798	-249	2,209
Royalties and Fees, net	1/ 58	-213	-206	271
Credit	1/ 372	54	42	318
Debit	1/ -314	-267	-248	-47
Dividends, etc., net	1,526	484	-152	1,032
Credit	2,416	1,101	265	1,315
Debit	-900	-617	-417	-283
Other Services, net	1,433	527	109	906
Transfers, net	-108	27	0	-135
Capital Account, net	-219	-1,195	-962	976
Long term capital, net	-288	-637	-462	925
Direct Investment, net	-87	141	141	-228
Credit	338	670	670	-332
Debit	-425	-529	-529	104
Portfolio capital, net	-47	-78	-191	31
Credit	202	175	0	27
Debit	-249	-253	-191	+4
Other long-term capital, net	422	-700	-412	1,122
Credit	782	0	286	782
Debit	-360	-700	-698	340
Basic Balance (Current a/c + Long-term Capital	3,204	-117	-1,342	3,321
Short-term private non-liquid capital, net	2/ -507	-558	-500	51
Credit	2/ 55	6	64	49
Debit	2/ -562	-564	-564	2
Balance on Current and Capital Accounts (Net Liquidity Balance) 5/	2,697	-675	-1,842	3,372
Liquid private capital flows, net	3/ 1,865	7/	7/	7/
Credit	3/ 1,882	7/	7/	7/
Debit	3/ -17	7/	7/	7/
Government Transactions on Current and Capital Accounts, net	4/ -2,280	-77		-2,203
Official Reserve Transactions Balance 5/	2,282	7/	7/	7/
Errors and Omissions, net	293	8/ -2,787	7/	8/ 3,080

1/ Partly estimated. 2/ Includes trade credits only. 3/ Estimated.
4/ Excludes SDR allocation of $410. 5/ Excludes net errors and omissions.
6/ U.S. data with signs reversed. 7/ Not available. 8/ Includes net transfers of funds.

Soruces: Economic Trends, No. 218, December 1971; Annual Abstract of Statistics, No. 108, 1971; IMF Balance of Payments Yearbook, vol. 23, February 1972 (Provisional Analytical) Bureau of Economic Analysis, U.S. Department of Commerce.

Commentary on tables A-6 and A-7 (United Kingdom)

The balance of payments of the United Kingdom improved very substantially after the 1967 devaluation of the pound sterling. The current account had a surplus less than $1 billion in 1966; this increased to $3 billion by 1970. At the same time the net current account inflow from the United States increased from $139 million to $520 million. However, in their dealings with the United States, the multinationals contributed heavily in the opposite direction, with outflows of $666 million in 1966 and $880 million in 1970. Within the current account the trade balance improved significantly, from a deficit of $160 million in 1966 to a small surplus of $17 million in 1970, but transactions with the United States and especially the MNCs again moved increasingly in an adverse direction. A sharp change was noted in the overall trade balance with the United States, from a surplus of $22 million in 1966 to a deficit of $305 million in 1970. The MNCs, meanwhile, already had a very sizeable deficit of $423 million in 1966 that rose even higher (to $631 million) in 1970.

The very strong growth of net income on services accounts was the primary factor in the overall improvement of the current account-- and, indeed, of the entire balance of payments as well. The positive balance in the services accounts almost tripled, from $1.3 billion in 1966 to $3 billion in 1970, with the United States contributing heavily toward this favorable result. Yet, once again, the MNCs in

both 1966 and 1970 had an adverse effect (amounting to about $250 million) on this account. Remittances of profits as well as royalties and fees to parents in the United States predominated here.

The global capital account showed a significant deterioration--a rise in net capital outflows from $79 million to $219 million. A very sharp change was noted in the position with the United States, where an inflow of $378 million in 1966 changed to an outflow of $1.2 billion by 1970, chiefly as a result of heavy United Kingdom investment in the United States. The U.S.-based multinationals contributed $215 million in net credits toward the capital account in dealings with the United States in 1966. By 1970, however, their "contribution" was a $962 million outflow. American MNC-generated flows of long-term capital vis-a-vis the United States shifted massively, from a net inflow of $245 million in 1966 to a net outflow of $462 million in 1970. Similarly, the MNCs accounted for almost all of roughly a $500 million adverse shift in nonliquid short-term capital flows. As a result of these MNC-related capital movements, the British capital account was placed under heavy negative pressure over the period. Only a large favorable shift in net capital flows from non-U.S. sources ($1.4 billion) was able to hold the global capital account to the relatively modest deterioration ($140 million) which actually occurred.

The overall global surplus on current and capital accounts showed a very healthy improvement between 1966 and 1970, increasing from $888 million to $2.7 billion. This was not the case in trans-

action with the United States, however. A surplus with the United States of $517 million in 1966 was reversed by 1970 to a deficit of $675 million. The multinationals contributed heavily toward this result; their deficit with the United States rose sharply, from $451 million to $1.8 billion.

The British basic balance (current and long-term capital accounts) showed similar movements. The global surplus expanded from $1.1 billion to $3.2 billion. The United States accounted for a net inflow of $549 million during 1966, which changed to a net outflow of $117 million in 1970. The multinationals again were a source of serious deterioration; they moved from a deficit position of $421 in 1966 to a sharply higher one of $1.3 billion in 1970.

Table A-8.--Balance of Payments of Belgium-Luxembourg, 1966

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	-30	78	4/ -272	-108
Goods and Services, net	-62	70	-272	-132
Trade, net	-114	28	-233	-142
Exports	5,626	530	54	5,096
Imports	-5,740	-502	-287	-5,238
Services, net	52	42	-39	10
Royalties and Fees, net	-38	1/	-25	1/
Credit	70	1/	1	1/
Debit	-108	1/	-26	1/
Dividends, etc., net	22	6	-12	16
Credit	304	58	8	246
Debit	-282	-52	-20	-230
Other Services, net	68	36	-2	-6
Transfers, net	32	8	0	24
Capital Account, net	34	2/	100	2/
Long term capital, net	12	76	104	-64
Direct Investment, net	132	80	141	52
Credit	140	70	151	70
Debit	-8	+10	-10	-18
Portfolio capital, net	-134	-68	-30	-66
Credit	-4	0	0	0
Debit	-130	-68	-30	-66
Other long-term capital, net	14	64	-7	-50
Credit	54	34	0	20
Debit	-40	+30	-7	-76
Basic Balance (Current a/c + Long-term Capital	-18	154	-168	-172
Short-term private non-liquid capital, net	22	2/	-4	2/
Credit	22	2/	0	2/
Debit	0	2/	-4	2/
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	4	2/	-172	2/
Liquid private capital flows, net	140	2/	2/	2/
Credit	522	2/	2/	2/
Debit	-382	2/	2/	2/
Government Transactions on Current and Capital Accounts, net	-116	-38		-78
Official Reserve Transactions Balance 3/	28	2/	2/	2/
Errors and Omissions, net	6	2/	2/	2/

1/ Not available. Included in "Other Services, Net."
2/ Not available.
3/ Excludes net errors and omissions.
4/ U.S. (BEA) data with signs reversed.
5/ Includes net transfers of funds.

Sources: IMF, Balance of Payments Yearbook, vol. 23, December 1971; Statistical Office of the European Communities, Balance of Payments, 1962-1966, and Balance of Payments, 1960-1970. U.S. Department of Commerce, Bureau of Economic Analysis.

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Table A-9.--Balance of Payments of Belgium-Luxembourg, 1970

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	914	-18	4/ -460	932
Goods and Services, net	874	-30	-460	904
Trade, net	788	-122	-404	910
Exports	9,726	604	68	9,122
Imports	-8,938	-726	-472	-8,212
Services, net	86	92	-56	-6
Royalties and Fees, net	-58	1/	-49	1/
Credit	118	1/	4	1/
Debit	-176	1/	-53	1/
Dividends, etc., net	68	62	-7	6
Credit	862	210	32	652
Debit	-794	-148	-39	-646
Other Services, net	76	30	0	-12
Transfers, net	40	12	0	28
Capital Account, net	-372	2/	115	2/
Long term capital, net	-276	-28	76	-248
Direct Investment, net	162	118	214	44
Credit	318	140	220	178
Debit	-156	-22	-6	-134
Portfolio capital, net	-288	-124	-108	-164
Credit	26	2	0	24
Debit	-314	-126	-108	-188
Other long-term capital, net	-150	-22	-30	-128
Credit	0	10	0	-10
Debit	-150	-32	-30	-118
Basic Balance (Current a/c + Long-term Capital)	638	-46	-384	684
Short-term private non-liquid capital, net	-96	2/	39	2/
Credit	0	2/	39	2/
Debit	-96	2/	0	2/
Balance on Current and Capital Accounts (Net Liquidity Balance)	542	2/	-345	2/
Liquid private capital flows, net	-76	2/	2/	2/
Credit	2,918	2/	2/	2/
Debit	-2,994	2/	2/	2/
Government Transactions on Current and Capital Accounts, net	3/ -174	-16		-158
Official Reserve Transactions Balance	292	2/	2/	2/
Errors and Omissions, net	-64	2/	2/	2/

1/ Not available. Included in "other services, Net."
2/ Not available.
3/ Excludes an SDR allocation of + $70 million.
4/ U.S. (BEA) data with signs reversed.
5/ Includes net transfers of funds.

Sources: IMF, Balance of Payments Yearbook, vol. 23, December 1971. Statistical Office of the European Communities, Balances of Payments, 1960-1970, U.S. Department of Commerce, Bureau of Economic Analysis.

The capital account showed a drastic deterioration from a surplus of $34 million to a deficit of $372 million. Here, however, the MNCs had a positive effect on the balance, contributing inflows from the United States of $100 million and $115 million in the respective years. The most significant change occurred in the long-term sections of the capital account, which shifted from an inflow of $12 million in 1966 to an outflow of $276 million in 1970. There was a shift also in the U.S. position--from an inflow of $76 million to an outflow of $28 million. The multinationals, however, produced positive balances of $104 million in 1966 and $76 million in 1970. As global direct investment in Belgium-Luxembourg increased from $132 to $162 million, the United States accounted for $80 and $118 million in 1966 and 1970. The MNCs invested directly a rather significant $141 million (net) in 1966, and increased it to $214 million in 1970. Belgian purchases of foreign securities (a net outflow) more than doubled during this period, rising from $134 to $288 million, with purchase of U.S. securities valued at $68 million in 1966 then doubling to $124 million in 1970. In this account, the multinationals paralleled the general experience, tripling their portfolio holdings from $30 million to $108 million. "Other" long-term investment was also quite significant, changing from an inflow of $14 million to an outflow of $150 million on a global basis. The MNCs had a relatively modest influence on this account. Short-term nonliquid capital flows also reversed from net surplus to net deficit but, on a global basis, the impact was small relative to the balance of payments as a whole.

The global position of the Belgian basic balance improved greatly between 1966 and 1970, shifting from a deficit of $18 million to a surplus of $638 million. The flow from the United States reversed, from an inflow of $154 million in 1966 to an outflow of $46 million in 1970. The MNCs had a significant negative effect on the basic balance, more than doubling their outflow from $168 to $384 million during that time.

Table A-10.—Balance of Payments of France 1966

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	172	-21	4/ -328	193
Goods and Services, net	86	-43	-328	129
Trade, net	100	-412	-233	512
Exports	9,435	708	48	8,727
Imports	-9,335	-1,120	-281	-8,215
Services, net	-14	369	-95	-383
Royalties and Fees, net	1/	1/	-81	1/
Credit	1/	1/	9	1/
Debit	1/	1/	-90	1/
Dividends, etc., net	119	21	-36	98
Credit	462	142	9	320
Debit	-343	-121	-45	-222
Other Services, net	-133	348	22	-481
Transfers, net	86	22	0	64
Capital Account, net	-68	176	89	-244
Long term capital, net	156	129	84	27
Direct Investment, net	111	118	133	-7
Credit	252	119	141	133
Debit	-141	-1	-8	-140
Portfolio capital, net	22	-18	-49	40
Credit	49	0	0	49
Debit	-27	-18	-49	-9
Other long-term capital, net	23	29	0	-6
Credit	69	29	0	40
Debit	-46	0	0	-46
Basic Balance (Current a/c + Long-term Capital	328	108	-244	220
Short-term private non-liquid capital, net	-224	47	5	-271
Credit	290	47	17	243
Debit	-514	0	-12	-514
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	104	155	-239	-51
Liquid private capital flows, net	44	-248	5/	292
Credit	797	425	5/	372
Debit	-753	-673	5/	-80
Government Transactions on Current and Capital Accounts, net	2/ 95	2/ 337		-242
Official Reserve Transactions Balance	243	244	5/	5/ -1
Errors and Omissions, net	130	49	5/	81

1/ Not available. Included in "Other Services, Net."
2/ Includes multilateral settlements of + $253 (world) and + $286 (United States).
3/ Excludes net errors and omissions.
4/ U.S. (BEA) data with signs reversed.
5/ Not available.
6/ Includes net transfers of funds.

Sources: Statistical Office of the European Communities, Balance of Payments, 1962-1966 and Balance of Payments, 1960-1970; and Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-11.--Balance of Payments of France, 1970

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	310	-537	5/ -812	847
Goods and Services, net	878	-594	-812	1,472
Trade, net	320	-776	-631	1,096
Exports	18,010	979	63	17,031
Imports	17,690	-1,755	-694	15,935
Services, net	558	182	-181	376
Royalties and Fees, net	1/	1/	-121	1/
Credit	1/	1/	9	1/
Debit	1/	1/	-130	1/
Dividends, etc., net	378	107	-90	271
Credit	1,444	611	32	833
Debit	-1,066	-504	-122	-562
Other Services, net	180	75	30	105
Transfers, net	-568	57	0	-625
Capital Account, net	1,590	590	452	1,000
Long term capital, net	606	277	416	329
Direct Investment, net	226	146	515	80
Credit	596	166	488	430
Debit	-370	-20	+27	-350
Portfolio capital, net	282	85	-44	197
Credit	394	149	0	145
Debit	-112	-64	-44	-48
Other long-term capital, net	98	46	-55	52
Credit	532	89	0	443
Debit	-434	-43	-55	-391
Basic Balance (Current a/c + Long-term Capital	916	-260	-396	1,176
Short-term private non-liquid capital, net	984	313	36	671
Credit	501	-145	33	646
Debit	+483	+458	+3	+15
Balance on Current and Capital Accounts (Net Liquidity Balance) 4/	1,900	53	-360	1,847
Liquid private capital flows, net	183	627	6/	-444
Credit	2,078	1,363	6/	715
Debit	-1,895	-736	6/	-1,159
Government Transactions on Current and Capital Accounts, net	2/ -517	3/ 684		-1,201
Official Reserve Transactions Balance 4/	1,566	1,364	6/	202
Errors and Omissions, net	364	22	6/	342

1/ Not available. Included in "Other Services, Net."
2/ Excludes an SDR allocation of + $165 million.
3/ Includes multilateral settlements of + $692 million.
4/ Excludes net errors and omissions.
5/ U.S. (BEA) data with signs reversed.
6/ Not availavle.

Sources: IMF, Balance of Payments Yearbook, vol. 23, March 1972. Statistical Office of the European Communities, Balance of Payments, 1960-1970 and Bureau of Economic Analysis, U.S. Department of Commerce.

Commentary on tables A-10 and A-11 (France)

Like the United Kingdom and Belgium, France showed a current account improvement, but it was a fairly modest one--from a surplus of $172 million in 1966 to one of $310 million in 1970. Transactions with the United States as a whole, and especially those of the MNCs, were a source of very heavy negative influence, as in the United Kingdom and Belgium. Nevertheless, while the MNCs exerted a severe depressive influence on the trade and services accounts, both held up extremely well in global terms. It was another account--private transfers of migrants' remittances--which bore chief responsibility for keeping the global current-account surplus from rising as rapidly as it might have. The MNC influence was absent here.

Globally, the trade surplus improved by $220 million, from $100 million in 1966 to $320 million 4 years later--despite a deterioration of about $500 million in the MNC's trade balance with the United States. The services accounts tell a similar story. Globally, these accounts improved by $572 million (from a $14 million deficit to a $558 million surplus), while the MNCs increased their net outbound services flows to the United States by $86 million. All this left the global balance on goods and services accounts with an extremely healthy improvement of just under $800 million, whence a deep deterioration of $654 million in net private transfers (in which the MNCs played no part) cut the overall current account improvement to a relatively modest $138 million.

The French capital account experienced tremendous improvement between 1966 and 1970, shifting from a $68 million deficit to a surplus of $1.6 billion. The United States helped modestly to improve the balance of this account with a net increase of $384 million in the French surplus. In relative terms, the multinationals increased their net inflow from the United States even more--fivefold--from $89 million to $452 million during the same time. Long-term capital inflows increased markedly, from $156 to $606 million, with the United States accounting for a third of the improvement. The MNCs here again were in the forefront, with a fivefold improvement of $332 million. The direct investment account showed an interesting pattern. Globally, it improved by $115 million to a surplus of $226 million in 1970. Yet the MNCs' net direct investment surplus with the United States improved by $382 million to $515 million. This implies, for 1970, a $289 million direct investment outflow to the United States and other areas--an outflow in which the U.S.-based MNCs played no part. The rest of the capital account, including movements of portfolio and other long-term funds as well as short-term nonliquid capital, improved on a global basis by a very substantial $1.5 billion over the period, of which $1.2 billion represented a shift in the short-term item. In comparison with the magnitude of these changes, neither the United States as a whole, nor the MNCs in their contribution to the French balance of payments with the United States played an especially important role.

The French global balance on current and capital accounts ended the period with a very favorable increase from $104 million to $1.9 billion. Transactions with the United States countered this movement slightly, as net inflows on the U.S. accounts dropped from $155 million in 1966 to $53 million in 1970. The MNCs' contribution also was negative, with a $239 million deficit in 1966 that rose to $360 million in 1970. The basic balance (current and long-term capital accounts) also showed a very healthy improvement during this period; its surplus rose from $328 million in 1966 to $916 million in 1970. Yet, whereas the United States brought in $108 million (net) in 1966, the flow was reversed by 1970 to a $260 million deficit. The multinationals' negative effect on the basic balance was reflected in an outflow to the United States of $244 million in 1966 which rose to $396 million outflow in 1970.

Table A-12.--Balance of Payments of West Germany, 1966

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	-286	-611	4/ -446	325
Goods and Services, net	577	-581	-446	1,158
Trade, net	2,956	-352	-225	3,308
Exports	20,189	1,793	101	18,396
Imports	-17,233	-2,145	-326	-15,088
Services, net	-2,379	-229	-221	-2,150
Royalties and Fees, net	-158	1/	-92	1/
Credit	78	1/	12	1/
Debit	-236	1/	-104	1/
Dividends, etc., net	-358	-76	-162	-282
Credit	456	148	12	308
Debit	-814	-224	-174	-590
Other Services, net	-1,863	-153	33	-1,868
Transfers, net	-863	-30	0	-833
Capital Account, net	885	252	335	633
Long term capital, net	415	175	297	240
Direct Investment, net	553	371	591	182
Credit	860	388	619	472
Debit	-307	-17	-28	-290
Portfolio capital, net	-241	-170	-266	-71
Credit	0	0	0	0
Debit	-241	-170	-266	-71
Other long-term capital, net	103	-26	-28	129
Credit	157	0	0	157
Debit	-54	-26	-28	-28
Basic Balance (Current a/c + Long-term Capital	129	-436	-149	565
Short-term private non-liquid capital, net	470	77	38	393
Credit	470	77	51	393
Debit	0	0	-13	0
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	599	-359	-111	958
Liquid private capital flows, net	-69	87	5/	-156
Credit	61	87	5/	-26
Debit	-130	0	5/	-130
Government Transactions on Current and Capital Accounts, net	-355	304		-659
Official Reserve Transactions Balance 3/	175	32	5/	143
Errors and Omissions, net	256	2/ 589	5/	2/ -333

1/ Not available. Included in "Other Services, Net."
2/ Includes multilateral settlements.
3/ Excludes net errors and omissions.
4/ U.S. (BEA) data with signs reversed.
5/ Not available.
6/ Includes net transfers of funds.

Sources: IMF, Balance of Payments Yearbook, vol. 22, October 1971; Statistical Office of the European Communities, National Accounts, 1957-1966, Balance of Payments, 1962-1966 and Balance of Payments, 1960-1970. Bureau of Economic Analysis, U.S. Department of Commerce.

Table 13. -Balance of Payments of West Germany, 1970

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	322	-259	4/-665	581
Goods and Services, net	1,875	-236	-665	2,111
Trade, net	5,837	85	-121	5,752
Exports	34,120	3,126	415	30,994
Imports	-28,283	-3,041	-536	-25,242
Services, net	-3,962	-321	-544	-3,641
Royalties and Fees, net	-251	-158	-132	-93
Credit	134	23	23	111
Debit	-385	-181	-155	-204
Dividends, etc., net	-242	-104	-458	-138
Credit	1,389	425	36	964
Debit	-1,631	-529	-494	-1,102
Other Services, net	-3,469	-59	46	-3,410
Transfers, net	-1,553	-23	0	-1,530
Capital Account, net	1,166	29	310	1,137
Long term capital, net	-598	-172	202	-426
Direct Investment, net	-387	103	216	-490
Credit	299	184	264	115
Debit	-686	-81	-48	-605
Portfolio capital, net	208	-220	-63	12
Credit	344	3	0	341
Debit	-552	-223	-63	-329
Other long-term capital, net	-3	-55	49	52
Credit	254	0	49	254
Debit	-257	-55	0	-202
Basic Balance (Current a/c + Long-term Capital	-276	-431	-463	155
Short-term private non-liquid capital, net	1,764	201	108	1,563
Credit	1,924	201	108	1,723
Debit	-160	0	0	-160
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	1,488	-230	-355	1,718
Liquid private capital flows, net	2,314	567	5/	1,747
Credit	2,950	635	5/	2,315
Debit	-636	-68	5/	-568
Government Transactions on Current and Capital Accounts, net	1/ -424	664		-1,088
Official Reserve Transactions Balance 3/	3,378	1,001	5/	2,377
Errors and Omissions, net	2,589	2/ 5,210	5/	-2,621

1/ Excludes an SDR allocation of + $202 million.
2/ Includes multilateral settlements.
3/ Excludes net errors and omissions.
4/ U.S. (BEA) data with signs reversed.
5/ Not available.

Sources: Deutsche Bundesbank, The Balance of Payments of the Federal Republic of Germany in 1970: regional breakdown, Statistical Office of the European Communities, Balances of Payments, 1960-1970, Bureau of Economic Analysis, U.S. Department of Commerce.

Commentary on tables A-12 and A-13 (West Germany)

The global current account of West Germany's balance of payments in 1966 showed a deficit of $286 million, with an outflow of $611 million to the United States, of which the multinational corporations accounted for $466 million. By 1970, the current account had shifted favorably to show a net inflow of $322 million. Nevertheless, the United States and the MNCs still had negative influences. The net outflow to the United States decreased to $259 million but the MNCs created a deficit entry of $665 million, which implies a shift to a surplus of just over $400 million in the non-MNCs' current account transactions with the United States.

Germany's global trade surplus doubled between 1966 and 1970 (from $2,956 million to $5,837 million). Imports from the United States were larger than exports by $352 million in 1966, while the multinationals also imported more from the United States than they exported to it. By 1970, however, German exports to the United States had increased sufficiently so that the trade balance showed a surplus of $85 million; the multinationals decreased their trade deficit by almost half, to $121 million.

The services accounts showed a deficit of $2.4 billion in 1966, increasing to $4.0 billion in 1970. In 1966, transaction with the United States produced a net outflow of $229 million and the MNCs accounted for nearly all of it. As the total deficit on services account almost doubled by 1970, the United States increased its share

to $321 million with the MNCs' net services payments to the United States more than doubling to $544 million. Thus, non-MNCs shifted their balance with the United States to a net surplus of about $220 million. The sum paid by multinationals to their parent corporations in form of dividends and other earnings remittances increased from $162 million in 1966 to $458 million in 1970 and was the largest expenditure by the MNCs in the services account. In 1970 it was almost twice as high as net global German dividend payments during that year ($458 million vs. $242 million). Royalties and fees paid by the MNCs to the United States in 1966 amounted to more than half of the global total, and their value ($92 million) was almost equal to MNC exports to the United States ($101 million). However, while exports to the United States by the multinationals quadrupled by 1970, royalties and similar payments increased only about a third, to $132 million. "Other" services constituted a very significant outflow in the global services accounts, increasing from a net deficit of $1.9 billion to one of $3.5 billion during 1966-70, but the MNCs and the United States as a whole had little impact here.

Germany's capital account surplus increased from $885 million in 1966 to $1,166 million in 1970. The MNCs brought in net flows of $335 and $310 million respectively, indicating a slight slowing trend in long-term investment flows from the United States. This was especially evident in the direct investment surplus of the MNCs, which dropped sharply from $591 million in 1966 to $216 million in 1970. (The comparable figures reported by the Germans were $371 million and

$103 million.) Meanwhile, net German direct investment abroad increased considerably over the period. In 1966 the German balance of payments showed a global surplus of $553 million on direct investment account, meaning that foreigners invested that much more than Germans invested abroad. By 1970 the situation had shifted drastically, changing the surplus of more than half a billion to a deficit of $387 million, or an adverse shift amounting to $940 million.

The German global portfolio investment account remained relatively stable. In deficit both years, the balance fell slightly from $241 million to $208 million. While the shortfall vis-a-vis the United States rose from $170 million in 1966 to $220 million in 1970, the multinationals' share decreased fairly sharply from $266 million to $63 million. "Other" long-term capital flows moved globally from a surplus of $103 million in 1966 to a deficit of $3 million in 1970. While the outflow of long-term capital to the United States doubled, rising from $26 million to $55 million, the multinationals reversed a net deficit of $28 million with the United States in this account to a $49 million surplus.

The inflow of non-liquid short-term capital to Germany almost quadrupled, increasing from $470 million to $1,746 million. This, of course, was partly a small reflection of heavy flows of short-term capital which periodically have inundated West Germany for speculative reasons. The balance of payments presentations used here are not appropriate for analyzing such flows, however, and consideration of them is postponed for Chapters V and VI of this study.

The global balance on current and capital accounts showed a very significant gain, the inflow rising from $599 million in 1966 to $1,488 million in 1970. Germany's overall deficit with the United States shifted favorably from $359 million to $230 million. The multinationals, however, increased their net outflow more than threefold, from $111 million to $355 million. The global basic balance (current and long-term capital accounts), on the other hand, showed an adverse shift, from a surplus of $129 million in 1966 to a deficit of $276 million in 1970. The net outflow to the United States was significant but essentially unchanged, amounting to about $400 million in both years. Again, however, the multinationals showed a threefold increase in their net deficit, from $149 million to $463 million.

Table A-14.--Balance of Payments of Brazil, 1966

(In millions of U.S. dollars)

	World	United States 3/		Rest of World
		Sum	MNCs	
Current Account, net	74	-51	-116	125
Goods and Services, net	29	-51	-116	80
Trade, net	438	35	-58	403
Exports	1,741	600	33	1,141
Imports	-1,303	-565	-91	-738
Services, net	-409	-86	-58	-323
Royalties and Fees, net	1/	-30	-28	1/
Credit	1/	0	0	1/
Debit	1/	-30	-28	1/
Dividends, etc., net	-197	-51	-28	-146
Credit	7	8	0	-1
Debit	-204	-59	-28	-145
Other Services, net	-212	-5	-2	-177
Transfers, net	45	4/	0	45
Capital Account, net	51	224	279	-173
Long term capital, net	40	230	288	-190
Direct Investment, net	74	288	288	-214
Credit	74	286	286	-212
Debit	0	+2	+2	-2
Portfolio capital, net	3	-19	0	22
Credit	22	-19	0	3
Debit	-19	0	0	19
Other long-term capital, net	-37	-39	0	2
Credit	180	-39	0	219
Debit	-217	0	0	-217
Basic Balance (Current a/c + Long-term Capital	114	179	172	-65
Short-term private non-liquid capital, net	11	-6	-9	17
Credit	11	3	3	8
Debit	0	-9	-12	9
Balance on Current and Capital Accounts (Net Liquidity Balance) 2/	125	173	163	-48
Liquid private capital flows, net	-27	4/	4/	4/
Credit	0	4/	4/	4/
Debit	-27	4/	4/	4/
Government Transactions on Current and Capital Accounts, net	-68	180		-248
Official Reserve Transactions Balance 2/	30	4/	4/	4/
Errors and Omissions, net	-25	5/ -190	4/	5/ -165

1/ Not available. Included in "other services, Net."
2/ Excludes net errors and omissions.
3/ U.S. data with signs reversed.
4/ Not available.
5/ Includes net transfers of funds.

Sources: IMF, Balance of Payments Yearbook, vol. 23, March 1972, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-15 Balance of Payments of Brazil 1970 (Preliminary)

(In millions of U.S. dollars)

	World	United States		Rest of World
		Sum	MNCs	
Current Account, net	-500	-308	-241	-192
Goods and Services, net	-513	-308	-241	-205
Trade, net	232	-151	-131	383
Exports	2,739	670	91	2,069
Imports	-2,507	-821	-222	-1,686
Services, net	-745	-157	-110	-588
Royalties and Fees, net	1/	-31	-29	1/
Credit	1/	0	0	1/
Debit	1/	-31	-29	1/
Dividends, etc., net	-353	-113	-76	-240
Credit	49	26	0	23
Debit	-402	-139	-76	-263
Other Services, net	-392	-13	-5	-348
Transfers, net	13	5/	0	13
Capital Account, net	445	447	403	-2
Long term capital, net	332	408	336	-76
Direct Investment, net	107	337	337	-230
Credit	121	338	338	-117
Debit	-14	-1	-1	-13
Portfolio capital, net	23	1	0	22
Credit	24	2	0	22
Debit	-1	-1	0	0
Other long-term capital, net	202	70	-1	132
Credit	430	71	0	359
Debit	-228	-1	-1	-227
Basic Balance (Current a/c + Long-term Capital	-168	100	95	-268
Short-term private non-liquid capital, net	113	39	67	74
Credit	336	40	68	296
Debit	-223	-1	-1	-222
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	-55	139	162	-194
Liquid private capital flows, net	456	5/	5/	5/
Credit	484	5/	5/	5/
Debit	-28	5/	5/	5/
Government Transactions on Current and Capital Accounts, net	2/ 76	70		6
Official Reserve Transactions Balance 3/	477	5/	5/	5/
Errors and Omissions, net	38	-62	5/	5/ 100

1/ Not available. Included in "Other Services, Net."
2/ Excludes an SDR allocation of $59 million (credit).
3/ Excludes net errors and omissions.
4/ U.S. data with signs reversed.
5/ Not available.
6/ Includes net transfers of funds.

Sources: IMF Balance of Payments Yearbook, vol. 23, March 1972; Bureau of Economic Analysis, U.S. Department of Commerce.

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Commentary on tables A-14 and A-15 (Brazil)

The balance of Brazil's current account dropped sharply, from a net inflow of $74 million in 1966 to a net outflow of $500 million in 1970. The United States was a major deficit partner, accounting for an outflow of $51 million in 1966 which rose steeply to $308 million in 1970. The multinational corporations contributed heavily toward the dificit with the United States, causing outflows of $116 and $241 million respectively.

The Brazilian trade balance showed a surplus of $438 million in 1966 that decreased to $232 million in 1970. While in 1966 the United States contributed a $35 million surplus, in 1970 this had changed to a $151 million deficit. The multinationals had deficits of $58 million and $131 million respectively, in trade with the United States.

The services deficit almost doubled during the 1966-70 period, increasing from $409 to $745 million. 1/ The United States accounted for $86 million of it in 1966 and for $157 million during 1970. The multinationals' shares of that were $58 million and $110 million, respectively, mainly in payments of royalties and earnings.

The capital account responded to the rapidly growing Brazilian economy and an increase in confidence on the part of foreign investors, with surpluses that rose steeply from $51 million in 1966 to an impressive $445 million in 1970. Very significant as sources of

1/ These amounts are understated by the omission of global figures in the "royalties and fees" account, which are not available.

capital were the United States and particularly the MNCs, with the United States doubling its overall flows from $224 million to $447 million, and the MNCs investing $279 million and $403 million in the 2 respective years. Net long-term capital flows to Brazil rose greatly from $40 million in 1966 to $322 million in 1970. The United States increased its long-term capital flow from $230 million to $408 million. The MNCs on balance brought in from the United States $288 million in 1966 and $336 million in 1970. Net direct investment in Brazil increased from $74 to $107 million, with the United States (the MNCs) accounting for much more--$288 million in 1966 and $337 million in 1970. The other long-and short-term capital accounts (nonliquid) moved very favorably in the aggregate--by $361 million to a $338 million surplus in 1970. The MNCs in transactions with the United States had little important effect on these movements, however.

Both the United States and the MNCs had a positive effect on the overall Brazilian balance on current and capital accounts, which showed a global surplus of $125 million in 1966 and a deficit of $55 million in 1970. During the same years the United States contributions were inflows of $173 and $139 million respectively, with the MNCs providing a practically unchanged net surplus of slightly more than $160 million. The basic balance deteriorated globally from a $114 million surplus in 1966 to a $168 million deficit in 1970. Both the United States as a whole and the multinational corporations showed declining surpluses which accounted for part but not all of the total unfavorable swing.

Table A-16.--Balance of Payments of Mexico, 1966

(In millions of U.S. dollars)

	World	United States 4/		Rest of World
		Sum	MNCs	
Current Account, net	-310	-405	-246	95
Goods and Services, net	-305	-450	-246	145
Trade, net	-420	-432	-179	12
Exports	1,244	749	65	495
Imports 1/	-1,664	-1,181	-244	-483
Services, net	115	-18	-67	133
Royalties and Fees, net	2/	-46	-43	2/
Credit	2/	0	0	2/
Debit	2/	-46	-43	2/
Dividends, etc., net	-293	-129	-59	-164
Credit	19	25	0	-6
Debit	-312	-154	-59	-158
Other Services, net	408	157	35	297
Transfers, net	-5	45	0	-50
Capital Account, net	233	220	102	13
Long term capital, net	163	120	70	43
Direct Investment, net	82	70	70	12
Credit	82	70	70	12
Debit	0	0	0	0
Portfolio capital, net	8	22	0	-14
Credit	18	29	0	-11
Debit	-10	-7	0	-3
Other long-term capital, net	73	28	0	45
Credit	488	28	0	460
Debit	-415	0	0	-415
Basic Balance (Current a/c + Long-term Capital	-147	-285	-176	138
Short-term private non-liquid capital, net	70	100	32	-30
Credit	70	107	39	-37
Debit	0	-7	-7	7
Balance on Current and Capital Accounts (Net Liquidity Balance) 3/	-77	-185	-144	108
Liquid private capital flows, net	175	5/	5/	5/
Credit	175	5/	5/	5/
Debit	0	5/	5/	5/
Government Transactions on Current and Capital Accounts, net	51	76		-25
Official Reserve Transactions Balance 3/	149	5/	5/	5/
Errors and Omissions, net	-193	6/ 169	5/	6/ 362

1/ Imports mainly C.I.F.
2/ Not available. Included in "Other Services, Net."
3/ Excludes net errors and omissions.
4/ U.S. data with signs reversed.
5/ Not available.
6/ Indluces net transfers of funds.

Sources: IMF Balance of Payments Yearbook; Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-17.--Balance of Payments of Mexico, 1970 (provisional)

(In millions of U.S. dollars)

	World	United States 7/		Rest of World
		Sum	MNCs	
Current Account, net	-1,050	-421	-371	-629
Goods and Services, net	-1,072	-483	-371	-589
Trade, net	3/ -1,079	-483	-278	-596
Exports	1,399	1,223	71	176
Imports	-2,478	-1,706	-349	-772
Services, net	7	0	-93	7
Royalties and Fees, net	1/	-64	-59	1/
Credit	1/	0	0	1/
Debit	1/	-64	-59	1/
Dividends, etc., net	-687	-176	-88	-511
Credit	68	57	0	11
Debit	-755	-233	-88	-522
Other Services, net	694	240	54	518
Transfers, net	22	62	0	-40
Capital Account, net	452	356	425	96
Long term capital, net	454	240	325	214
Direct Investment, net	2/	320	320	2/
Credit	2/	320	320	2/
Debit	2/	0	0	2/
Portfolio capital, net	2/	-15	0	2/
Credit	2/	0	0	2/
Debit	2/	-15	0	2/
Other long-term capital, net	2/	-65	5	2/
Credit	2/	-70	0	2/
Debit	2/	5	5	2/
Basic Balance (Current a/c + Long-term Capital	-596	-181	-46	-415
Short-term private non-liquid capital, net	-2	116	100	-118
Credit	0	120	104	-120
Debit	-2	-4	-4	2
Balance on Current and Capital Accounts (Net Liquidity Balance) 6/	-598	-65	54	-533
Liquid private capital flows, net	45	2/	2/	2/
Credit	90	2/	2/	2/
Debit	-45	2/	2/	2/
Government Transactions on Current and Capital Accounts, net	5/ 247	8		239
Official Reserve Transactions Balance 6/	-296	2/	2/	2/
Errors and Omissions, net	336	4/ 281	2/	4/ 55

1/ Not available. Included in "Other Services, Net." 2/ Not available.
3/ Exports f.o.b.; imports C.I.F. 4/ Includes net transfers of funds.
5/ Excludes SDR credit of $45 million. 6/ Excludes net errors and omissions.
7/ U.S. data with signs reversed.

Sources: IMF Balance of Payments Yearbook, May 1971; Bureau of Economic Analysis, U.S. Department of Commerce.

Commentary on tables A-16 and A-17 (Mexico)

The Mexican current account in 1966 had a deficit of $310 million which increased to an even more impressive $1 billion in 1970. Much of this deficit resulted from outflows to the United States, which amounted to $405 million in 1966 and rose a little to $421 million in 1970--a lesser relative influence on the global deficit, but still a significant one. The multinational corporations also had negative effects on the current account. They showed deficits with the United States of $246 million and $371 million during the same periods. Most of the poor showing in the current account was caused by an increasingly adverse global trade balance, which rose very significantly from $420 million in 1966 to $1.1 billion in 1970. Here again, the United States contributed rather heavily with $432 million in 1966 and $483 million in 1970. The MNCs accounted for part of these shortfalls, their deficit increasing from $179 million to $278 million during the period.

The surplus in the services accounts dropped sharply, from $115 to $7 million during the 1966-70 period, with the United States accounting for a net outflow of only $18 million in 1966 and a zero balance 4 years later. The multinationals produced considerable outflows to the United States which increased from $67 million to $93 million during the period.

The capital account increased its surplus of $233 million in 1966 to $452 million in 1970. The capital flow from the United States as a whole was very substantial and increased from $220 million to $356

million during that time. However, the MNCs were the source of even faster growing net investment, which rose from $101 to $425 million during 1966-70. Most of the capital flow to Mexico came in the form of long-term investment, with a large part of it intended for direct investment. The long-term capital account increased its net surplus of $163 million in 1966 to an impressive $454 million in 1970, with the United States doubling its share from $120 million to $240 million and the MNC-related flows rising even faster--from $70 million to $325 million. As mentioned above, the largest part of long-term capital inflow was in the form of direct investment which increased from $70 million to $320 million during the 1966-70 period.

The global deficit on current and capital accounts showed great growth, from $77 million to $598 million. The United States contributed heavily toward the deficit in 1966, when the outflow to the United States reached $185 million, but by 1970, although the total deficit rose greatly, the share of the United States dropped to only $65 million. The MNCs' were the cause of a $144 million outflow in 1966, which changed to an inflow of $54 million in 1970.

The Mexican basic balance (current and long-term capital accounts) likewise showed rising deficits--$147 million and $596 million in 1966 and 1970. The United States contribution toward the deficit of this account was significant but decreasing. Although the MNCs contributed significantly toward the deficit with the United States in 1966 ($176 million) their account improved to a net outflow of only $46 million in 1970.

Appendix B

Characteristics of the Income and Investment Data Used in This Chapter

The balance of payments accounts published by the Bureau of Economic Analysis in Survey of Current Business pertaining to (1) receipts of fees and royalties on U.S. direct investments abroad, (2) receipts of interest, dividends and branch earnings on U.S. direct investments abroad, and (3) U.S. direct investment abroad are derived from regular quarterly data obtained from a sample of some 1,100 respondents having about 13,000 foreign affiliates. Flows of income on direct investments, (1) and (2) above, are then blown up to a universe estimate on the basis of a 1957 benchmark survey of U.S. direct investments abroad, while the outflow of U.S. direct investment capital is published as reported (after adding verified transactions of nonrespondents).

The data obtained by the Commission directly from the Bureau of Economic Analysis were derived from a later 1966 survey of U.S. direct investments abroad by about 3,400 U.S. firms having some 23,000 foreign affiliates. The 1966 survey data on (1), (2), and (3) above differ considerably from the corresponding balance of payments accounts published in the latest (June 1972) issue of Survey of Current Business. For the purposes of this chapter the data from the 1966 survey were used to revise the published balance of payments accounts, both for 1966 and 1970. Data for the latter year were obtained by

using the 1966 survey data as a new benchmark for estimating 1970 flows. "Growth factors" for the above three items were first computed by the Commission from the published balance of payments accounts (1970 flows divided by 1966 flows); the 1966 survey data were then multiplied by these "growth factors" to obtain estimated flows in 1970.

The net result of this procedure was a downward revision in receipts of income on U.S. direct investments abroad, and an upward revision in U.S. direct investment flows. The revisions worked in the same direction; that is, to reduce the balance of payments surplus generated by the MNCs. The net downward revision amounted to almost $1.0 billion in 1966 and $1.2 billion in 1970. Part of the downward revisions apparently resulted from the exclusion from "receipts of fees and royalties on U.S. direct investments abroad" of income derived from rentals of motion picture films and TV tapes. Such rental income, which amounted to $0.3 billion in 1966, was not included in direct investment fees and royalties prior to the revised presentation of balance of payments statistics appearing for the first time in the June 1971 issue of Survey of Current Business.

CHAPTER III

MULTINATIONAL FIRMS IN WORLD TRADE

Introduction

Two questions are presented for evaluation in this chapter, which returns to and expands upon the information uncovered about the MNCs' trade patterns in chapter II. The first of these questions concerns the impact of the MNCs on the volume and growth of world trade. Can it be said, in light of the rapidly growing presence of the U.S.-based MNCs in the world economy, that the MNCs in recent years have had a significant impact upon the size and growth of world trade flows?

The second question, because it is one of some controversy in the United States, is about the impact of the MNCs on the volume and pattern of U.S. trade, especially trade in manufactured goods. It has two parts: (1) Has MNC activity abroad led to increased U.S. imports from the MNCs' foreign affiliates--imports which have displaced U.S. domestic production; and (2) Have U.S. exports been affected adversely by competition in foreign markets from goods produced and sold by the MNCs' affiliates in foreign locations?

The plan of the chapter is as follows. After discussion of the data base used for the analysis--including a graphic outline of the principal MNC-related trade flows that have to be considered--the impact of the MNCs on world trade in the aggregate as well as trade in manufactured goods will be assessed. The several kinds of trade flows which the MNCs generate, including the key elements of intra-company trade, will then be analyzed. With this survey completed, the

final sections of the chapter will explore the question of how the MNCs have impacted upon U.S. trade, concluding with estimates of the net effects which the MNCs may have produced on U.S. trade in the 1966-70 period.

The Data Base for Trade Analysis

The MNC trade data on which this chapter is based are derived, as is the bulk of the data used in this study, from surveys made by the Bureau of Economic Analysis (BEA) of the U.S. Department of Commerce. The main surveys used covered 1966 and 1970, the former being a complete census of the "universe" of U.S. direct investors abroad and the latter a sample survey. The sample for 1970 covered 298 parent enterprises with 5,200 majority-owned foreign affiliates (MOFAs). 1/ The sample represents a large proportion of the universe; in 1966, that portion of the universe which "matches" with the firms in the 1970 sample accounted for 71 percent of all MNC-related exports and 72 percent of all MNC-related imports from or to the United States. The sample data were used to derive universe estimates for 1970 by a simple blowup procedure which increased the sample values by the ratios between the universe values and the matched sample values in the 1966 census. Individual figures thus obtained were then examined for reasonableness and, if necessary, corrected to eliminate errors (such as, for example, excessively large blowups caused by

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1/ A MOFA is defined as a foreign corporation in which a single U.S. firm (and/or its affiliates) hold a 50 percent or greater voting interest.

extremely rapid growth in a sample cell where the number of firms was not great). 1/

The report forms used in the BEA surveys were designed to collect and separate MNC trade data into specific categories suitable for identification of the major trade flows which affect the United States and for analysis of how they changed between 1966 and 1970. In broad terms, the data succeed in capturing all of the interesting elements of MNC-related exports and imports from or to the United States. They also support a reasonably complete breakdown of MOFA exports, but they are deficient with respect to MOFA imports from countries other than the U.S. In the MOFA import figures, an essential link is missing, namely the value of MOFA imports from non-U.S. sources, broken down into imports from third-country affiliates and imports from unaffiliated foreigners. Without such figures, it is not possible to estimate a matrix of MOFA trade for countries or regions outside the United States--just as it was not possible in the preceding chapter of this study (chapter II) to develop complete MNC-related balances of payments for countries other than the United States.

Aside from gaps in the actual data collected, two major classes of problems arose in preparing the data for analysis. The first of these can be termed "classification problems," and the second as "suppression problems". To some extent these difficulties apply to

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1/ Not all such errors could be corrected, of course, because if small, they could not be identified as "unreasonable". Hence, there may be some residual bias--in an upward direction--in the estimates used for 1970.

all the data used in this study as well as to the trade data at issue here, but they tended to be magnified in the trade figures because of the levels of disaggregation needed for an adequate analysis.

The classification problem arises partly because reporting parent firms and affiliates were classified according to their major industrial activity, even though they may be conglomerates or firms engaged substantially in a number of related lines of business. In any case, this type of classification procedure--which is the only option available--creates problems of relegating reported exports to single parent or affiliate "industries" when in fact these reported totals should be split among a number of industries. The net result is that MNC-generated exports as listed for an industrial classification may be excessive when compared with that industry's exports based on customs classifications.

However, an even larger source of discrepancy between MNC-related trade and trade recorded by customs classifications, while it is inherent in the data, turns out to have an economic meaning of some importance. The customs-based data (the "all exports" frequently compared with "MNC-related exports") record flows of products generic to an industry--i.e. goods produced by that industry. The MNC-related trade, however, is a record of flows of products generated by an industry. Such flows doubtlessly will include the products of that industry in major part, but they may also include capital goods; semi-finished goods or components; raw materials--or in short, anything

from the end-products of the industry to _objets d'art_ for the European executive offices. Yet this is more an opportunity than a deficiency in the data. Should the MNC-generated exports of an industry turn out to be greater than "all exports" by all firms as measured on a customs basis, the result could be an indication that the industry concerned has more importance _as a source of trade_ than the generically defined customs figures would suggest.

Much of the trade data for both 1966 and 1970 had to be suppressed by the source Agency (BEA) because of a legal obligation not to reveal the operations of individual firms. In some cases, figures that did not fall into this confidential category also had to be suppressed, according to BEA, in order not to reveal the confidential items indirectly. In cooperation with BEA, the Tariff Commission was able to reduce this problem substantially by developing a system of "range estimates" for the suppressed entries that did not reveal the actual numbers but gave a fairly close approximation to their size. In the future, it is possible that many of the figures suppressed for this study will become releasable. The Tariff Commission has been the first recipient of the data collected by BEA, and it has been involved heavily in BEA's pioneering work to put the reported information into usable form. That task, while adequate to the needs of this study, is unfinished. In its current work, BEA applies to the data a set of suppression rules which, being mechanical in their application, over-suppress much of the data. It has not yet been possible to develop more selective, flexible techniques which would satisfy the need for

confidentiality while permitting the revelation of more figures. Such techniques may come forth with time and experience in handling this unique and valuable body of information.

The elements of MNC-related trade are exceedingly complex, because meaningful analysis of the data requires detailed disaggregation according to type of affiliation between supplier and recipient. In chart I, on the following page, the various MNC-related trade flows are arranged according to the scheme in which they will be studied in this chapter. The chart serves as a useful device for describing these flows and how they connect with each other in the basic data. It also provides a quick overview of the main quantitative relationships involved in MNC-related trade.

Chart I begins on the left-hand side with a large aggregate measure suitable for comparisons with world exports, the industrial countries' exports, and similar benchmarks for global trade volume. It is the sum of all measured export flows in the world that can be defined as "MNC-related". The chart is designed to show what this definition entails. Moving to the right on the chart, the aggregate breaks into two components--MNC-related exports of U.S. origin (above), and exports of the MOFAs from other countries (below).

The chart has now broken to reveal the two principal streams of MNC-related export activity. Each can be progressively disaggregated into its components. Consider the stream represented by the linked boxes along the top of the chart, namely the flow of MNC-related exports from the United States. This large flow has two parts--goods

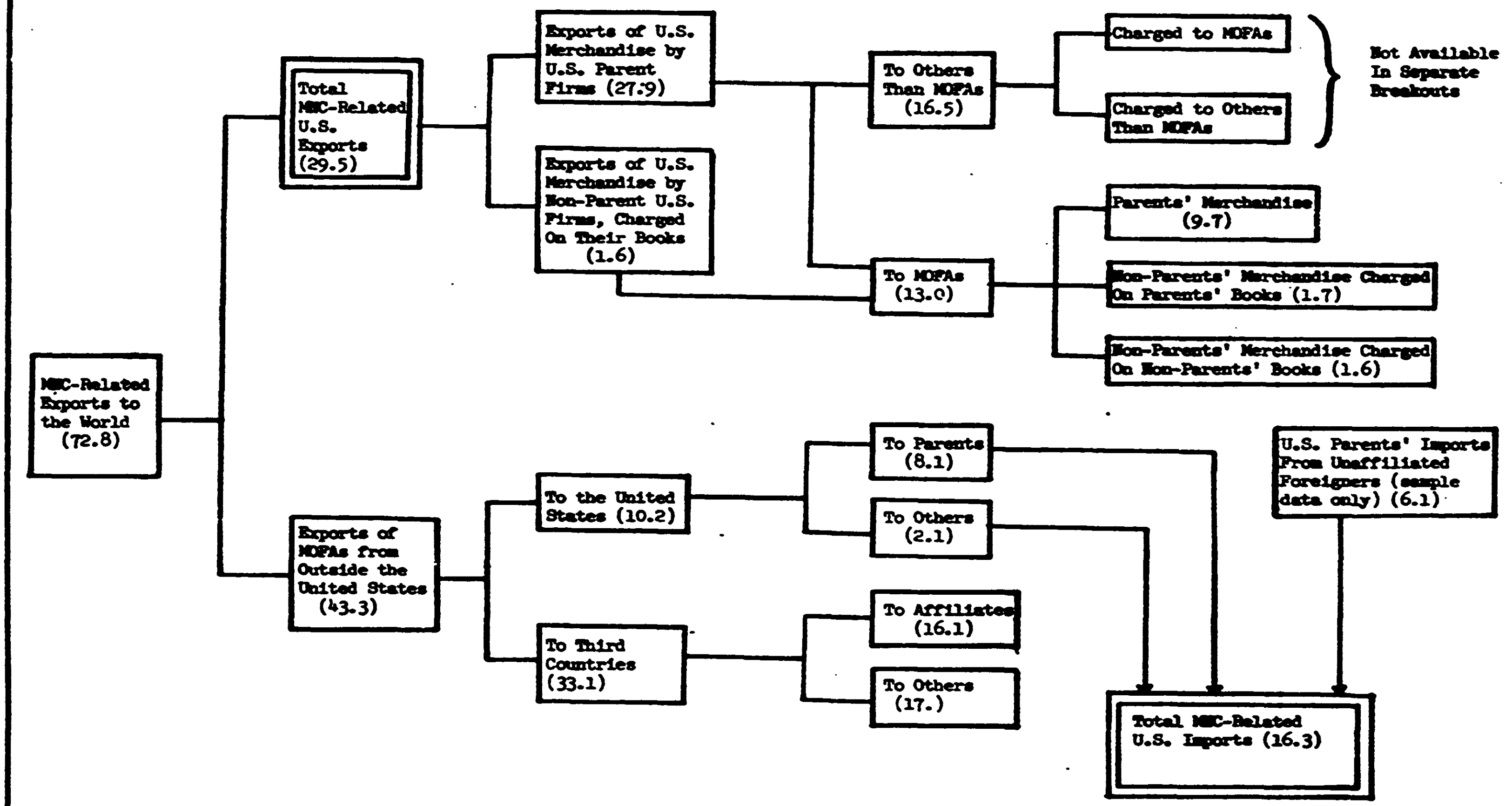
CHART I: -- THE CATEGORIES OF MNC-RELATED TRADE AS USED IN THIS STUDY
(Figures shown in each box are estimated values of 1970 trade, in billions of dollars.)
MNC-Related Exports to the World (72.8)
Total MNC-Related U.S. Exports (29.5)
Exports of U.S. Merchandise by U.S. Parent Firms (27.9)
Exports of U.S. Merchandise by Non-Parent U.S. Firms, Charged On Their Books (1.6)
To Others Than MOFAs (16.5)
To MOFAs (13.0)
Charged to MOFAs
Charged to Others Than MOFAs
Not Available In Separate Breakouts
Parents' Merchandise (9.7)
Non-Parents' Merchandise Charged On Parents' Books (1.7)
Non-Parents' Merchandise Charged On Non-Parents' Books (1.6)
Exports of MOFAs from Outside the United States (43.3)
To the United States (10.2)
To Third Countries (33.1)
To Parents (8.1)
To Others (2.1)
To Affiliates (16.1)
To Others (17.)
U.S. Parents' Imports From Unaffiliated Foreigners (sample data only) (6.1)
Total MNC-Related U.S. Imports (16.3)
Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division

shipped by MNC parent firms, which is the larger of the two, and goods shipped by non-MNCs (non-parents) to the MOFAs abroad.

Further breakdowns shown as one moves on to the right in the top half of the chart analyze MNC-related U.S. exports by affiliation of customer to shipper. Obviously, two classes of customers receive MNC-related U.S. exports: The MOFAs and other than MOFAs, the latter including minority-owned affiliates on which separate data are not available. Finally, on the extreme right of the top section of the chart, there is a series of further breakdowns for each type of customer, the purpose of these delineations being to help separate the important elements of "intrafirm" and "arm's length" trade.

Now consider the stream of exports represented on the bottom half of the chart. It begins, on the left, with one of the two main parts of world MNC-related exports, the exports of the MOFAs. These exports, clearly, must go to either of two destinations: The United States, or third countries. Moving further to the right, breakdowns of customer types for each of these destinations are completely symmetrical. The MOFAs' shipments to each destination go either to affiliated customers (parents in the U.S., other affiliates in third countries), or to non-affiliated customers ("others" in the chart).

MNC-related U.S. imports also are of interest, and these can be measured fairly well with the data available. Their total is framed in the double-line box on the lower right of chart I, and the elements which feed into this total are shown. First, picking up from the

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MOFAs' export stream, there are the MOFAs shipments (1) to their parent firms, and (2) to unaffiliated U.S. customers. Secondly, there is a flow that is unrelated to any of the MNC-generated export flows; it consists of parent firms' imports of merchandise from unaffiliated foreign suppliers. On the chart, it is shown as coming into the "U.S. imports" box from the upper right.

The various categories of trade shown in the chart can be combined in several different ways, to highlight results of particular interest. Total MNC-related U.S. trade, for example, consisted in 1970 of exports totaling $29.5 billion, imports of $16.3 billion, and a net trade surplus of $13.2 billion. Part of these totals was trade defined more narrowly as transactions between parents and their MOFAs. On the export side, this involved a total of $11.4 billion--$9.7 billion in exports of parents' merchandise and $1.7 billion in shipments of non-parent firms that were charged across the parents' books. On the import side, MOFAs sent goods worth $8.1 billion to their parents, yielding a net surplus of $3.3 billion in parent-MOFA trade in 1970. 1/

1/ Note that there is a deficiency here that can be identified but not remedied because the data are not available. Some portion of parents' shipments to buyers other than MOFAs actually was charged to the MOFAs, which probably acted in a sales-agent capacity to effect this trade. This trade is captured in the MNC-related trade totals, but not in the parent-affiliate totals. If available, it would increase the surplus observed in trade between parents and MOFAs.

Another grouping of interest is one which summarizes the amounts of MNC-related exports entering world commerce that can be identified as intra-company rather than arm's-length trade. In 1970 it consisted of the following (in billions of dollars):

Exports by U.S. parents	11.4
including:	
Parents' merchandise	9.7
Non-parents' merchandise	1.7
Exports of MOFAs	24.2
including:	
Exports to parents	8.1
Exports to affiliates not in U.S.	16.1
Total intra-company exports	35.6

The scheme of industrial disaggregation used in this chapter identifies a total of 30 individual industries or industrial subsectors. This scheme is outlined in table 1. Basic to the classification are fourteen manufacturing industries listed at the 2-digit level of the Standard Industrial Classification (SIC). Five of these groups are further subdivided into a total of 21 additional subsectors, which basically are combinations of 3-digit SIC classes. Thus, the core of the sample consists of nine "industry" classes (which are not further subdivided) and 21 "subsector" classes. In some of the data series, unavoidable suppressions required recombinations within the sample core, so that the overall level of disaggregation had to be reduced. Rarely, however, does the overall sample size drop below 24 or 25 "industry" and "subsector" groups.

The remainder of this chapter essentially is a methodical passage through the relationships revealed in chart I. The main

Table 1.--A Listing of Manufacturing Industries Whose Trade is Separately Identified In the Data Supporting This Chapter

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A. Fourteen Basic 2-digit SIC Industry Classifications

1. Food Products *
2. Paper and Allied Products
3. Chemicals and Allied Products *
4. Rubber Products
5. Primary and Fabricated Metals *
6. Machinery, except Electrical Machinery *
7. Electrical Machinery and Equipment *
8. Transportation Equipment
9. Textiles and Apparel
10. Lumber, Wood, and Furniture
11. Printing and Publishing
12. Stone, Clay, and Glass Products
13. Instruments
14. Other Manufacturing (including Ordance, Tobacco, Leather)

B. Five of the 2-digit Classes (indicated with an asterisk (*) above) are broken into 21 additional subsectors, as follows:

Food Products

1. Grain Mill Products
2. Beverages
3. Other Food Products

Chemicals and Allied Products

4. Drugs
5. Soaps and Cosmetics
6. Industrial Chemicals'
7. Plastics Materials
8. Other Chemicals

Primary and Fabricated Metals

9. Primary Metals (except aluminum)
10. Fabricated Metals (except aluminum, copper, and brass)
11. Primary and Fabricated Aluminum
12. Other Fabricated Metals

Machinery, except Electrical

13. Farm Machinery and Equipment
14. Industrial Machinery and Equipment
15. Office Machines
16. Electronic Computing Equipment
17. Other Non-electrical Machinery

Table 1.--A Listing of Manufacturing Industries Whose Trade is Separately Identified in the Data Supporting This Chapter--Cont.

Electrical Machinery and Equipment

18. Household Appliances
19. Electrical Equipment and Apparatus
20. Electronic Components, Radio, and T.V.
21. Other Electrical Machinery and Apparatus

C. Total Number of Industries Covered (excluding Basic Industries Which Are Sums of Separately Listed Subsectors): -- 30.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

objective, of course, is to uncover sufficient information to permit an evaluation of how the MNCs have impacted on world trade patterns and on the volume as well as the pattern of U.S. trade in particular.

The MNCs in World Trade: An Overview

Although the U.S.-based MNCs are important in world trade, they do not dominate it. The bulk of their output (almost 80 percent for majority-owned affiliates in manufacturing) is sold locally in the countries where it is produced. The MNCs account for about a quarter of world exports of all types of merchandise, and for roughly a fifth of world exports of manufactured goods. World exports of all goods totaled about $309 billion in 1970, of which $73 billion, or 23 percent, was accounted for by the MNCs--either through the exports of firms in the United States or through the exports of MOFAs (see table 2 and appendix tables A-1 through A-3). Between 1966 and 1970, as world trade jumped by somewhat more than half its 1966 level (i.e. by $107 billion or 53 percent), the MNCs exceeded this pace. Their global exports increased by 69 percent, or $30 billion, over the same period, and their share of total world exports inched up by two percentage points, from 21 percent to 23 percent. Thus, relative to the broadest possible aggregate measure of world exports--namely all of them--the MNCs showed some tendency to lead in world trade growth, but not an especially strong one.

Table 2.--Comparison of levels and changes in certain MNC and non-MNC trade aggregates, 1966-1970

(Values in billions of dollars)

	Value in 1970	Change, 1966-1970	
		Amount	Percent
<u>Exports of all merchandise</u>			
World exports	309.2	107.4	53
MNC-related exports	72.8	29.8	69
Non-MNC exports	231.9	78.9	52
<u>Exports of manufactured goods</u>			
World exports	201.4	79.4	65
OECD exports	176.2	68.5	63
MNC-related exports	38.8	16.2	73
Non-MNC exports	162.6	63.2	63
<u>Breakdown of MNC-related exports of manufactured goods</u>			
Exports from U.S.	21.7	8.0	59
to MOFAs	8.8	3.5	62
to others	12.9	4.5	53
Exports by MOFAs	17.0	8.2	93
to parents in U.S.	4.8	2.6	120
to affiliates in third countries	6.0	2.7	81
to unaffiliated buyers in third countries and U.S.	6.2	2.9	86

Sources: Tables A-1 through A-4 in appendix to this chapter.

A similar conclusion emerges from a look at MNC-related exports of manufactured goods as compared with world exports of similar items. In general, world trade in manufactures grew faster in the 1966-70 period than did trade in non-manufactures and total trade (see table 2). Global shipments of industrial products increased by $79 billion, or 65 percent, over the period. By contrast, MNC-related exports of manufactured goods rose faster--by 73 percent or $16.2 billion. Yet their share of global exports of manufactures increased only marginally. By 1970, MNC-related exports reached $39 billion, or 19 percent of the global total of $201 billion, up only a single percentage point from their 18 percent share of 1966.

MNC-related exports of non-manufactured goods, which increased by 66 percent between 1966 and 1970, lagged behind MNC exports of manufactures. However, the growth of world exports of non-manufactured items, at 35 percent, was even less dynamic, with the result that the MNCs emerge as accounting for nearly half (48 percent) of the global expansion, as compared with a fifth (20 percent) of the global rise in manufactured products trade. The MNCs' shares of the non-manufactured goods aggregates in 1966 and 1970 were 25 percent and 31 percent, respectively. Yet, this increasing MNC weight in the non-manufactured goods sector of world exports relates more to the comparative weakness of world trade in such goods than to any really rapid expansion on the MNCs' part. The MNCs, in other words, were responsible for a growing piece of a pie that was shrinking (from 39 percent to 34 percent) as a proportion of total world trade in all products.

Table 2 also provides a breakdown of MNC-related trade in manufactured goods into its major components. It shows that the growth of MNC-related trade in the aggregate was dampened quite considerably by the relatively slow growth of U.S.-sourced MNC exports to unrelated purchasers. Parents' exports to MOFAs, however, expanded almost as fast as did global trade in manufactures. Nevertheless, the exports of MOFAs clearly represent the fastest-growing segment of MNC-related trade. Led by MOFA exports to parent firms, all the categories of MOFA exports grew considerably faster than any of the other trade flows recorded in the table. Yet MOFA exports of manufactures still represent a rather small share of world trade in manufactures--8 percent--so that their relatively rapid growth did not produce much impact on total world trade in industrial goods. It represented ten percent of the total growth in the global figure, and produced only a marginal increase in the MOFAs' share in the global total, a single-point rise from 7 percent in 1966.

In sum, MNC-related exports emerge from this analysis as definitely a dynamic force in world trade, especially with respect to the rising exports of manufactured goods by the MOFAs. However, the MNCs cannot be said to have "led" the growth of aggregate world trade in any significant way. In the second half of the 1960's the MNCs showed evidence of increasing their weight in total world trade, but at a rate sufficiently modest to indicate that MNC dominance of the world trade scene is an event to be expected rather far in the future.

The MNCs' Impact on OECD Area Exports of Manufactures

As this and subsequent sections of this chapter will show, a full and accurate view of the MNCs' role in international trade depends heavily on understanding the impact of the MNCs as traders in particular industries. Because the incidence of MNC activity varies widely among industries, it is important to assess the influence of MNC trade in manufactured goods on an industry-by-industry basis.

Sufficiently disaggregated all-firm trade data (on definitions suitable to this study) are not available for world trade in manufactured goods. Therefore, the field of comparison must be narrowed slightly, to cover the trade of the nineteen-country area embraced by the membership of the Organization for Economic Cooperation and Development (OECD). No great sacrifice of coverage is involved. OECD-origin exports of manufactures, as table 1 indicates, account for the bulk (almost 90 percent) of the global total--and the area also is the origin of practically all (97 percent) of world MNC-related exports. Detailed comparisons of all-OECD exports and MNC-related exports from the area in 1966 and 1970, plus related growth comparisons, are presented in tables A-3 through A-5 in the appendix to this chapter. Some of the key information from them is summarized in table 3, on the following page.

Table 3.--A summary of the MNCs' impact on OECD exports of manufactured goods

Industry	Total OECD exports, all firms, 1970 (Million dollars)	MNC-related exports from OECD area 1970 (Million dollars)	Percent shares of total OECD exports: All MNC-related exports from OECD area	Percent shares of total OECD exports: MNC-related U.S. exports	Percent shares of total OECD exports: Exports of MOFAs in OECD area	Percentage changes, 1966-70: Total OECD exports	Percentage changes, 1966-70: All MNC-related exports from OECD area	Percentage changes, 1966-70: MNC-related U.S. exports	Percentage changes, 1966-70: Exports of MOFAs in OECD area
All manufacturing	176,209	37,463	21	12	9	64	72	59	95
Food products	6,457	1,689	26	16	10	37	53	44	73
Grain mill products	818	374	46	28	18	22	30	3	123
Beverages	1,820	123	7	3	4	45	28	45	16
Combinations and other	3,819	1,192	31	20	11	37	66	62	72
Paper and allied products	6,544	1,368	31	9	12	52	48	47	49
Chemicals and allied products	18,855	4,238	22	12	10	61	48	20	110
Drugs	2,448	733	30	15	15	70	96	54	166
Soaps and cosmetics	791	309	39	16	23	60	63	26	108
Industrial chemicals	7,018	1,671	24	17	7	61	57	32	205
Plastics materials	3,878	828	21	8	13	88	64	19	113
Combinations and other	4,720	697	15	7	8	41	- 4	- 25	27
Rubber	3,092	652	21	12	9	64	42	24	77
Primary and fabricated metals	26,322	2,976	11	8	3	67	104	96	134
Primary (except aluminum)	16,015	1,157	7	6	1	81	117	99	331
Fabricated metals and primary aluminum	10,307	1,819	18	12	5	49	97	94	104
Machinery, except electrical	33,049	6,694	20	11	9	64	52	45	62
Farm machinery and equipment	2,143	732	34	18	16	17	- 2	2	- 7
Office machines	2,727	844	31	21	10	128	109	215	21
Electronic computing equipment	1,391	1,057	76	29	47	113	18	35	10
Industrial machinery and other	26,788	4,061	15	9	6	62	72	39	170
Electrical machinery	15,401	3,113	20	13	7	80	53	43	80
Household appliances	1,313	311	24	12	12	61	29	74	2
Electrical equipment and apparatus	4,070	1,224	30	24	6	62	49	31	228
Electronic components, radio and T.V.	5,833	1,126	19	13	7	104	66	44	135
Other	4,185	452	11	5	6	75	57	99	36
Transportation equipment	28,941	12,262	42	23	19	86	90	78	107
Textiles and apparel	14,151	493	3	2	2	46	177	97	361
Lumber, wood, and furniture	3,491	643	18	10	8	51	230	759	89
Printing and publishing	1,490	283	19	10	9	44	93	53	162
Stone, clay and glass	3,160	549	17	8	9	55	57	28	100
Instruments	5,172	1,591	31	16	14	67	112	103	124
Other manufacturing	10,084	912	9	6	3	45	88	53	283

Source: Tables A-3-A-5 in appendix to this chapter.

U.S. MNCs and their MOFAs accounted for a fifth of total OECD exports at the all-manufacturing level in both 1966 and 1970. In 1966, their combined exports amounted to $21.8 billion, 63 percent of which were goods of U.S. origin. By 1970, MNC-related OECD exports were up to $37.5 billion, but the contribution of U.S. firms' domestic exports had dropped to 58 percent. The absolute increase in MOFA exports ($7.7 billion) was almost equal to the $8 billion increase in U.S.-origin MNC exports--but the growth rates were sharply different in the two cases. MOFA exports shot up by 95 percent during the period, and this was more than enough to offset the slower increase (59 percent) in MNC-related U.S. exports, and to produce an overall growth rate for MNC-related OECD exports 1/ (72 percent) that exceeded the average for all firms in the OECD area (64 percent).

Two industries together generated half of all MNC-related OECD exports in both 1966 and 1970, although these industries account for only about a third of all OECD industrial exports. These were the transportation equipment industry (automotive products) and the non-electrical machinery industry. The former, with MNC-related exports of $12.3 billion in 1970, is by far the larger of the two; MNC-related exports of non-electrical machinery in 1970 were only $6.7 billion.

The strongest MNC impact at the subsector level is in the electronic computing equipment industry. Here, the data show (see appendix table A-3) the first recorded instance so far in this chapter

1/ Throughout this chapter, only U.S.-based MNCs are discussed. No data are available for exports of foreign-owned MNCs.

of MNC-generated shipments which exceed total OECD exports of goods generic to an industry; in 1966, exports shipments of the end-products of this industry from OECD countries totaled $654 million, whereas the MNCs reported total exports of $893 million--137 percent of the all-OECD total. In this case, the discrepancy probably arises mainly from a misclassification of the MNC-related trade data. IBM, whose principal business is computers, also is a heavy exporter of typewriters and other office machines; some of its exports should be listed under that heading, but are not. However, the MNCs' heavy impact on trade in this sector is not open to doubt. The U.S.-based MNCs clearly dominate this industry, worldwide. In 1970, their reported exports had risen to $1,057 million, or 76 percent of the OECD total shown for the industry.

In nine other industries, MNC-related trade represented relatively significant shares of the OECD totals in 1970--30 percent or more. These industries and their shares were as follows:

Industry	Share
Grain Mill Products	46%
Transportation Equipment	42%
Soaps and Cosmetics	39%
Farm Machinery and Equipment	34%
Other Food Products (except beverages)	31%
Instruments	31%
Drugs	30%
Electrical Equipment and Apparatus	30%

In twelve other industries, the shares of the MNCs in total OECD-origin exports were moderate--15 percent to 24 percent, or roughly within the range of the all-manufacturing average of 21 percent. These industries were:

Industrial Chemicals	24%
Household Appliances	24%
Paper and Allied Products	21%
Plastics Materials	21%
Rubber Products	21%
Electronics Components, Radio, T.V.	19%
Printing and Publishing	19%
Fabricated Metals (incl. primary aluminum)	18%
Lumber, Wood, and Furniture	18%
Stone, Clay, and Glass Products	17%
Miscellaneous Chemicals	15%
Industrial and Miscellaneous Machinery	15%

Finally, five industries brought up the rear with shares of 11 percent or less in total OECD exports:

Miscellaneous Eletrical Machinery	11%
Miscellaneous Manufacturing (including Ordnance, Tobacco, and Leather Products)	9%
Beverages	7%
Primary Metals (except Aluminum)	7%
Textiles and Apparel	3%

The degree to which MNC-generated trade gained ground or lost it relative to the levels of OECD-wide exports in each industry also varied considerably over the 1966-70 period. There were gains in some thirteen industries, which in 1970 accounted for 69 percent ($25.8 billion) of total MNC-generated exports and 15 percent of overall OECD exports of manufactures. There were losses in twelve industries--but these industries were much less significant in terms of total trade, accounting for only 26 percent of the MNC-generated total and 5 percent of the all-OECD total. In the two remaining industries, there was no change in share. The 27 industries covered by the data are listed below, along with the changes observed in the MNCs' shares of all-OECD exports in each industry.

	Increase or Decrease, in Percentage Points
Industries with increased shares:	
Lumber, wood, and furniture	10
Instruments	6
Food products (except grain mill products and beverages)	6
Fabricated metals and primary aluminum	5
Printing and publishing	5
Drugs	4
Grain mill products	3
Miscellaneous manufacturing (including ordnance, tobacco, and leather)	3
Soaps and cosmetics	1
Primary metals (except aluminum)	1
Industrial and miscellaneous machinery	1
Transportation equipment	1
Textiles and apparel	1
Industries with no change in shares:	
Industrial chemicals	0
Stone, clay, and glass products	0
Industries with decreased shares:	
Beverages	- 1
Paper and allied products	- 1
Miscellaneous electrical machinery	- 1
Office machines	- 3
Rubber products	- 3
Electrical equipment and apparatus	- 3
Plastics materials	- 4
Electronic components, radio, and T.V.	- 5
Miscellaneous chemicals	- 7
Farm machinery and equipment	- 7
Household appliances	-13
Electronic computing equipment	-61*

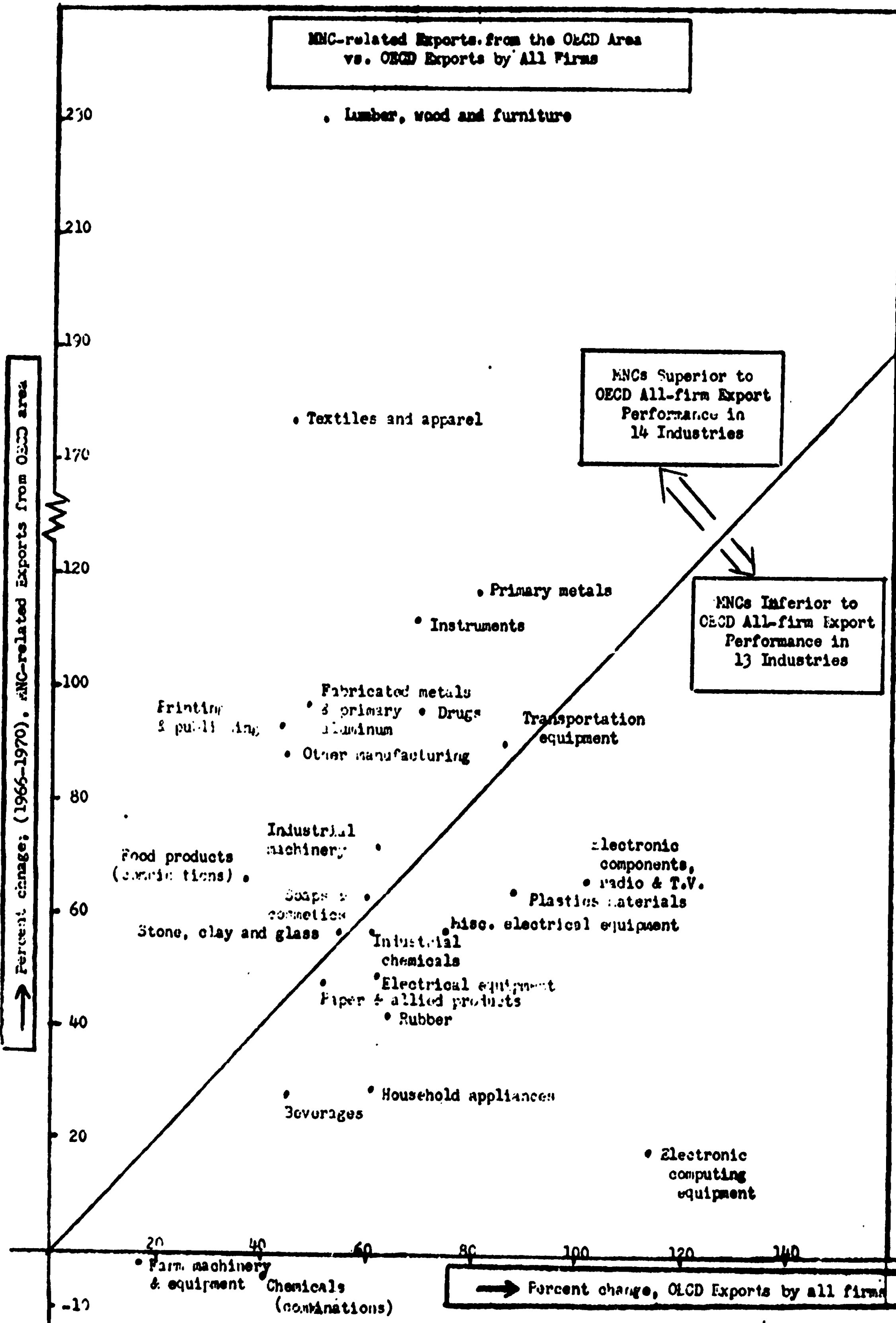
* See comment, pages

The foregoing figures suggest that, in roughly half of the industries covered, which account for most MNC-generated exports, the MNCs performed well in comparison with all-OECD exports. Actually,

this "change-in shares" test is a rather strict one in many industries, if not most of them, in the following sense: Inasmuch as the MNCs in only one industry (computers) ever have accounted for more than half of all-OECD exports, it follows that, for all the others, the growth rates of MNC-related trade must be rather high in order for the MNCs to hold their respective shares of the OECD totals or to increase them, inasmuch as the OECD totals rose in every case. Hence, a comparison of growth rates can serve as a useful device for separating the high-performance MNCs from those with a lesser impact on the OECD trade aggregates.

Such a comparison is made in chart II, where percentage changes in MNC-generated exports for each industry are plotted against the all-OECD changes. In this formulation, plots which fall above and to the left of the 45-degree line on the chart are indicators of MNC growth that was faster than the all-OECD export growth. Similarly, plots below and to the right of the 45-degree line indicate slower MNC export growth than all-OECD export growth.

On the chart, the 27 industries are almost evenly divided between those in which MNC-related export growth exceeded all-OECD export growth, and those in which MNC-generated shipments showed inferior growth. This is broadly the same result as that visible from the change-in-shares lists, except that one of the industries with a zero share change (stone, clay, and glass products) has slipped over the line to appear as a superior performer, while the other (industrial chemicals) has slipped into the inferior category. The chart also



Source: Table A-5 in appendix to this chapter.

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puts a different perspective on the performance of other industries. Consider the textiles and apparel industry, for example. The MNCs in this industry showed a rather modest increase of one percentage point in their share of all-OECD exports, yet on the chart they stand out as superior growth performers. The reasons for this difference in the two standards of performance lie in the rather small size of MNC-related exports, on the one hand, and the rather large size of all-OECD exports on the other. This industry is both large and beset with problems in all the industrial countries; hence, its overall exports are big ($14.2 billion) but they grow slowly. However, a few of the larger U.S. firms in this industry are thoroughly viable and able to make successful foreign direct investments. They represent a small proportion of the industry as a whole, and their MNC-generated exports (half of which are U.S.-origin goods) have been able to grow considerably faster than those of the industry as a whole. However, such exports were just under $500 million in 1970, despite a nearly 2-fold increase of $315 million ($120 million in new U.S. exports) over the period. All-OECD exports of textiles and apparel rose by only 8 percent--but this amounted to $4.5 billion in absolute terms, and it dwarfed the much faster increase in MNC-related trade.

The foregoing observations point up in exaggerated form a basic fact about MNC-related trade in almost all industries. Because the MNCs account for relatively small proportions of total OECD trade in most industries--which is virtually equivalent to world trade in them--even those whose trade is growing the fastest cannot be characterized

as export leaders. Among the 27 industries covered by the data presented in this section, there was only one case--grain mill products, with total MNC-generated exports in 1970 of only $374 million--in which MNC-related trade growth amounted to more than half (58 percent) of all-OECD export growth. In all the others, the MNCs' share was under 50 percent and therefore not dominant. There were seven other industries in which the MNCs' shares of total export growth ranged from 30 percent to 45 percent, but in the rest not even those levels were reached.

The MNCs' total foreign sales of manufactured goods 1/, plus MNC-related U.S. exports in 1970, reached $93.8 billion, which was slightly more than half the level of aggregate OECD exports of manufactures. Yet only about 40 percent of these sales entered world commerce from the OECD countries, the rest being sold in the MOFAs' local markets. Of the MOFAs' sales alone, only about a fifth entered into export trade. Thus, it has to be stressed that most of the MNCs' activity overseas consists of local production for local markets. As traders, the MNCs do not show their heavy weight, because their operations are basically market-oriented and "markets", for them, are local markets rather than export markets either in the United States or abroad.

1/ Including local and export sales of MOFAs, but excluding sales of minority-owned foreign affiliates (MINOFAs).

The Origin of MNC-Related Exports: U.S. Goods vs. MOFA Exports

In the preceding section (page), it was pointed out briefly that, with respect to all exports of manufactured goods originating from MNCs in the OECD area, the shares of the MOFAs increased between 1966 and 1970, at the expense of the trade accounted for by MNC-related goods of U.S. origin. This section returns to that point and elaborates on it. Because comparisons with all-firm aggregates are not at issue here, the analysis also can leave the OECD area behind and return to an examination of the worldwide exports of the U.S.-based MNCs and their MOFAs. Only manufacturing industries are considered; as used hereafter, the term "MNC-related (or MNC-generated) exports" will be synonymous with "MNC-related exports of manufacturing industries".

The data supporting this section may be found in detail in table A-6 in the appendix to this chapter. The more important portions of this table are abstracted and reworked in table 4, on the following page. Industries shown in table 4 are arranged in descending order of the shares of U.S.-origin goods in total MNC-related exports, for each of the basic 2-digit (SIC) industries in 1970. Subsector data also are shown, ranked within the main sector headings by the 1970 shares of U.S. goods. 1/

U.S. products accounted for 61 percent of all MNC-related exports in 1966. Although MNC-related exports from the United States were 59 percent greater in 1970, their share of total MNC-related exports was

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1/ See pp. 275-8 for a description of the industrial sector and sub-sector divisions used in this chapter.

Table 4.--Summary of the distribution of worldwide MNC-related exports between goods of U.S. origin and MOFA exports, 1966-70

Industry	Percentages of total MNC-related exports				Values of MNC-related trade in 1970 (millions of dollars)			Total MNC-related trade as percent of all manufacturing total exports	MNC trade in subsectors as percent of basic sector total
	U.S. goods		MOFA exports		Total	U.S. goods	MOFA exports		
	1970	1966	1970	1966					
All manufacturing	56	61	44	39	38,753	21,718	17,035	100	-
Primary and fabricated metals	71	74	29	26	3,130	2,237	893	8	100
Primary and fabricated aluminum	84	80	16	20	744	627	117	2	24
Primary metals (except aluminum)	80	81	20	19	1,224	976	248	3	39
Other metal products	80	50	20	50	107	80	27	negl.	3
Fabricated metals (except aluminum, copper, and brass)	53	65	47	35	1,055	554	501	3	34
Miscellaneous manufacturing (including ordnance, leather, and tobacco)	67	81	33	19	931	625	306	3	-
Electrical machinery	62	70	38	30	3,343	2,060	1,283	8	100
Electrical equipment and apparatus	77	81	23	9	1,267	978	289	3	38
Electronic components, radio, T.V.	56	72	44	28	1,309	734	575	3	39
Household appliances	50	36	50	64	311	157	154	1	9
Other electrical machinery and equipment	42	33	58	67	456	191	265	1	14
Food products	59	53	41	47	1,790	1,062	728	5	100
Miscellaneous food products	67	48	33	52	1,096	737	359	3	61
Grain mill products	59	70	41	30	385	227	158	1	22
Beverages	45	40	55	60	129	58	71	negl.	7
Combination firms 1/	22	49	78	51	180	40	140	1	10
Non-electrical machinery	56	59	44	41	6,796	3,795	3,001	17	100
Office machines	67	45	33	55	863	576	287	2	13
Miscellaneous non-electrical machinery	61	73	39	27	1,203	734	469	3	18
Industrial machinery and equipment	58	73	42	27	2,903	1,694	1,209	7	43
Farm machinery and equipment	53	51	47	49	742	392	350	2	11
Electronic computing equipment	37	33	23	27	1,085	399	686	3	15
Rubber products	55	65	45	35	694	383	311	2	-
Transportation equipment	54	58	46	42	12,398	6,750	5,648	32	-

Table 4.--Summary of the distribution of worldwide MNC-related exports between goods of U.S. origin and MOFA exports, 1966-70--Cont.

Industry	Percentages of total MNC-related exports: U.S. goods 1970	U.S. goods 1966	MOFA exports 1970	MOFA exports 1966	Values of MNC-related trade in 1970 (millions of dollars): Total	U.S. goods	MOFA exports	Total MNC-related trade as percent of all manufacturing total exports	MNC trade in subsectors as percent of basic sector total
Instruments	53	54	47	46	1,615	848	767	4	-
Chemicals and allied products	52	66	48	34	4,512	2,342	2,170	12	100
Industrial chemicals	68	83	42	17	1,749	1,198	551	5	39
Miscellaneous chemicals	57	68	43	32	388	221	167	1	9
Drugs	44	57	56	43	822	361	461	2	18
Soaps and cosmetics	40	53	60	47	322	130	192	1	7
Plastics materials	37	52	63	48	859	318	541	2	19
Combination firms 1/	31	37	69	63	372	114	258	1	8
Lumber, wood, and furniture	49	20	51	80	724	352	372	2	-
Textiles and apparel	47	61	53	39	523	244	279	1	-
Stone, clay, and glass products	46	59	54	41	576	267	309	1	-
Printing and publishing	45	60	55	40	317	144	173	1	-
Paper and allied products	43	44	57	56	1,404	609	745	4	-

"negl." = Negligible; less than 0.5%.

1/ "Combinations" are firms producing several product lines within a given basic sector.

Sources: Table A- 6 in appendix to this chapter.

4 percent less. In value terms, products of U.S. origin contributed $13.7 billion of the 1966 MNC-related total of $22.5 billion. The U.S.-origin share was $21.7 billion of the $38.8 billion total for 1970.

Exports by MOFAs, $8.8 billion in 1966, had almost doubled by 1970, reaching a level of $17 billion. In all but two basic industries, MNC-related exports of U.S. goods accounted for a smaller share and exports by MOFAs for a larger share of the total in 1970 than in 1966. The two industries which improved their performance--food products and wood products--are insignificant; in 1970, they accounted for only 6 percent and 7 percent, respectively, of total MNC-generated exports and U.S.-origin shipments.

In the twelve basic industrial sectors in which the shares of U.S. firms in total MNC-generated exports fell, the incidence of the various declines was not equally great for all sectors. Several of them account for relatively small amounts of MNC-related U.S. export trade, so that a shift in shares as between U.S. firms and MOFAs for them does not have as large an impact on total MNC-related exports of U.S.-origin goods as that felt in the industries where the MNCs' export trade from the U.S. is more important. In those industries where the impact was great--i.e. the industries in which MNC-related U.S. exports are large--more detailed information on developments in sub-sectors of those industries is available (the exception is the transportation equipment industry which, in the MNC context, covers automotive products almost exclusively and therefore needs no further break-

down). The paragraphs which follow will discuss in detail the five most important industries in which the shares of U.S.-origin goods fell relative to worldwide MNC-related exports. These five industries account for over three quarters of all MNC-related exports of U.S. origin, with the remaining seven each having small shares, as the following tabulation indicates:

Industries in which the shares of U.S.-origin goods fell between 1966 and 1970	MNC-related, U.S.-Origin Exports, 1970	
	Amount (million dollars)	Percent of Total
1. Transportation equipment	6,750	31
2. Non-electrical machinery	3,795	17
3. Chemicals and allied products	2,342	11
4. Primary and fabricated metals	2,237	10
5. Electrical machinery	2,060	9
6. Instruments	848	4
7. Miscellaneous manufacturing (including ordnance, leather goods, and tobacco)	625	3
8. Paper and allied products	609	3
9. Rubber products	383	2
10. Stone, clay, and glass products	267	1
11. Textiles and apparel	244	1
12. Printing and publishing	144	1

Transportation equipment

This industry is by far the largest contributor to total MNC-related exports of manufactured products, and to the U.S.-origin segment to that total. The relative shares of U.S. products and MOFA exports in the total for the industry shifted adversely for U.S. shippers by four percentage points (from 46 percent to 42 percent) between 1966 and 1970. Had they retained their 1966 share, U.S. firms engaging in MNC-related exports would have sent abroad products worth about $500 million more than those actually shipped in 1970. Total MNC-related exports rose over the period by $5.9 billion, to a level

of $12.4 billion. The absolute increase in MNC-related exports of U.S. goods was $2.9 billion, almost exactly the same as that of MOFA exports.

Increasing two-way trade in automotive products across the United States' northern border--as a result of the automotive trade agreement (APTA) of 1965 with Canada--played a highly important role in these developments. While it has led to large increases in both exports to and imports from the U.S., the latter have been much smaller, the result being a considerable adverse shift in the United States' balance of trade with Canada. Because they dominate the auto industries of both countries, the U.S.-based MNCs have contributed importantly to this shift.

MNC-related U.S. exports of automotive products to Canada rose by $1,689 million between 1966 and 1970. At the same time, Canadian MOFA exports to the United States increased by $1,814 million. These shifts, in fact, were sufficient to account for virtually the entire "loss" of U.S.-origin goods' share of worldwide MNC-generated trade in this industry. If the bilateral flows for the U.S. and Canada are excluded from the data on trade in transportation equipment for both years under review, the proportion of the worldwide total accounted for by U.S. goods turns out to have been 54 percent in <u>both</u> years. The following tabulation illustrates this conclusion (amounts in millions of dollars):

	1966	1970	Change
U.S.-origin MNC exports to world----------	3,782	6,750	2,968
Less: U.S.-origin MNC exports to Canada--------------------------------------	-1,707	-3,396	-1,689
U.S.-origin MNC exports to world, excluding Canada------------------------	2,075	3,354	+1,279
(percent of total on bottom line)-------	(54%)	(54%)	(54%)
MOFA exports, world wide-----------------	2,718	5,648	+2,930
Less: Canadian MOFA exports to U.S.-----	-954	-2,768	-1,814
MOFA exports, worldwide, excluding Canada------------------------------------	1,764	2,880	1,116
(percent of total on bottom line)-------	(46%)	(46%)	(46%)
Total MNC-related exports, world wide----	3,839	6,234	+2,395

Non-electrical machinery

Although the share of MNC-related exports originating from U.S. firms in this industry fell by only 3 percent, the share of U.S. firms in total MNC-related exports of the industrial machinery and equipment subsector dropped from 73 percent in 1966 to 58 percent in 1970--and this subsector accounts for 43 percent of worldwide MNC trade in its basic industry. MNC-related exports from the United States and by MOFAs both increased in the subsector, but the MOFAs' shipments shot up 164 percent compared to a rise of only 34 percent for MNC-related exports by U.S. firms. A similar but somewhat weaker shift occurred in the "miscellaneous" subsector, which accounts for 18 percent of the MNCs' worldwide exports of non-electrical machinery. By contrast, in the same basic industry group, U.S. products of the office machines, farm machinery, and electronic computer equipment subsectors increased their shares of total MNC-related exports. The U.S. firms' share in office machines climbed from 45 percent to 67 percent. Their share in the farm machinery industry rose by two points (from 51 percent to 53 percent); and in the computer equipment industry the U.S. firms

boosted their share of MNC-related exports by four percentage points (from 33 percent to 37 percent). These three subsectors , however, contribute only 39 percent of the basic non-electrical machinery industry's worldwide MNC-related exports.

Chemicals

The MNC-related export share of U.S. firms of the chemical industry fell more than in any other basic industry, from 66 percent in 1966 to 52 percent in 1970. In absolute terms, MOFA exports increased $1.2 billion compared to a $386 million rise in the MNC-related exports of U.S. firms. U.S. firms in the industrial chemicals subsectors saw their collective share fall from 83 percent (1966) to 67 percent (1970). U.S. firms in the drug subsector and in the soap and cosmetics industry also saw their respective shares decrease, as did U.S. firms in the plastics industry, whose share dropped 15 points. MOFA exports in the latter subsector increased $293 million whereas MNC-related exports by U.S. firms were up by only $51 million. In short, the export performance of the MNC-related portion of the U.S. chemicals industry was uniformly adverse, relative to the MOFAs' experience, throughout all subsectors listed.

Metals

The share of U.S. products in worldwide MNC-related exports of the primary and fabricated metals industry fell by three points between 1966 and 1970, from 74 percent to 71 percent. Among the subsectors listed for the industry, the performance of U.S.-origin exports by the MNCs was mixed, although adverse on the whole. The shares of U.S. products exported by the MNCs fell in two subsectors--primary metals

(excluding aluminum) and fabricated items (mainly of ferrous metals)--which together account for 73 percent of worldwide MNC-related exports in the basic industry. Most of the drop occurred in fabricated metals exports from the United States. This was more than enough to offset fairly substantial gains in the shares of the two remaining subsectors listed--aluminum (primary and fabricated), and miscellaneous metal products.

Conclusions

The data introduced in this section have pointed up two basic facts. First, the MNC-related exports of both U.S. goods and MOFA output grew substantially over the 1966-70 period; the latter outstripped the former almost uniformly across the spectrum of basic manufacturing industries considered here. Second, however, descent to the subsector level indicates that narrower definitions of "industry" produce clearer differentiations between industries which saw U.S.-origin products losing shares of worldwide MNC-generated trade and those which experienced gains in the shares of U.S.-origin MNC exports. In one case (automotive products) it was shown that all of the loss in share suffered by U.S. goods arose in trade with one country (Canada) as a result of a government-negotiated trade agreement. This, of course, had little connection with underlying patterns of MNC-related trade; the MNCs merely responded to it. The declining shares emerged in subsectors commanding relatively large fractions of total MNC-related exports, so that the subsectors with rising shares did not have a quantitative impact large enough to reverse the basic pattern of decline at the basic industry and all-manufacturing levels.

This evidence could be taken as suggesting that the fortunes of U.S. trade have suffered at the hands of the multinational firms. Such a conclusion, however, would be premature. The evidence suggests only that MOFA exports have generally risen faster than MNC-generated, U.S.-origin exports. It may be that, compared with exports from the United States of non-MNC firms, outbound shipments of the MNCs have led--or at least kept up with--the pace. The influence of the MNCs on U.S. imports, especially imports from affiliates abroad, also should be studied. Furthermore, a more exacting analysis of the competitive effects of MOFA trade on U.S. exports in general, as well as an examination of intra-MNC trade, are required. All of these questions will be taken up in succeeding sections of this chapter, whence it will be possible to come to more definite conclusions about the impact of the MNCs on the volume and pattern of U.S. trade.

The Distribution of MNC-Related U.S. Exports, by Affiliation of Customer to Shipper

One of the main problems encountered in analysis of the roles of the MNCs in foreign trade revolves around the fact that the U.S.-based MNCs happen to be not only the economy's direct investors abroad (by definition) but also (by historical precedent) its principal foreign traders. When their foreign direct investments were made, their traditional export/import functions did not stop. These firms have continued to trade heavily--at arm's length--with unaffiliated foreign suppliers and customers, at the same time that new forms and amounts of trade specifically associated with their international

direct investment operations have come to overlay the traditional export/import functions.

So far in this chapter, all exports by or through the MNCs in the U.S. have been considered in a lump. It is appropriate at this point to divide them into two major categories: (1) exports to MOFAs, and (2) exports to unaffiliated customers. This is done in tables A-7 through A-9 in the appendix to this chapter.

The simple observation that is clear from these data is that MNC-related exports of unaffiliated foreigners continue to play the dominant role for the MNCs, although many if not most of them probably depend at least in part on the presence of the MOFAs abroad as sales and/or service affiliates in addition to their manufacturing operations. In 1970, 59 percent of all reported MNC-related exports of U.S. goods went to unaffiliated foreigners, as against the 41 percent destined for MOFAs. This represented only a marginal change in shares in comparison with those of 1966--61 percent and 39 percent, respectively. Of the total increase in MNC-related U.S. exports during the four years ($8 billion), new exports to MOFAs absorbed 44 percent and those to unaffiliated firms took 56 percent. Almost all (95 percent) of the MNC-generated exports of U.S. origin are shipped by parent MNCs.

The performances of individual industries (viewed at the subsector level) tended to cluster fairly tightly around the all-manufacturing averages for the shares of MNC-generated U.S. exports sent to the two types of customers. In 1970, sixteen industries accounting for 64 percent of total MNC-related U.S. exports sent proportions ranging from 50 percent to 71 percent of the MNC-generated shipments to unaffili-

ated customers. Only five industries, which accounted for 20 percent of the total, sent higher proportions of MNC-related exports (84 percent to 91 percent) to unaffiliated customers. These were the primary metals, aluminum, (heavy) electrical equipment, wood products, and industrial chemicals industries. At the other end of the spectrum, the eight remaining industries (miscellaneous electrical machinery, miscellaneous chemicals, grain mill products, instruments, soaps and cosmetics, office machines, computers, and plastic materials) sent below-average proportions of their total MNC-related exports to unaffiliated buyers--proportions which ranged from 7 percent to 44 percent. These eight industries accounted for only 16 percent of total MNC-generated U.S. exports in 1970. They may be characterized generally as those in which MOFAs are closely integrated with their parent firms, receiving above-average shares of U.S. exports by or through parent firms, either as inputs to MOFA production or as goods destined for final sale to others, with the MOFAs serving as sales-agent consignees.

The relationships described above are heavily weighted by the performances of five basic industries--transportation equipment, nonelectrical machinery, instruments, food products, and metals. These industries produced 75 percent of the total growth in MNC-related exports, 83 percent of all the growth in exports to MOFAs, and 60 percent of the growth in MNC-generated U.S. exports to unaffiliated customers. The transportation equipment MNCs--by far the largest contributors--increased their exports to MOFAs by $1,489 million, and those to other customers by almost the same amount, $1,479 million. In the nonelectrical machinery group, where the largest changes were concentrated

in the industrial machinery and office machines subsectors, MNC-related shipments to MOFAs rose by $686 million, and those to others by $496 million. MNCs in the instruments industry--which is a heavy shipper of components to affiliates--boosted their exports to MOFAs by $350 million, but sent only $80 million more to non-MOFA customers. In food products, where exports to MOFAs rose $228 million and those to non MOFAs by $94 million, the heaviest increases in both cases occurred in the "miscellaneous" processed-foods subsector, which embraces a wide variety of product lines. In grain mill products, exports to MOFAs rose by $59 million while those to non-MOFAs declined by $53 million. Finally, in the metals industry, new MNC-generated exports to unaffiliated foreigners, especially in the primary metals and aluminum subsectors, were very large ($973 million) while new MNC-related exports to MOFAs were much smaller, at $122 million.

The Distribution of MOFA exports, by Affiliation of Customers

The preceding section surveyed the distribution of U.S.-origin MNC-related exports according to the degree to which their recipients were affiliated with the shippers. This section performs the same kind of analysis for the other main component of MNC-related trade--the exports of the MOFAs. Figures supporting this analysis are displayed in tables A-10 through A-12 in the appendix to this chapter, with certain key data abstracted for presentation in table 5, on the following page, and table 6, on page

As MOFA exports rose from $8.8 billion in 1966 to $17 billion in 1970, the proportion shipped to affiliated purchasers hardly changed,

Table 5.--Summary of the distribution of MOFA exports, by affiliation of customer

(Amounts in millions of dollars)

	Levels of MOFA exports in 1970				Total change in MOFA exports, 1966-1970 (amount)	Percent of total change accounted for by exports to:		
	Total	Exports to parent U.S. MNCs	Exports to 3rd-country affiliates	Exports to non-affiliated customers		Parents	3rd-country affiliates	unaffiliated customers
All manufacturing	17,035	4,827	5,955	6,253	8,186	33	33	34
Food products	728	76	170	482	62	- 125	50	175
Grain mill products	158	2/	45	2/	63	n.a.	-	n.a.
Beverages	71	19	1	51	12	- 84	- 58	242
Combination firms 1/	140	2/ 5	27	2/ 221	57	n.a.	28	n.a.
Other	359	52	97	210	- 70	72	23	5
Paper and allied products	795	439	62	294	262	43	15	42
Chemicals and allied products	2,170	203	769	1,198	1,153	9	37	54
Drugs	461	45	157	259	283	11	30	59
Soaps and cosmetics	192	4	58	130	102	1	15	84
Industrial chemicals	551	14	154	383	370	- 1	24	87
Plastics materials	541	30	289	222	293	4	73	23
Combination firms 1/	258	36	62	160	103	- 10	18	92
Other	167	74	49	44	2	340	100	- 340
Rubber products	311	62	140	109	147	36	50	14
Primary and fabricated metals	893	37	160	696	501	2	7	91
Primary (except aluminum)	248	6	46	196	134	- 5	- 18	123
Fabricated (except aluminum, copper and brass)	501	18	98	385	309	3	18	79
Aluminum and other	144	13	16	115	58	9	2	89
Non-electrical machinery	3,001	400	1,460	1.141	1,168	14	37	49
Farm machinery and equipment	350	155	154	41	- 17	- 336	159	277
Industrial machinery	1,209	124	327	758	751	13	29	58
Office machines	287	43	194	50	66	- 16	122	- 6
Electronic computing equipment and other	1,155	78	785	292	368	4	45	51
Electrical machinery and equipment	1,283	425	511	347	653	42	52	6
Household appliances	155	29	127	negl.	- 5	380	- 1,060	780
Electrical equipment and apparatus	289	123	81	85	213	53	27	20
Electronic components, radio, T.V.	575	253	184	138	375	48	37	15
Other	265	20	119	126	70	2	138	- 20
Transportation equipment	5,648	2,733	2,028	887	2,930	61	29	10
Textiles and apparel	279	104	71	104	203	41	32	27
Lumber, wood and furniture	372	95	7	270	209	27	4	69
Printing and publishing	173	44	51	78	110	37	39	24
Stone, clay, and glass	309	23	34	252	162	- 18	7	111
Instruments	767	158	328	281	414	17	48	35
Other manufacturing	306	28	164	114	212	8	72	20

1/ "Combinations" are firms producing a number of related product lines.
2/ Grain mill products included under "Combinations".

Source: Tables A-10 through A-12 in Appendix to this chapter.

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moving from 62 percent to 63 percent. Of the total growth, almost exactly one-third went to each of the three main customer categories--U.S. parents, third-country affiliates of the MOFAs, and unaffiliated customers--but the 33 percent share of the MOFAs' parents was sufficient to allow them to account for a modest rise (3 percentage points) in their share of total MOFA exports. The distribution of total MOFA exports by recipient group is shown in the following tabulation (amounts in millions of dollars):

	Percentages		
	1966	1970	Amount, 1970
Exports to U.S. parent firms	25	28	4,827
Exports to 3rd-country affiliates	37	35	5,955
Exports to unaffiliated customers	38	37	6,253
Total	100	100	17,053

Five basic industries account for about three quarters of total MOFA exports:

Industry	1966	1970
Transportation equipment	31%	33%
Non-electrical machinery	21%	17%
Chemicals	12%	13%
Food products	8%	4%
Electrical machinery	7%	8%
All others	21%	25%

Between 1966 and 1970, however, the fastest growth in MOFA exports occurred in the potpourri "other" category, which includes metals; textiles and apparel; wood products; paper; rubber; printing and publishing; stone, clay, and glass products; instruments; and several miscellaneous industries such as ordnance, tobacco products, and leather products. As a result, the share of the category as a whole rose substantially. Within the broad group, the textile and apparel

industry registered the largest percentage increase (267 percent or $203 million) and the instruments industry showed the biggest absolute increase ($414 million or 118 percent).

These same five industries accounted for well over 80 percent of total MOFA exports to affiliates (both in the United States and in third-countries) in both 1966 and 1970, but there were some fairly sharp changes in the shares for which they accounted individually. The transportation equipment industry, the major contributor to total MOFA exports and to MOFA exports to affiliates, increased its share of overall exports to affiliates (from 39 percent to 42 percent). Non-electrical machinery held on to second place, but its share dropped by about a third (from 23 percent to 16 percent). Chemicals, in third place, remained there about even with 8 percent of the aggregate affiliate market served by MOFAs in 1966 and 9 percent in 1970. Electrical machinery holds fourth place in these rankings, and it also showed the sharpest gain in share of total MOFA exports to affiliates (from 6 percent to 13 percent). The food products industry accounted for 5 percent of all MOFA exports to affiliates in 1966, and its share dropped to only 2 percent in 1970--largely because of a decline in MOFA exports to U.S. parents. This drop was sufficient to shove the industry out of the top five, to be replaced by the instruments industry, whose MOFA shipments to affiliated customers in 1970 amounted to 4 percent of all MOFA exports to affiliates. In terms of total MOFA-to-affiliate trade, therefore, the remaining nine basic industries are left with relatively insignificant positions. In the aggregate, their share slipped from 19 percent (food products

excluded, instruments included) to 16 percent (instruments out, food products in).

In MOFA exports to parent firms in the United States, the dominance of a few industries stands out even more sharply. As the figures in table 6 indicate, three basic industries--transportation equipment, electrical machinery, and non-electrical machinery--accounted for 74 percent of total MOFA exports to U.S. parents in 1970, and for an even larger share (84 percent) of the increase in such exports over the 1966-70 period. The heavy weight of the transportation equipment industry (automotive products) in the aggregate change was, of course, closely associated with U.S.-Canadian trade as a result of the APTA (see pp.297-98). In the electrical machinery industry, two subsectors produced the greater part of the change--the electronics branch, and suppliers of electrical equipment and apparatus; each increased its share of aggregate MOFA exports to parents by about two percentage points. In the electronics subsector, fast-rising imports from manufacturing MOFAs in Taiwan, South Korea, Mexico, and similar locations clearly had a strong impact (MOFA shipments to parents in this subsector rose by almost 240 percent). At $178 million, the increase in this industry was greater than the entire rise in the next-ranked basic industry, non-electrical machinery, where the larger increases again were concentrated in two subsectors. Parents' imports in the industrial machinery subsector, changing by only $95 million, doubled their share of total parents' imports from MOFAs, but a much smaller increase occurred in the farm machinery industry, whose share fell by the same amount (1.3 percentage

Table 6: MOFA exports to Parent firms in U.S., 1966 and 1970

(Amounts in millions of dollars)

	Percent of total value		Change 1966-1970	
	1966	1970	Amount	Percent of total
Total, all manufacturing	100.0	100.0	2,630	100.0
Transportation equipment	43.6	56.6	1,774	67.4
Electrical machinery	6.9	8.8	273	10.4
Of which:				
Electronics, radio, and T.V.	3.4	5.3	178	6.8
Electrical equipment and apparatus	0.6	2.6	111	4.2
Non-electrical machinery	11.1	8.3	157	6.0
Of which:				
Industrial machinery	1.3	2.6	95	3.6
Farm machinery	4.5	3.2	57	2.2
Paper and allied products	14.9	9.1	112	4.3
Chemicals and allied products	4.8	4.2	98	3.7
Textiles and apparel	0.9	2.1	83	3.1
Instruments	4.1	3.3	68	2.6
Lumber, wood, and furniture	1.8	2.0	55	2.1
Rubber products	0.4	1.3	53	2.0
Printing and publishing	0.2	0.9	40	1.5
Miscellaneous manufacturing (including ordnance, leather, tobacco)	0.5	0.6	16	0.6
Primary and fabricated metals	1.4	0.8	7	0.3
Stone, clay, and glass	2.4	0.5	-29	-1.1
Food products	7.0	1.6	-77	-2.9

Source: Tables A-10 through A-12 in appendix to this chapter.

points) as industrial machinery's share increased. Smaller changes in the remaining (unlisted) subsectors (chiefly office machines and electronic computing equipment) also helped to bring the non-electrical machinery industry's share of total MOFA exports to parents down rather substantially over the period.

Among the basic industries whose overall impact on MOFA exports to parents is smaller, several interesting changes occurred. Fairly substantial increases relative to 1966 levels show up in textiles and apparel, rubber products, and printing and publishing. Smaller ones appear for paper and allied products; chemicals; instruments; and metals. Each of the latter group of industries decreased its share to total MOFA exports to U.S. parents. Finally, in two industries, shipments inbound to U.S. parents from the MOFAs fell over the period. These were food products and the stone, clay and glass industry, which together had accounted for 9.4 percent of the total for all industries in 1966, but reduced their combined share to only 2.1 percent by 1970.

From table 5 (page305) it is possible to note, for each industry listed there, the type of customer--U.S. parent, 3rd-country affiliate, or unrelated purchaser--which participated most heavily in the growth of MOFA exports in the 1966-70 period. Combined with the data on the levels of MOFA exports to each category of buyer, these observations permit an evaluation of the importance of each type of customer in MOFA export patterns. Table 7 on the following page summarizes and groups these combinations for analysis.

In the first group of three basic industrial categories, MOFA exports to U.S. parents predominate over exports to each of the other

Table 7.--A grouping of fourteen basic industries according to MOFA export performance

(Amounts in millions of dollars)

	MOFA exports, 1970			
	Total	To parents in U.S.	To third country affiliates	To unaffiliated customers
All MOFA exports	17,035	4,827	5,955	6,253
Industries in which exports to parents in U.S. had largest share of 1966-70 growth:				
Transportation equipment	5,648	2,733	2,028	887
Paper and allied products	795	439	62	294
Textiles and apparel	279	104	71	104
Totals	6,722	3,276	2,161	1,285
(Percentages of all MOFA exports)	(39)	(68)	(36)	(20)
Industries in which exports to affiliates in third countries had largest share of 1966-70 growth:				
Electrical machinery	1,283	425	511	347
Instruments	767	158	328	281
Rubber products	311	62	140	109
Miscellaneous manufacturing	306	28	164	114
Totals	2,667	673	1,143	851
(Percentages of all MOFA exports)	(16)	(14)	(19)	(14)
Industries in which exports to unaffiliated customers had largest share of 1966-70 growth:				
Non-electrical machinery	3,001	400	1,460	1,141
Chemicals	2,170	203	769	1,198
Primary and fabricated metals	893	37	160	696
Food products	728	76	170	482
Lumber, wood, furniture	372	95	7	270
Stone, clay, and glass	309	23	34	252
Totals	7,646	878	2,651	4,117
(Percentages of all MOFA exports)	(45)	(18)	(45)	(66)

Source: Table 5.

two main customer groups, both in terms of growth and in terms of the levels of trade in 1970. Together, these three industries accounted for about 40 percent of MOFA exports, worldwide, almost 70 percent of MOFA exports to U.S. parents, just over 35 percent of MOFA exports to third-country affiliates, and a fifth of MOFA exports to unaffiliated customers in 1970. In all customer categories, the transportation equipment industry predominates--as it does in all the MNC-related trade series--but it predominates more in exports to U.S. parents than in the other two categories. With respect to levels of trade in 1970, the position of the textiles and apparel industry is ambivalent, inasmuch as its MOFAs sent exactly as many exports to unaffiliated customers as to U.S. parents--but the more rapid growth of exports to the U.S. indicates that the level of such exports clearly was rising relative to exports to other categories of customers.

In the second major group of basic industries shown in table 7, MOFA exports to third-country affiliates grew the fastest, and they also exceeded the levels of exports to the other customer types in 1970. Thus the predominance of inner-affiliate trade outside the United States is the chief characteristic of these industries' MOFA export patterns. At the subsector level, however, anomalies appear within the electrical machinery industry which forms part of this group. In both the electrical equipment and electronics branches, MOFA exports to parents rose faster than to other customers, and the levels of 1970 trade showed the largest single shares going to U.S. parents (see table 5). These influences were offset by the performance

of the other two subsectors of the basic electrical machinery industry (household appliances and "other").

The final group shown in table 7--which includes the largest number of basic industries--accounts for two thirds of MOFA exports to unaffiliated customers and 45 percent of MOFA exports, worldwide. In this group, MOFA exports to unaffiliated customers grew faster than those to either of the other two customer groups, and the levels of MOFA trade were similarly aligned, with one exception--that of the non-electrical machinery industry which in 1970 sent more MOFA exports to third-country affiliates than to unaffiliated buyers. At the subsector level, the presence of this industry in the "unaffiliated customer" group is established by the growth performance of the farm machinery, industrial machinery, and electronic computing equipment (including "other") branches. In only one of these, however--industrial machinery, which accounted for $758 million of the industry's $1.1 billion in exports to such customers--did this growth produce for the level of MOFA exports a top position in the "unaffiliated" column in 1970. In the other subsectors, the largest single shares of MOFA exports went to 3rd-country affiliates (except in farm machinery, where roughly equal amounts went to such affiliates and to U.S. parents). In the chemicals industry, two subsectors--plastics materials and the "other" category--slip over into the "3rd-country affiliate" column--but these influences are decisively overshadowed by the performance of the rest of the basic industry group.

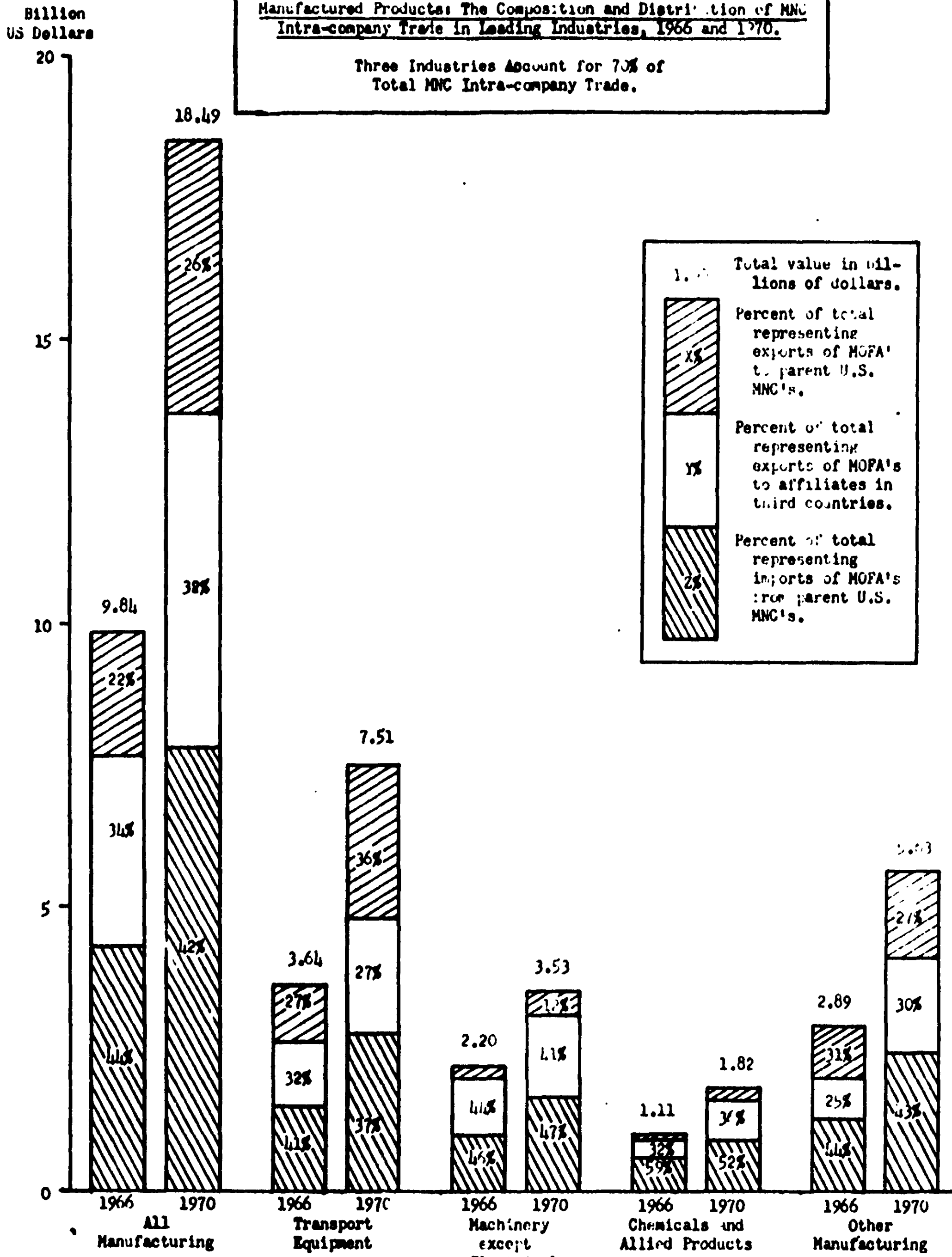
From the summary presentation in table 7, it becomes clear that in most industries which account for most MOFA exports (61

percent), the predominant MOFA export patterns involve shipments to customers other than U.S. parents, with unaffiliated customers having the edge. Furthermore, if the transportation equipment industry is excluded--especially that portion of it which generates exports under the APTA with Canada--this conclusion is heavily reinforced. It holds, in addition, for both the levels of MOFA exports, industry by industry, as recently as 1970, and for changes in exports in a recent period of rapid growth, when MOFA exports roughly doubled.

Intracompany Trade and Its Impact on MNC-related Exports

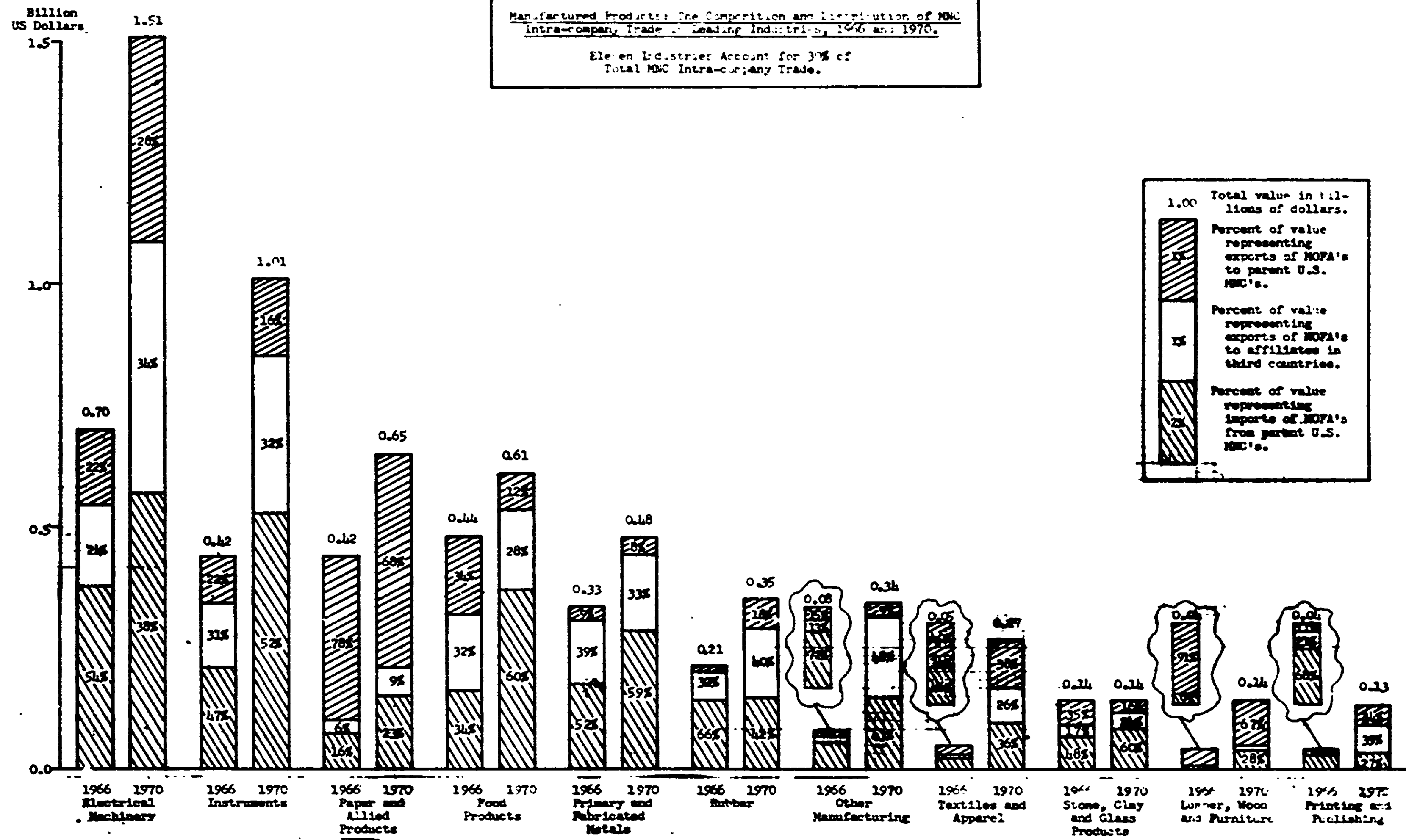
Intracompany trade, or the sum of the transactions which the MNCs conduct among themselves, has three parts: (1) exports of MOFAs to their parents; (2) exports of parent firms to MOFAs; and (3) the exports of the MOFAs to their affiliates in third countries. In one sense, intracompany trade is "captive" to the MNCs. It depends only indirectly on market demand, and can respond rather quickly to command decisions about sourcing and supply to customers that MNC managements may choose to make. Therefore, it is useful to study intracompany trade in order to obtain an understanding of how much of the MNCs' total exports consists of something less than "arm's length" dealing.

Detailed data on intracompany trade for 1966 and 1970 are presented in tables A-16 through A-18 in the appendix to this chapter. The more important elements of the data are presented graphically in charts III and IV on the following two pages.



Manufactured Products: The Composition and Distribution of MNC Intra-company Trade in Leading Industries, 1966 and 1970.

Source: Tables A-16 and A-17 in Appendix to this Chapter.



Source: Tables A-16 and A-17 in Appendix to this Chapter.

Intracompany export flows in manufacturing reached $18.5 billion in 1970, up from $9.8 billion in 1966. At these levels, they accounted for very nearly half (49 percent) of all MNC-related trade in 1970, as against somewhat less (44 percent) in 1966. MOFA imports from parent firms in the U.S. have the largest single share of the total (42 percent in 1970, 44 percent in 1966), followed by MOFA exports to third-country affiliates (32 percent and 34 percent, respectively) and then by MOFA exports to their parents (26 percent and 22 percent). Clearly, parents imports from the MOFAs are gaining at the expense of both the other categories of intracompany trade.

As chart III shows rather starkly, only three basic industries--transportation equipment (automotive products), non-electrical machinery, and chemicals--account for the lion's share of intracompany trade, just as they account for the bulk of MNC-related trade in general. Chart IV picks up, on an expanded scale, where chart III ends, detailing the remaining eleven basic industries' intracompany trade. It shows, for 1970, electrical machinery with a solid position in the fourth rank, followed by instruments in fifth place. All the other industries generated intracompany trade valued at well under $1 billion and accounted for less than four percent of total intracompany trade each.

Chart IV also points up an interesting competition for the fifth place ranking. In 1966, food products held a slight edge, with both instruments and the paper products industry close behind. By 1970, food products had slipped all the way to seventh place, instruments

had taken over the fifth-place slot, and paper products ended in sixth place.

Within the top-ranked basic industries that bear disaggregation, certain subsectors stand out as leaders in the basic industries' contributions to total intracompany trade. This is best demonstrated by analysis of these subsectors' contributions to the growth of intracompany trade between 1966 and 1970. In non-electrical machinery (rank two in chart III), intracompany exports leaped up by $1,331 million. Among the subsectors, industrial machinery accounted for $504 million of the increase, computers and the "miscellaneous" category for $421 million, and office machines for $385 million. In electrical machinery (ranked fourth), the total increase was $812 million. Among its subsectors, the electronics branch (components, radio, and T.V.) clearly led, with an increase of $422 million. The next most important subsector was the electrical equipment branch, with $158 million. Finally, in chemicals (rank three), the plastics materials subsector increased its intracompany exports by $302 million, which was 43 percent of the total increase of $704 million for the entire industry. The other two important subsectors were less influential; intracompany trade in industrial chemicals increased by $138 million, and the drug subsector turned in a nearly identical rise, $145 million.

Table 8 on the following page is designed to facilitate a comparison of intracompany trade with total MNC-related trade. It ranks all of the fourteen basic industries--with key subsectors shown separately--according to their contributions to total MNC-generated trade in 1970.

Table 8.--Intracompany trade and its relation to MNC-generated exports worldwide, 1966 and 1970

(Amounts in millions of dollars)

	Total MNC-related exports		Total intra-company exports		Intra-company exports as percent of total MNC-related exports		Growth of MNC-related exports 1966-1970	
	1966	1970	1966	1970	1966	1970	Amount	Share of intra-company exports (percent)
All manufacturing	22,541	38,753	9,842	18,489	44	49	16,212	53
Transportation equipment	6,500	12,398	3,640	7,509	56	61	5,898	66
Non-electrical machinery	4,446	6,796	2,203	3,534	50	52	2,350	57
including:								
Industrial machinery and equipment	1,725	2,903	404	908	23	31	1,178	43
Computers and miscellaneous	1,566	2,288	1,036	1,457	66	64	722	59
Office machines	404	868	283	668	70	77	459	84
Farm machinery and equipment	751	742	480	501	64	68	- 9	- 234
Chemicals and allied products	2,973	4,512	1,113	1,817	37	40	1,539	46
of which:								
Industrial chemicals	1,088	1,749	211	349	19	20	661	21
Plastics materials	515	859	296	598	57	70	344	88
Drugs	412	822	195	340	47	41	410	36
Electrical machinery and apparatus	2,074	3,343	699	1,511	34	45	1,269	64
of which:								
Electronic components, radio, T.V.	710	1,309	225	647	32	49	599	71
Electrical equipment and apparatus	824	1,267	197	355	24	28	443	36
Primary and fabricated metals	1,534	3,130	329	475	21	15	1,596	10
including:								
Primary metals (except aluminum)	605	1,224	116	103	19	8	619	- 3
Fabricated metals (except aluminum, copper and brass)	548	1,055	108	247	20	23	507	28
All other	381	851	105	125	28	15	470	5
Food products	1,406	1,790	441	608	31	34	384	44
Instruments	771	1,615	421	1,008	55	62	844	70
Paper and allied products	946	1,404	422	651	45	46	458	50
Miscellaneous manufacturing	503	931	82	338	16	36	428	60
Lumber, wood, and furniture	204	724	44	142	22	20	520	19
Rubber products	472	694	213	350	45	50	222	62
Stone, clay, and glass products	355	576	145	143	41	25	221	- 1
Textiles and apparel	200	523	52	272	26	52	323	69
Printing and publishing	157	317	38	131	24	41	160	59

Source: Tables A-16 through A-18 and A-6 in the Appendix to this chapter.

It shows a predominant pattern of rising shares of intracompany trade in the total. At the all-manufacturing level, intracompany trade growth accounted for more than half (53 percent) of the total expansion of MNC-related trade. In three of the top four basic industries (chemicals excepted) and in six of the remaining eleven, the share of intracompany trade in the total expansion also was greater--usually considerably greater--than 50 percent. In chemicals, the share was 46 percent for the industry as a whole, but this was pulled up by the 88 percent share of the plastics materials subsector. In the two other subsectors that are quantitatively more important in total MNC-related trade--industrial chemicals and drugs--the shares were much lower, at 21 percent and 36 percent, respectively.

In three basic industries the proportion of intracompany trade to total trade actually fell between 1966 and 1970. One of these industries--primary and fabricated metals--is a fairly important trader in the MNC ranks; it held fifth place in MNC-related trade in both years. However, intracompany exports of all types are not characteristic of this industry. With intracompany shipments accounting for only 15 percent of the total in 1970, it stands out as the least dynamic intracompany trader to be found within manufacturing. The other two industries in which the share of intrafirm trade fell between the two years--wood products and stone, clay and glass products-- are relatively insignificant; they appear far down in the rankings with a combined share of only about 3 percent of total MNC-related trade.

The Impact of the MNCs on U.S. Foreign Trade

With a survey of the various facets of the MNCs' international trading operations now essentially completed, it is possible to move directly to an analysis of the MNCs' impact on the foreign trade of the United States. The hypothesis to be tested here is that of the MNCs' critics--that increasing levels of foreign direct investment by U.S. firms have tended to erode the position of the United States as a trading nation in one or both of the following ways:

1. By increasing U.S. imports--and thereby displacing domestic production--through shipments of foreign affiliate output to U.S. markets; and/or

2. By using the output of foreign affiliates to preempt markets formerly served by U.S. exports of domestically produced goods.

The MNCs as participants in U.S. trade

U.S.-based multinational corporations generally are in a strong position to affect the fortunes of U.S. trade. As the major productive enterprises in the U.S. economy, they have always played--and continue to play--a large role as traders, a role that has little to do with their status as foreign investors. That is, in the institutional structure of the U.S. foreign trading community, these firms traditionally have commanded important proportions of ordinary exports and imports of the "arm's length" variety. Such trade as they may or may not generate because of their foreign direct investment operations is overlaid upon this traditional role.

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At the all-manufacturing level, the MNCs in 1970 accounted for nearly $22 billion--or about 62 percent--of total U.S. exports of almost $35 billion in the manufacturing sector. On the import side, their share was $10.5 billion (34 percent) of a total of some $31 billion in inbound shipments. As the ratios in table 9 indicate, these all-manufacturing values hide a wide spread between the maximum and minimum impacts of the MNCs on total exports or imports of their industries. More than half of the 29 industries for which export data are available show the MNCs with a dominant influence--a share of 50 percent or more--on each industry's total exports. In practically all of the others, the MNCs' impact on export volumes is significant, at 30 percent or more. The patterns are different for imports. Here, in only five industries can the MNCs be said to be "dominant" with 50 percent or more of their industries' total imports, and in eleven of the 21 industries separately identified in the table, the MNCs' shares of total imports drop to less than 30 percent.

In both the export and import columns of the table, some industrial categories show the MNCs as having shares of more than 100 percent of these industries' total exports or imports. The possible emergence of such ratios and their meaning was discussed early in this chapter, on pages269-70.In the two cases where the ratios are fairly close to 100 percent (farm machinery and equipment and transportation equipment, both in the export ratio column), it is not certain that simple inaccuracies in reporting the same numbers may not have caused the ratios to exceed 100 percent. Thus, for these industries, the

Table 9 .--Ratios of MNC-related imports and exports to total imports and exports in manufacturing industries, 1970

Rank	Industry	Ratio of MNC-related exports to total exports (percent)
1	Primary and fabricated aluminum	186.6
2	Office machines	160.9
3	Electrical machinery and apparatus	134.2
4	Rubber products	111.4
5	Farm machinery and equipment	105.4
6	Transportation equipment	103.3
7	Household appliances	91.3
8	Soaps and cosmetics	84.5
9	Drugs	70.7
10	Industrial chemicals	70.4
11	Beverages	66.7
12	Instruments	64.5
13	Primary metals (except aluminum)	57.5
14	Stone, clay, and glass products	56.0
15	Paper and allied products	55.0
16	Miscellaneous chemicals	47.6
17	Lumber, wood products, and furniture	47.5
18	Electronic components, radio and T.V.	45.1
19	Printing and publishing	43.0
20	Miscellaneous non-electrical machinery	41.7
21	Fabricated metals (excluding aluminum, copper and brass)	40.9
22	Miscellaneous food products	40.7
23	Industrial machinery and equipment	40.6
24	Grain mill products	39.3
25	Miscellaneous electrical machinery	37.9
26	Plastics materials	33.8
27	Textiles and apparel	33.7
28	Miscellaneous manufacturing	29.5
29	Miscellaneous primary and fabricated metals	22.4
XX	All Manufacturing	62.1

Rank	Industry	Ratio of MNC-related imports to total imports (percent) 1/
1	Stone, clay, and glass products	221.8
2	Plastics materials and miscellaneous chemicals	111.0
3	Grain mill products and beverages	65.0
4	Drugs	62.0
5.	Transportation equipment	59.8
6	Paper and allied products	43.4
7	Industrial chemicals	39.8
8	Instruments	37.0
9	Lumber, wood products, and furniture	36.3
10	Electronic components, radio and T.V.	28.8
11	Electrical machinery and apparatus, household appliances	25.7
12	Rubber products	22.1
13	Industrial machinery and equipment	21.7
14	Office machines, electronic computing equipment, and miscellaneous non-electrical machinery	21.5
15	Miscellaneous manufacturing	20.4
16	Fabricated metals (excluding aluminum, copper and brass)	15.2
17	Primary and fabricated aluminum, other metal products	12.3
18	Printing and publishing	10.8
19	Primary metals (except aluminum)	9.6
20	Miscellaneous food products	6.7
21	Textiles and apparel	6.6
XX	All manufacturing	34.1

Notes:

1/ MNC-related imports are calculated partially from sample data on MNC imports from non-affiliated foreigners. The sample data account for about 70 percent of the total imports in this category for all manufacturing. See page of text.

Sources: Table A-19 in appendix to this chapter.

MNCs should be considered as accounting only for roughly the total volume of exports in their industries. In the remaining ones, however (aluminum, office machines, electrical equipment, and rubber products in the export column; and stone/clay/glass and plastics plus miscellaneous chemicals in the import column), the ratios are too large to embody only a probable range of error. Here, the MNCs in the export industries and the import industries in which the large ratios appear almost certainly generated considerably more trade than that recorded in customs statistics for goods generic to their industries. These additional trade flows represent, on the export side, goods of other industries (or raw materials and other non-manufactured items) procured domestically and shipped abroad, probably to affiliates; on the import side, they represent such goods purchased abroad and used mainly as capital goods or inputs to domestic production by parent firms. Doubtlessly, similar kinds of trade by the MNCs in goods not generic to their industries are buried in the ratios in table 9 which are less than 100 percent as well.

Relationships in foreign investment, and domestic investment and trade variables

A meaningful analysis of the foreign trade performance of U.S.-owned multinational firms requires, in part, a comparison of the MNCs' activity in each industry with the performance of the industry as a whole. 1/ As general indicators of MNC activity, levels of foreign

1/ For a similar analysis see U.S. Tariff Commission, Competitiveness of U.S. Industries, first report to the President on Investigation No. 332-65 under Section 332 of the Tariff Act of 1930, TC Publication 473, Washington, April, 1972.

investment--the net fixed foreign assets of the MNCs--can be used, on the premise that sales, trade, and other operating variables are closely related to levels of foreign direct investment. Essentially, the technique used in this section is to compare--across 29 industries--foreign investment activity with domestic investment and a number of trade performance indicators. These indicators are:

(1) A measure of domestic capital stocks in each industry in the United States in 1970. This is the value of "gross (undepreciated) fixed assets" as reported in the Census of Manufactures for 1968, adjusted by addition of fixed investment in each industry in 1969 and 1970;

(2) Total U.S. exports of all firms in each industry, 1970;

(3) Total U.S. exports as a percentage of domestic shipments in each industry in 1970. This series permits a ranking of industries according to the importance which exports have in their total sales;

(4) Total MNC-related exports, 1970;

(5) U.S. exports to MOFAs, 1970;

(6) Total U.S. imports, all firms in each industry, 1970;

(7) Total U.S. imports as a percentage of the domestic market in each industry. "Domestic Market" is defined as shipments plus imports minus exports. The series is a standard measure of "import penetration" for each industry;

(8) MNC-related imports, 1970;

(9) Imports from MOFAs, 1970;

(10) Percentage change in imports' share of domestic market, all firms, 1966-1970. This series measures the extent to which new imports have increased their penetration of U.S. markets;

(11) Change in ratio of imports to exports, all firms, 1966-70. More sensitive to changes and more easily manipulated statistically than the trade balance (exports less imports), the ratio of imports to exports is useful as a measure of the degree to which imports overshadow exports in each industry (or vice versa). The change in the ratio is calculated here in ratio form--i.e. the ratio's 1970 value divided by its 1966 value.

Taken together, these data permit comparisons of the 29 industries' positions as foreign investors with (a) their domestic investment performance, (b) their contributions to levels of trade, (c) the levels of MNC-generated trade, and (d) their association with <u>changes</u> which took place in the patterns of U.S. foreign trade between 1966 and 1970--changes which were generally adverse from the U.S. national point of view, as imports rose faster than exports. The results of these comparisons are presented in table 10. The principal analytic technique employed was to arrange the data so that the 29 industries ranked from highest to lowest, and then to compare the rankings in the domestic investment and trade series, successively, with those for foreign investment position. The resulting statistic from such a comparison is a coefficient of "rank correlation," which can vary from a value of 1.0 (signifying perfect corresponce of the rankings) to -1.0 (a perfect <u>inverse</u> correspondence). Two measures are shown: the "Spearman" coefficient, which is commonly used and easy to calculate; and the "Kendall" coefficient, which tends to produce more accurate measures for data groupings like the one at hand which have less than 25 or 30 observations. Ordinary linear correlations also were calculated, using the observed values rather than rankings.

Table 10.--Correlations of MNCs' stocks of fixed assets abroad in 1970 with levels of domestic investment and several trade variables

Correlations of MNCs' foreign capital stocks with:	Correlations with MNCs' Foreign Capital		
	Rank		
	Spearman	Kendall	Linear
Domestic Investment, 1970 1/	.581*	.433*	.426*
Total U.S. Exports, 1970	.576*	.402**	.813*
Total U.S. Exports as a percentage of domestic shipments 1970	.330***	.219***	.406**
Total MNC-related exports, 1970	.447**	.320**	.851*
Exports to MOFAs, 1970	.341***	.244***	.837*
Total U.S. Imports, 1970 2/	.353***	.259***	.660*
Total U.S. imports as a percentage of domestic market, 1970 2/ 3/	.083	.049	.097
Total MNC-related imports, 1970 2/	.671*	.488*	.799*
Imports from MOFAs, 1970 2/	.489*	.354*	.814*
Percentage change in imports' share of domestic market, 1966-70	.166	.148	.010
Change in ratio of imports to exports, 1966-70 4/	- .108	- .054	- .082

Notes:

1/ Domestic investment is defined as total value of domestic capital stocks of all firms in each industry.

2/ Exclusion of transportation equipment industry from the sample causes significant drop in correlation coefficients for import-related series. the coefficients applicable to the smaller (28-industry) sample are as follows:

Total U.S. imports	.281	.204	.174
Imports as percent of domestic market	- .016	- .006	- .064
MNC-related imports	.635*	.450*	.366***
Imports from MOFAs	.432**	.305**	.508*

3/ "Domestic Market" defined as Domestic shipments plus imports minus exports.

4/ Computed in ratio form: ratio of imports to exports in 1970 divided by ratio of imports to exports in 1966.

*Statistically significant at .01 level.
**Statistically significant at .05 level.
***Statistically significant at .10 level.

Sources: Table A- 19 in appendix to this chapter.

Foreign vs. domestic investment performance.--The data indicate that, on an industry-by-industry basis, the most active foreign investors also tend to be the heaviest domestic investors in the U.S. economy. Both the rank and linear correlations between foreign and domestic investment activity are statistically highly significant. 1/ While these results do not "prove" that high levels of foreign direct investment have not tended to depress capital outlays in the same industries in the U.S., they do show that industries in the top ranks of the foreign investors have retained a similar position in the domestic economy--and that industries which have not taken investment funds abroad have been similarly laggard in their investment performance at home relative to other manufacturing industries.

Association between foreign investment and levels of aggregate trade.--The strong and statistically highly significant correlations between aggregate 1970 exports and levels of foreign investment suggest that the U.S. industries most active in production abroad also are the heaviest contributors to U.S. exports, while the least important

1/ The elimination from the sample of a few "maverick" industries whose domestic and foreign investment ranks match poorly rapidly improves the values of the correlation coefficients obtained. In a 20-industry sample (which excluded from the original 29 transportation equipment, the printing trades, primary metals, instruments, miscellaneous chemicals, electrical equipment, textiles and apparel, miscellaneous machinery, and industrial machinery) the coefficients were as follows: Spearman: 0.859, Kendall: 0.684, and linear: 0.768. All, of course, are statistically significant at the .01 level. The transportation equipment industry was excluded during the testing phase of this analysis in order to eliminate the influence on the trade variables--especially the import series--of trade generated more by the automotive trade agreement with Canada than as a result of new foreign direct investment (see footnote 2 in Table 10 for the results). It need not have been eliminated for purposes of the investment comparisons, because this industry ranks high as both a domestic and a foreign investor.

foreign investors show a weaker impact on exports. There is a similar relationship with respect to all-firm, 1970 imports, although the correlations are less strong. These results are basically indeterminate, inasmuch as they seem to indicate that high levels of overseas investment are associated with both higher exports and higher imports--which could in fact be the case. Foreign investment tends to be concentrated among large firms, which have both the resources and the institutional structure to operate in all phases of international business, including investment, exporting, and importing.

Nevertheless, the data comparisons contain a hint that the major foreign investors' contribution may perhaps be somewhat stronger on the export side than on the import side of the ledger. To pursue this further, comparisons were made which attempted to relate the measures of trade performance to some benchmark representing the size of the U.S. market for the products of each industry in 1970. For imports, the "share of domestic market" variable is a direct and commonly used measure of import penetration. For exports, shares of domestic output (shipments) were used.

When aggregate exports and imports are measured in these terms in 1970, and then compared, industry-by-industry, with foreign investment activity, the association of strong export performance with high levels of foreign investment activity holds up fairly well. Both the rank and linear correlations--while not particularly strong--are statistically significant. On the import side, however, no meaningful relationship appears to be present. There is no statistically significant correlation between the degree to which imports have penetrated any particular

industry and the degree to which firms in that industry are active or inactive as foreign investors. These results, therefore, reinforce the suggestion made above that levels of foreign investment activity seem to be more closely associated with export performance than with import performance--i.e., that those industries which invest most heavily abroad contribute relatively more to U.S. exports than to U.S. imports, and conversely for the industries in which foreign direct investment is not significant.

These results do not hold for any of the MNC-related trade variables. Both total MNC-related exports (including exports to MOFAs) and total MNC-related imports (including imports from MOFAs) show stronger correlations with foreign investment activity than do the aggregate trade series--and the MNC-related import figures are, if anything, more strongly associated with foreign investment levels than are MNC-related exports. Thus, with respect to the trade that they themselves generate, the MNCs appear as having a positive influence on imports that is at least as strong as their positive effect on exports.

There is an explanation for why these fairly strong correlations between foreign investment activity and both export and import activity on the part of the MNCs spill over to affect aggregate exports but not aggregate imports. It lies in the evidence of table 9, which shows that in most industries the MNCs account for much larger shares of aggregate export trade than of aggregate import trade. In the former case, the shares usually are large enough to allow the association

between MNC investment activity overseas and MNC-generated trade to influence the nationwide level of exports in each industry. In the latter case, the MNCs' shares of nationwide import trade are sufficiently small that their influence--which would tend to produce larger imports in industries which are the heavier foreign investors--is not reflected in aggregate imports to any significant degree.

Results when transportation equipment is excluded.--The automotive products industry, whose trade patterns have responded quickly and massively to the APTA with Canada (see pp.297-8), has a heavy influence on U.S. trade levels, and that influence is heavier on imports than on exports. In order to reach a fuller understanding of the trade behavior of the other 28 industries, in which special factors like the APTA are not operative, it is appropriate to exclude the transportation equipment industry from the data and run the correlations once again. The effects of this exercise on the import variables that are of chief interest here are displayed at the bottom of table 10, in footnote 2 to the table. They show that the elimination of this industry reduces the visible impact of the MNCs on U.S. imports considerably. A statistically significant association between foreign direct investment activity and aggregate imports disappears entirely, while the correspondence between investment abroad and U.S. market penetration by imports remains insignificant. Meanwhile, the correlations between foreign investment activity and both of the MNC-related import series, while they remain statistically

significant, show coefficients of reduced value. 1/

Foreign investment and changes in trade performance.--It also is important to determine whether high levels of overseas investment in the past decade have been associated with adverse changes in the trade position. It is possible that, in industries characterized by heavy foreign direct investment, the U.S. trade position may still be relatively strong despite a pronounced weakening of the overall trend in recent years.

The last two sets of statistics at the bottom of Table 10 represent an attempt to examine this question partially. They provide the results of measuring correlations between the foreign investment data and two measures of change in aggregate trade performance. Both "percent change in imports' market share" and "change in ratio of imports to exports" are measures of import penetration of the U.S. market, the former cast in terms of the size of the market itself and the latter cast in terms of the corresponding export performance of each industry. The correlations for the full-size 29 industry sample, which covers all manufacturing, are too small to be statistically significant. This suggests that, in terms of the data series used, there is no association between the intensity of foreign investment

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1/As would be expected, removal of the transportation equipment industry's positive influence on the export variable produces similar results, although they do not alter the basic conclusion that there are stronger associations between foreign investment and the export variables than between foreign investment and the import variables. The values of the correlation coefficients were (asterisks show significance levels as in table 10):

	Spearman	Kendall	Linear
Total U.S. exports	.385**	.270**	.576*
Exports as percent of domestic shipments	.275	.188	.488**
MNC-related exports	.385**	.270**	.576*
Exports to MOFAs	.268	.188	.530*

activity in any particular industry and that industry's role in the recent declining fortunes of U.S. foreign trade--both being considered in relation to the performance of all other manufacturing industries.

Changes in trade performance: direct and indirect effects

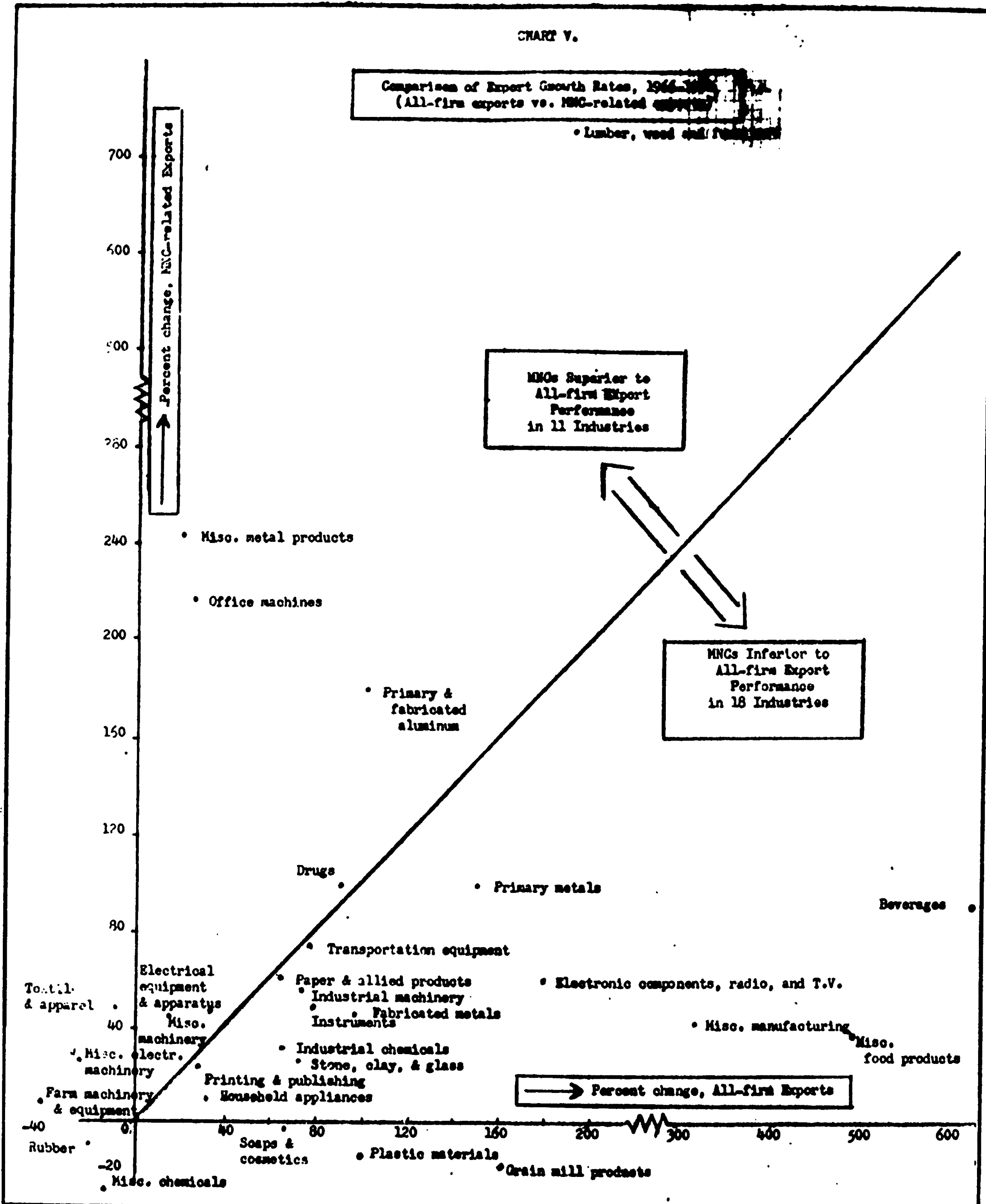
The correlation exercise just completed can lead to some understanding of overall trade patterns and how they appear to be associated with MNC activity abroad. It is an imprecise and overly aggregative tool, however, for answering the crucial question whether MNC activity has led to favorable or adverse changes in exports and imports of specific product groups. Therefore, the analysis turns to a more detailed, industry-by-industry perspective.

There are two possible ways in which the MNCs could be affecting the levels of U.S. exports and imports. The first of these may be termed the "direct" effects; they consist of the observable changes in the MNCs' own trade performance within the U.S.--i.e., the U.S.-origin exports and the foreign-origin U.S. imports which they generate. These changes can be compared with the performance of all firms in their industries and, by subtraction, that of non-MNC firms. The second possible impact which the MNCs can have may be called the MNCs' "indirect" effect on U.S. trade. This is the effect produced by the alleged robbery of markets from U.S. domestic exports by the MNCs' foreign affiliates. A full evaluation of the MNCs' role in U.S. foreign trade depends on an assessment of both the direct and indirect effects that they may produce.

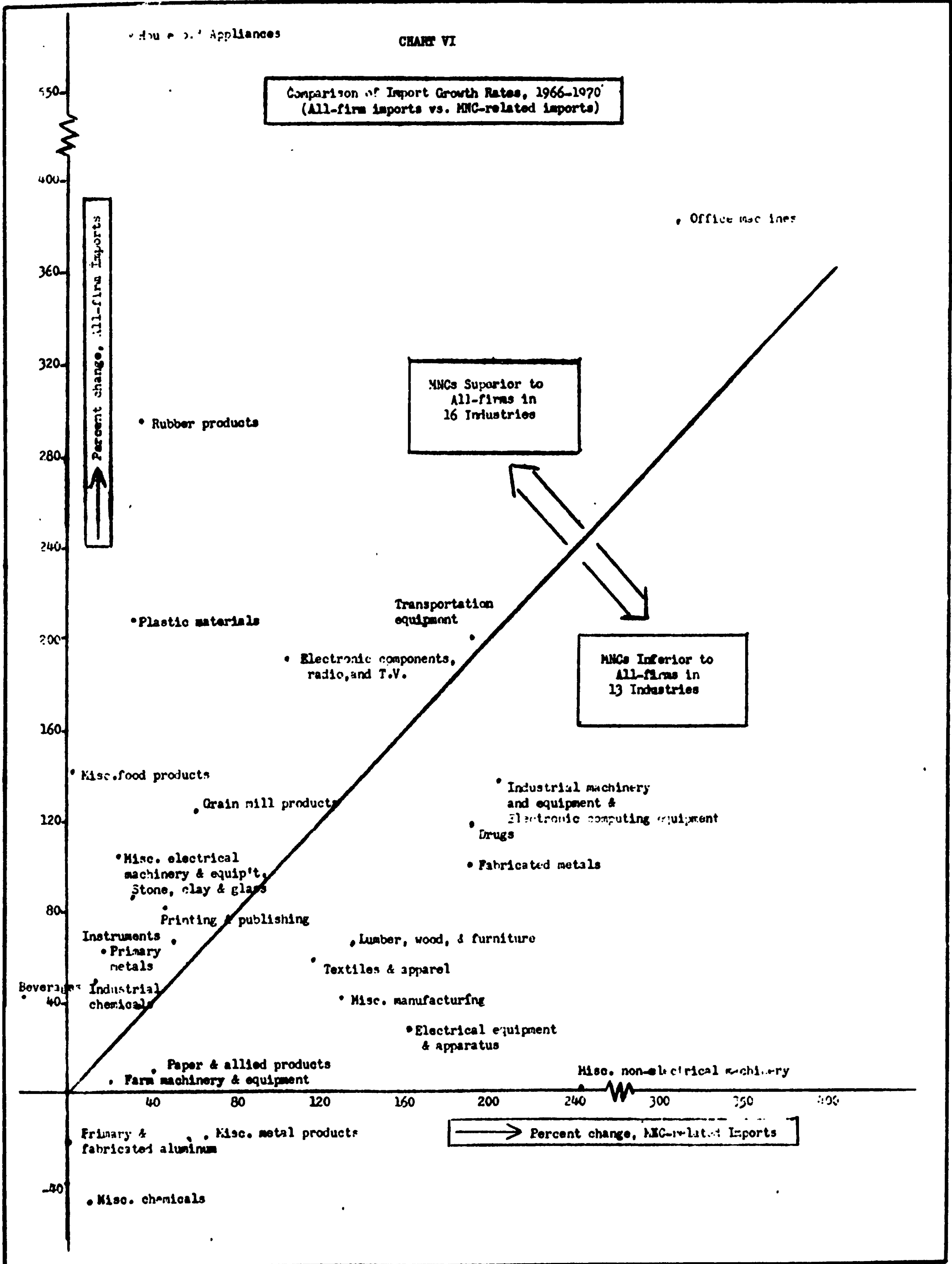
Above all, it is necessary to pay close attention to individual

basic industries and their subsectors, moving to the greatest possible level of disaggregation. That the MNCs' trade patterns differ significantly among industries already has been put in evidence in the earlier sections of this chapter. Here, as the analysis moves toward its conclusions, the need for a focus on individual industries must be stressed. It is a fact--as the subsequent discussion will make clear--that an evaluation of "the MNC problem", especially with respect to trade questions, will miss the mark unless it descends to a rather cumbersome level of detail.

The direct effects.--In examining the MNCs' direct effects on changes in U.S. trade patterns, three separate factors must be considered: (1) new exports generated by the MNCs as compared with new exports of all firms in their industries; (2) new imports generated by the MNCs as compared with new imports of all firms; and (3) a combination of these, changes in the ratios of imports to exports for the MNCs and for all firms. As a first approach to measuring these effects, growth rates for the MNCs' exports and imports, respectively, are compared with similar all-firm figures in charts V and VI; and the appropriate ratio changes are compared in chart VII. These charts are constructed such that the reader can identify immediately those industries in which the MNCs outperformed the "all-firm" group. Plots which fall to the left of and above the 45-degree lines on the charts indicate "superior" MNC performance, while plots which fall below and to the right of the lines indicate "inferior" MNC performance. The period covered is 1966-70.



Source: Table A-22 in appendix to this chapter..



Source: Table A-25 in appendix to this chapter.

CHART VII.

Note: 1/ Change calculated in ratio form -- i.e. 1970 values divided by 1966 values.

Source: Tables A-19 through A-25 in appendix to this chapter.

The terms "superior" and "inferior" were chosen here as a pair of common labels that could be applied to the three charts, which measure trade performance in different ways. The precise meanings of these terms are as follows. In chart V, which examines export growth rates, the MNCs are "superior" when their exports grew faster than all-firm exports; they are "inferior" when their exports grew more slowly than all-firm exports. In chart VI, which examines import growth rates, the MNCs are "superior" when their imports grew more slowly than all-firm imports; they are "inferior" when their import growth was faster. Finally, in chart VII, where changes in the ratios of imports to exports are compared, the MNCs are "superior" when their ratios rose by less than the all-firm ratios; they are "inferior" when their ratios rose by more than the all-firm ratios. The same definitions apply to table 11, introduced on page 340.

Chart V shows that, in a 29-industry sample, the MNCs in only eleven industries showed export growth that exceeded the all-firm performance, whereas the MNCs turned in an "inferior" record in eighteen industries. With respect to import growth, however, the MNCs had a slight edge in the number of industries which showed better MNC than all-firm performance (chart VI). Here the MNCs were "superior" in sixteen industries and "inferior" in only thirteen. Finally, in the comparisons of changes in the ratios of imports to exports (chart VII), the MNCs show a balanced pattern--"superior" in fifteen of the industries and "inferior" in fourteen of them.

Numbers are attached to the points made in these pictorial dis-

plays in table 11, which summarizes, for each of the "superior" and "inferior" industry groups in the charts, the values of new exports and new imports generated by the MNCs and all firms during the 1966-70 period. Thus, for new exports, the following picture emerges: The total increase in manufactured goods exports was $13.7 billion, of which all MNCs accounted for 58 percent ($8 billion). This 58 percent was divided into the new exports of the "MNC-superior" group (16 percent) and those of the "MNC-inferior" group (42 percent). Interestingly, the export performance of the MNCs in the "superior" group accounted for $2.2 billion or 264 percent of the all-firm increase in exports in their industries, the reason being that there were severe declines in the exports of the non-MNC firms in some of these industries. Note also that, while the MNCs accounted for only 45 percent of the new exports of the "inferior" group industries, the amount of new MNC imports generated in this group still accounted for 42 percent of the aggregate export growth of all industries and 72 percent of MNC export growth.

The figures corresponding to chart VI (the middle section of table 11), relate to import growth. Aggregate imports in U.S. manufacturing rose by $13.9 billion. New all-firm imports in the sixteen "MNC-superior" industries were $10.8 billion, or 78 percent of the total, whereas the MNCs in this group contributed only $3.3 billion, or 24 percent, of the total. The MNCs' share in the "inferior" group, where MNC imports grew faster than all-firm imports in each industry, still was only $1.3 billion or 9 percent of the aggregate increase. Overall, the MNCs were responsible, therefore,

Table 11.--Summary data on MNC vs. All-firm trade performance from charts V through VII

(Amounts in millions of dollars)

	Exports		Imports		Balance
	Amount	Percent of total change	Amount	Percent of total change	
From chart V: Comparisons of export growth rates:					
Change in exports, all firms	13,743	100	-		
Change in exports, eleven industries in which MNC export growth was faster than all-firm growth:					
All firms	850	6			
MNCs	1/ 2,242	16			
Change in exports, eighteen industries in which MNC export growth was slower than all-firm growth:					
All firms	12,893	94			
MNCs	5,792	42			
Change in MNC-related exports:					
Eleven MNC-superior industries	2,242	16			
Eighteen MNC-inferior industries	5,792				
Total MNC related exports	8,034	58			
From chart VI: Comparisons of import growth rates:					
Change in imports, all firms			13,902	100	
Change in imports, sixteen industries in which MNC import growth was slower than all-firm growth:					
All firms			10,805	78	
MNCs			3,317	24	
Change in imports, thirteen industries in which MNC import growth was faster than all-firm growth:					
All firms			3,097	22	
MNCs			1,312	9	
Change in MNC-related imports:					
Sixteen MNC-superior industries			3,317	24	
Thirteen MNC-inferior industries			1,312	9	
Total MNC related imports			4,629	33	
From chart VII: Comparisons of changes in ratios of imports to exports:					
All-firm performance	13,743	100	13,902	100	- 159
Performance in 15 industries where MNCs did better than all firms:					
All firms	7,663	55	9,589	68	- 1,926
MNCs	5,821	42	3,571	25	2,250
Performance in 14 industries where MNCs did worse than all firms:					
All firms	6,080	44	4,313	31	1,767
MNCs	2,213	16	1,058	7	1,155
Change in MNC-related trade:					
Fifteen MNC-superior industries	5,821	42	3,571	25	2,250
Fourteen MNC-inferior industries	2,213	16	1,058	7	1,155
Total MNC related trade	8,034	58	4,629	32	3,405

Notes:

1/ MNC figure is higher than all-firm figure because in several industries declines in non-MNC exports were offset by increases in MNC-related exports.

Source: Tables A-19 trhough A-23 in appendix to this chapter.

for a third of aggregate new imports over the period. In the "superior" group, the MNCs generated 31 percent of the group's new imports; in the "inferior" group, their share was only 42 percent. Clearly, therefore, the MNCs in both groups generated fewer new imports than did non-MNC firms, regardless of growth rates.

The bottom section of table 11 outlines the new-trade performance figures for the two groups of industries displayed individually in chart VII. These figures combine export and import performance. In all industries, all firms showed a slight change for the worse ($159 million) in the trade balance. In the "MNC-superior" group, however, the all-firm performance was much poorer; it shows a net excess of new imports over new exports of $1.9 billion. The MNCs in this group, on the other hand, generated new net exports of $2.25 billion, which more than offset the all-firm deficit. In the "MNC-inferior" group, all firms generated net new exports of $1.8 billion, of which $1.2 billion was attributable to the MNCs.

All through these data, there runs the suggestion that the MNCs may have out-performed the non-MNCs--even in some industries in which their performance was labelled "inferior" on the basis of the growth rate comparisons in the charts. Still more disaggregation is required to find out exactly what happened.

From the charts, it is possible to establish four performance categories which will permit a further evaluation of the MNCs' direct effect on new U.S. exports and imports. Two of these categories are unambiguous: (1) in industries where the MNCs' exports grew faster than all-firm exports <u>and</u> their imports grew more slowly than all-firm

imports, the net MNC effect on the trade balance is almost certainly favorable; and (2) in industries where the MNCs' imports grew faster than all-firm imports and their exports grew more slowly than all-firm exports, the net MNC effect is almost certainly unfavorable. These are the industries in which the plots in charts V and VI fell on the same side of the 45-degree line in both charts. The two other categories are ambiguous, as they embrace those industries whose plots fell on opposite sides of the lines in the two charts. These categories are: (1) industries in which the MNCs showed slower import growth but also slower export growth than all firms; and (2) industries in which the MNCs showed faster export growth but also faster import growth than all firms.

Industry-by-industry trade performance figures--new exports and new imports--for the MNCs, for all firms, and for the non-MNCs are presented for these four performance categories in table 12. In the table, it is possible to compare directly, for each industry, the performance of the MNCs with that of the non-MNCs. The need for evaluating MNC versus non-MNC results in each industry separately from the others is apparent from the table. There is no real progression as one moves down the list, with MNC performance worsening and non-MNC performance improving. However, the aggregates (subtotals) for each of the main performance categories do suggest such a progression, at least for the non-MNCs. In fact, the key to the performance of the MNCs *relative to* the non-MNCs is to be found on the right-hand side of the table. Whereas the MNCs, on balance, increased their net exports,

Table 12:--Comparisons of changes in trade performance, MNCs and all firms, 1966-1970

(Amounts in millions of dollars)

	Change in MNC-related trade			Change in all-firm trade			Net change in non-MNC trade	Industry position on chart VIII 1/
	Exports	Imports	Net	Exports	Imports	Net		
Industries in which MNC-related trade as compared with all-firm trade showed:								
Faster export growth and slower import growth:								
Office machines	552	37	515	73	447	-374	-889	(+)
Miscellaneous electrical machinery and equipment	15	13	2	-163	207	-370	-372	(+)
Rubber products	-36	38	-74	-83	491	-574	-500	(+)
Subtotals	531	88	443	-173	1,145	-1,318	-1,761	
Slower import growth but also slower export growth:								
Primary metals (excluding aluminum)	520	40	480	1,024	1,239	-215	-695	(+)
Transportation equipment	2,864	2,478	386	2,824	4,227	-1,403	-1,789	(+)
Industrial chemicals	414	32	382	668	231	437	55	(+)
Printing and publishing	26	6	20	73	79	-6	-26	(+)
Household appliances	8	15	-7	42	231	-189	-182	(+)
Plastic materials	-13	43	-56	468	124	344	400	(+)
Stone, clay, and glass products	51	281	-230	199	250	-51	179	(+)
Instruments	310	79	231	577	264	313	82	(-)
Radio, T.V., electronic components	328	236	92	1,044	1,118	-74	-166	(-)
Beverages	43	-38	81	75	226	-151	-232	(-)
Soaps and cosmetics	-2	6	-8	61	7	54	62	(-)
Grain mill products	-44	18	-62	357	30	327	389	(-)
Miscellaneous food products	-141	33	-174	1,587	1,634	-47	127	(-)
Subtotals	4,364	3,229	1,135	8,999	9,660	-661	-1,796	
Faster export growth but also faster import growth:								
Lumber, wood, and furniture	319	243	76	485	442	43	-33	(+)
Miscellaneous metal products	73	22	51	57	-124	181	130	(+)
Farm machinery and equipment	33	21	12	-257	17	-274	-286	(+)
Textiles and apparel	58	82	-24	-80	766	-846	-822	(+)
Primary and fabricated aluminum	393	0	393	170	-64	234	-159	(-)
Electrical equipment and apparatus	367	64	303	185	53	132	-171	(-)
Drugs	267	66	201	242	88	154	-47	(-)
Miscellaneous non-electrical machinery	201	74	127	221	-2	223	96	(-)
Subtotals	1,711	572	1,139	1,023	1,176	-153	-1,292	
Slower export growth and faster import growth:								
Industrial machinery and equipment and electronic computing equipment	967	220	747	2,333	997	1,336	589	(+)
Fabricated metals (excl. aluminum, copper, and brass)	167	79	88	718	397	321	233	(-)
Paper and allied products	238	192	46	432	130	302	256	(-)
Miscellaneous manufacturing (ordnance, tobacco, leather, other)	177	229	-52	514	584	-70	-18	(-)
Miscellaneous chemicals	-91	20	-111	-103	-152	49	160	(-)
Subtotals	1,458	740	718	3,894	1,956	1,938	1,220	
Totals	8,084	4,629	3,435	13,743	13,937	-194	-3,629	

Note:
1/ (+) = change in ratio of imports to exports less for MNCs than for all firms
(-) = change in ratio of imports to exports greater for MNCs than for all firms.

Source: Tables A-19 through A-23 in appendix to this chapter.

the non-MNCs, with the exception of those in the group of five industries at the bottom of the table, showed trade balance declines of considerable size. Across the spectrum of all manufacturing industries, the MNCs increased their net exports by $3,435 million, while the non-MNCs decreased theirs (or increased their net imports) by even more--$3,629 million.

The indirect effects.--A judgment about whether or not the sales of the MNCs' foreign affiliates have taken markets formerly served by U.S. exports really depends upon a crucial assumption. That is, can it be accepted that, in the absence of the foreign affiliates of the MNCs, U.S. exports would have been able to supply overseas markets against foreign competition, or would foreigners, investing in the stead of the MNCs, have taken those markets?

Clearly, a reasonable assessment dictates that it is necessary to assume at least some viability for the competition that the foreigner can mount. But it is impossible to say how much, since the evidence on which such a statement could be made for each industry is missing. Not even the MNCs themselves can assess their foreign competition with such accuracy.

A possible line of attack on measuring the indirect effects of MNC activity on changes in U.S. foreign trade is to assume the best possible case for the critics of the MNCs--namely that any loss of market shares which U.S. exports have experienced is attributed to the impact of MNC affiliates' foreign sales, and that, in the affiliates' absence, those markets would have been held by U.S. exports of

domestically produced merchandise. Under such assumptions, it is possible to estimate what amounts to an "upper bound" for the losses to U.S. exports which may have been due to the indirect effects of the MNCs' affiliates' sales. This "upper bound" estimate can then be compared with the results previously obtained as regards the MNCs' direct effects on U.S. trade, in order to arrive at estimates, for each industry and for the sum of all industries, of the total impact of the MNCs' operations on changes in U.S. foreign trade during the 1966-70 period.

The operable concept in deriving an "upper bound" estimate of the indirect effects is the idea of the "total market" served by productive enterprises owned by persons of U.S. nationality. This "market"--which may also be called the total market for goods produced by U.S. technology, enterprise, and knowhow (excluding goods produced and sold domestically)--can be defined as the sum of U.S. exports and the sales of all foreign affiliates of U.S. firms, both MOFAs and minority-owned affiliates (MINOFAs). On this definition, the calculation of the indirect effects is straightforward. If U.S. exports' share of that total "market" in 1966--the initial year of the period covered--is considered as a performance norm for U.S. exports, then any observed decline in that share by 1970 may be viewed as a loss for U.S. exports. 1/ Thus, the difference between actual exports of each industry in 1970 and the norm value so calculated is a

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1/ Choice of 1966 as the "norm" year was dictated principally by the availability of MNC-related trade data. Doubtlessly, an earlier year would better fit the "norm" concept. However, 1966 still serves as a year representative of sizeable U.S. trade surpluses. Aggregate U.S. exports exceeded imports by $3.9 billion in 1966.

measurement of the loss (or gain, as the case may be).

Detailed data on U.S. exports' "penetration" of this total market are presented in tables A-20 through A-22 in the appendix to this chapter, for 1966 and 1970. The necessary abstracts, and the actual calculations of losses and gains--under the assumptions described above--are presented in table 13 on the following page. Once again, stark differences in the showings of individual industries emerge. At the basic industry level, they range from a net gain of $1.7 billion for U.S. exports in the food processing industry to a net loss of $3.7 billion in the category of miscellaneous manufacturing.

The emergence of such a large estimated maximum loss in the catchall category of manufacturing is startling--the more so as, in the aggregate, the rest of manufacturing shows a net gain of $490 million. The imputed loss arises from a drastic drop in the share of U.S. exports in the worldwide "market" for the goods of this industry--from 64.3 percent to 23.5 percent--at the same time as the total size of the "market" increased from $2.5 billion in 1966 to $9.0 billion in 1970, one of the sharpest increases recorded in the manufacturing sector.

The very nature of this "miscellaneous" industry helps to illustrate the unrealism of the assumptions which have been applied--unrealism which works in the direction of overstating, rather than understating, the possible losses that might have arisen from the indirect effects. To illustrate this point, table 14 presents a list of just a small portion of the kinds of industrial activity

Table 13 :—Calculation of estimated maximum "gain" or "loss" to U.S. exports from indirect effects of MNC operations abroad, 1966-1970 1/

(Amounts in millions of dollars)

	Total "market" in 1966	U.S. exports' share of 1966 "market"	Total "market" in 1970	U.S. exports' share of 1970 "market"	Value of U.S. exports 1970	"Norm" value of U.S. exports 1970 1/	1970 value less "norm" value: "gain" (+) or "loss" (-)	"Gain" (+) or "loss" (-) under more realistic assumptions 2/
	(value)	(percent)	(value)	(percent)				
Food products	6,335	8.8	9,712	26.6	2,578	866	+1,712	+ 1,712
Grain mill products	1,173	18.8	1,868	31.0	578	351	+ 227	+ 227
Beverages	793	1.5	1,111	7.9	87	17	+ 70	+ 70
Other food products	4,369	7.4	6,733	28.5	1,913	498	+1,415	+ 1,415
Paper and allied products	2,365	28.6	3,462	32.1	1,109	990	+ 119	+ 119
Chemicals and allied products	10,799	24.8	16,745	24.0	4,012	4,142	- 130	+ 2
Drugs	1,942	13.8	3,329	15.4	511	459	+ 52	+ 52
Soaps and cosmetics	1,730	5.4	2,599	6.0	154	140	+ 14	+ 14
Industrial chemicals	2,418	42.8	4,198	40.6	1,702	1,797	- 95	- 48
Plastics materials	2,021	23.4	3,730	25.3	941	873	+ 68	+ 68
Other chemicals	2,688	30.1	2,899	24.3	704	873	- 169	- 84
Rubber products	2,613	16.3	3,072	11.2	344	501	- 157	- 79
Primary and fabricated metals	6,808	26.2	11,940	31.4	3,749	3,314	+ 435	+ 435
Primary metals (except aluminum)	1,372	49.3	3,071	55.4	1,700	1,514	+ 186	+ 186
Other metal products	5,436	20.3	8,869	23.1	2,049	1,800	+ 249	+ 249
Non-electrical machinery	12,189	45.5	19,476	40.7	7,917	8,373	- 456	- 41
Farm machinery and equipment	1,559	40.3	1,256	29.7	372	506	- 134	- 67
Industrial & misc. machinery and equipment	7,675	56.8	11,691	50.9	5,944	6,640	- 696	- 348
Office machines & electronic computing equipment	2,955	18.8	6,529	24.6	1,601	1,227	+ 374	+ 374
Electrical machinery & equipment	6,873	27.[illegible]	12,045	25.0	3,007	4,115	-1,108	- 554
Household appliances and other	4,043	26.3	5,102	12.8	650	1,342	- 692	- 346
Electrical equipment & apparatus	1,371	39.7	2,832	25.8	729	1,124	- 395	- 198
Electronic components, radio, T.V.	1,459	40.1	4,111	39.6	1,628	1,649	- 21	- 10
Transportation equipment	14,793	25.1	22,230	29.5	6,539	5,580	+ 959	+ 959
Textiles and apparel	1,621	49.6	2,445	29.7	724	1,213	- 489	- 244
Lumber, wood, and furniture	1,057	24.2	1,883	39.4	741	456	+ 285	+ 285
Printing and publishing	644	40.7	1,014	33.1	335	966	- 631	- 316
Stone, clay, and glass	1,402	19.8	2,373	20.1	477	470	+ 7	+ 7
Instruments	2,209	33.4	4,105	32.1	1,315	1,371	- 56	- 28
Miscellaneous manufacturing	2,498	64.3	9,026	23.5	2,121	5,804	-3,683	- 1,842
Sum							-3,193	+ 415
(Sum, excluding miscellaneous manufacturing)							+ 490	+ 2,257

Note: 1/ See text for explanation of concepts employed in this table.
2/ See text for description of assumptions.

Sources: Tables A-20 through A-22 in appendix to this chapter.

Table 14:-- A Partial list of manufacturing activities included in the "miscellaneous manufacturing" category used in this study.

SIC Code 19 1/, Ordnance and Accessories, of which:

Military tanks, guns, and related equipment
Small arms and ammunition, including sporting arms

SIC Code 21, Tobacco Products

SIC Code 31, Leather and Leather Products, of which:

Industrial leather belting and packing
Non-rubber footwear
Leather gloves and mittens
Luggage, handbags, and other personal leather goods

SIC Code 39, Miscellaneous Manufacturing, of which:

Jewelry
Silverware, plated ware, stainless steel ware, of which:

Cutlery, loving cups, trophies

Musical instruments, of which:

Accordions, piccolos, zithers

Toys and amusement, sporting and athletic goods, of which:

Dolls, blocks, drums, toy trains and equipment, balls (baseball, football, golf, etc.), fish and bait buckets, toboggans, wading pools

Pens, pencils, other office and artists' materials
Costume jewelry and costume novelties
Feathers, plumes, artificial trees and flowers
Buttons, needles, pins, hooks and eyes
Brooms and brushes
Signs and advertising displays
Burial caskets
Linoleum and other hard-surface floor coverings
Barber shop equipment
Christmas tree ornaments
Umbrellas and parts
Vibrators, electric
Zippers

1/ From 1967 SIC scheme. These items were shifted to codes 34, 36, 37, and 38 in the 1972 scheme, but they remain separate in the data used for this Study.

Source: Office of Management and Budget, Standard Industrial Classification Manual, 1972, Washington, 1972, pp. 70, 133-135, 153-201, 211-218.

which are included in the "miscellaneous" category--from accordions to zippers. Most of these are not the industries of the IBMs, the ITTs, the Monsantos, the Singers, and the General Foods of this world; they are the industries of the little fellows of manufacturing life. They are the industries in which, generally, technology is of a low level and is widespread, industries in which a business can be started with relatively little capital and run with relatively unskilled labor--the industries which, in short, are most easily entered by foreigners. Therefore, they are industries for which it is unreasonable to assume that foreigners would not have entered to compete with U.S. exports in the MNCs' affiliates' absence. To a greater or lesser degree, the same sort of reasoning about the assumptions has to apply across the entire manufacturing spectrum.

In light of the foregoing discussion, the unreality of the assumptions employed requires correction. It is clear that, in industries where losses in U.S. exports' shares appear, it is not proper to assume that, in the absence of the MNCs' MOFAs, shipments of domestic U.S. merchandise to foreign markets could have retained their 1966 shares of those markets. To come closer to reality, therefore, it has been assumed that, had the MNCs' foreign affiliates not been present (or had they not increased their shares of foreign markets) U.S. exports could have absorbed only half of the difference. In other words, half of the observed increase in the affiliates' market shares would have gone to foreign competitors rather than to U.S.

exporters. 1/ In industries where U.S. exports increased their shares, however--i.e., the industries where "gains" are shown in table 13--the calculations are left unchanged, on the assumption that the figures shown actually measure the demonstrated ability of U.S.-origin exports to compete in foreign markets.

The estimates relating to these revised assumptions are shown in the final column on the right-hand side of table 13. Strong variability in the performances of the different industries persists in this formulation, and the largest "loss" remains concentrated in the "miscellaneous manufacturing" industry. Overall, however, the new calculations show a small net "gain" of about $400 million and, excluding the "miscellaneous" category, a large net "gain" of $2.3 billion emerges.

Direct and indirect effects combined.--In table 15, the indirect and direct effects of MNC activity on changes in U.S. trade balances (new exports less new imports) are added to produce net gain or loss estimates for each of 24 basic industries or subsectors. The first column of the table is a repetition of the estimated indirect effects (under modified assumptions as described above), taken from the last column of table 13. These effects are the estimated deviations (plus or minus) from actual U.S. exports in 1970 that could have been realized in the MNCs' absence, had U.S. export performance norms of 1966 been maintained. The second column of the table--the direct

1/ There is no objective basis for this assumption. However, the 50 percent choice appeals to reason as a middle ground between weighting the analysis totally against the MNCs, and weighting it totally in their favor with respect to criticisms that the indirect effects are large.

Table 15: -- Estimates of effects of MNC activity on changes in U.S. foreign trade, 1966 - 1970. 1/

(Changes in net trade, in millions of dollars)

Rank	Industry	Indirect Gain or Loss (-)	Direct Gain or Loss (-)	Net Gain or Loss (-)
A. INDUSTRIES WHICH PRODUCED PROBABLE NET GAINS FOR U.S. TRADE BALANCES				
1.	Non-electrical machinery, except farm machinery	26	1,389	1,415
2.	Transportation equipment	959	386	1,345
3.	Miscellaneous food products	1,415	- 174	1,241
4.	Fabricated metals, primary aluminum	249	532	781
5.	Primary metals, except aluminum	186	480	666
6.	Lumber, wood products, and furniture	285	76	361
7.	Industrial chemicals	- 48	382	334
8.	Drugs	52	201	253
9.	Instruments	- 28	231	203
10.	Grain mill products	227	- 62	165
11.	Paper and allied products	119	46	165
12.	Beverages	70	81	151
13.	Electrical equipment and apparatus	- 198	303	105
14.	Electronic components, radio, T.V.	- 10	92	82
15.	Plastics materials	68	- 56	12
16.	Soaps and cosmetics	14	- 8	6
	Subtotal, Group A	3,386	3,899	7,285
B. INDUSTRIES WHICH PRODUCED PROBABLE NET LOSSES FOR U.S. TRADE BALANCES				
17.	Farm machinery and equipment	- 67	12	- 55
18.	Rubber products	- 79	- 74	- 153
19.	Miscellaneous chemicals	- 84	- 111	- 195
20.	Stone, clay, and glass products	7	- 230	- 223
21.	Textiles and apparel	- 244	- 24	- 268
22.	Printing and publishing	- 316	20	- 296
23.	Household appliances and misc. electrical machinery	- 346	- 5	- 351
24.	Miscellaneous manufacturing	- 1,842	- 52	-1,894
	Subtotal, Group B	- 2,971	- 464	-3,435
SUM, ALL INDUSTRIES		415	3,435	3,850

Notes:
1/ See text, pp. for explanations and definitions of concepts.

Sources: Tables 12 and 13.

effect estimates--is from table 12. The figures shown are the net trade performance figures of the MNCs.

The combined gain-loss calculations are arranged in two groups in table 15--those industries which showed net gains, and those which showed net losses. There are sixteen industries in the former group and eighty in the latter one; the net gains of the first group ($7,285 million) considerably exceed the net losses of the second group ($3,435 million). For manufacturing industry as a whole, therefore, the estimated net effect of MNC activity on changes in U.S. foreign trade performance in the 1966-70 period was a gain of about $3.8 billion.

An important result of the foregoing calculations is to show the wide variability of effects on U.S. trade performance exerted by MNCs in different lines of activity. The demonstration of this variability is a primary purpose of this entire analysis. That the estimated net effects are spread so far--from a positive impact of $1.4 billion in one industry to a negative $1.9 billion in another--suggests strongly that programs adopted to deal with any effects that are considered adverse from the national point of view ought to have some features of selectivity. Otherwise, there is a possibility that effects which are considered favorable in the overall could be unfavorable to specific industries.

STATISTICAL APPENDIX

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Table A-1.--All merchandise: Exports of the world and of selected countries, compared to exports generated by U.S. MNCs and their majority-owned foreign affiliates, 1966 and 1970

(Amounts in millions of U.S. dollars)

Area and country	Amount				Increase, or decrease (-) 1966 to 1970				Ratio (percent) of MNC exports to total exports	
	1966		1970		Amount		Percent			
	Total	MNC	Total	MNC	Total	MNC	Total	MNC	1966	1970
World total	201,800	43,046	309,200	72,759	107,400	29,713	53.2	69.0	21	24
United States	29,998	19,241	42,593	29,420	12,595	10,173	41.2	52.9	64	69
Canada	9,551	3,327	16,187	6,852	6,636	3,525	69.5	105.9	35	42
Latin America and other Western Hemisphere	10,871	4,333	13,260	4,746	2,389	413	22.0	9.5	40	36
of which--Mexico**	1,199	126	1,402	217	203	91	16.9	72.2	11	15
Brazil**	1,741	152	2,738	222	997	70	57.3	46.1	9	8
United Kingdom	14,132	2,664	19,351	3,374	5,219	710	36.9	26.7	19	17
European Economic Community (EEC)	52,650	4,532	88,520	8,607	35,870	4,075	68.1	89.9	9	10
of which--Belgium/Luxembourg**	6,832	875	11,609	1,558	4,777	683	69.9	78.1	13	13
France**	10,889	779	17,742	1,552	6,853	773	62.9	99.2	7	9
W. Germany**	20,134	1,424	34,189	2,666	14,055	1,242	69.8	87.2	7	8
Japan	9,777	84	19,318	350	9,541	266	97.6	316.7	1	2
Other Western Europe	19,538	2,494	29,639	4,409	10,101	1,915	51.7	76.8	13	15
Eastern Europe and U.S.S.R.	21,200	NA	31,000	NA	9,800	-	46.2	-	-	-
Australia/New Zealand/South Africa	5,844	340	7,993	758	2,149	418	36.8	122.9	6	9
Other Asia and Africa	25,210	4,655	37,100	10,029	11,890	5,374	47.2	115.4	18	27
International, Unallocated	89	1,369	99	3,747	10	-	11.2	-	-	-

**Partially estimated by Tariff Commission in lieu of entry or entries suppressed by the source agency.

Source: Total export data--United Nations Monthly Bulletin of Statistics, December 1971; MNC data--U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-2.--Manufactured Products: Exports by U.S. MNCs and their majority-owned affiliates (MOFAs) compared to their exports of all merchandise, world and selected countries, 1966 and 1970.

Industry	Total	Canada	United Kingdom	European Economic Community	Belgium-Luxembourg	France	W. Germany	Other Europe	Japan	Australia, New Zealand, and Republic of South Africa	Latin America	Brazil	Mexico	Other Africa and Asia	International and Unallocated	United States
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1970:																
All merchandise	72,759	6,852	3,374	8,607	1,558	1,552	2,666	4,409	350	758	4,746	222	256	10,496	3,747	29,420
Manufactured products	38,753	5,134	2,836	6,723	1,352	1,415	2,523	791	261	205	606	145	188	479	-	21,718
Manufactured products' share of total MNC-related exports (percent)	50	75	84	78	87	91	95	18	75	27	13	65	20	5	-	74
1966:																
All merchandise	43,046	3,327	2,664	4,532	875	779	1,424	2,494	84	340	4,333	152	126	4,655	1,369	19,247
Manufactured products	22,541	2,425	2,086	3,044	561	544	1,213	469	71	161	380	43	63	213	-	13,692
Manufactured products' share of total MNC-related exports	46	73	78	67	64	70	85	19	85	47	9	28	50	5	-	[illegible]
Change-1966-1970 (percent):																
All merchandise	69	106	27	90	78	99	87	77	317	123	10	46	103	115	-	53
Manufactured products	72	112	36	121	141	160	108	69	268	27	59	237	198	125	-	59

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-3.--Manufactured products: Total OECD exports, and corresponding exports by U.S. MNCs and their MOFAs in the OECD area, by industry, 1966

Industry	OECD exports: Total	U.S.-MNC-related OECD exports 1/: Total	Percent of OECD total	MNC-related exports by U.S. firms	Percent of U.S.-MNC related total	OECD area based MOFA exports	Percent of U.S.-MNC related total	Exports of MOFAs to countries outside the OECD area	Percent of total MOFA exports (by sectors)	MNC-related exports by U.S. firms (alternative classification) 3/
All manufacturing	107,751	21,787	20	13,692	63	8,095	37	754	9	15,031
Food products	4,707	1,103	23	740	67	363	33	303	45	1,074
Grain mill products	668	287	43	221	83	66	17	29	31	233
Beverages	1,253	96	8	40	42	56	58	3	5	47
Combinations / Other	2,786	720	25	479	67	241	33	271	53	794
Paper and allied products	4,293	923	22	413	45	510	55	23	1	403
Chemicals and allied products	11,710	2,860	24	1,956	68	904	32	113	11	2,107
Drugs	1,441	374	26	234	63	140	37	38	21	276
Soaps and cosmetics	495	189	38	103	55	86	45	4	4	101
Industrial chemicals	4,356	1,062	24	907	85	155	15	26	14	1,319
Plastics materials	2,062	506	25	267	53	239	47	9	4	95
Combinations / Other	3,356	729	22	445	61	284	39	36	11	318
Rubber	1,882	460	24	308	67	152	33	12	7	325
Primary and fabricated metals	15,745	1,458	9	1,142	78	316	22	76	19	[illegible]
Primary	8,842	533	6	**491	92	42	8	72	63	543
Fabricated, excluding aluminum, copper and brass										
Primary and fabricated aluminum	6,903	925	13	**651	70	274	30	4	1	387
Other				**						30
Machinery, except electrical	20,173	4,401	17	2,613	59	1,788	41	45	2	3/ 2,851
Farm machinery and equipment	1,836	748	41	**384	51	*364	49	3	1	*430
Industrial machinery and equipment	2/ 16,487	2/ 2,356	2/ 14	2/ 1,751	2/ 74	2/ 605	2/ 26	2/ 35	2/ 5	4/ **1,689
Office machines	1,196	404	34	**183	45	221	55	0	0	**256
Electronic computing equipment	654	893	137	**295	33	*598	67	7	1	*47
Other	2/	2/	2/	**2/	2/	2/	2/	2/	2/	156
Electrical machinery	8,569	2,029	24	**1,444	71	585	29	45	7	[illegible]
Household appliances	816	241	37	90	37	151	63	8	5	[illegible]
Electrical equipment and apparatus	2,509	823	33	**748	91	*75	8	1	1	[illegible]
Electronic components, radio, and TV	2,857	677	24	510	75	167	25	33	17	[illegible]
Other	2,387	288	12	**96	34	*192	66	3	2	**58
Transportation equipment	15,566	6,450	41	3,782	59	2,668	41	50	2	3,910
Textiles and apparel	9,686	178	2	124	69	54	31	22	29	[illegible]
Lumber, wood and furniture	2,312	195	8	**41	21	154	79	9	6	41
Printing and publishing	1,037	147	14	**94	64	53	36	10	16	111
Stone, clay, and glass products	2,035	349	17	208	60	141	40	6	4	[illegible]
Instruments	3,095	750	24	418	56	332	44	21	6	[illegible]
Other manufacturing	6,941	484	7	409	85	75	15	19	20	[illegible]

Notes:
* Tariff Commission estimate for entry suppressed by source agency.
** Partially estimated by Tariff Commission for entry or entries suppressed by the source agency.

1/ U.S.-MNC-related OECD exports include MNC-related exports by U.S. firms plus exports by MOFAs based in the OECD area.
2/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."
3/ MNC-related exports classified mainly by industry of parent.
4/ The value for "electronic computing equipment" is included in the entry for "industrial machinery and equipment."

Source: OECD, Commodity Trade: Exports; United Nations, World Trade Annual, Statistical Papers, Series D, Vol. XX, Commodity Trade Statistics, 1970; and official data from U.S. Department of Commerce, MNC figures supplied by U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-4.--Manufactured products: Total OECD exports, and corresponding exports by U.S. MNCs and their MOFAs in the OECD area, by industry, 1970

Industry	OECD exports	U.S.-MNC-related OECD exports 1/						Exports of MOFAs based outside the OECD area	Percent of total MOFA exports	MNC-related exports by U.S. firms (alternative classification 3/
	Total	Total	Percent of OECD total	MNC-related exports by U.S. firms	Percent of U.S.-MNC related total	OECD area based MOFA exports	Percent of U.S.-MNC related total			
All manufacturing, total	176,209	37,463	21	21,718	58	15,745	42	1,290	8	932
Food products	6,457	1,689	26	1,062	63	627	37	101	14	189
Grain mill products	818	374	46	227	61	*147	39	11	7	90
Beverages	1,820	123	7	**58	47	65	53	6	8	653
Combinations	3,819	1,192	31	**777	65	*415	35	84	17	641
Other						*				
Paper and allied products	6,544	1,368	21	609	45	759	55	36	5	2,682
Chemicals and allied products	18,855	4,238	22	2,342	55	1,896	45	274	13	543
Drugs	2,448	733	30	**361	49	*372	51	89	19	99
Soaps and cosmetics	791	309	39	**130	42	179	58	13	7	1,733
Industrial chemicals	7,018	1,671	24	1,198	72	*473	28	78	14	80
Plastics materials	3,878	828	21	*318	38	*510	62	31	6	227
Combinations	4,720	697	15	335	48	*362	52	63	15	289
Other										
Rubber	3,092	652	21	383	59	*269	41	42	14	2,437
Primary and fabricated metals	26,322	2,976	11	2,237	75	*739	25	154	17	1,063
Primary	16,015	1,157	7	976	84	*181	16	67	27	554
Fabricated, excluding aluminum, copper and brass	10,307	1,819	18	1,261	69	*558	31	87	13	717
Primary and fabricated aluminum						*				
Other										103
Machinery, except electrical	33,049	6,694	20	3,795	57	2,899	43	102	3	4,604
Farm machinery and equipment	2,143	732	34	**392	54	*340	46	10	3	4/ *483
Industrial machinery and equipment	2/ 26,788	2/ 4,061	2/ 15	2/ 2,428	2/ 60	2/ *1,633	2/ 40	2/ 45	2/ 3	**2,656
Office machines	2,727	844	31	576	68	268	32	19	7	**808
Electronic computing equipment	1,391	1,057	76	**399	38	*658	62	28	4	*4/
Other	2/	2/	2/	2/	2/	*2/	2/	2/	2/	657
Electrical machinery	15,401	3,113	20	2,060	66	*1,053	34	230	18	2,231
Household appliances	1,313	311	24	157	50	*154	50	0	0	93
Electrical equipment and apparatus	4,070	1,224	30	**978	80	*246	20	43	15	**1,170
Electronic components, radio, and TV	5,833	1,126	19	**734	65	*392	35	183	32	895
Other	4,185	452	11	**191	42	*261	58	4	2	**73
Transportation equipment	28,941	12,262	42	6,750	55	*5,512	45	136	2	6,774
Textiles and apparel	14,151	493	3	244	49	*249	51	30	11	183
Lumber, wood and furniture	3,491	643	18	**352	55	*291	45	81	22	363
Printing and publishing	1,490	283	19	144	51	139	49	34	20	137
Stone, clay, and glass products	3,160	549	17	267	49	282	51	27	9	254
Instruments	5,172	1,591	31	848	53	743	47	24	3	957
Other manufacturing	10,084	912	9	625	69	287	31	19	6	611

Notes:

* Tariff Commission estimate for entry suppressed by source agency.
** Partially estimated by Tariff Commission for entry or entries suppressed by the source agency.

1/ U.S.-MNC-related OECD exports include MNC-related exports by U.S. firms plus exports by MOFAs based in the OECD area.
2/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."
3/ MNC-related exports classified mainly by industry of parent.
4/ The value for "electronic computing equipment" is included in the entry for "industrial machinery and equipment."

Source: OECD, Commodity Trade: Exports; United Nations, World Trade Annual, Statistical Papers, Series D, Vol. XX, Commodity Trade Statistics, 1970; and official statistics of the U.S. Department of Commerce, MNC figures supplied by U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-5.--Manufactured products: Increase or decrease (-) in total OECD exports and exports by U.S. MNCs and their MOFAs, by industry, 1966-70

Industry	Amount (Millions of dollars)					Percent				
	OECD exports	MNC-related OECD exports 1/			Exports of MOFAs based outside the OECD area	OECD exports	MNC-related OECD exports			Exports of MOFAs based outside the OECD area
	Total	Total	MNC-related exports by U.S. firms	OECD area based MOFA exports		Total	Total	MNC-related exports by U.S. firms	OECD area based MOFA exports	
All manufacturing, total	68,458	15,676	8,086	7,650	536	64	72	59	95	71
Food products	1,750	586	322	264	-202	37	53	44	73	-61
Grain mill products	150	87	6	81	-18	22	30	3	123	-62
Beverages	567	27	18	9	3	45	28	45	16	100
Combinations	1,033	472	298	174	-187	37	66	62	72	-69
Other										
Paper and allied products	2,251	445	196	249	13	52	48	47	49	57
Chemicals and allied products	7,145	1,378	386	992	161	61	48	20	110	142
Drugs	1,007	359	127	232	51	70	96	54	166	134
Soaps and cosmetics	296	120	27	93	9	60	63	26	109	225
Industrial chemicals	2,662	609	291	318	52	61	57	32	205	200
Plastics materials	1,816	322	51	271	22	88	64	19	113	244
Combinations	1,364	-32	-110	78	27	41	-4	-25	27	75
Other										
Rubber	1,210	192	75	117	30	64	42	24	77	250
Primary and fabricated metals	10,577	1,518	1,095	423	78	67	104	96	134	103
Primary	7,173	624	485	139	-5	81	117	99	331	-07
Fabricated, excluding aluminum, copper, and brass	3,404	894	610	284	83	49	97	94	104	2,075
Primary and fabricated aluminum										
Other										
Machinery, except electrical	12,876	2,293	1,182	1,111	57	64	52	45	62	127
Farm machinery and equipment	307	-16	8	-24	7	17	-2	2	-1	233
Industrial machinery and equipment	2/ 10,301	2/ 1,705	2/ 677	2/ 1,028	2/ 10	2/ 62	2/ 72	2/ 39	2/ 170	2/ 29
Office machines	1,531	440	393	47	19	128	109	215	21	0
Electronic computing equipment	737	164	104	60	21	113	18	35	10	300
Other	2/	2/	2/	2/	2/	2/	2/	2/	2/	[illegible]
Electrical machinery	6,832	1,084	616	468	185	80	53	43	80	411
Household appliances	497	70	67	3	-8	61	29	74	2	-100
Electrical equipment and apparatus	1,561	401	230	171	42	62	49	31	228	4,200
Electronic components, radio, and TV	2,976	449	224	225	150	104	66	44	135	465
Other	1,798	164	95	69	1	75	57	99	36	[illegible]
Transportation equipment	13,375	5,812	2,968	2,844	86	86	90	78	107	[illegible]
Textiles and apparel	4,465	315	120	195	8	46	177	97	361	36
Lumber, wood and furniture	1,179	448	311	137	72	51	230	759	89	800
Printing and publishing	453	136	50	86	24	44	93	53	162	240
Stone, clay, and glass products	1,125	200	59	141	21	55	57	28	100	350
Instruments	2,077	841	430	411	3	67	112	103	124	14
Other manufacturing	3,143	428	216	212	0	45	88	53	283	0

1/ U.S. MNC-related OECD exports include MNC-related exports by U.S. firms plus exports by MOFAs based in the OECD area.
2/ The value for "Other" machinery is included in the entry for "industrial machinery and equipment."

Source: Tables A-3 and A-4.

Table A-6.—Manufactured products: MNC-related exports 1/, by category of exporter and by industry 1966 and 1970

(Amount in millions of U.S. dollars)

Industry	1966					1970					Increase, or decrease (-)					
	MNC-related exports, total	By U.S. firms		By majority-owned foreign affiliates of U.S. MNCs		MNC-related exports, total	By U.S. firms		By majority-owned foreign affiliates of U.S. MNCs		Amount			Percent		
		Amount	Percent of total	Amount	Percent of total		Amount	Percent of total	Amount	Percent of total	Total	By U.S. firms	By majority-owned foreign affiliates of U.S. MNCs	Total	By U.S. firms	By MOFAs of U.S. MNCs
All manufacturing	22,541	13,692	61	8,849	39	38,753	21,718	56	17,035	44	16,212	8,026	8,186	72	59	93
Food products	1,406	740	53	666	47	1,790	1,062	59	728	41	384	322	62	27	44	9
Grain mill products	316	221	70	95	30	385	227	59	*158	41	69	6	63	22	3	66
Beverages	90	40	40	59	60	129	58	45	71	55	30	18	12	30	45	20
Combinations	164	81	49	83	51	180	40	22	*140	98	16	-41	57	10	-51	69
Other	827	398	48	429	52	1,096	737	67	359	33	269	339	-70	33	85	-16
Paper and allied products	946	413	44	533	56	1,404	609	43	795	57	458	196	262	48	47	49
Chemicals and allied products	2,973	1,956	66	1,017	34	4,512	2,342	52	2,170	48	1,539	386	1,153	52	20	113
Drugs	412	234	57	178	43	822	361	44	461	56	410	127	238	100	54	159
Soaps and cosmetics	193	103	53	90	47	322	130	40	192	60	129	27	102	67	26	113
Industrial chemicals	1,088	907	83	181	17	1,749	1,198	68	551	33	661	291	370	61	32	204
Plastics materials	515	267	52	248	80	859	318	37	541	63	344	51	293	67	19	118
Combinations	247	92	37	155	63	372	114	31	258	69	-125	22	103	51	24	66
Other	518	353	68	165	32	388	221	57	167	15	-130	-132	2	-25	-37	1
Rubber	472	308	65	164	35	694	383	55	311	45	222	75	147	47	24	90
Primary and fabricated metals	1,534	1,142	74	392	26	3,130	2,237	71	893	29	1,596	1,095	501	104	96	128
Primary	605	**491	81	114	19	1,224	**976	80	248	20	619	485	134	102	99	118
Fabricated, excluding aluminum, copper, and brass	548	356	65	192	69	1,055	554	53	501	47	507	198	309	93	56	161
Primary and fabricated aluminum	343	**276	80	67	19	744	**627	84	**117	16	401	351	50	117	127	75
Other	38	**19	50	19	50	107	**80	75	**27	25	69	61	8	182	321	42
Machinery, except electrical	4,446	2,613	59	1,833	41	6,796	3,795	56	3,001	44	2,350	1,182	1,168	53	45	64
Farm machinery and equipment	751	**384	51	*367	48	742	392	53	*350	47	-9	8	-17	-1	2	-5
Industrial machinery and equipment	1,725	1,267	73	458	27	2,903	1,694	58	1,209	42	1,178	427	751	68	34	164
Office machines	404	**183	45	221	55	863	**576	67	287	33	459	393	66	114	215	30
Electronic computing equipment	900	*295	33	*605	67	1,085	*399	37	**686	63	185	104	81	21	35	13
Other	666	**484	73	182	27	1,203	**734	61	469	39	537	250	287	81	52	158
Electrical machinery	2,074	1,444	70	630	30	3,343	2,060	62	**1,283	38	1,269	616	653	63	43	104
Household appliances	249	90	36	159	64	311	157	50	**154	50	62	67	-5	25	74	-3
Electrical equipment and apparatus	824	**748	91	*76	19	1,267	**978	77	**289	23	443	230	213	54	31	280
Electronic components, radio, and TV	710	510	72	200	38	1,309	734	56	575	44	599	224	375	84	44	188
Other	291	**96	33	*195	67	456	**191	42	*265	66	165	95	70	57	99	36
Transportation equipment	6,500	3,782	58	2,718	42	12,398	6,750	54	*5,648	46	5,898	2,968	2,930	91	78	108
Textiles and apparel	200	124	62	76	39	523	244	47	*279	53	323	120	203	162	97	267
Lumber, wood, and furniture	204	**41	20	163	80	724	**352	49	372	51	520	311	209	255	759	128
Printing and publishing	157	**94	60	63	40	317	**144	45	173	55	160	50	110	102	53	175
Stone, clay, and glass products	355	208	59	147	41	576	267	46	309	54	221	59	162	62	28	110
Instruments	771	418	54	353	46	1,615	848	53	**767	47	844	430	414	109	103	117
Other manufacturing	503	409	81	94	18	931	625	67	**306	33	428	216	212	85	52	226

*Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.
1/ The term "MNC-related exports" includes (a) U.S. parent MNCs' exports to foreign residents, (b) U.S. exports by non-affiliated U.S. suppliers to majority-owned foreign affiliates of U.S. MNCs, and (c) exports by majority-owned foreign affiliates of U.S. MNCs to foreign residents.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-7.--Manufactured products: Exports of U.S. merchandise, by or for the account of U.S. MNCs, to majority-owned foreign affiliates (MOFAs) and to other foreign customers, by industry, 1966

(Amounts in millions of U.S. dollars)

Industry	U.S. merchandise exported						
	Total	MOFAs of U.S. MNCs				Other foreign customers 1/ 2/	
		Products of U.S. parent MNCs		Products of other U.S. firms 1/			
		Amount	Percent of col (1)	Amount	Percent of col (1)	Amount	Percent of col (1)
All manufacturing	13,692	4,050	30	1,239	9	8,403	61
Food products	740	100	14	179	24	461	62
Grain mill products	221	13	6	62	28	146	66
Beverages	40	9	23	13	33	18	45
Combinations	81	12	15	69	85	0	0
Other	398	66	17	35	9	297	75
Paper and allied products	413	46	11	38	9	329	80
Chemicals and allied products	1,956	594	30	191	10	1,171	60
Drugs	234	103	44	14	6	117	50
Soaps and cosmetics	103	30	29	30	29	43	42
Industrial chemicals	907	124	14	47	5	736	81
Plastics materials	267	192	72	35	13	40	15
Combinations	92	76	83	16	17	0	0
Other	353	69	20	49	14	235	67
Rubber	308	120	39	45	15	143	46
Primary and fabricated metals	1,142	157	14	62	5	923	81
Primary	491	31	6	**10	2	450	92
Fabricated, excld. aluminum, copper, and brass	356	48	13	22	6	286	80
Primary and fabricated aluminum	276	71	26	**26	9	179	65
Other	19	7	37	**4	21	8	42
Machinery, except electrical	2,613	914	35	120	5	1,579	60
Farm machinery and equipment	384	199	52	**27	7	*158	41
Industrial machinery and equipment	1,267	254	20	41	3	972	77
Office machines	183	*111	61	**9	5	63	34
Electronic computing equipment	295	*193	65	*31	11	*71	24
Other	484	157	32	*12	2	315	65
Electrical machinery	1,444	333	23	92	6	1,019	71
Household appliances	90	44	49	16	18	30	33
Electrical equipment and apparatus	748	157	21	**19	3	572	76
Electronic components, radio, and TV	510	91	18	28	5	391	77
Other	96	41	43	**29	30	26	27
Transportation equipment	3,782	1,447	38	405	11	1,930	51
Textiles and apparel	124	11	9	19	15	94	76
Lumber, wood, and furniture	41	3	7	**7	17	31	76
Printing and publishing	94	25	27	**6	6	63	67
Stone, clay, and glass products	208	61	30	31	15	116	56
Instruments	418	197	48	21	5	200	48
Other manufacturing	409	42	10	23	6	344	84

1/ Charged on the books of the parent U.S. MNCs.
2/ The sources of these exports are not known; they apparently may include the products of both the MNCs and of other U.S. suppliers. Also, although exported to other foreign customers, some of these exports may have been charged to MOFAs.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

*Tariff Commission estimate for entry suppressed by the source agency.
**Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-8.--Manufactured products: Exports of U.S. merchandise, by or for the account of U.S. MNCs, to majority-owned foreign affiliates (MOFAs) and to other foreign customers, by industry, 1970

(Amounts in millions of dollars)

Industry	U.S. merchandise exported						
	Total	MOFAs of U.S. MNCs: Products of U.S. parent MNCs		MOFAs of U.S. MNCs: Products of other U.S. firms 1/		Other foreign customers 1/ 2/	
		Amount	Percent of col (1)	Amount	Percent of col (1)	Amount	Percent of col (1)
All manufacturing	21,718	6,831	32	1,996	9	12,891	59
Food products	1,062	349	33	158	15	555	52
Grain mill products	227	105	46	29	13	93	41
Beverages	58	11	19	6	10	41	71
Combinations	40	7	18	33	83	0	0
Other	737	226	31	90	12	421	57
Paper and allied products	609	144	24	86	14	379	62
Chemicals and allied products	2,342	813	35	82	4	1,447	62
Drugs	361	135	37	5	1	221	61
Soaps and cosmetics	130	58	45	31	24	41	32
Industrial chemicals	1,198	176	15	19	2	1,003	84
Plastics materials	318	271	85	11	3	36	11
Combinations	114	113	99	1	1	0	0
Other	221	60	27	15	7	146	66
Rubber	383	124	32	24	6	235	61
Primary and fabricated metals	2,237	253	11	88	4	1,896	85
Primary	976	43	4	**39	4	894	92
Fabricated, excld. aluminum, copper, and brass	554	118	21	45	8	391	71
Primary and fabricated aluminum	627	53	8	**3	0	571	91
Other	80	39	49	**1	1	40	50
Machinery, except electrical	3,795	1,632	43	88	2	2,075	55
Farm machinery and equipment	392	191	49	**1	0	*200	51
Industrial machinery and equipment	1,694	429	25	58	3	1,207	71
Office machines	576	*428	74	**3	1	145	25
Electronic computing equipment	399	*296	74	*13	3	*90	23
Other	734	288	39	**13	2	433	59
Electrical machinery	2,060	509	25	84	4	1,467	71
Household appliances	157	22	14	23	15	112	71
Electrical equipment and apparatus	978	148	15	**6	1	824	84
Electronic components, radio, and TV	734	185	25	31	4	518	71
Other	191	154	81	**24	13	13	7
Transportation equipment	6,750	2,142	32	1,199	18	3,409	50
Textiles and apparel	244	78	32	21	9	145	59
Lumber, wood, and furniture	352	29	8	**11	3	312	89
Printing and publishing	144	30	21	**33	23	81	56
Stone, clay, and glass products	267	71	27	18	7	178	67
Instruments	848	513	60	55	6	280	33
Other manufacturing	625	144	23	49	8	432	69

1/ Charged on the books of the parent U.S. MNCs.

2/ The sources of these exports are not known; they apparently may include the products of both the MNCs and of other U.S. suppliers. Also, although exported to other foreign customers, some of these exports may have been charged to MOFAs.

*Tariff Commission estimate for entry suppressed by the source agency.

**Partly estimated by the Tariff Commission in lieu of entry of entries suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-9.—Manufactured products: Change in exports of U.S. merchandise, by or for the account of U.S. MNCs, to majority-owned foreign affiliates (MOFAs) and to other foreign customers, by industry, 1966 to 1970

(Amounts in millions of U.S. dollars)

Industry	Increase, or decrease (-)							
	Amount				Percent			
	Total	U.S. merchandise exported						
		MOFAs of U.S. MNCs		Other foreign customers	MOFAs of U.S. MNCs		Other foreign customers	Total
		Products of U.S. MNCs	Products of other U.S. firms		Products of U.S. MNCs	Products of other U.S. firms		
All manufacturing	8,026	2,781	757	4,488	69	61	53	59
Food products	322	249	-21	94	249	-12	20	44
Grain mill products	6	92	-33	-53	708	-53	-36	3
Beverages	18	2	-7	23	22	-54	128	45
Combinations	-41	-5	-36	0	-42	-52	0	-51
Other	339	160	55	124	242	157	42	85
Paper and allied products	196	98	48	50	213	126	15	47
Chemicals and allied products	386	219	-109	276	37	-57	24	20
Drugs	127	32	-9	104	31	-64	89	54
Soaps and cosmetics	27	28	1	-2	93	3	-5	26
Industrial chemicals	291	52	-28	267	42	-60	36	32
Plastics materials	51	79	-24	-4	41	-69	-10	19
Combinations	22	37	-15	0	49	-94	0	24
Other	-132	-9	-34	-89	-12	-69	-38	-37
Rubber	75	4	-21	92	3	-47	64	24
Primary and fabricated metals	1,095	96	26	973	61	42	105	96
Primary	485	12	29	444	39	290	99	99
Fabricated, excld. aluminum, copper, and brass	198	70	23	105	146	132	37	56
Primary and fabricated aluminum	351	-18	-23	392	-25	-88	219	127
Other	61	32	-3	32	457	-650	400	321
Machinery, except electrical	1,182	718	-32	496	79	-27	31	45
Farm machinery and equipment	8	-8	-26	42	-4	-96	27	2
Industrial machinery and equipment	427	175	17	235	69	41	24	34
Office machines	393	317	-6	82	286	-67	130	215
Electronic computing equipment	104	103	-18	19	53	-58	27	35
Other	250	131	1	118	83	8	38	52
Electrical machinery	616	176	-8	448	53	-9	44	43
Household appliances	67	-22	7	82	-50	44	273	74
Electrical equipment and apparatus	230	-9	-13	252	-6	-68	44	31
Electronic components, radio, and TV	224	94	3	127	103	11	32	44
Other	95	113	-5	-13	276	-17	-50	99
Transportation equipment	2,968	695	794	1,479	48	196	77	79
Textiles and apparel	120	67	2	51	609	11	54	97
Lumber, wood, and furniture	311	26	4	281	867	57	906	759
Printing and publishing	50	5	27	18	20	450	29	53
Stone, clay, and glass products	59	10	-13	62	16	-42	53	28
Instruments	430	316	34	80	160	162	40	102
Other manufacturing	216	102	26	88	243	113	26	53

Source: Tables A-7 and A-8.

Table A-10.--Manufactured products: World-wide exports of majority-owned foreign affiliates (MOFAs) of U.S. MNCs, by affiliation of customers, by industry, 1966

(Amounts in millions of U.S. dollars)

Industry	Grand total	To affiliated customers: Total: Amount	Total: Percent of Col. (1)	Parent U.S. MNCs: Amount	Parent U.S. MNCs: Percent of Col. (1)	3rd country affiliates: Amount	3rd country affiliates: Percent of Col. (1)	To unaffiliated customers: Amount	To unaffiliated customers: Percent of Col. (1)
All manufacturing	8,849	5,479	62	2,197	25	3,282	37	3,370	38
Food products	666	292	44	153	23	139	21	373	56
Grain mill products	95	1/	1/	1/	1/	1/ 7	1/	1/	1/
Beverages	59	37	63	29	49	8	14	22	37
Combinations	83	1/ 39	1/ 22	1/ 21	1/ 12	11	1/ 10	1/ 139	1/ 78
Other	429	216	50	103	24	113	26	213	50
Paper and allied products	533	353	66	327	61	26	5	180	34
Chemicals and allied products	1,017	452	44	105	10	347	34	565	56
Drugs	178	86	48	14	8	72	40	92	52
Soaps and cosmetics	90	46	51	3	3	43	48	44	49
Industrial chemicals	181	82	45	16	9	66	36	99	55
Plastics materials	248	95	38	20	8	75	30	153	62
Combinations	155	90	58	46	30	44	28	65	42
Other	165	53	32	6	4	47	28	112	68
Rubber	164	76	46	9	5	67	41	88	54
Primary and fabricated metals	392	158	40	30	8	128	32	234	60
Primary	114	82	72	12	11	70	61	32	28
Fabricated, excluding aluminum, copper and brass	192	53	28	10	5	43	23	139	72
Primary and fabricated aluminum	67	23	27	8	9	14	18	63	73
Other	19					1			
Machinery, except electrical	1,833	1,272	69	243	13	1,029	56	561	31
Farm machinery and equipment	*367	279	76	98	27	181	49	88	24
Industrial machinery and equipment	458	143	31	29	6	114	25	315	69
Office machines	221	167	76	53	24	114	52	54	24
Electronic computing equipment	*605	683	87	63	8	620	79	104	13
Other	182								
Electrical machinery	630	324	51	152	24	172	27	306	49
Household appliances	159	122	77	46	29	76	48	37	23
Electrical equipment and apparatus	*76	37	49	12	16	25	33	39	51
Electronic components, radio, and T.V.	200	123	62	75	38	48	24	77	38
Other	*195	42	22	19	10	23	12	153	78
Transportation equipment	2,718	2,150	79	959	35	1,191	44	568	21
Textiles and apparel	76	28	37	21	28	7	9	48	63
Lumber, wood, and furniture	163	40	25	40	25	0	0	123	75
Printing and publishing	63	12	19	4	6	8	13	51	81
Stone, clay, and glass products	147	76	52	52	35	24	17	71	48
Instruments	353	222	63	90	25	132	38	131	37
Other manufacturing	94	24	26	12	13	12	13	70	74

1/ The value for "grain mill products" is included in the entry for "combinations."

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Note: *Tariff Commission estimate for entry suppressed by source agency.

Table A-11.—Manufactured products: World-wide exports of majority-owned foreign affiliates (MOFAs) of U.S. MNCs, by affiliation of customers, by industry, 1970

(Amounts in millions of U.S. dollars)

Industry	Grand Total	To affiliated customers						To unaffiliated customers	
		Total		Parent U.S. MNCs		3rd country affiliates			
		Amount	Percent of Col. (1)	Amount	Percent of Col. (1)	Amount	Percent of Col. (1)	Amount	Percent of Col. (1)
All manufacturing	17,035	10,782	63	4,827	28	5,955	35	6,253	37
Food products	728	246	34	76	10	170	23	482	66
Grain mill products	*158	1/	1/	1/	1/	45	1/	1/	1/
Beverages	71	20	28	19	27	1	1	51	72
Combinations	*140	1/ 77	1/ 26	1/ 5	1/ 2	27	1/ 24	1/ 221	1/ 74
Other	359	149	42	52	15	97	27	210	58
Paper and allied products	795	501	63	439	55	62	8	294	37
Chemicals and allied products	2,170	972	45	203	9	769	36	1,198	55
Drugs	461	202	44	45	10	157	34	259	56
Soaps and cosmetics	192	62	32	4	2	58	30	130	68
Industrial chemicals	551	168	30	14	2	154	28	383	70
Plastics materials	541	319	59	30	6	289	53	222	41
Combinations	258	98	38	36	14	62	24	160	62
Other	167	123	74	74	44	49	30	44	26
Rubber	311	202	65	62	20	140	45	109	35
Primary and fabricated metals	893	197	22	37	4	160	18	696	78
Primary	248	52	21	6	2	46	19	196	79
Fabricated, excluding aluminum, copper and brass	501	116	23	18	4	98	19	385	77
Primary and fabricated aluminum	**117					16			
Other	**27	29	20	13	9	0	11	115	80
Machinery, except electrical	3,001	1,860	62	400	13	1,460	49	1,141	38
Farm machinery and equipment	*350	309	88	155	44	154	44	41	12
Industrial machinery and equipment	1,209	451	37	124	10	327	27	758	63
Office machines	287	237	83	43	15	194	68	50	17
Electronic computing equipment	**686								
Other	469	863	75	78	7	785	68	292	25
Electrical machinery	**1,283	936	73	425	33	511	40	347	27
Household appliances	**154	156	101	29	19	127	83	-2	-1
Electrical equipment and apparatus	**289	204	71	123	43	81	28	85	29
Electronic components, radio, and T.V.	575	437	76	253	44	184	32	138	24
Other	*265	135	52	20	7	119	45	126	48
Transportation equipment	*5,648	4,761	84	2,733	48	2,028	36	887	16
Textiles and apparel	*279	175	63	104	37	71	26	104	37
Lumber, wood, and furniture	372	102	27	95	25	7	2	270	73
Printing and publishing	173	95	55	44	25	51	30	78	45
Stone, clay, and glass products	309	57	18	23	7	34	11	252	82
Instruments	**767	486	63	158	20	328	43	281	37
Other manufacturing	**306	192	63	28	9	164	54	114	37

1/ The value for "grain mill products" is included in the entry for "combinations."

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Note: *Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-12.—Manufactured products: Change in World-wide exports of majority-owned foreign affiliates (MOFAs) of U.S. MNCs, by affiliation of customers, by industry, 1966-70

(Amount in millions of U.S. dollars)

Industry	Increase or decrease (-)									
	Amount					Percent				
	Grand total	To affiliated customers			To unaffiliated customers	Grand total	To affiliated customers			To unaffiliated customers
		Total	Parent U.S. MNCs	3rd country affiliates			Total	Parent U.S. MNCs	To 3rd country affiliates	
All manufacturing	8,186	5,303	2,630	2,473	2,883	93	97	120	81	86
Food products	62	-46	-77	31	108	9	-16	-50	22	29
Grain mill products	63	1/	1/	38		-	2/	1/	543	-
Beverages	12	-17	-10	-7	29	20	-46	34	-88	132
Combinations	57	1/ 38	-16	16	82	69	1/ 97	-76	145	59
Other	-70	-67	-51	-16	-3	-16	-31	-50	-14	-1
Paper and allied products	262	148	112	36	114	49	42	34	138	63
Chemicals and allied products	1,153	520	98	422	633	113	115	93	122	112
Drugs	283	116	31	85	167	159	135	221	118	182
Soaps and cosmetics	102	16	1	15	86	113	35	33	35	195
Industrial chemicals	370	86	-2	88	284	204	105	-13	133	287
Plastics materials	293	224	10	214	69	118	236	50	285	45
Combinations	103	8	-10	18	95	66	9	-22	41	146
Other	2	70	68	2	-68	1	132	1,133	4	-61
Rubber	147	126	53	73	21	90	166	589	109	24
Primary and fabricated metals	501	39	7	32	462	128	25	83	25	197
Primary	134	-30	-6	-24	164	118	-37	-50	-34	513
Fabricated, excluding aluminum, copper and brass	309	63	8	55	246	161	119	80	128	177
Primary and fabricated aluminum	50	6	5	2	52	75	26	63	14	83
Other	8			-1		42			100	
Machinery, except electrical	1,168	588	157	431	580	64	46	65	42	104
Farm machinery and equipment	-17	30	57	-27	-47	-5	11	58	-15	53
Industrial machinery and equipment	751	308	95	213	443	164	215	328	187	141
Office machines	66	70	-10	80	-4	30	42	-19	70	-7
Electronic computing equipment	81	180	15	165	188	13	26	24	27	181
Other	287					158				
Electrical machinery	653	612	273	339	41	104	189	180	197	13
Household appliances	-5	34	-19	51	-39	-3	28	-41	67	-105
Electrical equipment and apparatus	213	167	111	56	46	280	451	925	224	118
Electronic components, radio, and T.V.	375	314	178	136	61	188	255	237	283	79
Other	70	97	1	96	-27	36	231	5	417	-18
Transportation equipment	2,930	2,611	1,774	834	319	108	121	185	70	56
Textiles and apparel	203	147	83	64	56	267	525	395	914	117
Lumber, wood, and furniture	209	62	55	7	147	128	155	138	-	120
Printing and publishing	110	83	40	43	27	175	692	1,000	538	53
Stone, clay, and glass products	162	-19	-29	10	181	110	-25	-56	42	255
Instruments	414	264	68	196	150	117	119	76	149	115
Other manufacturing	212	168	16	152	44	226	700	133	1,267	63

1/ The value for "grain mill products" is included in the entry for "combinations."

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-13.--Manufactured products: World-wide exports of U.S. MNCs and of their MOFAs, by affiliation of customer, by industry, 1966

(Amounts in millions of U.S. dollars)

Industry	Grand total			Exports of U.S. MNCs			Exports of MOFAs		
	Amount 1/	Intra-company exports		Total	To MOFAs		Total	To parent U.S. MNCs and 3rd country affiliates	
		Amount 2/	Percent of Col. (1)		Amount	Percent of Col. (4)		Amount	Percent of Col. (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All manufacturing	22,541	9,842	44	13,692	4,363	32	8,849	5,479	62
Food products	1,406	441	31	740	149	20	666	292	44
Grain mill products	316	68	22	221	40	18	95	28	29
Beverages	99	50	51	40	13	33	59	37	63
Combinations	164	26	16	81	15	19	83	11	13
Other	827	297	36	398	81	20	429	216	50
Paper and allied products	946	422	45	413	69	17	533	353	66
Chemicals and allied products	2,973	1,113	37	1,956	661	34	1,017	452	44
Drugs	412	195	47	234	109	47	178	86	48
Soaps and cosmetics	193	97	50	103	51	50	90	46	51
Industrial chemicals	1,088	211	19	907	129	14	181	62	45
Plastics materials	515	296	57	267	201	75	248	95	38
Combinations	247	170	69	92	80	87	155	90	58
Other	518	144	28	353	91	26	165	52	32
Rubber	472	213	45	308	137	44	164	76	46
Primary and fabricated metals	1,534	329	21	1,142	171	15	392	158	40
Primary	605	116	19	**491	**34	7	114	82	72
Fabricated, excluding aluminum, copper and brass	548	108	20	356	55	15	192	53	28
Primary and fabricated aluminum	343	105	28	**276	**73	26	67	23	27
Other	38			**19	**9	47	19		
Machinery, except electrical	4,446	2,203	50	2,613	931	36	1,833	1,272	69
Farm machinery and equipment	751	480	64	**384	201	52	*367	279	76
Industrial machinery and equipment	1,725	404	23	1,267	261	21	458	143	31
Office machines	404	283	70	**183	**116	63	221	167	76
Electronic computing equipment	900	1,036	66	*295	*195	66	*605	683	87
Other	666			**484	**158	33	182		
Electrical machinery	2,074	699	34	1,444	375	26	630	324	51
Household appliances	249	170	68	90	48	53	159	122	77
Electrical equipment and apparatus	824	197	24	748	160	21	*76	37	49
Electronic components, radio, and T.V.	710	225	32	510	102	20	200	123	62
Other	291	107	37	**96	65	68	*195	42	22
Transportation equipment	6,500	3,640	56	3,782	1,490	39	2,718	2,150	79
Textiles and apparel	200	52	26	124	24	19	76	28	37
Lumber, wood, and furniture	204	44	22	**41	**4	10	163	40	25
Printing and publishing	157	38	24	**94	**26	28	63	12	19
Stone, clay, and glass products	355	145	41	208	69	33	147	75	51
Instruments	771	421	55	418	199	48	353	222	63
Other manufacturing	503	82	16	409	58	14	94	24	26

1/ Figures in this column are the sums of figures in Cols. (4) and (7).
2/ Figures in this column are the sums of figures in Cols. (5) and (8).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Note: *Tariff Commission estimate for entry suppressed by source agency.
**Partially estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-14.--Manufactured products: World-wide exports of U.S. MNCs and of their MOFAs, by affiliation of customer, by industry, 1970

(Amount in millions of U.S. dollars)

Industry	Grand total			Exports of U.S. MNCs			Exports of MOFAs		
	Amount 1/	Intra-company exports		Total	To MOFAs		Total	To parent U.S. MNCs and 3rd country affiliates	
		Amount 2/	Percent of Col. (1)		Amount	Percent of Col. (4)		Amount	Percent of Col. (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All manufacturing	38,753	18,489	49	21,718	7,707	35	17,035	10,782	66
Food products	1,790	608	34	1,062	362	34	728	246	34
Grain mill products	385	2/	2/	227	106	47	*158	2/	2/
Beverages	129	31	24	58	11	19	71	20	28
Combinations	180	2/ 192	2/ 34	40	9	23	*140	2/ 77	2/ 26
Other	1,096	385	35	737	236	32	359	149	42
Paper and allied products	1,404	651	46	609	150	25	795	501	63
Chemicals and allied products	4,512	1,817	40	2,342	845	36	2,170	972	45
Drugs	822	340	41	361	138	38	461	202	44
Soaps and cosmetics	322	132	41	130	70	54	192	62	32
Industrial chemicals	1,749	349	20	1,198	181	15	551	168	30
Plastics materials	859	598	70	318	279	88	541	319	59
Combinations	372	212	57	114	114	100	258	98	38
Other	388	186	48	221	63	29	167	123	74
Rubber	694	350	50	383	148	39	311	202	65
Primary and fabricated metals	3,130	475	15	2,237	278	12	893	197	22
Primary	1,224	103	8	**976	**51	5	248	52	21
Fabricated, excluding aluminum, copper and brass	1,055	247	23	554	131	24	501	116	23
Primary and fabricated aluminum	744	125	15	**627	**56	9	**117	29	20
Other	107			**80	**40	50	**27		
Machinery, except electrical	6,796	3,534	52	3,795	1,674	44	3,001	1,860	62
Farm machinery and equipment	742	501	68	**392	**192	49	*350	309	88
Industrial machinery and equipment	2,903	908	31	1,694	457	27	1,209	451	37
Office machines	863	668	77	**576	**431	75	287	237	83
Electronic computing equipment	1,085	1,457	64	*399	*298	75	**686	863	75
Other	1,203			**734	**296	40	469		
Electrical machinery	3,343	1,511	45	2,060	575	28	**1,283	936	73
Household appliances	311	195	63	157	39	25	**154	156	101
Electrical equipment and apparatus	1,267	355	28	**978	151	15	**289	204	71
Electronic components, radio, and T.V.	1,309	647	49	734	210	29	575	437	76
Other	456	314	56	**191	175	92	*265	139	52
Transportation equipment	12,398	7,509	61	6,750	2,748	41	*5,648	4,761	84
Textiles and apparel	523	272	52	244	97	40	*279	175	63
Lumber, wood, and furniture	724	142	20	**352	**40	11	372	102	27
Printing and publishing	317	131	41	**144	**36	25	173	95	55
Stone, clay, and glass products	576	143	25	267	86	32	309	57	18
Instruments	1,615	1,008	62	848	522	62	**767	486	63
Other manufacturing	931	338	36	625	146	23	**306	192	63

1/ Figures in this column are the sums of figures in Cols. (4) and (7).
2/ Figures in this column are the sums of figures in Cols. (5) and (8).

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Note: * Tariff Commission estimate for entry suppressed by source agency.
** Partially estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-15.—Manufactured products: Change in world-wide exports of U.S. MNCs and of their MOFAs by affiliation of customer, by industry, 1966-1970

Industry	Increase, or decrease (-)											
	Amount						Percent					
	Grand total	Intra-company total	Exports of U.S. MNCs		Exports of MOFAs		Grand total	Intra-company total	Exports of U.S. MNCs		Exports of MOFAs	
			Total	To MOFAs	Total	To parent U.S. MNCs & 3rd country affiliates			Total	To MOFAs	Total	To parent U.S. MNCs & 3rd country affiliates
All manufacturing	16,212	8,647	8,026	3,344	8,186	5,303	72	88	59	77	93	97
Food products	384	167	322	213	62	-46	27	38	44	143	9	-18
Grain mill products	69	2/	6	66	63	2/	22	2/	3	165	66	2/
Beverages	30	-19	18	-2	12	-17	30	-38	45	-15	20	-46
Combinations	16	2/ 98	-41	-6	57	2/ 38	10	2/ 104	-51	-40	61	2/ 97
Other	269	88	339	155	-70	-67	33	30	85	191	-16	-31
Paper and allied products	458	229	196	81	262	148	48	54	47	117	49	33
Chemicals and allied products	1,539	704	386	184	1,153	520	52	63	20	28	113	115
Drugs	410	145	127	29	283	116	100	74	54	27	159	135
Soaps and cosmetics	129	35	27	19	102	16	67	36	26	37	22	35
Industrial chemicals	661	138	291	52	370	86	61	65	32	40	204	105
Plastics materials	344	302	51	78	293	224	67	102	19	39	118	236
Combinations	125	42	22	34	103	8	51	25	24	43	66	9
Other	-130	42	-132	-28	2	70	-25	29	-37	-31	1	132
Rubber	222	137	75	11	147	126	47	64	24	8	90	166
Primary and fabricated metals	1,596	146	1,095	107	501	39	104	44	96	63	128	85
Primary	619	-13	485	17	134	-30	102	-11	99	50	118	-37
Fabricated, excluding aluminum, copper and brass	507	139	198	76	309	63	93	129	56	138	161	119
Primary and fabricated aluminum	401	20	351	-17	50	6	117	19	127	-23	75	35
Other	69		61	31	8		182		321	344	42	
Machinery, except electrical	2,350	1,331	1,182	743	1,168	588	53	60	45	80	64	46
Farm machinery and equipment	-9	21	8	-9	-17	30	-1	4	2	-4	-5	11
Industrial machinery and equipment	1,178	504	427	196	751	308	68	125	34	75	164	215
Office machines	459	385	393	315	66	70	114	136	215	272	30	42
Electronic computing equipment	185	421	104	103	81	180	21	41	35	53	13	26
Other	537		250	138	287		81		52	87	158	
Electrical machinery	1,269	812	616	200	653	612	63	116	43	53	104	189
Household appliances	62	25	67	-9	-5	34	25	15	74	-19	-3	28
Electrical equipment and apparatus	443	158	230	-9	213	167	54	80	31	-6	284	451
Electronic components, radio, and T.V.	599	422	224	108	375	314	84	188	44	106	108	255
Other	165	207	95	110	70	97	57	193	99	169	36	231
Transportation equipment	5,898	3,869	2,968	1,258	2,930	2,611	91	106	78	84	108	121
Textiles and apparel	323	220	120	73	203	147	162	423	97	304	267	525
Lumber, wood, and furniture	520	98	311	36	209	62	255	223	759	900	128	155
Printing and publishing	160	93	50	10	110	83	102	245	53	38	175	69?
Stone, clay, and glass products	221	-2	59	17	162	-19	62	-1	28	25	110	-25
Instruments	844	587	430	323	414	264	109	140	103	162	117	119
Other manufacturing	428	256	216	88	212	168	85	312	53	152	226	700

Source: Tables A-13 and A-14.

Table A-16.--Manufactured products: World-wide intra-company trade 1/ of majority-owned foreign affiliates (MOFAs) and the parent U.S. MNCs, by industry, 1966

(Amounts in millions of U.S. dollars)

Industry	Total intra-company trade 2/	Exports of MOFAs						Imports of MOFAs from parent U.S. MNCs	
		Total		To parent U.S. MNCs		To affiliates in 3rd countries 4/			
		Amount 3/	Percent of Col. (1)	Amount	Percent of Col. (3)	Amount	Percent of Col. (1)	Amount	Percent of Col. (1)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All manufacturing	9,842	5,479	56	2,197	40	3,282	60	4,363	44
Food products	441	292	66	153	52	139	48	149	34
Grain mill products	68	28		2/ -		7		40	
Beverages	50	37	74	29	78	8	22	13	26
Combinations	26	11		2/ 21		11		15	
Other	297	216	73	103	35	113	65	81	27
Paper and allied products	422	353	84	327	93	26	7	69	16
Chemicals and allied products	1,113	452	41	105	23	347	77	[illegible]	59
Drugs	195	86	44	14	16	72	84	109	56
Soaps and cosmetics	97	46	47	3	7	43	93	51	53
Industrial chemicals	211	82	39	16	20	66	80	129	61
Plastics materials	296	95	32	20	21	75	79	201	68
Combinations	170	90	53	46	51	44	49	80	47
Other	144	53	37	6	12	47	89	91	64
Rubber	213	76	36	9	13	67	87	137	66
Primary and fabricated metals	329	158	48	30	19	128	81	171	52
Primary	116	82	71	12	15	70	85	**34	29
Fabricated, excluding aluminum, copper and brass	108	53	49	10	19	43	79	55	51
Primary and fabricated aluminum	105	23		8		14		*73	
Other						1		**9	
Machinery, except electrical	2,203	1,272	58	243	19	1,029	81	931	46
Farm machinery and equipment	480	279	58	98	35	181	65	201	42
Industrial machinery and equipment	404	143	35	29	20	114	80	261	65
Office machines	283	167	59	53	32	114	68	**116	41
Electronic computing equipment	1,036	683	66	63	9	620	91	*195	
Other								**158	
Electrical machinery	699	324	46	152	47	172	53	375	54
Household appliances	170	122	72	46	38	76	62	48	28
Electrical equipment and apparatus	197	37	19	12	32	25	68	160	81
Electronic components, radio, and T.V.	225	123	55	75	61	48	39	102	45
Other	107	42	39	19	45	23	55	65	61
Transportation equipment	3,640	2,150	59	959	45	1,191	55	1,490	41
Textiles and apparel	52	28	54	21	75	7	25	24	46
Lumber, wood, and furniture	44	40	91	40	100	0	0	**4	9
Printing and publishing	38	12	32	4	33	8	67	**26	68
Stone, clay, and glass products	145	76	52	52	68	24	32	69	48
Instruments	421	222	53	90	41	132	59	199	47
Other manufacturing	82	24	29	12	55	10	45	58	72

1/ This total encompasses all intra-company trade, except for the imports by MOFAs from minority-owned affiliates in 3rd countries and the imports by minority-owned foreign affiliates from the parent U.S. corporations; data regarding imports by such affiliates are not available. Imports by minority-owned foreign affiliates are included in the data on exports by parent U.S. MNCs to foreign customers other than MOFAs (see Tables A-7 through A-9).

2/ Total trade is the sum of total exports in Col. 2 and total imports in Col. 8.

3/ Column 2 is the sum of Columns 4 and 6.

4/ Both majority- and minority-owned foreign affiliates are included.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Notes: *Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-17.--Manufactured products: World-wide intra-company trade 1/ of majority-owned foreign affiliates (MOFAs) and the parent U.S. MNCs, by industry, 1970

(Amount in millions of U.S. dollars)

Industry	Total intra-company trade 2/	Exports of MOFAs						Imports of MOFAs from parent U.S. MNCs	
		Total		To parent U.S. MNCs		To affiliates in 3rd countries 4/			
		Amount 3/	Percent of Col. (1)	Amount	Percent of Col. (3)	Amount	Percent of Col. (3)	Amount	Percent of Col. (1)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
All manufacturing	18,489	10,782	58	4,827	47	5,955	53	7,707	42
Food products	608	246	40	76	31	170	69	362	60
Grain mill products	2/	2/	30	2/	-	45		106	2/
Beverages	31	20	65	19	95	1	5	11	35
Combinations	2/ 192	2/ 77	40	2/ 5	6	27		9	2/ 60
Other	385	149	39	52	34	97	65	236	61
Paper and allied products	651	501	77	439	88	62	12	150	23
Chemicals and allied products	1,817	972	53	203	26	769	74	845	47
Drugs	340	208	59	45	22	157	78	138	41
Soaps and cosmetics	132	62	47	4	6	58	94	70	38
Industrial chemicals	349	168	48	14	8	154	92	181	52
Plastics materials	598	319	53	30	9	289	91	279	47
Combinations	212	98	46	36	39	62	61	114	54
Other	186	123	66	74	60	49	40	63	34
Rubber	350	202	58	62	31	140	69	148	42
Primary and fabricated metals	475	197	41	37	19	160	81	278	59
Primary	103	52	50	6	13	46	88	**51	55
Fabricated, excluding aluminum, copper and brass	247	116	47	18	16	98	85	131	53
Primary and fabricated aluminum Other	125	29	23	13	45	16		**56 **40	45
Machinery, except electrical	3,534	1,860	53	400	22	1,460	78	1,674	47
Farm machinery and equipment	501	309	62	155	50	154	50	192	38
Industrial machinery and equipment	908	451	50	124	27	327	73	457	50
Office machines	668	237	35	43	18	194	82	**431	65
Electronic computing equipment Other	1,457	863	59	78		785	91	**298 **296	41
Electrical machinery	1,511	936	62	425	45	511	35	575	38
Household appliances	195	156	80	29	19	127	73	39	20
Electrical equipment and apparatus	355	204	57	123	60	81	40	151	43
Electronic components, radio, and T.V.	647	437	68	253	58	184	20	210	32
Other	314	139	44	20	14	119	86	175	56
Transportation equipment	7,509	4,761	63	2,733	57	2,028	43	2,748	37
Textiles and apparel	272	175	64	104	59	71	41	97	36
Lumber, wood, and furniture	142	102	72	95	93	7	7	**40	28
Printing and publishing	131	95	73	44	46	51	54	**36	27
Stone, clay, and glass products	143	57	40	23	40	34	60	86	60
Instruments	1,008	486	48	158	33	328	67	522	52
Other manufacturing	338	192	57	28	15	164	85	146	43

1/ This total encompasses all intra-company trade, except for the imports by MOFAs from minority-owned affiliates in 3rd countries and the imports by minority-owned foreign affiliates from the parent U.S. corporations; data regarding imports by such affiliates are not available. Imports by minority-owned foreign affiliates are included in the data on exports by parent U.S. MNCs to foreign customers other than MOFAs (see Tables A-7 through A-9).
2/ Total trade is the sum of total exports in Column 2 and total imports in Column 8.
3/ Column 2 is the sum of Columns 4 and 6.
4/ Both majority- and minority-owned foreign affiliates are included.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Notes: *Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Table A-18.--Manufactured products: Change in world-wide intra-company trade of majority-owned foreign affiliates (MOFAs) and parent U.S. multinational corporations (MNCs), by industry, 1966-70

(Amounts in millions of U.S. dollars)

Industry	Increase, or decrease (-)									
	Amount					Percent				
	Total intra-company trade	Exports of MOFAs			Imports of MOFAs from parent U.S. MNCs	Total trade	Exports of MOFAs			Imports of MOFAs from parent U.S. MNCs
		Total	To parent U.S. MNCs	To affiliates in 3rd countries			Total	To parent U.S. MNCs	To affiliates in 3rd countries	
All manufacturing	8,647	5,303	2,630	2,673	3,344	88	97	120	81	77
Food products	167	-46	-77	31	213	38	-16	-50	22	143
Grain mill products	98	38	-	54	66	104	97	-	300	165
Beverages	-19	-17	-10	-7	-2	-74	-46	-34	-88	-15
Combinations	-	-	-16	-	-6	-	-	-76	-	-40
Other	88	-67	-51	-16	155	30	-31	-50	-14	191
Paper and allied products	229	148	112	36	81	54	42	34	138	117
Chemicals and allied products	704	520	98	422	184	63	115	93	122	28
Drugs	245	116	31	85	29	126	135	221	118	27
Soaps and cosmetics	35	16	1	15	19	37	35	33	35	37
Industrial chemicals	138	86	-2	88	52	65	105	-13	133	40
Plastics materials	302	224	10	214	78	102	236	50	285	39
Combinations	42	8	-10	18	34	85	9	-22	41	43
Other	42	70	68	2	-28	89	132	1,133	4	-31
Rubber	137	126	53	73	11	64	166	589	109	8
Primary and fabricated metals	146	39	7	32	107	44	85	23	25	63
Primary	-13	-30	-6	-24	17	-11	-37	-50	-34	50
Fabricated, excluding aluminum, copper and brass	139	63	8	55	76	129	119	80	128	138
Primary and fabricated aluminum Other	20	6	5	1	14	19	26	63	7	17
Machinery, except electrical	1,331	588	157	431	743	60	46	65	42	80
Farm machinery and equipment	21	30	57	-27	-9	4	11	58	-15	-4
Industrial machinery and equipment	504	308	95	213	196	125	215	328	187	75
Office machines	385	70	-10	80	315	136	42	-19	70	272
Electronic computing equipment Other	421	180	15	165	241	41	26	24	27	68
Electrical machinery	812	612	273	339	200	116	189	180	197	53
Household appliances	25	34	-19	51	-9	15	28	-41	67	-19
Electrical equipment and apparatus	158	167	111	56	-9	80	451	925	224	-6
Electronic components, radio, and T.V.	422	314	178	136	108	188	255	237	283	106
Other	207	97	1	96	110	193	231	5	417	169
Transportation equipment	3,869	2,611	1,774	837	1,258	106	121	185	70	84
Textiles and apparel	220	147	83	64	73	423	525	395	914	304
Lumber, wood, and furniture	98	62	55	7	36	229	155	138	-	900
Printing and publishing	93	83	40	43	10	245	692	1,000	538	38
Stone, clay, and glass products	-2	-19	-29	10	17	-1	-25	-56	42	25
Instruments	587	264	68	196	323	139	119	76	148	162
Other manufacturing	256	168	16	154	88	312	700	133	1,267	152

Source: Tables A-16 and A-17.

Table A-19.—United States: Exports of manufactured products, total and MNC-related, by industry, 1966 and 1970

(In millions of U.S. dollars)

Industry	1966					1970					Increase, or decrease (-)					
	U.S. total	MNC-related				U.S. total	MNC-related				Amount			Percent		
		Total		By, or thru MNC parents			Total		By, or thru MNC parents		U.S. total	MNC-related		U.S. total	MNC-related	
		Amount	Percent of U.S. total	Amount	Percent of MNCs total		Amount	Percent of U.S. total	Amount	Percent of MNCs total		Total	By, or thru parent MNCs		Total	By, or thru parent MNCs
All manufacturing	21,227	13,692	65	12,766	93	34,969	21,718	62	20,598	95	13,742	8,026	7,832	65	59	61
Food products	558	740	132	610	82	2,578	1,062	41	917	86	2,020	322	307	362	44	50
Grain mill products	221	221	100	186	84	578	227	39	199	88	357	6	13	162	3	7
Beverages	12	40	333	31	78	87	**58	67	**52	90	75	18	21	625	45	68
Combinations	325	81	147	15	19	1,913	40	41	9	23	1,588	-41	-6	467	-51	-4
Other		398		378	95		**737		**657	89		339	279		85	74
Paper and allied products	677	413	61	398	96	1,109	609	55	529	87	432	196	131	64	47	33
Chemicals and allied products	2,677	1,956	73	1,832	94	4,012	2,342	58	2,292	98	1,335	386	460	50	20	25
Drugs	269	234	87	226	84	511	**361	71	**359	99	242	127	133	90	54	59
Soaps and cosmetics	93	103	111	94	91	154	**130	85	111	85	61	27	17	66	26	18
Industrial chemicals	1,034	907	88	865	95	1,702	1,198	70	**1,184	99	668	291	319	65	32	37
Plastics materials	473	267	56	241	90	941	**318	34	**315	99	468	51	74	99	19	31
Combinations	808	92	55	80	87	704	114	48	114	100	-104	22	34	-13	24	43
Other		353		326	92		221		209	95		-132	-117		-37	-36
Rubber	427	308	72	280	91	344	383	111	383	100	-83	75	103	-19	24	37
Primary and fabricated metals	1,781	1,142	64	1,094	96	3,749	2,237	60	2,174	97	1,968	1,095	1,080	111	96	99
Primary	676	**491	73	**484	99	1,700	976	58	**945	97	1,024	485	461	151	99	95
Fabricated, excluding aluminum, copper, and brass		356		341	96	1,356	554	41	522	94	718	198	181	113	56	53
Primary and fabricated aluminum	1,105	**276	59	**252	91	336	627	187	**627	100	170	351	375	102	127	149
Other		**19		**17	89	358	80	22	**80	100	57	61	63	19	321	371
Machinery, except electrical	5,548	2,613	47	2,510	96	7,917	3,795	48	3,749	99	2,369	1,182	1,239	43	45	49
Farm machinery and equipment	629	**384	61	**359	93	372	**392	105	**392	100	-257	8	33	-41	2	9
Industrial machinery and equipment	2,819	1,267	45	1,233	97	4,181	1,694	41	1,664	98	1,362	427	431	48	34	35
Office machines	285	**183	64	**179	98	358	576	161	576	100	73	393	397	26	215	222
Electronic computing equipment	272	**295	108	**266	90	1,243	**399	32	**388	97	971	104	122	357	35	46
Other	1,543	**484	31	**473	98	1,763	734	42	729	99	220	250	256	14	52	54
Electrical machinery	1,899	**1,444	76	**1,349	97	3,007	2,060	69	**2,042	99	1,108	616	648	58	43	46
Household appliances	130	90	69	78	87	172	157	91	151	96	42	67	73	32	74	94
Electrical equipment and apparatus	544	**748	138	732	98	729	**978	134	**975	100	185	230	243	34	31	33
Electronic components, radio, and TV	584	510	87	493	97	1,628	**734	45	**728	99	1,044	224	235	179	44	48
Other	641	**96	15	91	95	478	**191	38	**188	98	-163	95	97	25	99	107
Transportation equipment	3,715	3,782	102	3,420	90	6,539	6,750	103	**6,157	91	2,824	2,968	2,737	76	78	80
Textiles and apparel	804	124	15	118	95	724	244	34	242	99	-80	120	124	10	97	105
Lumber, wood, and furniture	256	**41	16	**35	85	741	**352	48	**352	100	485	311	317	189	759	906
Printing and publishing	262	**94	36	**89	95	335	144	43	**117	81	73	50	28	28	53	31
Stone, clay, and glass products	278	208	75	185	89	477	267	56	264	99	199	59	79	72	28	43
Instruments	738	418	57	399	95	1,315	848	65	802	95	577	430	403	78	103	101
Other manufacturing	1,607	409	25	402	98	2,121	625	30	578	92	514	216	176	313	53	44

*Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by the source agency.

1/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."

Source: OECD, Commodity Trade: Exports; United Nations, World Trade Annual, Statistical Papers, series D, Vol. XX, Commodity Trade Statistics, 1970; and official statistics of the U.S. Department of Commerce, including Bureau of the Census FA 475 U.S. Exports for consumption and General Imports. MNC data source: U.S. Department of Commerce, Bureau of International Commerce, International Investment Division.

Table A-20.--Manufactured Products: Penetration of foreign markets by U.S.-owned firms, by industry, 1966

(Amount in millions of U.S. dollars)

Industry	Total U.S. penetration of foreign markets (equals column 2 plus column 6)	U.S. exports				Foreign sales of all affiliates of U.S. multinational corporations									
		By all firms		MNC-related		Total		Sales of majority-owned affiliates						Sales of minority-owned affiliates	
								Total		Local sales		Sales to 3rd countries			
		Amount	Percent of column 1	Amount	Percent of column 2	Amount	Percent of column 1	Amount	Percent of column 6	Amount	Percent of column 8	Amount	Percent of column 8	Amount	Percent of column 6
All manufacturing	72,206	21,227	29.4	13,692	65	50,979	70.6	44,668	87.6	38,538	86.3	6,130	13.2	6,311	[illegible]
Food products	6,335	558	8.8	740	132	5,777	91.2	5,498	95.2	5,021	91.3	477	8.7	279	4.8
Grain mill products	1,173	221	18.8	221	100	952	81.2	922	96.8	833	90.4	**89	9.7	30	3.2
Beverages	793	12	1.5	40	333	781	98.5	637	81.6	607	95.3	30	4.7	144	18.4
Combinations; Other	4,369	325	7.4	479	147	4,044	92.6	3,939	97.4	3,581	90.9	**358	9.1	105	2.3
Paper and allied products	2,365	677	28.6	413	61	1,688	71.4	1,515	89.8	1,400	92.4	115	7.6	173	10.2
Chemicals and allied products	10,799	2,677	24.8	1,956	73	8,122	75.2	7,301	89.9	6,448	88.3	853	11.6	821	10.1
Drugs	1,942	269	13.8	234	87	1,673	86.2	1,554	92.9	1,391	89.5	163	10.5	119	7.1
Soaps and cosmetics	1,730	93	5.4	103	111	1,637	94.6	1,617	98.8	1,530	94.6	87	5.4	20	1.2
Industrial chemicals	2,418	1,034	42.8	907	88	1,384	57.2	1,155	83.4	1,000	86.6	155	13.4	229	16.6
Plastics materials	2,021	473	23.4	267	56	1,548	76.6	1,203	77.7	1,007	83.7	196	16.3	345	22.2
Combinations; Other	2,688	808	30.1	445	55	1,880	69.9	1,772	91.0	1,520	85.8	252	14.2	108	5.7
Rubber	2,613	427	16.3	308	72	2,186	83.7	1,798	82.2	1,652	91.9	146	8.1	388	17.8
Primary and fabricated metals	6,808	1,781	26.2	1,142	64	5,027	73.8	4,317	85.9	3,973	92.0	344	8.0	710	14.1
Primary	1,372	676	49.3	***492	73	696	50.7	563	80.9	467	83.0	96	17.1	133	19.1
Fabricated, excluding aluminum, copper and brass; Primary and fabricated aluminum; Other	5,436	1,105	20.3	**651	59	***4,331	79.7	3,754	86.7	3,506	93.4	**248	6.6	577	13.3
Machinery, except electrical	12,189	5,548	45.5	2,613	47	**6,641	54.4	6,283	94.6	4,710	75.8	1,573	25.0	358	5.1
Farm machinery and equipment	1,559	629	40.3	**384	61	2/ **930	59.2	2/ 930	NA	660	71.0	*270	29.0	3/ NA	-
Industrial machinery and equipment	1/ 7,675	1/ 4,362	1/ 56.8	1/ **1,752	1/ 40	1/ 3,313	1/ 43.2	1/ 3,085	1/ 93.1	1/ 2,508	1/ 81.3	1/ 577	1/ 18.7	228	6.9
Office machines; Electronic computing equipment	2,955	558	18.8	**478	85.8	**2,398	81.2	2,268	94.6	1,542	68.0	*726	32.0	130	5.4
Other	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Electrical machinery	6,873	1,899	27.6	1,444	76	4,974	72.4	4,148	83.4	3,701	89.8	447	10.8	826	16.6
Household appliances	3,033	130	4.2	90	69	2,903	95.7	2,278	78.5	2,004	84.4	113	15.6	625	21.5
Electrical equipment and apparatus	1,372	544	39.7	748	138	**827	60.3	747	90.3	691	92.5	*56	7.5	80	9.7
Electronic components, radio, and T.V.	2,469	1,225	49.6	606	495	**1,244	50.4	1,123	90.3	1,006	89.6	*278	10.4	121	9.7
Other															
Transportation equipment	14,793	3,715	25.1	3,782	102	**11,078	74.9	9,406	84.9	7,762	82.5	*1,644	17.5	1,672	15.1
Textiles and apparel	1,621	804	49.6	124	154	**817	50.4	719	88.0	669	93.1	**50	69.5	98	12.0
Lumber, wood, and furniture	1,057	256	24.2	41	16	801	75.8	229	28.6	209	91.3	20	8.7	572	71.4
Printing and publishing	644	262	40.7	94	36	382	59.3	354	92.7	299	84.4	55	15.5	28	7.3
Stone, clay, and glass products	1,402	278	19.8	208	75	1,124	80.2	866	77.1	776	89.6	90	10.4	258	22.9
Instruments	2,209	738	33.4	418	57	1,471	66.6	1,412	96.0	1,171	82.9	241	17.1	59	4.0
Other manufacturing	2,498	1,607	64.3	409	25	891	35.7	822	92.3	747	90.9	75	9.1	69	7.7

Notes: *Tariff Commission estimate for entry suppressed by source agency.
**Partially estimated by the Tariff Commission in lieu of entry or entries suppressed by the source agency.

1/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."
2/ Sales of minority-owned foreign affiliates include a small but indeterminate residual amount of exports to the United States.
3/ No break-out of minority-owned affiliates' foreign sales is available.

Source: U.S. exports compiled from the following: OECD, Series C, Commodity Trade; United Nations Statistical Office, World Trade Annual; and official statistics of the U.S. Department of Commerce.
MNC data: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-21.—Manufactured products: Penetration of foreign markets by U.S.-owned firms, by industry, 1970

(Amount in millions of U.S. dollars)

Industry	Total U.S. penetration of foreign markets (equals column 2 plus column 6)	U.S. exports				Foreign sales of all affiliates of U.S. multinational corporations									
		By all firms		MNC-related		Total		Sales of majority-owned affiliates						Sales of minority-owned affiliates	
								Total		Local sales		Sales to 3rd countries			
		Amount	Percent of column 1	Amount	Percent of column 2	Amount	Percent of column 1	Amount	Percent of column 6	Amount	Percent of column 8	Amount	Percent of column 8	Amount	Percent of column 6
All manufacturing	116,292	31,742	27.[illegible]	[illegible]1,718	68	84,550	72.7	72,029	90.5	60,875	84.5	11,154	15.5	12,5[illegible]	[illegible]
Food products	7,736	602	7.8	1,0[illegible]	176	7,134	92.9	6,939	97.8	6,318	9[illegible].1	621	8.9	195	[illegible]
Grain mill products	1,487	197	13.[illegible]	[illegible]27	115	**3/ 1,290	86.8	1,290	100.0	1,140	[illegible]	*150	11.6	3/ N.A.	-
Beverages	1,047	23	2.2	58	252	1,024	97.8	856	83.6	806	94.2	50	5.8	166	[illegible]
Combination; Other	5,202	382	7.3	777	203	** 4,820	92.7	4,793	99.4	4,372	91.2	*421	8.8	27	1.6
Paper and allied products	3,476	1,123	32.2	609	54	2,353	67.8	2,121	89.8	1,871	88.2	250	11.8	232	9.9
Chemicals and allied products	16,568	3,825	23.1	2,342	61	12,743	76.9	11,380	91.4	9,439	82.9	1,941	17.1	1,363	10.7
Drugs	3,238	420	13.0	361	86	2,818	87.0	2,654	94.2	2,263	85.3	391	14.7	164	5.8
Soaps and cosmetics	2,565	120	4.7	130	108	2,445	95.3	2,373	97.1	2,185	92.1	188	7.9	72	2.9
Industrial chemicals	4,086	1,590	38.9	1,198	[illegible]	2,496	61.1	2,061	82.6	1,564	75.9	497	24.1	435	17.4
Plastics materials	3,442	653	19.0	318	49	2,789	81.0	2,198	78.8	1,692	77.0	506	23.0	591	21.2
Combination; Other	3,237	1,042	32.2	335	32	2,195	67.8	2,094	95.4	1,735	82.9	359	17.1	101	4.6
Rubber	3,213	485	15.1	383	79	2,728	84.9	2,423	82.2	2,163	89.3	260	10.7	305	11.2
Primary and fabricated metals	11,176	2,985	26.7	2,237	75	8,191	73.3	6,204	83.9	5,402	87.1	802	12.9	1,987	24.5
Primary	2,889	1,518	52.5	**976	64	1,371	47.5	880	87.5	660	75.0	220	25.0	491	35.8
Fabricated, excluding aluminum, copper and brass; Primary and fabricated aluminum; Other	8,287	1,467	17.7	**1,261	86	6,820	82.3	5,324	78.1	4,742	89.2	582	10.9	1,496	21.9
Machinery, except electrical	19,931	8,372	42.0	3,795	45	11,559	58.0	10,821	95.2	8,355	77.2	2,466	22.8	738	6.4
Farm machinery and equipment	1,512	628	41.5	**392	62	**884	58.5	857	97.0	624	72.8	*233	27.2	27	3.1
Industrial machinery and equipment	1/ 11,943	1/ 6,196	1/ 51.9	**1/ 2,428	1/ 39	3/ 5,747	48.1	1/ 5,747	1/ 100.0	1/ 4,347	1/ 75.6	1/ 1,400	1/ 24.4	3/ N.A.	
Office machines; Electronic computing equipment	6,476	1,548	23.9	**975	63	**4,928	76.1	4,217	85.6	3,384	80.2	833	19.8	711	14.4
Other	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/	1/
Electrical machinery	12,038	3,000	24.9	2,060	69	**9,038	75.1	7,227	80.0	6,270	86.8	957	13.2	1,811	20.0
Household appliances	4/ 5,548	5/ 1,096	4/ 19.8	**348	4/ 32	**4/ 4,452	4/ 80.2	5/ 2,958	4/ 66.4	4/ 2,583	4/ 87.3	**4/ 375	4/ 12.7	4/ 1,494	4/ 33.6
Electrical equipment and apparatus	2,804	701	25.0	**978	140	**2,103	75.0	1,975	93.9	1,756	88.9	219	11.1	128	6.1
Electronic components, radio, and T.V.	3,686	1,203	32.6	734	61	2,483	67.4	2,294	92.4	1,931	84.2	363	15.8	189	7.6
Other	4/	5/	4/	4/	4/	4/	4/	5/	4/	4/	4/	4/	4/	4/	4/
Transportation equipment	22,175	6,504	29.3	6,750	104	**15,671	57.1	13,149	83.9	10,781	82.0	*2,368	18.0	2,522	16.1
Textiles and apparel	2,648	927	35.0	244	26	**1,721	65.0	1,549	90.0	1,345	86.8	*204	13.2	172	10.0
Lumber, wood, and furniture	1,521	379	24.9	**352	93	1,142	75.1	328	28.7	307	93.6	21	6.4	814	71.3
Printing and publishing	1,006	327	32.5	**144	44	3/ 679	67.5	679	100.0	520	76.6	159	23.4	3/ N.A.	
Stone, clay, and glass products	2,246	350	15.6	267	76	1,896	84.4	1,435	75.7	1,184	82.5	251	17.5	461	24.3
Instruments	3,917	1,127	28.8	848	75	**3/ 2,790	71.2	2,790	100.0	2,172	77.8	618	22.2	3/ N.A.	
Other manufacturing	8,641	1,736	22.7	625	36	**6,905	90.4	4,984	72.2	4,748	95.3	236	4.7	1,922	27.8

Notes:
* Tariff Commission staff estimate for entry suppressed by source agency.
** Partially estimated by the Tariff Commission staff in lieu of entry or entries suppressed by the source agency.

1/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."
2/ Sales of minority-owned foreign affiliates include a small but indeterminate residual amount of exports to the United States.
3/ No break-out of minority-owned affiliates' foreign sales is available.
4/ The value for "other electrical machinery" is included in the entry for "household appliances."

Source: U.S. exports—compiled from the following: United Nations Statistical Office, Statistical Papers, Series D, vol. XX, Commodity Trade Statistics, 1970; and official statistics of the U.S. Department of Commerce. MNC data from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-22.—Manufactured products: Change in penetration of foreign markets by U.S.-owned firms, by industry, 1966–1970

(Increase or decrease (-); amounts in millions of U.S. dollars)

Amount

Industry	Grand total (equals column 2 plus column 4)	U.S. exports: Total	U.S. exports: MNC-related	Foreign sales of all affiliates of MNCs: Total	Sales of MOFAs: Total	Sales of MOFAs: Local sales	Sales of MOFAs: Sales to 3rd countries	Sales of minority-owned affiliates
All manufacturing	44,086	10,515	8,026	33,571	27,361	22,337	5,024	6,210
Food products	1,401	44	322	1,357	1,441	1,297	144	-84
Grain mill products	314	-24	6	338	368	307	61	3/ N.A.
Beverages	254	11	18	243	219	199	20	24
Combinations / Other	833	57	298	776	854	791	63	-78
Paper and allied products	1,111	446	196	665	606	471	135	59
Chemicals and allied products	5,769	1,148	386	4,621	4,079	2,991	1,088	542
Drugs	1,296	151	127	1,145	1,100	872	228	45
Soaps and cosmetics	835	27	27	808	756	655	101	52
Industrial chemicals	1,668	556	291	1,112	906	564	342	206
Plastic materials	1,421	180	51	1,241	995	685	310	246
Combinations / Other	549	234	-110	315	322	215	107	-7
Rubber	600	58	75	542	625	511	114	-83
Primary and fabricated metals	4,368	1,204	1,095	3,164	1,887	1,429	458	1,277
Primary	1,517	842	485	675	317	193	124	358
Fabricated, excluding aluminum, copper, and brass / Primary and fabricated aluminum / Other	2,851	362	610	2,489	1,570	1,236	334	919
Machinery, except electrical	7,742	2,824	1,182	4,918	4,538	3,645	893	380
Farm machinery and equipment	-47	-1	8	-46	-73	-36	-37	3/ N.A.
Industrial machinery and equipment	1/ 4,268	1/ 1,834	1/ 677	1/ 2,434	1/ 2,662	1/ 1,839	1/ 823	3/ N.A.
Office machines / Electronic computing equipment	3,521	991	497	2,530	1,949	1,842	107	581
Other	1/	1/	1/	1/	1/	1/	1/	1/
Electrical machinery	5,165	1,101	616	4,084	3,079	2,969	510	985
Household appliances	4/	4/	4/	4/	4/	4/	4/	4/
Electrical equipment and apparatus	1,433	157	230	1,276	1,228	1,065	163	48
Electronic components, radio, and TV / Other	4/ 3,732	4/ 944	4/ 386	4/ 2,788	4/ 1,851	4/ 1,504	4/ 347	4/ 937
Transportation equipment	7,382	2,789	2,968	4,593	3,743	3,019	724	890
Textiles and apparel	1,027	123	120	904	830	676	154	74
Lumber, wood, and furniture	464	123	311	341	99	98	1	242
Printing and publishing	362	65	50	297	325	221	104	3/ N.A.
Stone, clay, and glass products	844	72	59	772	569	408	161	203
Instruments	1,708	389	430	1,319	1,378	1,001	377	3/ N.A.
Other manufacturing	6,143	129	216	6,014	4,162	4,001	161	1,852

Percent

Industry	Grand total	U.S. exports: Total	U.S. exports: MNC-related	Foreign sales of all affiliates of MNCs: Total	Sales of MOFAs: Total	Sales of MOFAs: Local sales	Sales of MOFAs: Sales to 3rd countries	Sales of minority-owned affiliates
All manufacturing	61	50	59	66	61	58	82	98
Food products	22	8	44	23	26	26	30	-30
Grain mill products	27	-11	3	36	40	37	69	3/ N.A.
Beverages	32	92	45	31	34	33	67	17
Combinations / Other	19	18	62	19	22	22	16	-74
Paper and allied products	47	66	47	39	40	35	117	34
Chemicals and allied products	53	43	20	57	56	46	128	66
Drugs	67	56	54	68	71	63	140	38
Soaps and cosmetics	48	29	26	49	47	43	116	260
Industrial chemicals	69	54	32	80	78	564	221	90
Plastic materials	70	38	19	80	83	68	158	71
Combinations / Other	20	29	-25	17	18	14	42	-6
Rubber	23	14	24	25	35	31	78	-21
Primary and fabricated metals	64	68	96	63	44	36	133	180
Primary	111	125	99	97	56	41	129	269
Fabricated, excluding aluminum, copper, and brass / Primary and fabricated aluminum / Other	52	33	94	57	42	35	135	159
Machinery, except electrical	64	51	45	74	72	77	97	106
Farm machinery and equipment	-3	0	2	-5	-8	-5	-14	3/ N.A.
Industrial machinery and equipment	1/ 56	1/ 42	1/ 39	1/ 73	1/ 86	1/ 73	1/ 143	3/ N.A.
Office machines / Electronic computing equipment	119	178	104	106	86	119	15	447
Other	1/	1/	1/	1/	1/	1/	1/	1/ 119
Electrical machinery	75	58	43	82	74	69	114	
Household appliances	4/	4/	4/	4/	4/	4/	4/	4/
Electrical equipment and apparatus	105	29	31	154	164	154	291	60
Electronic components, radio, and TV / Other	4/ 68	4/ 70	4/ 55	4/ 67	4/ 54	4/ 50	4/ 89	4/ 126
Transportation equipment	50	75	78	41	40	39	44	51
Textiles and apparel	63	15	97	111	115	102	308	76
Lumber, wood, and furniture	44	48	759	43	43	47	5	42
Printing and publishing	56	25	53	78	92	74	189	3/ N.A.
Stone, clay, and glass products	60	26	28	69	66	53	179	79
Instruments	77	53	103	90	98	85	156	3/ N.A.
Other manufacturing	246	8	53	675	506	536	215	2,[illegible]

1/ The value for "other" machinery is included in the entry for "industrial machinery and equipment."
2/ Sales of minority-owned foreign affiliates include a small but indeterminate residual amount of exports to the United States.
3/ No break-out of minority-owned affiliates' foreign sales is available.
4/ The value for "other electrical machinery" is included in the entry for "household appliances."

Source: Tables A-20 and A-21.

Table A-23 —United States: Imports of manufactured products, total and from majority-owned foreign affiliates of U.S. MNCs, by industry, 1966 and 1970

(In millions of U.S. dollars)

Industry	1966					1970					Increase, or decrease (-),					
	U.S. total	MNC-related				U.S. total	MNC-related				Amount			Percent		
		Total		By, or thru, MNC parents			Total		By, or thru, MNC parents		U.S. total	MNC-related		U.S. total	MNC-related	
		Amount	Percent of U.S. total	Amount	Percent of MNC total		Amount	Percent of U.S. total	Amount	Percent of MNC total		Total	By, or thru parent MNCs		Total	By, or thru parent MNCs
All manufacturing	16,893	6,073	36	2,197	36	30,795	10,702	35	4,827	45	13,902	4,629	2,630	82	76	120
Food products	1,671	677	41	153	23	3,562	690	19	76	11	1,890	13	-77	113	2	-50
Grain mill products	23	*30	130	1/	-	54	**48	89	1/	-	30	18		135	60	
Beverages	498	**178	36	29	16	724	**140	19	19	14	226	-38	-10	45	-21	-34
Combinations	1,150	*469	41	21	-	2,784	**502	18	1/ 5	-	1,634	33	-16	142	7	-76
Other				103					52				-51			50
Paper and allied products	1,418	479	34	327	68	1,548	671	43	439	65	130	192	112	9	40	34
Chemicals and allied products	957	640	67	105	16	1,256	807	64	203	25	299	167	98	31	26	93
Drugs	75	35	47	14	40	163	**101	62	45	45	88	66	31	117	189	221
Soaps and cosmetics	19	**18	95	3	17	26	**24	92	4	17	7	6	1	37	33	33
Industrial chemicals	479	250	52	16	6	710	**282	40	14	5	231	32	-2	48	13	-13
Plastic materials	60	**142	237	20	14	184	*185	101	30	16	124	43	10	207	30	50
Combinations	324	**195	60	46	27	172	*215	125	36	-	-152	20	-10	-47	10	-22
Other				6					2/				2/			2/
Rubber	170	**108	64	9	8	661	**146	22	2/	-	491	38	2/	289	35	2/
Primary and fabricated metals	3,267	372	11	30	8	4,715	513	11	37	7	1,448	141	7	44	38	23
Primary	1,945	265	14	12	5	3,184	305	10	6	2	1,239	40	-6	59	15	-50
Fabricated, excluding aluminum, copper, and brass		42		10	24	798	121	15	18	15	397	79	8	16	188	80
Primary and fabricated aluminum	1,322	*25	8	8	12	233	*25	11	13	15	-64	0			0	63
Other		*40				500	*62	12			-124	22	5		55	
Machinery, except electrical	1,677	534	32	243	46	3,102	886	29	400	45	1,425	252	157	65	66	65
Farm machinery and equipment	325	*107	33	97	91	308	**128	42	2/	-	17	21	2/	-5	20	2/
Industrial machinery and equipment	666	**3/334	45	29	-	3/ 1,736	225	32	124	55	997	220	95	135	66	328
Office machines	119	*62	52	53	-	566	**99	17	43	43	447	37	-10	376	60	-19
Electronic computing equipment	73	3/		64	-	3/	**329		78	18	-	-	14	-	-	22
Other	494	**31	6		-	492	**105	21			-2	74		0	238	
Electrical machinery	1,016	398	39	152	38	2,625	**726	28	2/	-	1,609	328	2/	158	82	2/
Household appliances	40	**50	125	46	92	271	*65	24	29	45	231	15	-17	578	30	-37
Electrical equipment and apparatus	190	*40	21	12	30	243	*104	43	2/	-	53	64	2/	28	160	2/
Electronic components, radio, and TV	588	254	43	75	30	1,706	**490	29	2/	-	1,118	236	2/	190	93	2/
Other	198	**54	27	19	35	405	*67	17	2/	-	207	13	2/	105	24	2/
Transportation equipment	2,135	*1,324	62	959	72	6,362	**3,802	60	2,733	72	4,227	2,478	1,774	198	187	185
Textiles and apparel	1,580	*72	5	21	29	2,346	**154	7	2/	-	766	82	2/	48	114	2/
Lumber, wood, and furniture	788	*183	23	40	22	1,230	**426	35	95	22	442	243	55	56	133	138
Printing and publishing	97	*13	13	4	31	176	**19	11	2/	-	79	6	2/	81	46	2/
Stone, clay, and glass products	292	*927	317	52	6	542	**1,208	223	23	2	250	281	-29	86	30	-56
Instruments	397	165	42	90	55	661	244	37	2/	-	264	79	2/	66	48	2/
Other manufacturing	1,427	118	13	12	7	2,011	410	20	28	7	584	229	16	41	127	133

*Tariff Commission estimate for entry suppressed by source agency.
**Tariff Commission estimate for entry partially suppressed by source agency.
1/ The value for "grain mill products is included in entry for "combinations."
2/ Not available.
3/ The value for "Electronic computing equipment" included in entry for "Industrial machinery and equipment."

Source: 1966 U.S. imports compiled from the following: OECD, Series C, Commodity Trade; and official statistics of the U.S. Department of Commerce. MNC data from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division. 1970 U.S. imports compiled from U.S. Department of Commerce, Bureau of Census IA 275 U.S. Imports for Consumption and General Imports.

Table A-24.--Manufactured products: Exports of the United States and selected foreign countries, by industry, 1966

(In millions of U.S. dollars)

Industry	Total, selected countries	United States	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	73,788	21,225	6,157	12,697	8,758	18,420	5,830	405	296
Food products	2,720	559	311	561	726	191	164	105	103
Grain mill products	541	221	97	49	75	58	41	1/	1/
Beverages	908	12	123	383	324	44	20	[illegible]	1/
Combinations	1,270	325	92	129	327	89	103	103	102
Other									
Paper and allied products	2,745	677	1,471	156	146	186	101	5	3
Chemicals and allied products	8,396	2,676	346	1,313	1,134	2,414	[illegible]	64	27
Drugs	349	269	25	7	7	8	17	11	5
Soaps and cosmetics	393	93	2	88	103	84	23	1/	-
Industrial chemicals	2,964	1,034	2/ 131	379	395	874	110	26	15
Plastic materials	1,417	473	21	250	134	466	73	1/	1/
Combinations	2,654	808	2/ 174	391	341	732	[illegible]	16	9
Other									
Rubber	1,286	427	80	193	238	270	71	1	6
Primary and fabricated metals	10,940	1,781	1,241	1,576	1,462	2,807	1,921	128	24
Primary	6,037	676	573	858	977	1,583	1,246	104	20
Fabricated, excld. aluminum, copper, and brass									
Primary and fabricated aluminum	4,901	1,105	667	718	484	1,224	675	24	4
Other									
Machinery, except electrical	15,406	5,547	676	2,914	1,234	4,564	440	8	23
Farm machinery and equipment	1,590	629	161	397	93	224	86	1/	1/
Industrial machinery and equipment	8,338	2,819	197	1,511	663	2,888	240	3/ 7	3/ 13
Office machines	942	285	35	152	210	250	4	-	6
Electronic computing equipment	445	272	4	64	11	90	3	-	1
Other	4,091	1,543	2/ 279	790	257	1,111	107	2/ 1	2/ 3
Electrical machinery	5,586	1,899	273	969	556	1,619	256	9	5
Household appliances	439	130	13	80	46	161	7	1	1
Electrical equipment and apparatus	1,784	544	52	342	205	555	81	4	1
Electronic components, radio, and TV	1,606	584	101	285	143	374	115	3	1
Other	1,723	641	106	253	150	516	53	1	3
Transportation equipment	11,880	3,715	978	2,217	1,212	3,112	637	4	5
Textiles and apparel	4,943	804	84	937	1,034	1,160	863	45	16
Lumber, wood, and furniture	1,379	256	559	56	126	206	101	6	69
Printing and publishing	730	262	14	144	117	133	52	8	-
Stone, clay, and glass products	1,339	278	22	229	202	376	221	10	1
Instruments	1,955	738	16	300	170	618	111	1	1
Other manufacturing	4,494	1,607	85	1,133	412	763	468	12	14

1/ Less than 500 thousand dollars.
2/ Understated, because data are incomplete.
3/ Overstated because certain categories could not be excluded.

Source: Compiled from the following: OECD, Series C, Commodity Trade; United Nations, Statistical Office, World Trade Annual; and official Statistics of the U.S. Department of Commerce.

Table A-25.--Manufactured products: Exports of the United States and selected foreign countries, by industry, 1970

(In millions of U.S. dollars)

Industry	Total, selected countries	United States	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	117,992	31,742	11,618	17,353	14,801	31,327	10,020	1/ 622	2/ 509
Food products	3,881	601	376	772	1,180	370	297	103	182
Grain mill products	3/ 624	197	91	62	127	83	64	4/	5/
Beverages	1,355	23	183	540	502	77	25	4	1
Combinations	1,908	382	103	170	552	211	209	4/ 101	180
Other									
Paper and allied products	1,908	1,123	1,980	221	251	382	226	5	6
Chemicals and allied products	13,098	3,826	553	1,887	1,633	4,093	985	99	22
Drugs	1,615	420	33	335	230	491	83	18	5
Soaps and cosmetics	3/ 607	120	3	126	159	154	44	6/	1
Industrial chemicals	3/ 4,972	1,590	215	568	494	1,544	366	6/	15
Plastic materials	3/ 2,495	653	30	345	286	956	224	6/	1
Combinations	3/ 3,506	1,042	271	512	464	948	269	6/	0
Other									
Rubber	1,968	485	97	318	436	493	133	1	5
Primary and fabricated metals	17,785	2,985	2,105	2,306	2,412	4,486	3,227	152	112
Primary	3/ 10,567	1,518	1,058	1,309	1,652	2,736	2,191	6/	103
Fabricated, excld. aluminum, copper, and brass									
Primary and fabricated aluminum	7,066	1,467	1,047	997	760	1,750	1,036	6/	9
Other									
Machinery, except electrical	24,210	8,372	1,218	3,941	2,248	7,621	763	41	6
Farm machinery and equipment	3/ 1,720	628	154	385	142	318	93	6/	6/
Industrial machinery and equipment	3/ 19,417	7/ 6,196	7/ 938	7/ 3,191	7/1,785	7/ 6,678	7/ 629	6/	6/
Office machines	3/ 2,185	978	117	285	304	475	26	6/	6/
Electronic computing equipment	3/ 842	570	10	80	17	150	15	6/	6/
Other	7/	7/	7/	7/	7/	7/	7/	6/	6/
Electrical machinery	9,512	3,000	533	1,390	1,092	2,946	475	58	18
Household appliances	3/ 583	119	15	110	70	253	16	6/	6/
Electrical equipment and apparatus	3/ 2,759	700	120	435	409	939	156	6/	6/
Electronic components, radio, and TV	3/ 3,176	1,203	234	418	289	802	204	6/ 26	6/
Other	3/ 2,942	978	164	427	323	951	99	6/	6/
Transportation equipment	21,727	6,504	3,501	2,592	2,525	5,332	1,229	29	15
Textiles and apparel	7,302	927	173	1,361	1,424	2,117	1,222	42	36
Lumber, wood, and furniture	2,180	397	803	90	177	412	199	13	107
Printing and publishing	3/ 1,065	327	34	216	159	239	72	18	6/
Stone, clay, and glass products	3/ 2,021	350	50	310	335	620	339	17	6/
Instruments	3/ 3,181	1,127	38	481	322	1,041	172	6/	6/
Other manufacturing	3/ 5,844	1,736	156	1,470	607	1,175	682	18	6/

1/ Preliminary data. The total is understated, because data are incomplete. Also, the breakdown by industries is not always strictly in accord with that for other countries considered here.
2/ Understated, as information is not available on several manufacturing industries.
3/ Incomplete; does not include a value for Mexico, or Brazil, or both.
4/ Value for "Grain mill products" included in entry "Combinations" and "Other."
5/ Less than 500 thousand dollars.
6/ Not available.
7/ Value for "Industrial machinery and equipment" and "Other" combined.

Source: Compiled from the following: United Nations, Statistical Office, Statistical Papers, Series E, Vol. XX, Commodity Trade Statistics, 1970; and official statistics of the U.S. Department of Commerce.

Table A-26.--Manufactured products: Exports of U.S. MNCs and of their majority-owned foreign affiliates (MOFAs) in selected foreign countries, by industry, 1966

(In millions of U.S. dollars)

Industry	Total, all Countries Listed	United States	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	20,627	**13,692	2,425	2,086	544	1,213	561	63	43
Food products	1,026	**740	131	67	19	25	10	*18	16
Grain mill products	284	**221	*41	*17	0	0	*1	*2	*2
Beverages	90	**40	*17	24	*4	*4	*1	*0	0
Combinations	117	**81	*8	*4	*6	*17	*1	0	*0
Other	535	**398	65	22	9	4	7	16	*14
Paper and allied products	984	**413	459	*4	*5	*2	*9	0	*2
Chemicals and allied products	2,627	**1,951	197	213	79	49	118	15	5
Drugs	342	**234	*6	59	13	5	14	9	*2
Soaps and cosmetics	158	**103	*6	23	*15	4	*6	*0	*1
Industrial chemicals	1,029	**907	18	35	*18	11	*35	*5	0
Plastic materials	244	**62	86	30	9	11	45	*1	0
Combinations	192	**92	61	17	*5	*2	*15	*0	*0
Other	461	**353	20	49	19	*15	*3	*0	*2
Rubber	427	**308	17	30	*30	*0	41	*1	0
Primary and fabricated metals	1,392	**1,142	53	144	11	31	7	4	*0
Primary	530	**491	15	9	5	*4	2	*4	*0
Fabricated, excluding aluminum, copper, and brass	500	**354	27	92	*3	19	*5	*0	0
Primary and fabricated aluminum	327	**277	*8	*37	0	*5	*0	0	0
Other	34	**19	*3	*6	*3	*3	*0	0	*0
Machinery, except electrical	4,127	**2,613	156	600	282	307	164	*0	5
Farm machinery and equipment	724	**391	*68	*84	*35	*36	*110	*0	0
Industrial machinery and equipment	1,609	**1,267	36	215	51	30	7	*0	*3
Office machines	368	**183	*5	148	*8	16	*8	*0	*0
Electronic computing equipment	795	*295	*30	*86	*180	*193	*9	*0	*2
Other	638	**484	17	67	8	32	30	0	*0
Electrical machinery	1,900	**1,444	103	197	42	71	*3,	*5	*1
Household appliances	203	**90	*23	*54	16	16	0	*4	0
Electrical equipment and apparatus	805	**747	24	23	*6	*5	*0	0	*0
Electronic components, radio, and TV	621	**510	30	25	*16	*6	*32	1	*1
Other	271	**97	*26	*95	*4	*44	*5	*0	*0
Transportation equipment	6,290	**3,782	1,016	*662	*19	*664	*130	*11	*6
Textiles and apparel	148	**121	9	*4	*3	*1	8	*1	*1
Lumber, wood, and furniture	195	**41	142	*4	*3	1	0	*2	*2
Printing and publishing	130	**94	*1	20	*4	*0	*9	*1	*1
Stone, clay, and glass products	323	**208	53	*25	*15	8	14	*0	0
Instruments	657	**418	*69	85	29	42	*9	*3	*2
Other manufacturing	491	**417	19	31	*3	12	*5	*2	*2

*Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by Tariff Commission in lieu of entry or entries suppressed by source agency.

Source. U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-27.--Manufactured products: Exports of U.S. MNCs and of their MOFAs in selected foreign countries, by industry, 1970

(Amount in millions of U.S. dollars)

Industry	Total, all Countries Listed	United States	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	35,311	21,718	5,134	2,836	1,415	2,523	1,352	188	145
Food products	1,461	1,062	*95	101	84	56	29	23	11
Grain mill products	274	227	*16	*21	0	0	*6	3	1
Beverages	116	*58	*9	41	*3	*2	*1	*2	0
Combinations	130	40	*15	*20	*15	*32	*5	2	1
Other	741	*737	55	*19	*66	*22	*17	16	9
Paper and allied products	1,293	609	598	*15	*17	*17	*32	0	*5
Chemicals and allied products	3,699	2,342	162	405	*132	*187	400	24	47
Drugs	645	*361	*39	*153	*16	*6	*37	*12	*21
[illegible] and cosmetics	217	*130	*5	*40	*16	*3	*16	*2	*5
Industrial chemicals	1,597	1,198	*20	*127	*32	*96	*122	*2	*0
Plastic materials	648	*318	*33	*50	*43	*70	*129	*5	*0
[illegible]	[illegible]78	114	*60	*13	*5	*2	*76	*0	*8
Other	314	221	*5	*22	*20	*10	*20	*3	*13
Rubber	589	383	*41	56	*35	*15	54	*2	*3
Primary and fabricated metals	2,835	2,237	*125	*137	*14	*138	*158	*23	*3
Primary	1,112	**976	*41	19	*6	*1	*53	*14	*2
Fabricated, excluding aluminum, copper, and brass	921	554	71	44	6	136	101	9	0
Primary and fabricated aluminum	704	**627	4	71	0	*1	1	0	0
Other	98	**80	*9	*3	*2	*0	*3	0	*1
Machinery, except electrical	6,258	3,795	409	746	466	529	*255	*15	*43
Farm machinery and equipment	639	**392	*88	*8	*57	*69	*20	*5	0
Industrial machinery	2,705	1,694	234	455	*108	*46	154	*3	*11
Office machines	801	**576	*1	83	*2	113	*12	*3	*11
Electronic computing equipment	976	*399	*40	*12	*264	*229	*9	*3	*20
Other	1,137	**734	46	188	35	*72	*60	1	*1
Electrical machinery	2,869	2,060	*138	231	76	193	*125	*41	*5
Household appliances	264	157	*7	*52	*7	*41	0	*0	*0
Electrical equipment and apparatus	1,131	**978	70	*41	*15	*20	*6	*0	*1
Electronic components, radio, and TV	1,061	*734	49	*90	*38	*26	*81	*41	*2
Other	413	**191	*12	*48	*15	*107	*38	*0	*2
Transportation equipment	12,250	6,750	2,967	*825	*420	*1,175	*75	*32	*6
Textiles and apparel	497	244	*59	*5	*3	*13	*169	*3	*1
Lumber, wood, and furniture	652	**352	270	*8	*2	*7	*0	*7	*6
Printing and publishing	191	**144	*10	*17	*6	*4	*6	*2	*2
Stone, clay, and glass products	456	267	37	*40	*35	*20	*37	*11	*9
Instruments	1,398	848	*168	218	*62	91	*6	*3	*2
Other manufacturing	863	625	*55	*32	*63	*78	*6	*2	*2

*Tariff Commission estimate for entry suppressed by the source agency.
**Partly estimated by Tariff Commission in lieu of entry or entries suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-28.--Manufactured products: Increase, or decrease (-) in the exports of U.S. MNCs and their MOFAs in selected countries, by industry, 1966-70

(Amount in millions of dollars)

Industry	Total all countries listed		[illegible]		[illegible]		United Kingdom		France		West Germany		Belgium-Luxembourg		Mexico		Brazil	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Manufacturing, all	14,694	71	8,026	59	2,709	112	750	36	371	160	1,310	107	791	41	125	[illegible]	[illegible]	237
Food products	435	42	322	44	-36	-28	34	51	65	342	31	124	19	190	5	28	-5	-31
Grain mill products	-10	-4	6	3	-25	-61	4	24	0	0	0	0	5	500	1	50	-1	-50
Beverages	26	29	18	45	-8	47	17	71	-1	-25	-2	-50	0	0	2	1/	0	0
Combinations	13	11	-41	-51	7	88	16	400	9	150	15	88	4	400	2	1/	1	1/
Other	406	76	339	85	-10	-15	-3	14	57	633	18	450	10	143	0	0	-5	-36
Paper and allied products	399	45	196	47	139	30	11	275	12	240	15	750	23	256	0	0	3	150
Chemicals and allied products	1,067	41	386	20	-35	-18	192	90	53	67	138	282	282	239	9	60	42	840
Drugs	303	89	127	54	33	550	94	159	3	23	1	20	23	164	3	33	19	950
Soaps and cosmetics	59	37	27	26	-1	-17	17	74	1	7	-1	-25	10	167	2	1/	4	400
Industrial chemicals	568	55	291	32	2	11	92	263	14	78	85	773	87	249	-3	-60	0	0
Plastics materials	199	44	51	19	-53	-62	20	67	34	378	59	536	84	187	4	400	0	0
Combinations	86	45	22	24	-1	-2	-4	-24	0	0	-	0	61	407	0	0	8	1/
Other	-148	-32	-132	-37	-15	-75	-27	-55	1	5	-6	-33	17	567	3	1/	11	550
Rubber	162	38	75	24	24	141	26	87	5	17	15	1/	13	32	1	100	3	1/
Primary and fabricated metals	1,443	104	1,095	96	72	136	-7	-5	3	27	107	345	151	2,157	19	475	3	1/
Primary	582	110	485	99	26	173	10	111	1	20	-3	-75	51	2,550	10	175	2	1/
Fabricated, excluding aluminum, copper, and brass	419	83	198	56	44	163	-48	-52	3	100	117	616	96	1,920	9	1/	0	0
Primary and fabricated aluminum	378	116	351	127	-4	-50	34	92	0	0	-4	-80	1	1/	0	0	0	0
Other	64	188	61	321	6	200	-3	-50	-1	-33	-3	-100	3	1/	0	0	1	1/
Machinery, ex-electrical	2,131	52	1,182	45	253	162	146	24	184	65	222	72	91	55	15	1/	38	760
Farm machinery and equipment	-78	-11	8	2	20	29	-76	-90	22	63	33	92	-90	-82	5	1/	0	0
Industrial machinery and equipment	1,096	68	427	34	198	550	240	112	57	112	16	53	147	2,100	3	1/	8	267
Office machines	433	118	393	215	-4	-80	-65	-44	-6	-75	97	606	4	50	3	1/	11	1/
Electronic computing equipment	181	23	104	35	10	33	-74	-86	84	47	36	19	0	0	3	1/	18	990
Other																		

See footnotes on following page.

Table A-28.—Manufactured prodcuts: Increase, or decrease (-) in the exports of U.S. MNCs and their MOFAs in selected countries, by industry, 1966-70—continued

(Amount in millions of U.S. dollars)

Industry	Total all countries listed		United States		Canada		United Kingdom		France		West Germany		Belgium-Luxembourg		Mexico		Brazil	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Manufacturing—Continued:																		
Electrical machinery	969	51	616	43	35	34	34	17	34	81	122	172	88	238	36	720	4	400
Household appliances	61	30	67	74	-16	-70	-2	-4	-9	-56	25	156	0	0	-4	-100	0	0
Electrical equipment and apparatus	325	40	230	31	46	192	18	78	9	150	15	300	6	1/	0	0	1	1/
Electronic components, radio, and T.V.	440	71	224	44	19	63	65	260	22	138	20	333	49	153	40	4000	1	100
Other	143	53	95	99	-14	-54	-47	-49	12	300	62	141	33	660	0	0	2	1/
Transportation equipment	5,960	95	2,968	78	1,951	192	163	25	401	2111	511	77	-55	-42	21	191	0	0
Textiles and apparel	346	229	120	97	50	556	1	25	0	0	12	1200	161	2012	2	200	0	0
Lumber, wood, and furniture	457	234	311	759	128	90	4	100	-1	-33	6	600	0	0	5	250	4	200
Printing and publishing	61	47	50	53	9	90	-3	-15	2	50	4	1/	-3	-33	1	100	1	100
Stone, clay, and glass products	133	41	59	28	-16	-30	15	60	20	133	12	150	23	164	11	1/	9	1/
Instruments	741	113	430	103	99	143	133	156	33	114	49	117	-3	-33	0	0	0	0
Other manufacturing	380	79	216	53	36	89	1	3	60	2000	66	550	1	20	0	0	0	0

1/ Not computable, because the 1966 amount was indicated to be nil.

Source: Computed from figures given in tables A-26 and A-27.

Table A-29. --Manufactured products: U.S. exports, by country of destination, selected countries, by industry, 1966

(In millions of U.S. dollars)

Industry	Total, selected countries	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	10,059	5,407	1,127	778	953	438	931	425
Food products	186	82	45	7	25	10	11	6
Grain mill products	16	9	1	1/	1/	1/	1	5
Beverages	6	3	1/	1/	1	1/	1/	1/
Combinations	164	70	44	6	24	10	9	1
Other								
Paper and allied products	295	97	65	31	55	14	27	6
Chemicals and allied products	1,139	410	171	98	121	101	154	83
Drugs	80	25	7	7	8	17	11	5
Soaps and cosmetics	38	18	5	3	3	4	3	2
Industrial chemicals	490	165	65	42	45	45	86	42
Plastic materials	236	99	52	16	19	20	24	6
Combinations	294	103	42	30	46	15	30	28
Other								
Rubber	219	107	17	25	33	13	17	7
Primary and fabricated metals	985	526	119	74	87	25	74	80
Primary	376	233	38	15	31	13	33	13
Fabricated, excld. aluminum, copper, and brass								
Primary and fabricated aluminum	609	293	81	59	56	12	41	67
Other								
Machinery, except electrical	2,896	1,594	316	248	238	103	272	124
Farm machinery and equipment	399	308	9	15	11	4	27	25
Industrial machinery and equipment	1,373	741	153	102	96	60	158	63
Office machines	187	69	43	36	29	2	4	4
Electronic computing equipment	162	45	40	32	32	4	4	4
Other	775	431	72	63	70	33	79	27
Electrical machinery	962	499	129	113	100	24	62	35
Household appliances	61	45	4	4	2	2	4	1/
Electrical equipment and apparatus	257	144	29	20	17	6	23	18
Electronic components, radio, and TV	281	126	48	46	36	6	12	7
Other	362	184	48	43	45	10	23	9
Transportation equipment	1,897	1,291	58	63	138	73	219	55
Textiles and apparel	311	180	30	18	32	28	20	3
Lumber, wood, and furniture	140	85	23	6	15	1	10	1/
Printing and publishing	172	118	30	4	4	2	8	6
Stone, clay, and glass products	171	120	8	7	11	5	14	6
Instruments	389	173	64	45	50	17	29	11
Other manufacturing	298	125	51	39	44	22	14	3

1/ Less than 500 thousand dollars.

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table A-30.--Manufactured products: U.S. exports, by country of destination, selected countries, by industry, 1970

(In million of U.S. dollars)

Industry	Total, selected countries	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	15,211	7,323	1,934	1,195	1,854	892	1,319	694
Food products	227	98	56	7	33	9	16	8
Grain mill products	19	9	1	-	1	1/	1	7
Beverages	11	4	1	1	4	1/	1/	-
Combinations)	197	85	54	6	28	8	15	1
Other)								
Paper and allied products	488	118	118	61	103	27	52	9
Chemicals and allied products	1,639	554	226	107	215	220	171	146
Drugs	133	36	14	15	17	31	13	7
Soaps and cosmetics	49	23	5	3	5	6	4	3
Industrial chemicals	687	209	89	37	81	114	96	61
Plastic materials	326	133	55	17	42	36	25	18
Combinations)	444	153	63	35	70	33	33	57
Other)								
Rubber	269	146	22	24	36	13	19	9
Primary and fabricated metals	1,522	631	237	167	228	81	95	83
Primary	860	286	139	84	136	38	50	27
Fabricated, excld. aluminum, copper, and brass)								
Primary and fabricated aluminum)	762	345	98	83	92	43	45	56
Other)								
Machinery, except electrical	4,153	1,837	578	395	508	221	367	247
Farm machinery and equipment	312	176	13	20	13	5	40	45
Industrial machinery and equipment	2/	2/	2/	2/	2/	2/	2/	2/
Office machines	601	138	149	101	150	30	21	12
Electronic computing equipment	311	76	84	48	60	8	17	18
Other	2/ 2,929	2/ 1,447	2/ 332	2/ 226	2/ 285	2/ 178	2/ 289	2/ 172
Electrical machinery	1,493	603	221	136	237	52	195	49
Household appliances	62	47	4	3	2	1	4	1
Electrical equipment and apparatus	353	164	45	27	30	13	58	16
Electronic components, radio, and TV	558	147	103	56	125	19	95	13
Other	520	245	69	50	80	19	38	19
Transportation equipment	3,548	2,430	211	180	261	139	239	88
Textiles and apparel	361	168	46	13	29	54	41	10
Lumber, wood, and furniture	161	91	22	4	25	2	16	1
Printing and publishing	207	153	29	4	6	2	9	4
Stone, clay, and glass products	218	140	14	13	20	7	19	5
Instruments	547	219	101	48	90	21	42	26
Other manufacturing	378	135	53	36	63	44	38	9

1/ Less than 500 thousand dollars.
2/ Value for "Industrial machinery and equipment" is included in entry for "Other."

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table A-31.--Manufactured products: U.S. MNC related, exports, by country of destination, selected countries, by industry, 1966

(In millions of U.S. dollars)

Industry	Total, selected countries	Canada	United Kingdom	France	West Germany	Belgium Luxembourg	Mexico	Brazil
All manufacturing	6,804	3,779	783	480	1	345	**592	234
Food products	287	106	**64	**25	**47	*21	*12	*12
Grain mill products	57	**19	**11	*4	*7	*9	*6	**1
Beverages	19	*11	*2	**0	*2	*0	**1	*3
Combinations	63	**14	**25	*11	*11	*0	**0	**2
Other	148	**62	**26	**10	**27	**12	*5	**6
Paper and allied products	174	**46	**50	*18	*31	**8	**15	**6
Chemicals and allied products	875	347	140	**58	**67	**110	**104	**49
Drugs	85	**27	**10	**6	**7	**8	**17	**10
Soaps and cosmetics	46	**20	**5	**4	*5	**7	**3	*2
Industrial chemicals	341	**117	**55	**31	**38	*49	**34	**17
Plastics materials	182	**73	**36	*6	**6	*34	*18	*9
Combinations	68	**50	**8	*2	*0	**5	*1	**2
Other	153	60	*26	*9	**11	**7	*31	*9
Rubber	106	**66	**5	*14	**8	*4	*4	*5
Primary and fabricated metals	428	245	**34	**26	**37	*24	**48	*14
Primary	197	**118	**9	**9	*15	*13	**33	**0
Fabricated, excluding aluminum, copper and brass	125	86	**10	*7	**8	**3	*0	**11
Primary and fabricated aluminum	89	**32	**14	*9	**12	*7	**15	**0
Other	17	*9	**1	**1	**2	**1	**0	**3
Machinery, except electrical	1,478	677	200	**141	**120	**49	*199	**92
Farm machinery and equipment	271	*154	**11	**18	*21	**3	**43	**21
Industrial machinery and equipment	602	269	**69	**44	**29	**20	**107	**64
Office machines	99	**36	**38	**9	**6	**1	**5	*4
Electronic computing equipment	227	*94	*35	**50	**37	*3	*5	**3
Other	279	**124	**47	**20	**27	**22	**39	**0
Electrical machinery	661	**297	**94	**89	**83	**22	*46	**30
Household appliances	60	**39	*4	**4	**4	**0	**4	**5
Electrical equipment and apparatus	289	**133	**37	**38	**35	**14	*17	**15
Electronic components, radio, and T.V.	266	101	**46	*43	**40	**8	**22	**6
Other	46	**24	*7	*4	*4	**0	**3	**4
Transportation equipment	2,211	1,707	**82	*61	*135	*84	*131	*11
Textiles and apparel	61	*40	**7	**2	**4	**4	**4	**0
Lumber, wood, and furniture	20	**11	**3	**0	**2	**0	**0	**4
Printing and publishing	42	**24	**9	**1	**1	*3	**4	**0
Stone, clay, and glass products	118	**76	**7	**10	*6	*7	**7	*5
Instruments	236	**98	**70	**23	**31	**2	**6	**6
Other manufacturing	107	39	**18	**12	**19	**7	**12	**0

*Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by the Tariff Commission in lieu of entry suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-32.--Manufactured products: U.S. MNC related exports, by country of destination, selected countries, by industry, 1970

(In millions of U.S. dollars)

	Total, all countries	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	11,707	6,122	1,643	**840	**1,072	**615	**918	**497
Food products	483	209	*85	**84	**18	*7	**75	*5
Grain mill products	98	**39	**9	*3	*3	*1	*41	**2
Beverages	38	**24	**1	**2	**4	*1	4	*2
Combinations	38	**36	**0	*2	*0	**0	**0	0
Other	309	**110	**75	**77	**11	**5	**30	**1
Paper and allied products	310	**137	**40	*32	*30	**17	*48	**6
Chemicals and allied products	1,069	333	159	**60	**132	**169	**118	**98
Drugs	130	42	7	**10	**11	**14	**26	**20
Soaps and cosmetics	70	25	*7	**9	**7	**9	*7	*6
Industrial chemicals	501	**156	**72	**21	*40	*92	**64	**56
Plastics materials	218	**72	**40	*10	**56	*21	**13	*6
Combinations	46	**22	**10	*3	*2	**8	0	**1
Other	104	16	**23	*7	*16	**25	*8	*9
Rubber	180	**83	**33	*19	**19	*8	*6	*12
Primary and fabricated metals	924	250	*212	**94	**162	*65	*86	*55
Primary	332	110	55	34	64	23	31	15
Fabricated, excluding aluminum, copper and brass		81	72				**29	**38
Primary and fabricated aluminum	592	**52	**84	**60	**98	**42	*26	**0
Other		**7	**1				**0	**2
Machinery, except electrical	2,228	702	519	**210	**241	**146	**185	**225
Farm machinery and equipment	267	*110	**10	**28	*28	**8	*57	**26
Industrial machinery and equipment	1/ 1,310	293	**184	**1/ 89	**1/ 85	**1/ 119	**73	**161
Office machines	383	**70	**177	**24	**75	**14	**1	**22
Electronic computing equipment	268	*68	*56	**69	**53	**5	**1	**16
Other	1/	**161	**92	1/	1/	1/	**53	**0
Electrical machinery	958	**313	**135	**126	**163	**48	**145	**28
Household appliances	111	**60	**2	**0	**2	**0	*46	**1
Electrical equipment and apparatus	330	**107	53	**51	**78	**23	**1	**17
Electronic components, radio, and T.V.	441	98	**72	*73	**81	**24	*85	**8
Other	76	**48	**8	*2	*2	**1	**13	**2
Transportation equipment	4,243	3,396	**207	*125	*188	*104	**187	*36
Textiles and apparel	168	**96	**25	**2	**9	**14	*19	**3
Lumber, wood, and furniture	107	**66	15	**3	**21	**1	**0	**1
Printing and publishing	47	**26	**3	**0	**0	**1	*17	**0
Stone, clay, and glass products	174	**99	**17	**15	**10	*4	**22	*7
Instruments	562	**362	**98	**54	**40	**2	**2	**4
Other manufacturing	254	50	95	**16	**39	**29	**8	**17

1/ Values for "Other Machinery, except electrical" are combined with "Industrial machinery and equipment."
*Tariff Commission estimate for entry suppressed by source agency.
**Partly estimated by the Tariff Commission in lieu of entry or entries suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-33.--Manufactured products: Increase, or decrease (-) in U.S. MNC related exports, by country of destination, selected countries, 1966 to 1970

(Amount in millions of U.S. dollars)

Industry	Total, selected countries		Canada		United Kingdom		France		West Germany		Belgium Luxembourg		Mexico		Brazil	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Manufacturing, all	4,903	74	2,343	62	860	110	360	75	481	81	270	78	326	55	263	112
Food products	196	68	103	94	21	33	59	236	-29	-62	-14	-67	63	525	-7	-240
Grain mill products	41	72	-20	-105	-2	-18	-1	-25	-4	-57	-8	-89	35	583	1	100
Beverages	19	100	13	118	-1	50	2	2/	2	100	1	2/	3	300	-1	-33
Combinations	-25	-40	22	157	-25	100	-9	82	-11	-100	0	0	0	0	-2	-100
Other	161	109	48	77	49	188	67	670	-16	-59	3	150	25	500	-5	-83
Paper and allied products	136	78	91	198	-10	-20	14	78	-1	-3	9	113	33	220	0	0
Chemicals and allied products	194	22	-14	-4	19	14	2	3	65	97	59	54	14	12	49	100
Drugs	45	53	15	56	-3	-30	4	67	4	57	6	75	9	53	10	100
Soaps and cosmetics	24	52	5	25	2	40	5	125	2	40	2	29	4	133	4	200
Industrial chemicals	160	47	39	33	17	31	-10	-32	2	5	43	88	30	88	39	229
Plastics materials	36	20	-1	-1	4	11	4	67	50	833	-13	-38	-5	-28	-3	-33
Combinations	-20	-29	-28	-56	2	25	1	50	2	2/	3	60	-1	-100	-1	-50
Other	-49	32	-44	-73	-3	-12	-2	-22	5	45	18	257	-23	-74	0	0
Rubber	74	70	17	26	28	560	5	36	11	138	4	100	2	50	7	140
Primary and fabricated metals	496	116	5	2	176	518	68	262	125	338	41	171	38	79	41	293
Primary	135	69	-8	-7	46	511	25	278	49	327	10	77	2	6	15	2/
Fabricated, excluding aluminum, copper and brass	361	156	-5	-6	62	620	43	253	76	345	31	282	-29	-100	27	245
Primary and fabricated aluminum	361	156	13	10	132	528	43	253	76	345	31	282	11	73	0	0
Other	361	156	2	22	0	0	43	253	76	345	31	282	0	0	-1	-33
Machinery, except electrical	750	51	25	4	319	155	69	49	121	101	97	198	-14	7	133	145
Farm machinery and equipment	-4	-1	-44	-29	-1	-9	10	56	3	33	5	167	14	33	5	24
Industrial machinery and equipment	1/ 614	88	24	9	115	167	1/ 25	1/ 39	1/ 29	1/ 52	1/ 77	183	34	32	97	152
Office machines	284	287	34	94	139	306	15	167	69	1,150	13	1,300	-4	-80	18	450
Electronic computing equipment	41	18	-26	-28	21	60	19	38	16	43	2	67	-4	-80	13	433
Other	1/		37	30	45	96	1/	1/	1/	1/	1/		14	36	0	0
Electrical machinery	297	45	16	5	41	44	37	42	80	96	26	118	99	215	-2	-7
Household appliances	51	85	21	54	-2	-50	-4	-100	2	50	0	0	142	3,550	-4	-80
Electrical equipment and apparatus	41	14	-26	-20	16	43	13	34	43	123	9	64	-16	-94	2	13
Electronic components, radio, and T.V.	185	66	-3	-3	26	57	30	70	41	103	16	200	63	286	2	33
Other	30	65	24	100	1	14	-2	-50	-2	-50	1	2/	10	333	-2	50
Transportation equipment	2,032	92	1,689	99	125	152	64	105	53	39	20	24	56	43	25	227
Textiles and apparel	107	175	56	140	18	257	0	0	5	125	10	250	15	375	3	2/
Lumber, wood, and furniture	87	435	55	500	12	400	3	2/	19	950	1	2/	0	0	-3	75
Printing and publishing	5	12	2	8	-6	-67	-1	-100	-1	-100	-2	-67	13	325	0	0
Stone, clay, and glass products	56	47	23	30	10	143	5	50	4	67	-3	-43	21	2,100	2	40
Instruments	326	138	264	269	28	40	31	135	9	29	0	0	-4	-67	-2	-33
Other manufacturing	147	137	11	28	77	428	4	33	20	105	22	314	-4	-33	17	2/

1/ Amount for "Other Machinery, except electrical" is combined with "Industrial machinery and equipment."
2/ Not computable, as the exports in 1966 were nil.

Source: Computed from figures given in Tables A-31 and A-32.

Table A-34.--Manufactured products: Exports to the United States by MOFAs of U.S. MNCs by country of origin, selected countries, by industry, 1966

(In millions of U.S. dollars)

Industry	Total, selected countries	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	2,355	1,986	173	27	77	41	35	16
Food products	80	46	18	3	*0	*0	*11	*2
Grain mill products	3	*1	*0	0	0	*0	*2	*0
Beverages	27	*13	14	*0	*0	*0	*0	0
Combinations	3	*2	*0	*1	*0	*0	*0	*0
Other	47	30	*4	*2	*0	*0	*9	*2
Paper and allied products	409	406	*0	*0	*1	*0	0	*2
Chemicals and allied products	136	112	5	3	*4	4	6	*2
Drugs	9	*5	*0	*0	*0	*0	4	*0
Soaps and cosmetics	1	*0	0	*0	*1	*0	0	*0
Industrial chemicals	13	*7	1	*3	0	*0	*2	0
Plastic materials	50	*44	*0	*0	*2	*4	*0	0
Combinations	44	*44	*0	*0	*0	*0	*0	*0
Other	18	*12	*4	*0	*0	*0	*0	*2
Rubber	13	*12	0	*0	*0	0	*1	0
Primary and fabricated metals	37	27	9	*0	*0	*0	*1	*0
Primary	14	*13	0	*0	*0	*0	*1	*0
Fabricated, excld. aluminum, copper, and brass	13	10	3	*0	0	*0	*0	0
Primary and fabricated aluminum	17	*3	*4	0	*0	*0	0	0
Other	3	*1	*2	*0	*0	*0	0	*0
Machinery, except electrical	216	118	45	11	12	*29	*0	*1
Farm machinery and equipment	97	*65	*6	*0	*1	*25	*0	0
Industrial machinery and equipment	39	27	7	*2	*3	0	*0	*0
Office machines	29	*2	14	*4	7	*2	*0	*0
Electronic computing equipment	34	*14	*14	*5	*0	*0	*0	*1
Other	17	10	4	0	*1	*2	0	*0
Electrical machinery	121	67	38	4	8	*2	*1	*1
Household appliances	41	*20	*15	*2	*3	0	*1	0
Electrical equipment and apparatus	19	15	*3	*1	*0	*0	0	*0
Electronic components, radio, and TV	34	21	*10	*1	*1	*0	*0	*1
Other	27	*11	*10	*0	*4	*2	*0	*0
Transportation equipment	1,056	954	*36	*4	*43	3	*11	*5
Textiles and apparel	7	*2	*2	*0	*0	*3	*0	*0
Lumber, wood, and furniture	138	135	*1	0	0	0	*1	*1
Printing and publishing	7	*1	4	1	*0	0	*1	*0
Stone, clay, and glass products	53	47	*6	0	*0	*0	*0	0
Instruments	72	*57	7	*1	5	*0	*1	*1
Other manufacturing	10	*2	2	0	*4	*0	*1	*1

*Tariff Commission estimate for entry suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-35.--Manufactured products: Exports to the United States by MOFAs of U.S. MNCs by country of origin, selected countries, by industry, 1970

(In millions of U.S. dollars)

Industry	Total, selected countries	Canada	United Kingdom	France	West Germany	Belgium-Luxembourg	Mexico	Brazil
Manufacturing, all	5,249	4,401	228	50	384	39	79	68
Food products	77	40	14	1	7	2	8	5
Grain mill products	7	6	0	0	0	0	1	0
Beverages	27	8	11	1	0	0	1	0
Combinations	10	8	0	0	0	0	1	1
Other	39	18	3	0	7	2	5	4
Paper and allied products	544	537	1	2	2	2	0	0
Chemicals and allied products	131	76	9	*10	*12	7	6	11
Drugs	39	*25	*3	*1	*4	*2	*4	*0
Soaps and cosmetics	4	*0	*0	*1	*2	*1	*0	*0
Industrial chemicals	18	*13	*1	*1	*1	*1	*1	*0
Plastic materials	28	*13	*0	*7	*5	*2	*1	*0
Combinations	32	*25	*3	*0	*0	*1	*0	*3
Other	10	*0	*2	*0	*0	*0	*0	*8
Rubber	41	*36	3	0	0	0	*1	*1
Primary and fabricated metals	87	69	8	*3	*2	*3	*1	*1
Primary	28	21	0	*2	*1	*2	*1	*1
Fabricated, excld. aluminum, copper, and brass	41	36	5	0				
Primary and fabricated aluminum	5	*3	*1	0	*1	0	0	0
Other	13	*9	*2	*1	*0	*1	0	0
Machinery, except electrical	473	309	60	13	44	*5	*10	*28
Farm machinery and equipment	106	*88	*0	*1	*14	*0	*3	0
Industrial machinery and equipment	181	148	18	*1	*2	1	*2	*9
Office machines	44	*1	13	*1	14	*4	*2	*9
Electronic computing equipment	64	*35	*0	*8	*9	*0	*2	*10
Other	74	37	29	2	*5	*0	1	0
Electrical machinery	147	*80	29	3	18	*5	*10	*2
Household appliances	21	*5	*6	*2	*8	0	*0	*0
Electrical equipment and apparatus	51	38	*7	*0	*5	*1	*0	*0
Electronic components, radio, and TV	59	27	*16	*1	*1	*3	*10	*1
Other	12	*10	*0	*0	*0	*1	*0	*1
Transportation equipment	3,163	2,768	*75	*5	*275	*5	*30	*5
Textiles and apparel	55	*44	*0	*0	*3	*5	*2	*1
Lumber, wood, and furniture	290	270	*3	*2	*5	*0	*5	*5
Printing and publishing	13	*5	*3	*1	*1	*1	*1	*1
Stone, clay, and glass products	52	29	*5	*5	*5	*2	*1	*5
Instruments	125	*103	*9	*2	7	*1	*2	*1
Other manufacturing	55	35	*9	*3	*3	*1	*2	*2

*Tariff Commission estimate for entry suppressed by source agency.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table A-36.--Domestic and foreign investment variables, 1970

(Millions of dollars)

	Domestic capital stock, all firms	Net fixed assets of MNC foreign affiliates
All manufacturing	260,101	30,915
Food products	25,551	1,853
Grain mill products	3,098	289
Beverages	5,276	451
Other food products	17,777	1,113
Paper and allied products	19,357	2,007
Chemicals and allied products	36,037	6,868
Drugs	2,693	681
Soaps and cosmetics	1,748	478
Industrial chemicals	18,620	1,929
Plastics materials	8,559	2,204
Other chemicals	4,417	1,576
Rubber products	7,977	974
Primary and fabricated metals	57,383	2,619
Primary metals (except aluminum)	33,860	682
Fabricated metals (except aluminum, copper, and brass)	14,998	1,030
Primary and fabricated aluminum	6,609	902
Other metal products	1,916	5
Non-electrical machinery	20,367	3,798
Farm machinery and equipment	1,388	204
Industrial machinery and equipment	1/	1/
Office machines	832	416
Electronic computing equipment	1/9,765	2,732
Other non-electrical machinery	8,382	440
Electrical machinery and apparatus	16,107	2,613
Household appliances	1,656	295
Electrical equipment and apparatus	3,518	1,068
Electronic components, radio, T.V.	8,356	606
Other electrical machinery	2,577	644
Transportation equipment	20,418	5,131
Textiles and apparel	13,945	625
Lumber, wood products, and furniture	8,554	1,296
Printing and publishing	10,105	138
Stone, clay, and glass products	13,237	1,046
Instruments	4,084	1,345
Miscellaneous manufacturing	6,979	602

Note:
1/ Industrial machinery and equipment included under electronic computing equipment.

Source: U.S. Census of Manufactures and U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

CHAPTER IV

IMPACT OF THE MULTINATIONAL FIRM ON WORLD PATTERNS OF INVESTMENT

Introduction

U.S.-based direct investors have had a major impact on both the rates and patterns of gross fixed capital formation in host countries around the world. U.S. investors in particular are among the principal suppliers of private capital to the less developed countries (LDCs), where low rates of saving and undeveloped capital markets prevent rapid domestic accumulation of the wherewithal for heavy investment. That the large U.S. petroleum and mining companies have had an important role in the development of mineral resources in countries fortunate to have been endowed with them by nature is well known. The role of U.S.-based multinational corporations (MNCs) in the manufacturing industries of some LDCs also has been pronounced. Perhaps less understood is the importance of the American MNC as investor in the highly developed, industrial countries. In the industrial West many of the most important industries in fact depend heavily on capital formation by U.S. owners as a principal source of growth and change.

This chapter attempts to put into focus the impact of the MNC on investment patterns and rates. It is concerned not only with the "real" aspects of investment--the actual installation of brick, mortar, and machines to generate productive actitity--but also with the financial flows which allow capital formation to take place, and with how these flows affect capital markets in host countries, the United States, and

third countries. Throughout, emphasis is placed on the United States and seven key nations which account for about two thirds of the book value of U.S. direct investment abroad in manufacturing: the United Kingdom, West Germany, France, Belgium (and Luxembourg), Canada, Mexico, and Brazil. This sample of countries covers a significant proportion of the industrialized free world, along with the two nations bordering the continental United States, where contiguity has raised special problems related to direct investment, and Brazil, a fast-growing LDC in an area where U.S. direct investors have long been important. Attention is given almost exclusively to the manufacturing industries of these countries because the MNCs' activity in manufacturing is the principal concern of the study as a whole as well as the source of the main issues that arise with respect to their behavior.

The chapter begins with some background material in the form of a brief survey of overall rates of capital formation in the manufacturing sectors of the United States and the seven countries under review. This is followed by an analysis of the patterns and growth--in terms of both geographic and industrial distribution--of the plant and equipment spending of U.S. direct investors. The data are then combined in order to highlight the role of the U.S.-based MNC in the investment patterns of host countries. The results are startling, showing a higher order of dependence on U.S. capital, even in the most advanced countries, than has commonly been thought to be the case.

The foregoing material completes section A of the chapter, on the effects of MNC operations on patterns of "real" investment in the

United States and abroad. Section B explores financial relationships, integrating them with the material already covered. It analyzes the sources of finance for the physical investments surveyed in section A and evaluates the roles of capital transfers to and from the United States, and of borrowing abroad (in host and third countries). It also analyzes changes in capital sourcing, assesses the stability of the MNCs' behavior in this respect, and discusses the overall financing strategies of the multinational firm. Finally, Section C presents an accountant's look at the profitability and other performance characteristics of the MNCs.

A. Physical Investment and the MNCs' Role in Generating it

Aggregate fixed capital spending in eight countries

In the years 1966 through 1970, national accounts and the capital spending data of the eight countries under review indicate total capital outlays of more than $245 billion in manufacturing (see Table 1). Almost exactly half of this--$122 billion--occurred in the United States, where investment outlays, in other words, roughly equaled those in the other seven countries combined. France took second place, with $35 billion or over 14 percent of the total; it led a group of three large, highly developed countries which also included West Germany (13 percent) and the United Kingdom (10 percent). Canada and Mexico together accounted for over 9 percent, leaving under 4 percent to be shared by Belgium--small but industrialized--and Brazil--giant but underdeveloped.

Table 1.--Gross fixed capital formation in manufacturing in eight countries, cumulative, 1966-1970

(Billions of U.S. dollars)

Country	Amount	Percent of total
Total	245.22	100.0
United States	122.44	49.9
United Kingdom	24.62	10.0
France	35.00	14.3
West Germany	31.59	12.9
Belgium	5.62	2.3
Canada	12.47	5.1
Mexico	1/ 10.20	4.2
Brazil	3.28	1.3
Total, excluding U.S.	122.78	50.1

1/ Estimated.

Sources: Tables A-1 through A-7 in Appendix to this chapter, and Statistical Abstract of the United States, 1971.

Ostensibly, the United States was an underachiever in the investment-growth sweepstakes during the four-year period 1966-70. Total investment in manufacturing in the United States rose by only 12 percent in that period, compared with an average of about 31 percent for the other seven nations in the group (30 percent, excluding Mexico and Brazil). However, this comparison is misleading, because the U.S. figures for 1970 are depressed by the recession which was in full swing by that time, whereas the big European countries--especially West Germany--were just nearing the peak of a spectacular boom. The more appropriate comparison, which would place the United States in roughly the same phase of the business cycle as the Europeans, would use U.S. capital spending figures for the period 1965-69; in this period, investment in U.S. manufacturing industries rose 34 percent, which slightly exceeds the comparable 1966-70 figure for the other seven countries. Overall, the appropriate conclusion is that the rates of growth in capital formation, while varying considerably among countries and industries, were roughly the same in the United States as in the other seven countries combined during the period under consideration.

Table 2 takes a closer look at average annual growth rates of investment in manufacturing, by broad industry group, in the eight countries. Investment is an economic activity which tends to show much more volatility and variability over the business cycle--and across industries--than do other measures of aggregate activity, such as output. Accordingly, these figures should be taken as rough indicators only, showing general patterns of investment growth rather than precise measurements of year-to-year changes.

Table 2.--Growth rates of fixed capital formation in manufacturing in eight countries, 1966-1970

(Average annual percent change)

	U.S. 1/	U.K.	West Germany	France	Belgium-Luxembourg	Canada	Mexico 2/	Brazil	Average	Average, excl. U.S.	Average, excl. U.S., Mexico, Brazil
All manufacturing	7.6	4.7	6.4	11.3	4.9	4.8	8.3	9.8	7.2	7.2	6.4
Food	9.1	4.1	8.1	17.9	7.0	5.3	6.1	13.0	8.8	8.8	8.5
Chemicals	4.3	4.7	3.3	1.5	2.9	1.7	18.7	5.3	5.3	5.4	2.8
Primary and fabricated metals	9.8	15.8	9.3	13.0	-	-	-12.5	2.3	3/ 5.9	3/ 5.3	3/ 9.5
Machinery	16.8	1.4	10.6	10.8	4.0	5.4	-8.5	13.5	3/ 6.8	3/ 5.3	3/ 6.4
Transportation equipment	2.1	3.3	4.9	14.2	-	-	-9.0	14.3	3/ 4.9	3/ 5.3	3/ 6.4
All other manufacturing	11.6	1.3	4.4	4.6	6.1	12.1	58.8	9.4	13.5	13.8	7.0

Notes:

1/ 1965-1969.
2/ 1966-1969.
3/ Based on average values shown for all three industry groups in Belgium and Canada.

Source: Tables A-1 through A-7 in Appendix to this chapter, and Statistical Abstract of the United States, 1971.

With the foregoing caveat in mind, however, one still can uncover some interesting points in Table 2. Among individual countries and industries, certain convergences are in evidence. Industry groups which showed average growth in investment greater than the mean for manufacturing as a whole in the United States tended to show the same tendency in other countries (i.e., faster growth relative to the average for manufacturing in each country), with certain exceptions, most notably in the United Kingdom. In general, this is truer of the heavily industrialized countries than of Mexico and Brazil, whose patterns of investment growth are more erratic, both because new investment spending often is grafted onto a low base--which distorts measurements of percentage change--and because investment priorities tend to shift more rapidly among industries.

The data in Table 3 shift the focus from rates of change to the industrial distribution of actual capital outlays in 1970 in the eight countries surveyed. Here again, there are close similarities between investment patterns in the United States and those of the other seven countries taken as a group. Not only are the proportions of total investment accounted for by each major industry group rather similar in magnitude, but also the rankings of industries as spenders of capital funds are nearly identical. There is one major exception within the rankings: the positions of machinery and chemicals in the United States and the other seven are exactly reversed. In the United States, investment in the machinery industries is predominant, whereas in the other countries chemicals take the superior position.

Table 3.--The industrial distribution of fixed capital spending in manufacturing, eight countries, 1970

(Amounts in millions of U.S. dollars)

	United States		Seven key countries 1/		All eight countries	
	Amount	Percent of Total	Amount	Percent of Total	Amount	Percent of Total
All manufacturing	26,340	100	29,739	100	56,079	100
Food	2,840	11	4,200	14	7,040	13
Chemicals	3,440	13	5,155	18	8,595	15
Primary and fabricated metals	4,340	16	2/ 4,445	15	8,785	16
Machinery	5,740	22	2/ 4,260	14	10,000	18
Transportation equipment	2,430	9	2/ 2,775	9	5,205	9
All other manufacturing	7,550	29	8,904	30	16,454	29

1/ United Kingdom, West Germany, France, Belgium-Luxembourg, Canada, Mexico, Brazil.
2/ Partly estimated.

Sources: Tables A-1 through A-7 in Appendix to this chapter, and *Statistical Abstract of of the United States*, 1971.

Capital spending by the U.S.-based MNCs

In 1970, total foreign plant and equipment spending in manufacturing by U.S. direct investors reached $6.5 billion, up more than 42 percent from $4.6 billion in 1966. As indicated in Table 4, 64 percent of the total was spent in the seven countries under discussion in this chapter, a slight drop from the 66 percent share in 1966. However, a rather precipitous drop in Canada's share of the total is the exclusive reason for the small decline. Investment spending in Canada fell slightly in absolute terms and heavily as a proportion of the total, reflecting a tendency since the mid-1960's for U.S. investment in Canadian manufacturing to level off while investment in the rest of the world continued to grow rapidly. However, in the other six countries of the group, capital outlays by U.S.-owned affiliates rose half again as fast as affiliate spending in the world as a whole, climbing by roughly 65 percent from $1.9 billion to $3.1 billion and increasing their share of the world total from 41 percent to 48 percent. Of the other countries and areas shown in the table, Japan's share doubled, but from a very low base; in 1970, U.S.-related affiliates still spent only $374 million on new plant and equipment in Japan, a mere 6 percent of the world total. The expansion of investment in European countries other than the four key nations of this chapter's seven-country sample also showed considerable strength, but capital spending by U.S.-owned affiliates developed sluggishly in the Latin American countries other than Mexico and Brazil, as political changes and rising nationalism in countries like Argentina, Peru, and Chile, began to exert their depressive effect. In all the

Table 4.--The geographic distribution of plant and equipment expenditures of U.S.-owned MNCs in manufacturing, 1966 and 1970

(Amounts in millions of dollars)

	1966		1970	
	Amount	Percent of world total	Amount	Percent of world total
World total	4,583	100	6,524	100
Seven key countries 1/	3,014	66	4,152	64
Rest of world	1,569	34	2,372	36
Latin America	453	10	669	10
Brazil and Mexico	200	4	386	6
Other Latin America	253	6	283	4
Europe	2,224	48	3,614	55
Four key countries 2/	1,709	37	2,760	42
Other Europe	515	11	854	13
Canada	1,105	24	1,006	15
Japan	153	3	374	6
World, excluding Latin America, Europe, Canada, Japan	648	15	861	14

Notes:

1/ Canada, United Kingdom, Belgium-Luxembourg, France, W. Germany, Mexico, Brazil.

2/ United Kingdom, Belgium-Luxembourg, France, W. Germany.

Sources: 1) Survey of Current Business, Vol. 51, No. 9, September 1971, Supplemented by revised data from Bureau of Economic Analysis, U.S. Department of Commerce.

rest of the world (Africa, the Middle East, Asia (excluding Japan), and Oceania), affiliates' investment spending rose moderately but not enough to avert a slight drop in the area's share of the total.

Table 5 contains the material of Table 4, reworked to highlight the regrettably sparse amount of industrial breakdown information available on manufacturing investment outlays by the U.S. MNCs for the world as a whole. However, despite its sketchiness, it reveals several interesting points. It shows that only three industries--chemicals, machinery, and transportation equipment (which, for the MNCs, may be defined essentially as motor vehicles)--account for 66 percent of total investment outlays by affiliates. For the seven countries under review (hereafter referred to as the seven), the proportion is even higher--70 percent. Note also that the machinery and automotive categories bear greater weight in the Seven than the average for all industries in those countries. By contrast, investment in the chemical, machinery, and transportation equipment sectors by all firms (MNCs and others) in the United States amounts to only about 45 percent of total annual capital spending in manufacturing. In this respect, the pattern of affiliates' investment abroad differs substantially in emphasis from the pattern of gross investment in manufacturing in the United States, and the difference is most pronounced in the seven key countries with which this chapter is concerned.

A much more complete picture of the industrial distribution of MNC investment abroad can be obtained from estimates of the <u>stock</u> (rather than the annual flows) of direct investment capital in the several countries and industries of concern. These data are summarized and analyzed

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Table 5.--Summary of plant and equipment expenditures of U.S.-owned MNCs in manufacturing industries in seven key countries 1/ and rest of world, 1966 and 1970

(Amounts in millions of dollars)

Industry description	Total, all areas (Amount)	Seven key countries 1/		Rest of world	
		(Amount)	(Percent of world total)	(Amount)	(Percent of world total)
1966					
All manufacturing	4,583	3,014	66	1,569	34
Chemicals	1,040	561	54	479	46
Machinery	1,046	748	72	298	28
Transportation equipment	966	831	86	135	14
All other manufacturing	1,531	874	57	657	43
1970					
All manufacturing	6,524	4,152	64	2,372	36
Chemicals	1,294	691	53	603	47
Machinery	1,920	1,292	67	628	33
Transportation equipment	1,060	870	82	190	18
All other manufacturing	2,250	1,299	58	951	42

Notes:

1/ Canada, Brazil, Mexico, United Kingdom, Belgium-Luxembourg, France, West Germany.

Source: Survey of Current Business, Vol. 51, No. 9, September 1971, supplemented by revised data from Bureau of Economic analysis, U.S. Department of Commerce. Also see tables A-1 through A-7, in Appendix to this chapter.

in Tables 6, 7, and 8 on the following pages. Table 6 is designed for a quick look at the geographic and sectoral distribution of <u>all</u> net fixed investments by all affiliates, in all industries. It makes two simple main points: (1) that manufacturing and petroleum, with a combined total equal to 78 percent of the net fixed assets of all affiliates in all sectors, heavily dominate the pattern of American foreign direct investment, and (2) that the seven key countries which are the principal focus of this study account for 56 percent of total U.S.-owned net fixed assets, worldwide, in all sectors. Their share is 67 percent in the important manufacturing sector, 61 percent in mining and smelting (almost all of it in Canada), and 56 percent in public utilities--but considerably less in the other sectors. The most important type of activity in which the Seven do not count especially heavily is the petroleum industry, which, of course, is greatly skewed toward basic extractive investment in the Middle East, Africa, and Venezuela.

Table 7 contains a more important breakdown of net investment stocks. It is constructed exactly as Table 6, but presents more detailed information on the manufacturing sector and its branches. These estimates highlight the cumulative impact of sizeable annual flows of direct investment into the "heavy" industries--chemicals, metals, machinery, and transportation equipment--which together account for 67 percent of the worldwide stock of net direct investment capital owned by Americans. The Seven again show their prominence in these industries, with 60 percent of the world total in chemicals, 78 percent in transportation equipment (motor vehicles), 72 percent in nonelectrical machinery, 51 percent in

Table 6.--The geographic and sectoral distribution of U.S.-owned foreign affiliates' net fixed assets in 1970, all industries

(Amounts in millions of dollars)

	All industries	Agri-culture	Mining and smelting	Petroleum	Manufac-turing	Public Utilities, etc. 1/	Trade	Finance	Insurance	Other
World totals										
Amount	69,012	258	3,337	22,696	30,915	6,130	2,511	1,038	5	2,122
Percent shares, by industry	100	negl.	5	33	45	9	4	1	negl.	3
Canada										
Amount	18,723	54	1,916	6,531	6,945	2,233	654	17	-	373
Percent of world total 2/	27	21	57	29	22	36	26	2	-	18
Percent shares, by industry 3/	100	negl.	10	35	37	12	4	negl.	-	3
United Kingdom										
Amount	7,680	2	-	1,452	4,145	1,256	n.a.	19	n.a.	224
Percent of world total 2/	11	1	-	6	13	20	n.a.	2	n.a.	11
Percent shares, by industry 3/	100	negl.	-	19	54	16	n.a.	negl.	n.a.	3
Belgium-Luxembourg										
Amount	1,548	n.a.	-	308	1,142	n.a.	59	n.a.	n.a.	31
Percent of world total 2/	2	n.a.	-	1	4	n.a.	2	n.a.	n.a.	1
Percent shares, by industry	100	n.a.	-	20	74	n.a.	4	n.a.	n.a.	2
France										
Amount	2,680	4	-	506	1,788	n.a.	157	58	n.a.	147
Percent of world total 2/	4	2	-	2	6	n.a.	6	6	n.a.	7
Percent shares, by industry 3/	100	negl.	-	19	67	n.a.	6	2	n.a.	5
West Germany										
Amount	4,825	n.a.	-	1,113	3,443	n.a.	178	n.a.	-	17
Percent of world total 2/	7	n.a.	-	5	11	n.a.	7	n.a.	-	1
Percent shares, by industry 3/	100	n.a.	-	23	71	n.a.	4	n.a.	-	negl.
Brazil										
Amount	1,977	-	-	83	1,811	-	58	n.a.	n.a.	25
Percent of world total 2/	3	-	-	negl.	6	-	2	n.a.	n.a.	1
Percent shares, by industry 3/	100	-	-	4	92	-	3	n.a.	n.a.	1
Mexico										
Amount	1,717	7	121	8	1,461	-	94	n.a.	n.a.	26
Percent of world total 2/	2	3	4	negl.	5	-	4	n.a.	n.a.	1
Percent shares, by industry 3/	100	negl.	7	negl.	85	-	5	n.a.	n.a.	2

Table 6.--The geographic and sectoral distribution of U.S.-owned foreign affiliates' net fixed assets in 1970, all industries--Cont.

(Amounts in millions of dollars)

	All industries	Agri-culture	Mining and smelting	Petroleum	Manufac-turing	Public Utilities, etc. 1/	Trade	Finance	Insurance	Other
Total for seven key countries above:										
Amount	39,150	67	2,037	10,001	20,735	3,489	1,200	94	-	843
Percent of world total 2/	56	27	61	43	67	56	43	10	-	40
Percent shares, by industry 3/	100	negl.	5	26	54	9	3	negl.	-	3
Rest of world and international										
Amount 4/	29,862	191	1,300	12,695	10,180	2,641	1,311	944	5	1,279
Percent of world total 2/	44	73	39	57	33	44	57	90	100	60
Percent shares, by industry 3/	100	1	4	42	34	8	4	3	negl.	4

Notes:
1/ Includes transportation, communication, other public utilities.
2/ Percent of world total in each industrial sector.
3/ Industrial sector shares of total investment in each country or area.
4/ Includes any amounts properly allocable to the "n.a." entries for individual countries above.

Source : U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table 7.--The geographic and sectoral distribution of U.S.-owned foreign affiliates' net fixed assets in manufacturing industries, 1970

(Amounts in millions of dollars)

	All manu-facturing	Chemicals	Trans-portation equipment	Machinery: Non-electrical	Machinery: Electrical	Primary and fabricated metals	Food products	Paper and allied products	Instruments	Textiles and apparel	Rubber	Wood products	All other
World totals													
Amounts	30,915	6,868	5,131	3,798	2,613	2,619	1,853	2,007	1,345	625	974	1,296	1,786
Percent shares, by industry	100	22	17	12	8	8	6	6	4	2	3	4	8
Total for 7 key countries (below)													
Amount	20,735	4,139	4,020	2,733	1,320	1,625	1,235	1,607	810	330	599	1,233	1,084
Percent of world total 1/	67	60	78	72	51	62	67	80	60	53	61	95	61
Percent shares, by industry 2/	100	20	19	13	6	8	6	8	4	2	3	6	5
Rest of world and international													
Amount	10,180	2,729	1,111	1,065	1,293	994	618	400	535	295	375	63	702
Percent of world total 1/	33	40	22	28	49	38	33	20	40	47	39	5	39
Percent shares, by industry 2/	100	27	11	10	13	10	6	4	5	3	4	1	6
Canada													
Amount	6,945	973	1,055	474	378	367	520	1,274	144	78	197	1,200	28[illegible]
Percent of world total 1/	22	14	21	12	14	14	28	63	11	12	20	93	1[illegible]
Percent shares, by industry 2/	100	14	16	7	5	5	7	19	2	1	3	17	4
United Kingdom													
Amount	4,145	639	1,090	692	445	279	252	78	214	13	139	3/ 15	289
Percent of world total 1/	13	9	21	18	17	11	14	4	16	2	14	1	1[illegible]
Percent shares, by industry 2/	100	15	26	17	11	7	6	2	5	negl.	3	negl.	8
Belgium-Luxembourg													
Amount	1,142	293	3/ 75	174	104	153	86	77	3/ 5	86	53	-	36
Percent of world total 1/	4	4	1	5	4	6	5	4	negl.	14	5	-	2
Percent shares, by industry 2/	100	26	7	15	9	13	8	7	negl.	8	5	-	2
France													
Amount	1,788	382	3/ 250	554	93	50	151	27	96	2	3/ 75	3/ 4	104
Percent of world total 1/	6	6	5	15	4	2	8	1	7	negl.	8	negl.	6
Percent shares, by industry 2/	100	21	14	31	5	3	8	2	5	negl.	4	negl.	7
West Germany													
Amount	3,443	587	3/ 1,050	654	137	441	101	64	73	108	52	3/ 4	172
Percent of world total 1/	11	9	20	17	5	17	5	3	5	17	5	negl.	10
Percent shares, by industry 2/	100	17	30	19	4	13	3	2	2	3	2	negl.	5
Brazil													
Amount	1,811	953	411	122	80	42	44	43	16	3/ 15	21	3/ 5	5[illegible]
Percent of world total 1/	6	14	8	3	3	2	2	2	1	2	2	negl.	3
Percent shares, by industry 2/	100	53	23	7	4	2	2	2	1	1	1	negl.	4
Mexico													
Amount	1,461	312	89	63	83	293	81	44	262	28	62	3/ 5	139
Percent of world total 1/	5	5	2	2	3	11	4	2	19	4	6	negl.	8
Percent shares, by industry 2/	100	21	6	4	6	20	6	3	18	2	4	negl.	10

Notes:

1/ Percent of world total in each industrial sector.

2/ Industrial sector shares of total investment in each country or area.

3/ This entry was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

Table 8.--Comparisons of domestic and foreign capital stocks of U.S. firms, 1970

(Amounts in millions of dollars)

	U.S. domestic capital 1/		Direct investment abroad 2/	
	Amount	Rank	Amount	Rank
All manufacturing	260,101	-	30,915	-
Chemicals and allied products	36,037	2	6,868	1
Transportation equipment	20,418	4	5,131	2
Non-electrical machinery	20,367	5	3,798	3
Electrical machinery	16,107	7	2,613	5
Primary and fabricated metals	57,383	1	2,619	4
Food products	25,551	3	1,853	7
Paper and allied products	19,357	6	2,007	6
Instruments	4,084	14	1,345	8
Wood products	8,554	11	1,296	9
Rubber	7,977	12	974	11
Textiles and apparel	13,945	8	625	12
Stone, clay and glass	13,237	9	1,046	10
Printing and publishing	10,105	10	138	14
Other	6,979	13	602	13

Notes:

1/ Gross book value of depreciable assets.

2/ Net fixed assets of foreign affiliates of U.S. parents.

Sources: U.S. domestic investment from Bureau of the Census, Census of Manufactures, foreign investment from U.S. Department of Commerce, Bureau of Economic Analysis, International Investemt Division.

electrical machinery, and 62 percent in metals and metal fabrication. Their prominance, however, is not limited to these key branches. Of the branches which play a more minor role in the world total, the share of the Seven is lowest—at a still-high 53 percent—in textiles and apparel, and it runs as high as 80 percent for paper products and 95 percent for lumber, furniture, and other wood products. In the latter two industries, U.S. direct investments in Canada take first place, which is a direct consequence of the resource orientation of the two branches of activity and of Canada's rich endowment of forests.

Nevertheless, significant divergences begin to appear among the Seven. Fundamentally, the "heavy" industries still dominate in the American capital-ownership patterns in each country, but the extent to which each industry shares in total U.S. direct investment in each country tends to vary quite considerably. For example, the share of the chemical industry ranges from a high of 53 percent of all U.S. net fixed manufacturing assets in Brazil to a low of 14 percent in Canada, although the absolute values of these assets are nearly the same at $953 million and $973 million, respectively. In Germany and the United Kingdom, transportation equipment accounts for 30 percent and 26 percent, respectively, of the total for each country, while the comparable figure for France is only 14 percent, for Belgium, 7 percent, and for Mexico, 6 percent.

These kinds of differences run through almost all of Table 7. They signify that, although the MNCs' investment patterns tend to show considerable consistency for the world as a whole and the Seven as a group,

they vary rather widely among individual countries. In the absence of aggregate capital-stock figures for the countries themselves--such data are not available--it is not possible to judge whether these variances can be explained by a general tendency to conform with investment patterns in the host countries, or whether the MNCs tend to step where no one else has trodden, placing their capital in precisely those industries in which host-country performance has been weak. In the following subsection, which returns to analysis of flows of capital (new expenditures on plant and equipment), this question will be explored further.

One set of capital-stock comparisons which can be made, however, is that between domestic capital in the United States and capital owned by Americans abroad, in each branch of manufacturing. This is the purpose of Table 8, which ranks fourteen manufacturing industries according to values of U.S.-owned capital (a) invested domestically in the United States and (b) invested directly abroad. Generally, the rankings indicate that those industries which are stronger in terms of domestic investment in the United States also are stronger in terms of their foreign direct investment positions, while the weaker domestic investors also are the weaker foreign investors. 1/ Such figures suggest that foreign direct investment has not inhibited the MNCs from continuing to invest heavily in the United States; this point was treated more fully in the preceding chapter (Chapter III) on trade patterns. Here the intention is only to show that the patterns of foreign direct investment by U.S. firms tend rather closely to follow their patterns of investment in the

1/ For the two rankings, the Spearman coefficient of rank correlation is 0.754; the Kendall coefficient is 0.604.

United States. Thus, if U.S. foreign direct investment has any impact at all upon the structure of host-country manufacturing, that impact will tend to produce conformity with the relative rankings of the several branches of manufacturing in the United States.

Impact of the MNCs on national capital formation outside the United States

With the foregoing material as background, it now is appropriate to combine the relevant data in order to measure the actual influence of the U.S.-based MNCs on capital spending patterns in seven key countries of concern. This is done in detail, by industry sector in manufacturing for 1966 and 1970, in Tables A-1 through A-7 in the appendix to this chapter. The information revealed in these tables is summarized below in Table 9, which shows the shares of plant and equipment spending by U.S.-owned MNCs in gross fixed capital formation in the manufacturing industries of the seven key countries, for the two years on which the study is focused.

The results are interesting. They show that, in 1970, out of total capital expenditures of $29.7 billion in the seven countries combined, affiliates of U.S. firms accounted for no less than $4.2 billion, or 13 percent. In the industrial "backbone" sectors—metals, machinery, and transportation equipment—the proportion was far greater, estimated at over 20 percent. With capital spending at these rates, the U.S.-based affiliates clearly exert a major influence on both the size and pattern of capital outlays in the manufacturing sectors of the seven countries. In the absence of the Americans, these countries might be hard-pressed to maintain capital formation at "normal" rates consistent with the pace of

Table 9.--Summary of shares of plant and equipment spending by U.S.-owned MNCs in gross fixed capital formation in the manufacturing industries of seven key countries, 1966 and 1970

Industry description	Plant and equipment spending by MNCs as percent of gross fixed capital formation							Aggregate for all 7 countries		
	United Kingdom	France	W. Germany	Belgium-Luxembourg	Canada	Mexico	Brazil 6/	P&E spending by MNCs (million dollars)	GFCF 1/ (million dollars)	P&E as percent of GFCF 7/
1966										
All manufacturing	16.3	4.3	9.2	17.0	42.7	6.7	12.4	3,014	22,407	13
Food	4.6	1.9	1.4	2/ n.a.	22.5	2.7	2/ n.a.	3/ 109	3/ 2,670	4
Chemicals	15.8	1.9	5.1	23.3	86.6	20.8	16.8	561	4,348	12
Primary and fabricated metals	11.3	1.7	1.8			4.0	2/ n.a.	4/ 195		
Machinery	21.5	15.4	19.4	19.3	64.0	5.3	50.8	748	4/ 8,579	20
Transportation equipment	47.6	8.8	37.8			3.1	28.2	831		
All other manufacturing	11.6	1.0	1.1	10.6	23.6	8.2	6.7	570	6,810	8
1970										
All manufacturing	20.9	5.8	12.3	14.1	32.2	9.3	18.3	4,152	29,739	13
Food	4.4	0.9	2.0	2/ n.a.	23.5	3.1	11.1	5/ 163	5/ 4,030	4
Chemicals	17.9	2.1	10.4	24.9	68.1	10.7	27.4	691	5,155	13
Primary and fabricated metals	21.1	1.0	8.4			8.3	11.9	457		
Machinery	29.0	23.3	27.8	12.0	57.8	13.9	57.1	1,292	11,482	22
Transportation equipment	45.5	9.8	27.8			17.9	25.6	870		
All other manufacturing	18.2	2.8	2.7	10.8	20.5	13.0	5.9	679	9,072	7

1/ "Gross fixed capital formation."
2/ Included in "all other industrues."
3/ Excludes food processing in Belgium-Luxembourg and Brazil. Figures for these countries are included in "all other manufacturing."
4/ Excludes primary metals & fabricated metals in Brazil. These figures are included in "all other manufacturing."
5/ Excludes food processing in Belgium-Luxembourg, for which the relevant data are included in "all other manufacturing."
6/ Figures for 1970 are based on 1969 data for GFCF.
7/ Plant and equipment expenditures as percent of gross fixed capital formation.
Sources: Tables A-1 through A-7 in Appendix to this chapter.

economic growth to which they have become accustomed. Furthermore, the sectoral distribution of U.S. affiliates' capital spending--which is concentrated in the more dynamic industrial branches--suggests (but does not prove) that the affiliates' input may be an important, perhaps indispensable, source of change and innovation in the key industries of these countries.

A country-by-country look at the data reveals other points of interest. The role of U.S. enterprise in Canada, for example, is well-known. It is an historical phenomenon based on many decades of what amounts to close economic integration between the two countries, although recently publicized Canadian studies of U.S. investment (North of the border) have fanned into life certain smoldering fires of nationalism that never have been entirely absent. At present, nevertheless, U.S. capital remains little inhibited in trekking to Canada, perhaps because its economic influence is so pervasive that Canada, among the Seven, could least afford to restrict it, except at the cost of serious economic problems.

One might also expect to have found an important North American influence over capital spending in Brazil, a rapidly developing country which has been squarely within the traditional orbit of U.S. overseas business, with a political constellation that (at the moment) is extremely friendly to the U.S. investor. In Mexico, however, the U.S. MNCs' share of fixed investment is surprisingly small--less, for example, than in any of the big European countries except France. The experience of this "border" country contrasts rather sharply with that of Canada. However,

the U.S. share of total Mexican investment is rising, and it clearly is of considerable importance in the key chemical, machinery, and transport equipment (automotive) sectors.

The MNCs have a substantial impact on investment in Europe, in the highly developed, large, diverse economies which by most measures are rivals to the United States in industrial sophistication. In three of the four countries in the sample, the U.S.-based MNCs' share of total capital spending runs well over ten percent. Even in France, the fourth country, it is close to six percent despite long-standing French policies of careful screening and regulation of the entry of U.S. direct investors. Belgium's friendliness toward and encouragement of U.S. investment has had predictable results; the stock of U.S. fixed capital in Belgium is the highest, per capita, of any nation in Europe, even though the U.S.-based MNCs' share of total Belgium investment declined between 1966 and 1970. The Germans historically have been neutral toward the nationality of investors in their economy, partly on the assumption that their own, national industrial establishment is so strong that it is impregnable to foreign investment influence. The numbers belie that assumption as far as American investors are concerned. The influence of U.S. affiliates is most pervasive in Britain, where the Americans' share of more than a fifth of all manufacturing investment tends to spread more thoroughly across the entire spectrum of industry (except in food processing) than is the case in the other countries. During the period covered by these data, the U.K. economy generally has been in the doldrums, with slow growth and weak rates of investment. In

this context, the capital spending of U.S.-related affiliates has been especially important, a key source of the inputs that kept the British economy from slipping back into negative rates of capital formation and possibly even severe economic contraction.

Among the individual sectors of European industry, the role of the Americans stands out starkly in the machinery category—a vast amalgam of engineering activities that ranges all the way from heavy industrial machinery to household appliances, TV sets, and telecommunications equipment. Here, the Americans account for about a quarter of total capital investment.

The productivity of MNC capital

The foregoing discussion establishes that U.S. foreign direct investors exercise a significant influence over rates and patterns of capital formation in the seven key countries surveyed. It remains to explore why this influence may exist.

One way of approaching this question is to examine how the plant and equipment owned by Americans performs, as compared with the capital stock of domestic firms in the host countries, in accomplishing its ultimate purpose: the generation of new output. The calculations shown in Table 10 represent an attempt to make such comparisons. The two columns in the table, which are based on data for 1966-70 for all manufacturing, measure, for each country, the number of dollars' worth of capital that was put in place over the period to yield an additional dollar of sales, first for the U.S.-based MNCs (column 1) and second for

Table 10.--Capital productivity in manufacturing in seven countries, 1966-1970

	Investment per dollar of new sales	
	By MNCs	By all firms
	(Dollars)	(Dollars)
Canada	$ 0.80	$ 1.20
United Kingdom	0.65	3.39
West Germany	0.70	0.70
France	0.87	1.14
Belgium	0.84	1.03
Mexico	0.66	1/ 1.74
Brazil	0.49	1/ 0.99
Average for all seven countries	0.71	1.45

1/ Based on data for 1966-69.

Sources: For investment data, see sources cited in tables A-1 through A-7 in the appendix to this chapter. For sales data, see Chapter VII of this Study.

all firms in the host country (column 2). "Additional" sales were measured as the difference, for each group of investors, between 1970 sales and 1966 sales. These calculations have an "incremental" flavor, inasmuch as they measure the productivity of increases in capital stock rather than of the stock itself.

The figures suggest that, with the exception of West Germany, U.S. investment is more productive (on average) in the host countries than is new capital formation in general. In West Germany, the ratios are equal--the productivity of U.S.-based investment roughly matches that of local new investment.

On the basis of these calculations, it is tempting to come to the conclusion that a key reason for the movement of U.S. capital abroad and for its influence on foreign patterns of capital formation is its superior productivity relative to local industry in the host countries—a conclusion which would be all the more dramatic inasmuch as it makes no reference to productivity conditions in the United States. That is, the calculations indicate that, even if no productivity edge over U.S. experience were gained by the movement of U.S. capital overseas, the superior performance of the MNCs relative to local conditions would suffice to explain the flow because small incremental costs of another sort—e.g., transportation costs or tariffs—would be sufficient to set up a cost differential between production in the United States and production abroad.

However, a conclusion such as the foregoing must be considered highly tentative on the basis of this evidence. The reason is that the

comparisons made in Table 10 may be comparisons of unlike numbers. It is likely that the "mixes" of inputs in the two sets of figures--the all-firm data, on the one hand, and the MNC data, on the other--are different. The MNCs do not tend to invest heavily in the less productive foreign industries, but rather concentrate their activity in the more productive, more dynamic sectors. The all-firm figures are more heavily weighted by investments in the less dynamic sectors. Hence, the more appropriate comparison would be one between the MNCs' performance and all-firm performance, industry by industry, in host countries. While MNC data are available for such a comparison, aggregate foreign data on comparable definitions of "industry sector" would require more research time to secure than was available for the preparation of this chapter.

In order for the conclusion suggested above to hold up, therefore, it would be necessary, lacking the requisite industry-by-industry analysis, to make the assumption that the MNCs in each industry abroad show productivity superior to that of their local counterparts. Such an assumption might not be valid.

A conclusion that can be reached on the basis of the evidence at hand, however, is that the tendence of the MNCs to concentrate their capital in the more dynamic sectors of foreign manufacturing, with their resultant better productivity performance as a group relative to host-country manufacturers as a group, can serve as part of an explanation for the MNCs' heavy influence in those sectors. U.S.-based and host-country investors at any time have finite amounts of capital at their disposal. As both groups proceed to invest, the group with the greater flexibility

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in deciding where that capital will go--i.e., the group more able to direct investment toward the more productive applications--will show the better productivity record. The MNCs form this group. Local investors continue to allocate capital resources to industries that are not dynamic--good examples being the large textile industries of the United Kingdom or France. Thus, the MNCs, better able to focus their investment in comparison with host-country investors as a group, not only show a better productivity performance but also tend to become more important investors in the fastest-growing and most productive industries of the host countries.

Financial Strategies of the MNCs

The sources of investment capital

For the affiliates and parents within the orbit of a multinational corporation, there are three basic options available for finding the financial wherewithal to support a direct investment operation: (1) to depend mainly on injections of capital funds, as and when needed, from the parent organization in the home country; (2) to put the affiliate in the host country on its own as fast as possible, with the parent firm making minimal repatriations of profits and requiring its affiliate to accumulate and plow back into expansion as much of its earnings as possible--i.e., affiliate financing out of "internally-generated funds;" and (3) to send the affiliate into foreign capital markets, often backed by the prime name of its parent firm, to borrow on its own account the necessary foreign funds with which to finance its expansion. Only the

first of these options need represent a significant balance-of-payments outflow from the home country--and it may not necessarily be a large outflow. A net debit entry to the balance occurs when the parent firm sends abroad for the use of the affiliate either its own funds or money borrowed in its domestic capital market. The size of the net debit is reduced by the extent to which the headquarters firm borrows abroad--perhaps through now-famous Netherlands Antilles subsidiaries which exist principally for this purpose--and leaves part or all of the proceeds of the loan outside the home country for affiliates' use. In the case of option (2)--forcing the affiliate onto its own resources--there may be a balance-of-payments cost in the sense of profit repatriations foregone in favor of building a foreign business out of its own resources.

How have the U.S.-owned MNCs handled these three options? The estimates in Table 11 attempt to answer this question. The table is a compilation of the identifiable sources of funds at the disposal of the MNCs affiliates, along with a listing of the principal uses to which these funds were put. It provides a rough indication of the total amount of funds engorged and disgorged by MNC affiliates in one way or another over the five-year period covered--about $130 billion. This number alone should put to rest decisively any argument that the MNCs are insignificant on the international financial scene.

The MNCs' appetite for money is prodigious, although their tastes in consuming the funds that come to them do not quite conform to popular perceptions. Profit repatriations, for example, pale in significance before other uses to which available funds are put, being a mere 16

Table 11.--Estimated fund flow of U.S.-owned MNC affiliates abroad, 1966-1970 (cumulative)

(Amounts in billions of dollars)

	Amounts			Percent of total sources/uses		
	All industries	All manufacturing	Other	All industries	All manufacturing	Other
Sources of Funds:						
Depreciation, depletion, and related charges	26.0	13.9	12.1	20	26	16
Net income of affiliates after taxes	42.1	14.8	27.3	32	27	36
Net affiliate borrowing outside the United States 1/	34.1	18.7	15.4	26	35	20
Net capital flow from parents to affiliates	21.3	6.5	14.8	16	12	20
Unallocated 2/	6.2	-0-	6.2	6	-0-	8
Total sources	129.7	53.9	75.8	100	100	100
Uses of funds:						
Investment in new plant and equipment	51.2	24.8	26.4	39	46	35
Remittances of dividends and branch profits to parents	21.3	6.1	15.2	16	11	20
Increase in non-fixed assets	57.2	23.0	34.2	44	43	45
Total uses	129.7	53.9	75.8	100	100	100

Notes and Sources: See attached page.

NOTES AND SOURCES FOR CASH FLOW TABLE (Table 11)

Notes:

1/ Net of borrowings used to liquidate liabilities to foreigners, and excluding foreign borrowing by parents.

2/ A principal item here consists of sales, retirements and similar disposals of fixed assets -- the remaining component of internally-generated funds besides retained earnings and depreciation/depletion charges. The cumulative value of this item, comparable to the $6.2 billion "unallocated" amount shown, is conservatively estimated at $4.0 billion. Allocation of this amount has not been made because data are not available for its two components: sales of fixed assets, the net proceeds of which should have appeared in the income statements as extraordinary income (non-operating income); and ordinary writeoffs (retirements), which are not reflected in net income. The former of these components, to the extent that it has importance, already is reflected in the "net income" source of funds. The latter, however, cannot be specifically identified and allocated.

3/ Excludes estimated interest remittances to parents. While relevant for measuring balance of payments flows, interest remittances are entered as costs in income statements, with the result that these remittances should already be reflected in the "net income" source of funds above, as deductions from that source.

Sources: Based on data for 1966 and 1970 supplied by U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division; and supplemented by information from Survey of Current Business, September 1971 and October 1971.

percent of the "total uses" figure for all industries, and only 11 percent in the case of manufacturing firms. In the five-year period covered, the MNCs as a group chose to leave almost exactly half of their affiliates' net income after foreign taxes, "in the business" abroad, the rest being repatriated; for manufacturing firms the proportion of after-tax net income not repatriated ran close to 60 percent. On the other hand, pride of place in fund usage for all firms went to increases in non-fixed assets, which absorbed 44 percent of total funds available. Such assets include current assets (cash, inventories, receivables, short-term investments), as well as smaller amounts of non-current financial investments and miscellaneous deferred items. This figure is swelled by the presence of many kinds of financially-oriented businesses in the "all-industries" group, such as banks and insurance companies, which operate with fewer fixed assets and more financial assets on their balance sheets.

Among manufacturing firms, investments in new plant and equipment take the spotlight as users of company funds, with a 46 percent share of the total. Manufacturing industries in general, and the heavy, capital-intensive ones in particular, are under perpetual pressures to increase "cash-flow" as a means of financing both new fixed investment and steady, large increases in current working capital. The estimates of fund usage in Table 11 reflect this, and explain the tendency for home-bound profit remittances in manufacturing to lag behind those of overseas direct investors in general.

Among the sources of funds available to the MNC affiliates, net capital flows from parents to affiliates stand out as by far the

smallest--16 percent of the total for all industries and 12 percent for manufacturing. All the rest, therefore (84 percent for all firms, 88 percent in manufacturing), was local money generated or borrowed by the affiliates on the strength of their own operations and from the financial resources of host countries. For non-manufacturing firms, the most important source was the income account; for manufacturing companies, local borrowing played the key role. For all firms, however, depreciation and similar reserves were by no means without importance; they accounted for about a fifth of total sources of funds for all firms, and for about a quarter of the total for manufacturing companies.

Depreciation and depletion writeoffs represent but a part of the funds that a firm can accumulate in reserve accounts and use as sources of financing for its operations. Total "internally-generated funds" are comprised of depreciation and depletion reserves, plus retained earnings, plus such funds as may be realized from the sale or retirement of fixed assets. In the aggregate, internally-generated funds over the five-year period were large enough to have accounted for about 80 percent of total investment in new plant and equipment; depreciation and related charges alone were about half the total. However, borrowing outside the United States by affiliates was about two-thirds as great as total fixed investment, and net capital flows from parent firms were 40 percent as large.

The generation of more than enough funds to finance capital expenditures is not "overfinancing," but merely a reflection of firms' need for working capital other than fixed investment, a need which, on the basis of these estimates, was roughly as large as that for fixed capital

finance. There is no way of directly tracing funds from different sources to the final uses to which they were put, but a reasonable scenario can be suggested. It is likely that a large part of the "flow capital" from parent firms was seed money for new or faltering enterprises, and that most of it went into fixed investment in some form—either as a direct transfer to finance purchase of plant, machinery and equipment, or as funds used to buy existing assets in the case of acquisitions. The remainder of fixed investment was financed partly from internally-generated funds (pre-eminently depreciation charges) and partly through long-term borrowing in foreign capital markets. Working capital requirements probably were met mainly from internal sources and by shorter-term financing abroad, through bank loans and trade credits. Also in the picture were unspecified amounts of short-term capital flowing between parents and affiliates; these could take the form either of direct loans or of transfers generated by alterations in the timing of regular operating payments between parents and affiliates in the course of intra-company transactions.

In summary, the broad outlines of financing strategy which emerge from Table 11 and the foregoing discussion indicate that, in large measure, foreign affiliates of U.S. firms are independent of their parents for financing. Most of their financial life is conducted outside the United States, and net flows of funds between parents and affiliates are but the tip of an enormous iceberg of churning funds.

In this chapter, the focus of the analysis has been on physical capital formation, working capital requirements, and how they are

financed by the MNCs. In other words, the discussion has concentrated on the "ordinary" conduct of business—the processes of acquiring or building plants, making things, selling them, turning a profit if possible, and using that profit to expand the business and recompense the stockholders. In the multinational context, however, all these processes are overlaid by yet another dimension of great complexity, namely that of international financial management. Because the MNCs move money daily across international boundaries and the foreign exchanges, and into as well as out of different money and capital markets with varying interest rates, financial management takes on a new aspect. It becomes a source of potential profit or loss that itself is independent of, and sometimes in conflict with, the "ordinary" or "operational" part of the business on which this chapter has focused. No matter how operations-oriented a company may be, a certain minimum of this kind of financial management _must_ take place; to ignore it could place the operations themselves in peril. Exchange risks alone dictate as much. In a world where devaluations really happen, tiny errors in placing funds in the wrong places at the wrong times can cost the MNCs collectively billions of dollars; not infrequently, these "errors" may be correct decisions from the viewpoint of the "operational" side of the business. The amounts involved are truly huge, especially when the operations of the multinational banks are included. Table 11 showed that the MNC funds which flowed over a recent five-year period came to around $130 billion, or roughly $25 billion a year. These were only flows; the stocks of movable assets were much larger. In 1970, the non-fixed assets of U.S.-

owned foreign affiliates—most of them highly liquid—reached $134 billion.

A discussion of the techniques and implications of international money management by the MNCs is reserved for Chapters V and VI of this study, which follow. In its own right, the orientation of the present chapter toward the "operational" aspects of MNC affairs is useful and important. However, it should be stressed that the functions of the company's treasurer and its bankers as they secure and move funds to finance fixed investment, have a strong influence on worldwide patterns of capital flow.

What might have been vs. what would have been: could foreigners have matched the MNCs' investment?

At the conclusion of Chapter I, the important question was raised whether U.S. foreign direct investment is a "complement" or a "substitute" for investment at home. One sub-question which lies behind this query is whether, in the absence of the U.S.-based MNC, the foreigner would have stepped in to fill the gap. The MNCs, in their own defense, tend to argue that the foreigner would have done so—that, if American capital had not gotten there first, foreign capital would have preempted the market. This in turn would have cost the U.S. economy more in the end than it may lose from the exodus of U.S. capital, because less MNC-related U.S. business would have developed. On the other hand, the foes of the MNCs would prefer the opposite argument—that most U.S. investment abroad fills a vacuum that could just as well be filled from output generated at home, there being few grounds for fear that the foreigner

would enter the competitive picture in any significant way.

One cannot answer this "what might have been" question in any definitive way. But some of the numbers presented previously in this chapter--particularly those in Table 11--suggest strongly that there was no deficiency in foreign savings with which a duplication of the MNCs' investment might have been financed. A crucial question hinges on how much of the investment of U.S.-based firms was financed abroad anyway, and the estimates in Table 11 fairly well settle this question by showing that sources other than the United States provided well over 80 percent of the fixed and working capital requirements of all U.S.-owned affiliates in 1966-70, and nearly 90 percent of the requirements of manufacturing firms. Therefore, it seems that, in terms of the sheer numbers involved, foreigners would indeed have had or have been able to borrow outside the United States the resources with which to stamp their ownership on what the Americans now own instead, without seriously upsetting or straining their economics. In brief, the Americans have done it largely with foreign savings, a point which is by no means lost to some Europeans who view the growing presence of the U.S.-based MNCs with apprehension, if not alarm.

Nevertheless, the defensive argument of the MNCs, in contrast to that of their domestic opponents, is not clinched. Perhaps the foreigner could have replaced U.S. direct investment almost dollar-for-dollar, but that does not mean that he would have. Many observers have attributed the U.S. MNCs' unique success to their technological leadership and their exceptional management systems, which are claimed to be

unmatched elsewhere. The international financial press is jammed with commentaries on the revolution which American financiers have wrought in the money and capital markets of the world--a revolution which has increased the efficiency of the markets, generated more saving, and made the real saving that there is go farther in the service of financing economic needs, those of the U.S. MNCs being important among them. To the extent that, after all the numbers are recorded and analyzed, one is prepared to think that traits peculiar to American business and finance are important factors in the MNCs success abroad, he may be tempted to go rather too far towards an argument that U.S. nationality is a *sine qua non* or at least a primary ingredient for success in international business, even if he happens to be an MNC executive. Such an argument, of course, would lead to a conclusion that the foreigner could *not* have duplicated the MNCs' performance in any significant degree.

The error in this line of reasoning is its xenophobic element, which proceeds from recognizing certain characteristics that have contributed to the MNCs' success, to falsely claiming too much exclusivity for them. Evidence to the contrary abounds. A study of the fortunes of U.S. foreign trade quickly reveals that foreign competition is real. Foreign-owned MNCs' investment in the U.S. economy, in direct and successful competition with U.S. firms, has commenced to grow faster than U.S. direct investment abroad. In many of the LDCs, foreigners--especially the Japanese--are turning in a performance, as MNCs, that is decidedly superior to that of the Americans. Finally, the bankers of London are never far behind their New York counterparts as financial innovators.

On balance, therefore, the evidence seems to weigh rather heavily in favor of the companies' argument that a substantial portion of the MNCs direct investment overseas could and would have been made by foreigners in the absence of the Americans.

C. An Accounting Analysis of the MNCs' Income Statements and Balance Sheets

The broad aggregate of financial and operating data for both parent firms and affiliates reveal a number of interesting features about relationships--at home and abroad--between assets, sales, and net profits of the MNCs. The relevant data for the affiliates are set forth in detail, by industry, for worldwide operations and for each of the seven key countries under review, in Tables A-8 through A-16 in the appendix to this chapter. The discussion which follows here takes a broad, analytic view, selectively summarizing certain information from the tables in order to point up the key conclusions.

Sales of goods and services of all U.S. MNC affiliates abroad increased by 66 percent from 1966 to 1970, rising from $109 billion to $180 billion. Manufacturing accounted for about half of the total in both years. In the aggregate, the manufacturing subsectors reported a 68 percent sales increase over the period, from $54 billion in the earlier year to $90 billion in 1970. Within the manufacturing group, transportation equipment (essentially the automotive industry) showed the fastest sales growth--56 percent--from $12 billion to $19 billion.

Affiliates' foreign income tax payments increased over the period by 57 percent--somewhat less than the growth of sales volume--from $5.4

billion to $11 billion. In 1966, the affiliates as a group paid some 46 percent of their pre-tax earnings in foreign income taxes; by 1970 this imputed rate had dropped slightly to 43 percent. Among the manufacturing industries, foreign tax payments rose rather more slowly than was the case for all industries combined; such payments increased by roughly a half, from $1.9 billion to $2.9 billion. The non-electrical machinery industry realized the largest increase (103 percent), while the largest industry in terms of sales (transportation equipment) reported a much smaller increase (only 31 percent).

Net profits after taxes for all affiliates combined increased from $6.2 billion in 1966 to $11 billion in 1970. In manufacturing the comparable figures were $2.3 billion and $3.6 billion. The profitability of all affiliates as a group, measured as the ratio of after-tax income to sales, increased slightly, by 0.4 percent, from 5.7 percent in 1966 to 6.1 percent in 1970. Among manufacturing firms, however, the experience was exactly the opposite: these industries, in the aggregate, showed a slight decrease (also of 0.4 percent), from 4.4 percent to 4.0 percent. Among the manufacturing subsectors, the paper products industry was the most profitable, with an after-tax profit ratio of 6.8 percent in 1970. The transportation equipment industry sustained a fairly healthy drop in profitability, its ratio declining from 3.3 percent in 1966 to 2.3 percent in 1970. Some of the more minor industries in terms of total sales and total foreign investment showed even lower rates of profitability, however. For example, in 1970, the average profit rate in the "other" (miscellaneous) manufacturing category was only 2 percent;

in wood products it was a mere 0.2 percent; and the printing-publishing subsector actually showed a net loss of 0.6 percent.

Profitability also can be measured in terms of total assets. Ratios thus derived indicate experience that runs generally parallel with the evidence of the profits/sales ratios. Worldwide, all affiliates realized a 5 percent return on total assets invested abroad in 1966; this ratio increased slightly to 5.4 percent in 1970. Manufacturing affiliates, on the other hand, showed somewhat less profitability and it remained essentially stable at 4.8 percent for 1966 and 4.7 percent for 1970. Within manufacturing, asset-based profit rates for individual industries conformed fairly closely to the pattern established by the sales-based calculations, except that non-electrical machinery edged out all others in taking first place in profitability. The profits-to-assets ratio in this industry was 6.6 percent in 1970, up smartly from 4.5 percent in 1966.

How does the general experience of the affiliates, described in the foregoing pages, compare with the domestic operating results of their parent firms? The necessary information to get at this question is summarized in Table 12, which gathers in succinct form some of the information contained in the more lengthy appendix tables. The information covers only manufacturing firms, which constitute the principal focus of this study. Also, the information on parents is based on the sample--albeit a large one--of firms which reported as MNC parents in the Commerce Department's 1970 survey of direct investors. 1/ The affiliate

1/ This sample includes 298 enterprises with 5,237 affiliates owned abroad. Of these 223 (3,752 affiliates) were in manufacturing industries.

Table 12.-- A summary of financial and operating data for parents and affiliates of U.S.-based manufacturing firms, worldwide, 1966 and 1970

(Amounts in millions of dollars)

	1966	1970	Percent change 1966-1970
Parent firms 1/:			
Total assets	131,102	188,498	44
Sales	163,874	207,780	27
Net income before taxes	19,785	15,517	-22
U.S. corporate income taxes	8,569	6,494	-24
Net income after taxes	11,216	9,023	-20
Ratios (in percent):			
Taxes to pre-tax earnings	43	42	-
After tax income to sales	7	4	-
After tax income to total assets	9	5	-
Affiliates			
Total assets	49,156	78,000	59
Sales	53,681	90,431	68
Net income before taxes	4,260	6,156	45
Foreign income taxes paid	1,922	2,878	50
Net income after taxes	2,338	3,638	56
Ratios (in percent):			
Foreign taxes to pre-tax earnings	45	59	-
After-tax income to sales	4	4	-
After-tax income to total assets	5	5	-

1/ These data cover only the sample of firms which reported as parents in 1970. In manufacturing, the sample included 298 enterprises with 5,000 affiliates. It covers well over half the "universe" of direct investors.

Source: Tables A-8 and A-9 in Appendix to this chapter, and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

data, on the other hand, are "universe" figures (estimates for 1970), covering all manufacturing branches and subsidiaries of U.S. firms.

Differences in experience as between parents and affiliates stand out starkly, but they can be explained fairly easily. Assets, sales, income, and tax payments of manufacturing affiliates all increased much more sharply over the period (1966-70) than did those of parent firms. In fact the incomes and tax payments of the parent firms actually declined rather sharply. "The business cycle" turns out to be the principal explanation for these results. In the United States, 1970 was a recession year, and, with the economy in its cyclical trough, business conditions--especially profits and tax liabilities--showed a sharp sag. Abroad, however--and especially in Western Europe which dominates these figures--operations were going on at the other end of the cycle: Europe was at or near the peak of a substantial boom, with sales, profits, and tax collections all rising handsomely in 1970.

These results point up one of the great advantages to the international firm of operating many businesses in different locations--namely the increased ability of the firm to insulate itself, by geographical diversification, from the vicissitudes of recession in any one country or region. It is well-known that some of the largest American corporations were able to show acceptable results on their consolidated income statements for 1970 only because of the buoyancy of profits in their operations abroad. In many cases, profit, interest, and cash remittances of other types from affiliates to parents were stepped up well past "normal" rates in order to dress up the parents' annual reports at

year-end in 1970.

The popular view of overseas affiliates as considerably more profitable--exhorbitantly so, some think--than their domestic parents is contradicted by the evidence shown in Table 12. Even in 1970, the recession year at home and the boom year abroad, average profitability in manufacturing for the affiliates was virtually identical with the parents' experience. In 1966, when the business cycle phases were roughly the reverse as between the United States and Europe, the profitability of the parent firms at home was clearly higher than that of their foreign branches and subsidiaries.

Still another aspect of this table--that relating to the relationships between corporate income taxes and earnings of the parent firms and their affiliates--bears close scrutiny. Admittedly, comparisons of the tax load borne by U.S. parents and their foreign affiliates are difficult because of differences in tax structures, definitional variances respecting taxable income and the bases on which taxes are computed, and so forth; the tax "rates" shown are imputed figures taken from income statement data. Nonetheless, these data tend to show that, quite aside from any tax incentives that may be accorded to the affiliates by host countries at the outset, the average foreign tax rates applicable to the earnings of manufacturing affiliates tend to be somewhat higher abroad than the average rates paid by parents in the United States. The numbers, which are based on corporate records that tend to reflect U.S. accounting standards and conventions, indicate a fairly large divergence for 1970, but this should be viewed with caution because factors unrelated

to actual tax "rates" may be affecting the results. Nevertheless, it could be inferred from the data that there is little incentive--from a corporate tax point of view--for the U.S. MNCs to declare their profits abroad, and pay taxes on them there, as a means of minimizing tax liabilities in the United States.

Information on corporate foreign income tax payments as a proportion of pre-tax income for each of the seven key countries (which together account for over 70 percent of affiliates worldwide after-tax income) bears out the point that the incidence of corporate tax liability is roughly the same in the United States and abroad. The following tabulation, drawn from the appendix tables, shows how tax payments as related to pre-tax income varied among the Seven. The average for the group, as well as the comparable figure for parents' experience in the United States, are shown for reference. The figures, in percent, refer to manufacturing firms only.

	1966	1970
Canada	48	41
United Kingdom	41	51
Belgium-Luxembourg	n.a.	38
France	57	49
West Germany	57	49
Brazil	53	47
Mexico	46	57
Average for the Seven	50	47
United States	43	42

These figures permit a tentative inference that, as far as tax considerations are concerned in the group of countries which account for the bulk of MNC operations abroad, there may be a slight incentive--in some cases a substantial one--for the MNCs to maximize the proportion of their worldwide income that is declared, and on which taxes are paid, in the United States.

STATISTICAL APPENDIX

Table A-1.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, Canada, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/ 3/	P&E as percent of GFCF
All manufacturing	1,105	2,583	42.7	1,006	3,119	32.2
Food	45	200	22.5	64	272	23.5
Paper & allied products	245	518	47.2	162	408	39.7
Chemicals	221	255	86.6	186	273	68.1
Primary & Fabricated metals	91	}	}	93	}	}
Machinery	186	} 830	} 64.0	212	} 1,026	} 57.8
Transportation equipment	255	}	}	289	}	}
All other manufacturing	62	780	7.9	156	1,140	13.6

1/ "Plant and equipment expenditures" of MNCs.
2/ "Gross fixed capital formation". These are capital spending figures, which differ slightly from comparable National Accounts data.
3/ These are "intentions" data from Canadian surveys.

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. Aggregate investment figures are from Dominion Bureau of Statistics (Canada). *Canada Yearbook*, 1968 and 1970-71.

Table A-2.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, United Kingdom, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/	P&E as percent of GFCF
All manufacturing	698	4,259	16.3	1,076	5,129	20.9
Food	26	554	4.6	29	650	4.4
Chemicals	115	725	15.8	164	914	17.9
Primary and Fabricated metals	60	529	11.3	201	3/ 950	21.1
Non-electrical machinery	116	762 (Non-electrical and Electrical machinery combined)	21.5 (Non-electrical and Electrical machinery combined)	154	806 (Non-electrical and Electrical machinery combined)	29.0 (Non-electrical and Electrical machinery combined)
Electrical machinery	48			80		
Transportation equipment	180	378	47.6	196	430	45.5
All other manufacturing	153	1,311	11.6	252	1,379	18.2

1/ "Plant and equipment expenditures" of MNCs.
2/ "Gross fixed capital formation".
3/ partly estimated.

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. Aggregate investment figures from U.K., National Income and Expenditures, 1969, and Statistical Yearbook, 1971.

Table A-3.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, Belgium-Luxembourg, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/	P&E as percent of GFCF
All manufacturing	185	1,085	17.0	186	1,313	14.1
Chemicals	55	236	23.3	66	265	24.9
Primary and Fabricated metals	4	455 (Primary and Fabricated metals through Transportation equipment)	19.3 (Primary and Fabricated metals through Transportation equipment)	19	533 (Primary and Fabricated metals through Transportation equipment)	12.0 (Primary and Fabricated metals through Transportation equipment)
Non-electrical machinery	24 (Non-electrical and Electrical machinery)			38 (Non-electrical and Electrical machinery)		
Electrical machinery						
Transportation equipment	60			7		
All other manufacturing	42	394	10.6	56	515	10.8

1/ "Plant and equipment expenditures" of MNCs.
2/ "Gross fixed capital formation".

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. GFCF figures from Belgium, Institute National de Statistique, *Bulletin de Statistique*, No. 7-8 (July-August), 1971, Brussels, 1971.

Table A-4.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, France, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/ 3/	P&E as percent of GFCF
All manufacturing	265	4/ 6,031	4.3	542	4/ 9,250	5.8
Food	14	732	1.9	13	1,415	.9
Chemicals	31	5/ 1,570	1.9	36	5/ 1,665	2.1
Primary and fabricated metals	12	4/ 697	1.7	12	4/ 1,138	1.0
Non-electrical machinery } Electrical machinery }	} 139	} 897	} 15.4	} 315	} 1,351	} 23.3
Transportation equipment	44	500	8.8	84	851	9.8
All other manufacturing	25	2,367	1.0	82	2,830	2.8

1/ "Plant and equipment expenditures" of MNCs.
2/ "Gross fixed capital formation".
3/ Estimated.
4/ Includes mining operations in metal industries.
5/ Includes rubber.

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. Aggregate investment figures from INSEE, Les Compes de la Nation, 1970, Paris, 1971.

Table A-5.—Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, West Germany, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/ 3/	P&E as percent of GFCF
All manufacturing	561	6,039	9.2	956	7,740	12.3
Food	9	622	1.4	17	850	2.0
Chemicals	60	1,161	5.1	138	1,320	10.4
Primary and fabricated metals	15	812	1.8	98	1,160	8.4
Non-electrical machinery } Electrical machinery }	191	982	19.4	409	1,470	27.8
Transportation equipment	266	703	37.8	237	850	27.8
All other manufacturing	20	1,759	1.1	57	2,090	2.7

1/ "Plant and equipment expenditures" of MNCs.
2/ "Gross fixed capital formation".
3/ Estimated.

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. Aggregate investment figures from West Germany, Statistische Bundesamt, Statistisches Jahrbuch fur die Bundesrepublik Deutschland, 1971, Wiesbaden, 1971.

Table A-6.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, Brazil, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	GFCF 2/	P&E as percent of GECF
All manufacturing----	84	680	12.4	181	988	18.3
Food----------------	n.a.	93	-	19	171	11.1
Chemicals-----------	-	-	-	-	-	-
Primary and fabricated metals--------	19	113	16.8	40	146	27.4
Non-electrical machinery----------	n.a.	122	-	16	134	11.9
Electrical machinery----------	30	59	50.8	56	98	57.1
Transportation equipment----------	20	71	28.2	31	121	25.6
All other manufacturing 3/----------	15	222	6.7	19	318	5.9

1/ "Plant and equipment expenditures".
2/ "Gross fixed capital formation".
3/ Inlcudes food and primary and fabricated metals in 1966.

Source: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce, GFCF figures from Producao Industrial Vol. 1, p. 38, Instituto Brasileiro de Estatistica, (1969).

Table A-7.--Plant and equipment expenditures by U.S.-owned MNCs and their share of gross fixed capital formation in manufacturing industries, Mexico, 1966 and 1970

(Amounts in millions of dollars)

Industry description	1966			1970		
	P&E 1/	GFCF 2/	P&E as percent of GFCF	P&E 1/	* GFCF 2/	P&E as percent of GFCF
All manufacturing----	116	1,730	6.7	205	2,200	9.3
Food----------------	15	562	2.7	21	672	3.1
Chemicals-----------	60	288	20.8	61	572	10.7
Primary and fabricated metals-------	13	326	4.0	18	218	8.3
Non-electrical machinery---------- } Electrical machinery----------	14	263	5.3	28	201	13.9
Transportation equipment----------	6	193	3.1	26	145	17.9
All other manufacturing------------	8	98	8.2	51	392	13.0

1/ "Plant and equipment expenditures".
2/ "Gross fixed capital formation".

*1969 figures (1970 data not available)

Sources: P&E figures from Bureau of Economic Analysis, U.S. Department of Commerce. GFCF figures from Quentas Nacionales y Acuereos de Capital, Consalidades y por Typo de Actividad Economica (1969), Banco de Mexico S.A.

Table A-8.--Financial experience of all U.S. multinational affiliates abroad

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
All industries	108,659	5,363	6,180	5.7	180,027	8,420	11,006	6.1	65.7	57.0	0.4
Agriculture	403	21	41	10.2	517	36	21	4.1	28.3	71.4	-6.1
Mining and smelting	2,228	421	418	18.8	2,443	467	468	19.2	9.6	10.9	.4
Petroleum	28,987	2,374	1,923	6.6	48,350	3,886	3,675	7.6	66.8	63.7	1.0
Manufacturing	53,681	1,922	2,338	4.4	90,431	2,878	3,638	4.0	68.5	49.7	-.4
Food products	5,966	195	251	4.2	7,241	220	262	3.6	21.4	12.8	-.6
Paper and allied products	2,106	102	159	7.5	2,898	91	197	6.8	37.6	-10.8	-.7
Chemicals and allied products	8,286	364	436	5.3	12,972	501	805	6.2	56.6	37.6	.9
Rubber	2,204	67	106	4.8	2,779	116	136	4.9	26.1	73.1	.1
Primary and fabricated metals	5,075	181	198	3.9	8,282	253	331	4.0	63.2	39.8	.1
Machinery, except electrical	6,884	315	298	4.3	12,094	638	753	6.2	75.7	102.5	1.9
Electrical machinery	5,157	169	205	4.0	9,364	208	321	3.4	81.6	23.1	-.6
Electronic components	1,327	43	49	3.7	2,695	56	137	5.1	103.1	30.2	1.4
Transportation equipment	12,152	292	404	3.3	18,951	382	436	2.3	55.9	30.8	-1.0
Textiles and apparel	843	18	29	3.4	1,796	64	77	4.3	113.0	255.6	.9
Lumber, wood, and furniture	944	53	63	6.7	1,493	26	3	.2	58.2	-50.9	-6.5
Printing and publishing	390	15	16	4.1	682	20	-4	-.6	74.9	33.3	-4.7
Stone, clay and glass products	1,181	54	53	4.5	1,954	63	100	5.2	65.5	16.7	.7
Instruments	1,583	71	90	5.7	2,887	164	77	2.7	82.4	131.0	-3.0
Other manufacturing	910	26	30	3.3	7,038	132	144	2.0	673.4	407.7	-1.3
Transportation, communication, and public utilities	1,997	70	382	19.1	4,308	178	1,536	35.7	115.7	154.3	16.6
Trade	14,851	299	520	3.5	23,570	470	862	3.7	58.7	57.2	.2
Finance	1,198	96	223	18.6	2,320	173	432	18.6	93.7	80.2	-
Insurance	1,252	26	97	7.7	1,288	5	54	4.2	2.9	-80.8	-3.5
Other	4,062	134	238	5.8	6,800	327	320	4.7	67.4	144.0	-1.1

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-9.--Total assets and profits of U.S. multinational affiliates abroad for 1966 and 1970

(In millions of dollars)

Type of industry	Total assets			Profits		Ratio of profits to Assets	
	1966	1970	Percent of increase or (decrease)	1966	1970	1966	1970
All Industries	124,792	203,076	62.7	6,180	11,006	5.0	5.4
Agriculture	560	531	(5.2)	41	21	7.3	4.0
Mining and smelting	3,599	6,083	69.0	418	468	11.6	7.7
Petroleum	27,280	43,871	60.8	1,923	3,675	7.0	8.4
Manufacturing total	49,156	78,000	58.7	2,338	3,638	4.8	4.7
Food	3,953	5,050	27.8	251	262	6.3	5.2
Paper	2,634	3,733	41.7	159	197	6.0	5.3
Chemicals	9,444	14,780	56.5	436	805	4.6	5.4
Rubber	1,884	2,358	25.2	106	136	5.6	5.8
Primary and fabricated metal	5,212	6,585	26.3	198	331	3.8	5.0
Machinery not electrical	6,655	11,345	70.4	298	753	4.5	6.6
Electrical machinery	4,649	8,640	85.8	205	321	4.4	3.7
Electronic components	1,294	2,354	81.9	49	137	3.8	5.8
Transportation equipment	8,886	12,369	39.2	404	436	4.5	3.5
Textiles	840	1,763	109.9	29	77	3.5	4.4
Lumber	1,161	2,356	102.9	63	3	5.4	.1
Printing	331	654	97.6	16	(4)	4.8	-
Stone, clay and glass products	1,377	2,220	61.2	53	100	3.8	4.5
Instruments	1,341	3,177	136.9	90	77	6.7	2.4
Other	789	2,972	276.7	30	144	3.8	4.8
Transportation, communication, and public utilities	4,945	9,257	87.2	382	1,536	7.7	16.6
Trade	9,050	13,504	49.2	520	862	5.7	6.4
Finance	21,601	38,279	77.2	223	432	1.0	1.1
Insurance	4,122	3,758	(8.8)	97	54	2.4	1.4
Other	4,479	9,793	118.6	238	320	5.3	3.3

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division

Table A-10.--Financial experience of all U.S. multinational affiliates in Canada

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
industries	25,230	949	1,346	5.3	37,614	1,245	1,673	4.4	49.1	31.2	-.9
griculture	24		0	0	36		0	0	50.0	0	0
ining and smelting	338	12	51	15.1	936	277	124	13.2	176.9	2,208.3	-1.9
etroleum	2,973	89	238	8.0	5,649	178	361	6.4	90.0	100.0	-1.6
anufacturing	15,682	647	708	4.5	22,128	592	840	3.8	41.1	-8.5	-.7
Food products	1,737	65	65	3.7	2,220	79	73	3.3	27.8	21.5	-.4
Paper and allied products	1,242	70	109	8.8	1,505	49	137	9.1	21.2	-30.0	.3
Chemicals and allied products	1,740	99	102	5.9	2,124	80	115	5.4	22.1	-19.2	-.5
Rubber	486	14	14	2.9	713	17	14	2.0	46.7	21.4	-.9
Primary and fabricated metals	1,980	86	82	4.1	1,964	54	33	1.7	-.8	-37.2	-2.4
Machinery, except electrical	1,532	69	72	4.7	2,222	77	94	4.2	45.0	11.6	-.5
Electrical machinery	1,442	50	52	3.6	1,822	26	39	2.1	26.4	48.0	-1.5
Electronic components	292	8	6	2.1	453	-4	6	1.3	55.1	-150.0	-.8
Transportation equipment	3,383	89	91	2.7	5,677	70	133	2.3	67.8	-21.3	-.4
Textiles and apparel	218	6	7	3.2	532	40	49	9.2	144.0	566.7	6.0
Lumber, wood, and furniture	812	50	58	7.1	1,322	22	25	1.9	62.8	-66.0	-5.2
Printing and publishing	98	6	5	5.1	176	8	10	5.7	79.6	33.3	.6
Stone, clay and glass products	325	15	19	5.8	406	9	19	4.7	24.9	-40.0	-1.1
Instruments	353	19	20	5.7	563	26	28	5.0	59.5	36.8	-.7
Other manufacturing	334	9	12	3.6	882	35	71	8.0	164.1	288.9	4.4
ransportation, communication, and public utilities	486	36	54	11.1	918	55	174	19.0	88.9	52.8	7.9
rade	3,457	79	73	2.1	5,290	109	124	2.3	53.0	38.0	.2
inance	287	30	82	28.6	442	34	8	1.8	54.0	13.3	-26.8
nsurance	954	23	85	8.9	1,000	0	34	3.4	4.8	0	-5.5
ther	1,029	33	55	5.3	1,215	0	8	.7	18.1	0	-4.6

ource: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table 11.—Financial experience of all U.S. multinational affiliates in the United Kingdom

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of rat. of net income to sales
All industries	15,200	372	510	3.4	24,511	616	1,312	5.4	61.3	65.6	2.0
Agriculture	3	0	0	0.0	3	0	0	0.0	0	0	0
Mining and smelting	0				0						
Petroleum	2,484	-1	-49	-2.0	3,539	-2	-61	-1.7	42.5	-100.0	.3
Manufacturing	9,634	278	403	4.2	16,246	489	479	2.9	68.6	75.9	-1.3
Food products	956	28	41	4.3	1,054	23	32	3.0	10.3	-17.9	-1.3
Paper and allied products	113	6	10	8.8	141	3	5	3.5	24.8	-50.0	-5.3
Chemicals and allied products	1,526	58	86	5.6	1,918	77	106	5.5	25.7	32.8	-.1
Rubber	273	5	7	2.6	373	5	17	4.6	36.6	0	2.0
Primary and fabricated metals	968	40	38	3.9	804	22	-7	-.9	-16.9	-45.0	-4.8
Machinery, except electrical	1,530	62	95	6.2	2,496	134	137	5.5	63.1	161.1	-.7
Electrical machinery	1,181	34	51	4.3	1,607	29	39	2.4	36.1	-14.7	-1.9
Electronic components	128	3	4	3.1	390	12	10	2.6	204.7	300.0	-.5
Transportation equipment	2,174	10	25	1.1	3,430	52	-4	-.1	57.8	420.0	-1.2
Textiles and apparel	92	2	3	3.3	77	2	3	3.9	-22.2	0	.6
Lumber, wood, and furniture	15	0	0	0.0	35	0	1	2.9	133.3	0	2.9
Printing and publishing	75	5	4	5.3	125	4	6	4.8	66.7	-20.0	-.5
Stone, clay and glass products	125	5	5	4.0	242	5	25	10.3	93.6	0	6.3
Instruments	438	19	30	6.8	739	41	58	7.8	68.7	115.8	1.0
Other manufacturing	168	4	8	4.8	3,205	92	61	1.9	1,807.7	220.0	-2.9
Transportation, communication, and public utilities	60		17	28.3	1,481		785	53.0	2,368.3		24.7
Trade	2,031	60	81	4.0	1,942	62	72	3.7	95.6	3.3	-.3
Finance	311	12	24	7.7	334	0	-7	-2.1	7.4	0	-9.9
Insurance	64		0	0.0	0	0	0	0.0		0	0
Other	613	23	34	5.5	966	67	44	4.6	57.6	191.3	-.9

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-12.--Financial experience of all U.S. multinational affiliates in Belgium and Luxembourg

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
All industries	2,190	34	41	1.9	4,227	82	125	3.0	93.0	141.2	1.1
Agriculture											
Mining and smelting		0	0			0	0	0.0		0	
Petroleum	372	1	-2	-.5	595		5	0.8	59.9	0	1.3
Manufacturing	1,158	23	3	.3	2,608	61	101	3.9	125.2	165.2	3.6
Food products	109	2	3	2.8	121	1	1	.8	11.0	-50.0	-2.0
Paper and allied products	38	1	-9	-23.7	96	1	35	36.5	152.6	0	60.2
Chemicals and allied products	238	5	0	0	654	20	3	.5	174.8	300.0	.5
Rubber	61	4	0	0	79	1	1	1.3	29.5	-75.0	1.3
Primary and fabricated metals	63	1	-3	-4.8	252	11	16	6.3	300.0	1,000.0	11.1
Machinery, except electrical	248	1	6	2.4	429	15	16	3.7	73.0	1,400.0	1.3
Electrical machinery	125	1	8	6.4	425	5	9	2.1	240.0	400.0	-4.3
Electronic components											
Transportation equipment	215	3	0	0	275	1	4	1.5	27.9	-66.7	1.5
Textiles and apparel	15	0	0	0	207	9	11	5.3	1,280.0	0	5.3
Lumber, wood, and furniture	0	0	0	0	0	0	0	0	0	0	
Printing and publishing	5	3	3	60.0	5	1	5	100.0	0	-66.7	40.0
Stone, clay and glass products	27	1	-9	-33.3	45	-5	-5	-11.1	66.7	-600.0	22.2
Instruments	9	0	0	0	15	0	0	0	66.7	0	
Other manufacturing	5	1	4	80.0	5	1	5	100.0	0	0	20.0
Transportation, communication, and public utilities	5	0			0	0				0	
Trade	590	9	20	3.4	850	9	27	3.2	44.1	0	-.2
Finance	32	1	6	18.8	65	9	-8	-12.3	103.1	800.0	31.1
Insurance	3			0	0		0				
Other	30		14	46.7	109	3	0		263.3		

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

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Table A-13.--Financial experience of U.S. multinational affiliates in France

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
All industries	6,126	157	104	1.7	9,223	264	277	3.0	50.6	68.2	1.3
Agriculture	4		0	0	3		-2	66.7	-25.0		
Mining and smelting	0	0	0	0	0	0	0	0			
Petroleum	1,418		21	1.5	1,771		14	.8	24.9		-.7
Manufacturing	3,644	121	90	2.5	5,641	208	214	3.8	54.8	71.9	1.3
Food products	292	10	10	3.4	473	12	13	2.7	62.0	20.0	-.7
Paper and allied products	80	1	1	1.3	183	2	5	2.7	128.8	100.0	1.4
Chemicals and allied products	558	25	21	3.8	971	41	49	5.0	74.0	64.0	1.2
Rubber	111	5	5	4.5	119	11	15	12.6	7.2	120.0	8.1
Primary and fabricated metals	170	6	6	3.5	208	4	5	2.4	22.4	-33.3	-1.1
Machinery, except electrical	929	23	10	1.1	1,439	83	49	3.4	54.9	260.9	2.3
Electrical machinery	325	10	3	.9	514	15	9	1.8	58.2	50.0	.9
Electronic components	126				260				6.3		
Transportation equipment	739	15	19	2.6	936	1	25	2.7	26.7	-93.3	.1
Textiles and apparel	32	1	-1	(3.1)	21	1	0	0	-34.4	0	3.1
Lumber, wood, and furniture	15	0	0	0	15	0	0	0	0	0	
Printing and publishing	36	0	-1	2.8	51	0	5	9.8	41.7	0	7.0
Stone, clay and glass products	145	9	9	6.2	252	7	6	2.4	73.8	-22.2	-3.8
Instruments	194	15	4	2.1	399	30	25	6.3	105.7	100.0	4.2
Other manufacturing	18	1	4	22.2	60	1	8	13.3	233.3	0	-8.9
Transportation, communication, and public utilities	22				3				-86.4		
Trade	737	13	-9	1.2	1,233	21	4	.3	67.3	61.5	-.9
Finance	65	3	2	3.1	0	0	2	0		0	-3.1
Insurance	10	0	0	0	0	0	0	0		0	
Other	226	20	0	0	572	35	45	7.9	53.1	75.0	7.9

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-14.--Financial experience of all U.S. multinational affiliates in [illegible]

(In millions of dollars)

	1966				1970				Percent		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of [illegible] of net income to sales
All industries	8,546	260	226	2.6	16,014	640	1,023	6.4	87.4	146.2	3.8
Agriculture	3	0	0	0	3	0	0	0	0		
Mining and smelting	0	0	0	0	0	0	0	0	0		
Petroleum	2,180	20	-28	-1.3	3,350	24	69	2.1	53.7	20.0	3.4
Manufacturing	5,238	218	196	3.7	10,788	580	648	6.0	106.0	166.1	2.3
Food products	430	14	22	5.1	634	16	4	.6	47.4	14.3	-4.5
Paper and allied products	68	5	5	7.4	69	3	5	7.2	1.5	-40.0	-.2
Chemicals and allied products	486	18	10	2.1	963	53	177	18.4	98.1	194.4	16.3
Rubber	157	2	1	.6	211	15	-5	-2.4	34.4	650.0	-3.0
Primary and fabricated metals	327	6	3	.9	1,821	168	-10	-.5	456.9	2,700.0	-1.4
Machinery, except electrical	911	70	45	4.9	1,742	125	187	10.7	91.2	76.1	5.8
Electrical machinery	409	8	6	1.5	876	32	37	4.2	114.2	300.0	2.7
Electronic components	58				202				248.3		
Transportation equipment	1,950	70	77	3.9	3,250	125	165	5.1	66.7	78.6	1.2
Textiles and apparel	73	5	5	6.8	100	1	-2	-2.0	37.0	-80.0	-8.8
Lumber, wood, and furniture	13	2	0	0	33	1	0	0	153.8	-50.0	
Printing and publishing	20	5	5	25.0	35	1	-1	-2.9	75.0	-80.0	-27.9
Stone, clay and glass products	143	5	5	3.5	239	15	25	10.5	67.1	200.0	7.0
Instruments	192	6	7	3.6	406	17	61	15.0	111.5	183.3	11.4
Other manufacturing	59	2	5	8.5	409	8	5	1.2	593.2	300.0	-7.3
Transportation, communication, and public utilities		0	0			1				.0	
Trade	808	15			1,552	25	43	2.8	92.1	66.7	
Finance	67	3	22	32.8	25	2	0	0	-63.2	-33.3	
Insurance		0	3			0					
Other	250	4	33	13.2	296	8	263	88.9	18.4	100.0	75.7

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-15.--Financial experience of all U.S. multinational affiliates in Brazil

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
All industries	2,501	70	158	6.3	4,675	174	212	4.5	86.9	148.6	-1.8
Agriculture	7	0	-		0	0	-				
Mining and smelting	7		-		6		-				
Petroleum	572	7	16	2.8	885	11	32	3.6	54.7	57.1	.8
Manufacturing	1,578	55	119	7.5	3,382	103	133	3.9	114.3	87.3	-3.6
Food products	198	5	12	6.1	107	3	8	7.5	-46.0	-40.0	1.4
Paper and allied products	46	3	6	13.0	65	5	8	12.3	41.3	66.7	-.7
Chemicals and allied products	307	14	29	9.4	623	11	9	1.4	102.9	-21.4	-8.0
Rubber	125	5	15	12.0	175	15	35	20.0	40.0	200.0	8.0
Primary and fabricated metals	120	4	12	10.0	262	4	7	2.7	118.3	0	-7.3
Machinery, except electrical	112	4	8	7.1	304	28	36	11.8	171.4	600.0	4.7
Electrical machinery	166	8	10	6.0	246	19	10	4.1	48.2	137.5	-1.9
Electronic components	51		2	3.9	62		-		21.6	0	
Transportation equipment	352	3	15	4.3	1,171	9	5	.4	232.7	200.0	-3.9
Textiles and apparel	35	3	3	8.6	124	2	-5	-4.0	254.3	-33.3	-12.6
Lumber, wood, and furniture	5	0	2	40.0	5	0	5	100.0	0	0	60.0
Printing and publishing	7	0	0		4	0	0	0.0	-42.9	0	
Stone, clay and glass products	52	3	2	3.8	76	2	15	19.7	46.2	-33.3	15.9
Instruments	43	3	3	7.0	91	5	5	5.5	111.6	66.7	-1.5
Other manufacturing	10	0	2	20.0	129	0	-5	-3.9	1,190.0		-23.9
Transportation, communication, and public utilities	23		0		6	0			-73.9		
Trade	277	5	7	2.5	347	16	13	3.7	25.3	220.0	1.2
Finance			3			6	34				
Insurance		0	0			0	0				
Other	37	3	13	35.1	49	38	0	0	32.4	1,166.7	-35.1

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-16.--Financial experience of all U.S. multinational affiliates in Mexico

(In millions of dollars)

	1966				1970				Percentage		
	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Sales	Foreign income tax paid	Net income after foreign income taxes	Ratio of net income to sales	Increase (decrease) for sales 1966-1970	Increase (decrease) of foreign income taxes 1966-1970	Increase (decrease) of ratio of net income to sales
All industries	2,751	115	145	5.3	5,626	246	227	4.0	104.5	113.9	-1.3
Agriculture		0	0	0		0	0	0	0	0	0
Mining and smelting	178	11	13	7.3	255	29	47	18.4	43.3	163.6	11.1
Petroleum	27	0	1	3.7	20	-	-8	-40.0	-25.9	0	-43.7
Manufacturing	2,105	91	109	5.2	4,715	202	154	3.3	124.0	122.0	-1.9
Food products	334	11	9	2.7	487	16	8	1.6	45.8	45.5	-.9
Paper and allied products	63	4	5	7.9	121	8	10	8.3	92.1	100.0	.4
Chemicals and allied products	533	28	29	5.4	764	52	72	9.4	43.3	85.7	4.0
Rubber	111	5	5	4.5	108	5	5	4.6	-2.7	0	.1
Primary and fabricated metals	184	9	13	7.1	749	25	37	4.9	307.1	177.8	-2.2
Machinery, except electrical	120	5	4	3.3	208	8	7	3.4	73.3	60.0	.1
Electrical machinery	174	11	16	9.2	478	19	21	4.4	174.7	72.7	-4.8
Electronic components	39	3	2	5.1	60	3	1	1.7	53.8	0	-3.4
Transportation equipment	390	7	13	3.3	567	51	20	3.5	45.4	628.6	.2
Textiles and apparel	35	2	5	14.3	66	3	5	7.6	88.6	50.0	-6.7
Lumber, wood, and furniture	5	0	0	0	5	2	0	0	0	0	0
Printing and publishing	15	0	3	20.0	5	2	N.A.	N.A.	-66.7	0	N.A.
Stone, clay and glass products	74	4	4	5.4	191	10	35	18.3	158.1	150.0	12.9
Instruments	22	4	2	9.1	76	5	N.A.	N.A.	245.5	25.0	N.A.
Other manufacturing	45	1	1	2.2	890	-4	32	3.6	1,877.8	-500.0	1.4
Transportation, communication, and public utilities	58	0	5	8.6	0	0	0	0		0	-8.6
Trade	303	8	7	2.3	546	5	13	2.4	80.2	-37.5	.1
Finance	8	1	5	62.5	10	0	14	140.0	25.0	0	77.5
Insurance	8	0	0	0	7		1	14.3	-12.5		14.3
Other	64	4	5	7.8	73	10	6	8.2	14.1	150.0	.4

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

CHAPTER V

MULTINATIONAL FIRMS IN INTERNATIONAL FINANCE

Introduction

The present chapter is market-oriented. That is, it explores the international financial activities of the MNCs in the context of the money and capital markets, and the foreign exchange markets, in which these activities take place. It makes only a few explicit references to "The International Monetary System," the establishment and regulation of which are the province of governments acting separately or in concert. Thus, the emphasis in this chapter is on the modern-day markets which the MNCs have had a large role in framing and which constitute the realities around which policies and whole "systems" have to be built. The chapter concludes with an assessment of how the MNCs have or have not altered the realities and therefore the policy needs which stem from them.

Some definitions

Throughout the chapter, several technical terms recur. These are defined below.

Capital markets

Capital markets are markets for long-term investment funds. The instruments used in them may be debt securities (bonds and notes), or

equity securities (stocks), or combinations of the two--such as bond issues which are partly or wholly "convertible" into equities. By convention, capital funds usually are thought of as those having maturities longer than a year. "Medium term" generally denotes periods of from 1 to 5 years; medium term loans of fairly short maturities often can look more like "money" transactions than "capital" ones. "Long term" issues usually are those whose maturities run beyond 5 years. Any sort of capital market issue can be either "publicly" placed (on securities exchanges or through consortia of underwriting concerns) or "privately placed" (sold to one or a small group of institutional buyers with no public offering or notice taking place).

Money markets

Money markets are markets for short-term funds, usually at maturities of a year or less. Instruments traded in the money markets can be bank deposits (demand or time), treasury bills and similar types of short-term government paper, commercial paper (public or privately issued notes of nonbank concerns), or trade bills (which can become "acceptances" when they bear proper bank endorsements). A "certificate of deposit" or CD is merely a piece of paper which denotes the negotiability of a time deposit at a commercial bank. Ordinary short-term bank loans, too, are money market instruments. In general, the capital markets finance fixed investment; the money markets finance working capital needs.

Eurocurrencies

Eurocurrencies--including Eurodollars--are bank deposits, usually time deposits, denominated in currencies other than that of the country in which they are held. A Eurodollar deposit is identical with a dollar deposit in New York, except that it is held outside the United States.

Eurobonds

Eurobonds, capital market instruments, are debt securities. They are issued through international underwriting syndicates and sold mainly in countries which have currencies different from those in which the issues are denominated. "Foreign bonds" also are sold outside the country of the borrower, but they traditionally have been issued by foreigners in some key financial center, in the currency of that center, and sold through underwriters of that center, chiefly to buyers of that country. "Eurobonds" and "foreign bonds," when discussed together without distinction between the two, are termed "international bonds." An "international bond," therefore, is simply any issue sold outside the borrower's country. Because of the U.S. Interest Equalization Tax, international bond issues are sold in the United States only in small amounts.

Foreign exchange markets

Foreign exchange markets are used whenever it becomes necessary to make or receive payments in a currency other than one's own. Ordinary purchases or sales of foreign exchange for current use are "spot

transactions. If a person owing a debt to a foreigner can persuade the foreigner to accept his, rather than the foreigner's currency, no exchange transaction takes place and there is no effect on the spot rate. This happens, especially in the case of the dollar, which is widely used as a "vehicle" currency for transactions outside the United States. Going further, if the foreigner accepts this arrangement, he can accept a deposit of foreign exchange in the country of the original debtor--say, a dollar deposit in a New York bank. However, if he then places that dollar deposit in a bank of his own country--say, London--the deposit becomes a Eurodollar deposit. The chain of dollar claims now runs backward from the original foreigner to the foreign bank in which he has placed the deposit, to the U.S. bank which always did owe the money--first to the original U.S. citizen who dealt with the foreigner, then to the foreigner himself, and lastly to the foreigner's London bank. As this dollar deposit is lent and relent outside the United States, the chain can lengthen _ad infinitum_--but there will be no effect on the foreign exchange market unless or until someone "converts" those dollars into another currency.

The foreign exchange markets obviously must be able to handle more than current or spot transactions. They also must accomodate transactions which involve credits, debts, and the dimension of time. Such transactions are _forward exchange_ transactions, which merely are contracts--like futures contracts in commodities--to deliver specified amounts of currency to a buyer at a given future date, in

return for specified amounts of foreign currency. Forward exchange rates depend on two things: (1) spot rates, or the market's expectation of where spot rates will be at maturity of a contract; and (2) because time is involved, money market interest rates in the countries of both buyer and seller for obligations with maturities the same as that of the forward contract. A forward transaction is a way of transferring the exchange risk onto someone else. The decision to undertake such a contract depends on the tradeoff between the possibility of earning a return on one's money abroad in the meanwhile (by buying spot exchange now and investing it abroad until the debt is due) and the possibility of a rate change (which would have to be risked if one invested at home and bought exchange three months hence). The "going" forward exchange rate for that maturity is the market's judgment about this tradeoff. If one agrees with it--or if he disagrees by thinking that forward exchange is available "cheap"--he will enter a forward contract. If he disagrees, thinking that the market overestimates the forward risk, he will sit tight and enter the spot market when his debt is due.

Money and Capital Market Integration

One of the great historical developments of the past 15 years in the Free World economy has been the progressive intermingling of its money and capital markets. This phenomenon is well known and has often been commented upon, but it needs mention and description here because it is one of the foundations upon which the financial role of the MNCs rest.

This integrative development is a sharp break from traditional patterns. Its closest analogue is to be found in the nineteenth century, when London was in its heyday as a financial center serving the entire world. In those times, London handled a sufficiently large proportion of the capital-and-money-market financing of the international community that its interest rate structures and its ways of doing business had a measurable leading effect on other money and capital centers, including those on the Continent and in America. Most nations felt the impact of changes in British monetary policy, and responded to them.

The analogy is only approximate, however, because modern money and capital markets have become more internationalized, and less directly responsive to developments in any one large and powerful place. The responsiveness is not gone--the United States now plays London's former role--but it has a different character.

The essence of the integrative developments which have occurred is that it now is possible, easy, and inexpensive--to a greater extent than ever before in modern times--for nationals of one country to lend and borrow in money and capital markets other than their own. As recently as the early 1960's, it would have been rare for a mid-western U.S. manufacturer, with little or no foreign business, to tap the Eurodollar market for working capital during times of tight money in the United States. Now, it can be done, just as domestic U.S. firms with spare cash between tax dates may consider, on the advice of their bank, placing their funds on deposit in London rather than in

traditional U.S. domestic money market instruments. Similarly, a domestic German firm, beset by stringent monetary policy and high interest rates at home, may easily tap the international money market for a Eurodollar loan--which it can use in dollar form for many purposes, or convert to DM to meet payrolls and other domestic obligations. Much of the capital funds obtained through Eurobond issues by American firms is brought back into the United States for domestic investment purposes; these issues thus can substitute for more traditional equity or debt issues floated domestically through Wall Street underwriters. The underwriters themselves have become international houses to a greater extent than ever before.

In the nineteenth century, when London and the pound sterling ruled the international financial world, the central role of this single financial center was all-important. London served as the efficient haven for foreign savings, and as an equally efficient redistributor of them through issues floated on the London market. In contrast, a person, firm, or government that now wishes access to foreign money or capital markets gains that access through a truly international market. Enormous amounts of long-term funds are allocated through the Eurobond market--or the international bond market generally--while short-term funds churn in the Eurocurrency markets, preeminently the Eurodollar market. Neither of these markets is located in or controlled by the United States, even though both deal chiefly in dollar-denominated instruments.

Part of the reason why New York has not assumed London's former role relates to two keystones of U.S. balance of payments policy during the 1960's. The Interest Equalization Tax (IET), now about a decade old, aimed for the short-run objective of stemming foreign borrowing in the United States, which was contributing to large outflows on capital account. It raised the cost of borrowing in New York by foreigners to the point of unattractiveness, and forced foreign firms and governments to seek long term funds elsewhere--i.e. in the nascent Eurobond market, which until 1965 or so was thoroughly dominated by non-U.S. borrowers. Until the Americans arrived, the international bond market did not begin to show the phenomenal growth of recent years. But as a result in major part of the IET, it was able in these formative years to begin to develop the institutional structure which enabled it to handle the huge demands placed upon it a few years later.

Voluntary, then mandatory, controls on outbound direct investment capital flows were instituted by the United States in 1966 and 1968, respectively. These controls pushed American direct investors deeply into foreign capital markets to finance their capital investment abroad, and the Eurobond market responded with alacrity, serving not only their needs but the growing requirements of foreign governments and firms as well.

Despite the IET and the best efforts of the Office of Foreign Direct Investment (OFDI), however, U.S. balance of payments deficits persisted, and more often than not, grew. Indeed, without these

deficits, it is highly unlikely that the dollar-denominated portion of the Eurobond market, and the Eurodollar market at the short-term end of the financial spectrum, would have been able to expand as they did during the 1960's. It is important to note that most of the cumulative outflow of dollar funds generated by U.S. payments deficits did not end up in foreign official hands as reserves. From 1960 through 1970, U.S. deficits on the liquidity basis of calculation aggregated to some $35 billion. In the same period (from the end of 1959 through the end of 1970), dollar liabilities counted as reserve items in foreign official hands by the IMF rose by only $14 billion. Thus $21 billion, or 60 percent of the cumulative deficits, accumulated in private hands abroad as the nest egg with which the international money and capital markets were built during the last decade. This accumulation did not occur by default. It occurred as a result of steady private demand pressure which prevented the movement of all those dollars into official reserves. 1/

1/ The integration of the world's money and capital markets over the last decade or so also has had a technological dimension. Firms and banks which wish to be participants in the vastly expanded milieu of international finance require two necessary technological backups: (1) Rapid, high-capacity communications systems, with which to gather and disseminate information and decisions; and (2) Machinery able to process into usable form the masses of information which flow into and out of a decision-making financial center. Therefore, without the postwar development of communications and computer technology that has taken place, the large-scale international integration of world financial markets probably would not have been possible.

One of the important results of progressive intermingling of the world's major money and capital markets has been a tendency for both long and short-term interest rates in different markets to come together--for differentials among them to narrow, often almost to insignificance. Of special economic interest is the cost of long-term capital funds. A tendency for such costs to become more uniform across international boundaries is evidence that capital is becoming more mobile, and that institutional and other barriers which inhibit the creation of what amounts to a "world" capital market are coming down or being surmounted.

The figures in Table 1 show the movement of key long-term interest rates since the mid-1960's. The table compares yields on U.S. domestic corporate bonds with comparable yields on both international bonds (dollar-denominated issues of U.S. companies) and domestic corporate bond issues in nine individual countries. At the beginning of 1966, the difference between the U.S. rate and the average of the other ten was significant--1.61 percent. By the end of 1968, the difference had narrowed to a mere 0.22 percent. In 1969 and 1970, which embraced a period of fairly restrictive monetary policies in many of the leading countries, the differentials widened, but relatively slightly, considering the divisive forces that were at work in the monetary system at the time. By the end of 1971--which was another year of international monetary upheaval--the average differential had again narrowed, to only 0.38 percent. The persistence of this trend in a period of extreme

Table 1: International comparisons of long-term bond yields, 1966-1971

(Yields in Percent Per Annum)

	1966 Jan	1966 Dec	1967 Dec	1968 Dec	1969 Dec	1970 Dec	1971 Dec
U.S. Domestic Corporate Bonds	4.95	5.70	6.74	7.04	8.95	7.90	7.30
International Bonds 1/	6.33	6.38	6.87	7.25	8.13	8.08	7.84
Other Domestic Corporate Bonds:							
Canada	6.03	6.83	7.59	8.18	9.29	8.83	8.24
Japan	7.82	7.54	8.57	8.66	9.07	9.20	7.38
Belgium	5.68	6.05	6.05	5.92	6.96	6.92	6.12
France	7.25	7.71	7.52	7.76	8.71	8.83	8.69
Germany	7.50	7.80	6.95	6.43	7.60	7.77	7.59
Italy	6.63	6.71	7.15	7.12	8.51	9.74	8.46
Netherlands	6.44	7.12	6.71	6.98	8.54	7.88	7.91
Switzerland	4.60	5.19	5.11	5.13	5.58	6.09	5.42
United Kingdom	7.27	7.63	7.97	9.16	10.70	10.84	9.19
Average of all non-U.S. Issues	6.56	6.90	7.05	7.26	8.31	8.42	7.68
Deviation of average from U.S. yield	+1.61	+1.20	+0.31	+0.22	+0.64	+0.52	+0.38

1/ U.S. Companies, dollar-donominated issues.

Source: Morgan Guaranty Trust Company of New York, World Financial Statistics, March, 1972.

unrest in the financial markets is, by itself, strong evidence of the integrative forces that were at work in the system. 1/

1/ Comparable data are not available to carry the series used in Table 1 back to cover a longer time span. However, in order to verify that the large differentials shown for the beginning and end of 1966 were not freak occurrences, a comparison similar to that in Table 1 was made for several series of yields on long-term central government bonds, for the United States and nine industrial countries. These series "splice" well with the corporate bond yield series used in Table 1. For the years 1959-66, the differentials calculated from them were as follows:

1959....0.75%	1961....1.17%	1963....0.99%	1965....1.66%
1960....1.04%	1962....1.07%	1964....1.49%	1966....1.59%

Source: International Monetary Fund, International Financial Statistics.

Generally similar developments occurred in the money markets--the markets for short term funds. To demonstrate changes in money market rates during the 1960's, rates for three-month Eurodollar deposits in London, as well as treasury bill or call money rates for the United States and eight important foreign countries are compared in Chart I. The data behind the chart come from Table A-1 in the appendix to this chapter.

Part A of the chart shows the general movements of three series: the Eurodollar rate, the U.S. Treasury Bill rate, and an average of the eight comparable foreign interest rates. The first point to note from this display is that the period covered was one of considerable general movement and change. Short-term interest rates everywhere were rising through most of the period, with the rise culminating in a demonstrable spasm in 1969--a year of very tight money in the United States, when interest rates hit unusually high levels and induced similar rises throughout the developed world as dollars were pulled out of foreign money centers and into the United States.

Part A also shows clearly a tendency for the average series for the foreign rates and the U.S. rate to merge and to stay merged as the twelve-year period covered by the data wore on. Again, this tendency persisted despite the severe strains which events were placing on the international monetary system as a whole during the late 1960's--which is good evidence of the strength of the integrative forces that were at work.

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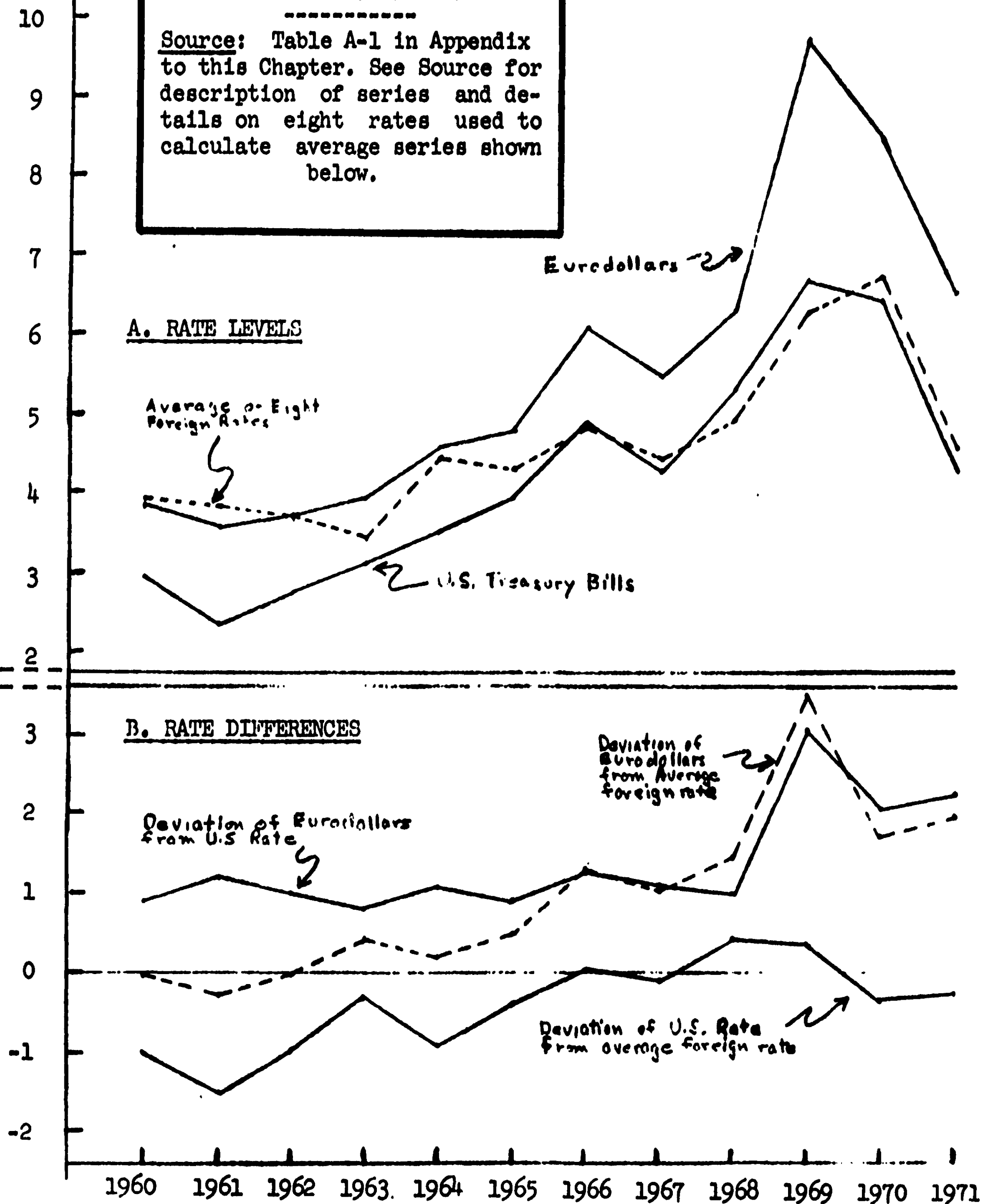

CHART I.
Movements of Basic Money Market Interest Rates, 1960-1971.
Source: Table A-1 in Appendix to this Chapter. See Source for description of series and details on eight rates used to calculate average series shown below.
Percent
10
9
8
7
6
5
4
3
2
A. RATE LEVELS
Eurodollars
Average of Eight Foreign Rates
U.S. Treasury Bills
B. RATE DIFFERENCES
3
2
1
0
-1
-2
Deviation of Eurodollars from Average foreign rate
Deviation of Eurodollars from U.S Rate
Deviation of U.S. Rate from average foreign rate
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971

On the evidence of Part A, the Eurodollar rate appears to be a maverick with respect to the integrative trend. It moves away from, rather than closer to the others. Such a conclusion, however, would not properly describe the function of the Eurodollar rate and the Eurodollar market in the system. One should view the Eurodollar market as the market through which equilibration or integration takes place. Thus, the Eurodollar rate has to be a generally high one with respect to the others, because it governs the mechanism by which funds are bid away from low-rate centers where money is relatively plentiful and cheap, and into markets where it is scarce and therefore expensive.

Until about 1966, the U.S. rate was considerably lower than the average cost of money abroad, with the result that there was a net incentive in the system to move funds out of New York and into foreign money centers. Since the movements involved were primarily dollar movements, the "equilibrator," the Eurodollar rate, would therefore tend to be higher than, but move generally in concert with, the basic U.S. short-term interest rate. This happened. Through 1968, in fact, Eurodollar rates held remarkably steady at very nearly 1 percent above the U.S. Treasury Bill rate, and in every year of the twelve covered, the direction of change in the Eurodollar rate was precisely aligned with the comparable change in domestic U.S. money costs.

The U.S. credit crunch of 1969 produced a strain that partially changed these relationships. This strain was the emergence--really for the first time--of a strong pull of funds <u>toward</u> the United States

rather than in the other direction. The unusually wide disparity between the Eurodollar rate and all the others that resulted can be explained partly by the sheer severity of restrictive monetary policy in the United States at the time, and partly--perhaps mostly--by a quirk in the machinery that operated to transfer the funds. Dollar funds pulled from Europe in this period did not arrive as deposits; they arrived as loans to their head offices by the foreign branches of U.S. banks. The reason was simple: loans, unlike deposits, were not subject to reserve requirements, and hence U.S. banks were willing to pay a premium interest rate on any money their foreign branches could find--a premium equal to the exceptionally high rate of interest that could be earned on the portion of these funds that did not have to be tied up in required reserves and therefore could be loaned to customers. Thus victimized by international financial integration, in a manner to which past experience had not accustomed it, the Federal Reserve finally attempted to plug this loophole by a change in its regulations which subjected borrowing from foreign branches to reserve requirements.

During this episode, movements of funds to the United States were massive. U.S. banks' liabilities to their foreign branches hit a peak of $15 billion in October 1969. Some of the money that arrived by this route actually had taken a circular path from the United States itself. Due to another quirk--Regulation Q, this time, which governs

maximum rates that can be paid by banks on time deposits--U.S. firms found it attractive to run off relatively low-yield time deposit (CD) accounts and to invest the funds in Eurodollars which, of course, were loaned by U.S. banks' overseas branches directly back to their parent houses.

In the context of perennial U.S. balance of payments deficits, there is another way of interpreting the equally perennial premium of the Eurodollar rate over the comparable U.S. domestic short-term rate. This is to view it as the price which the international market was willing to pay to discourage private foreigners from moving their dollar proceeds across the exchanges, and thus from entering the equivalent funds into their domestic money markets or, as otherwise would have happened, inserting the dollars into foreign official reserves. Thus viewed, the Eurodollar premium over the cost of U.S. dollars at home can be considered as the price of creating a large, flexible, easy-to-use international money market outside the control of any central bank. At a steady one percent or so, this seems cheap. To be sure, the premium roughly tripled during 1969--but that was the price of prying out of foreign reserves dollars that were already there, a movement which occurred in large amounts during that year.

In 1970 and 1971, U.S. interest rates sagged, then broke sharply downward as monetary policy eased. When the break came, an immediate and massive "backflow" of dollars from the United States to Europe was widely expected. It was several months before it actually developed, but the foreign money markets soon found themselves inundated.

Central banks recouped the outflows that had occurred earlier, and then some. In the process, however, the gap between the United States and Eurodollar rates never narrowed to the old one-percent level during the period covered by Chart I, despite a generalized, rapid fall of interest rates almost everywhere--except in a few countries that were using officially-induced high interest rates to attempt to stem inflation. This was preeminently the case in Germany, where speculation on a revaluation compounded the incentives to move in funds. The result was an unstoppable and undigestible inflow of dollars by the Germans--usually called a "run" on the dollar but just as accurately assessable as a mad scramble for DM induced by Germany's disequilibrating interest rate policies--which soon produced a crisis and, finally, the unpegging of the German exchange rate.

The presentation in Part B of Chart I supports all of the points made above about the roles of the various interest rate measurements, but it makes some of them clearer by focusing on the gaps among the different rates rather than their levels. The bottom line on this chart clearly shows the principal, general tendency for the national money market rates to come together, in the form of a trend toward, and then movements around the zero-gap base line. The other two sets of plots compare the Eurodollar rate with the U.S. rate on the one hand and the "average" foreign rate on the other. Through 1968, the narrow fluctuation of Eurodollar interest around a 1 percent deviation from U.S. Treasury Bills is apparent. It is also clear that,

until 1966, the Eurodollar rate was farther away from the U.S. rate than from the average foreign rate--which suggests that the chief "pull" at work was one which moved funds from the U.S. market to foreign ones, via Eurodollars. In 1966 and 1967 this phenomenon essentially disappeared; but then, in 1968 and 1969, it reversed. The direction of the pull had shifted toward the west. Finally, in 1970 and 1971, another reversal was in evidence, with the relationship of the first half of the 1960's restored.

The use of an "average" foreign interest rate is a fiction, adopted for purposes of clear exposition. Obviously, nobody lends or borrows against a hypothetical "average" interest rate, and hence this analysis cannot be complete until a check is made to ensure that the "average" correctly represents what actually happened.

Chart II provides such a check. It indicates gaps between the U.S. Treasury Bill rate and each of the foreign rates that went into the average, expressed in terms of deviations of the U.S. rate from the foreign ones. In this chart, it is less important to identify any particular rate than to observe how they all moved in relation to each other and to the U.S. rate.

Visually, the chart overstates the case by including the Japanese call money rate, which moved from "very far out" to "very far in" over the period. In the early 1960's, a discussion of the international financial system could safely disregard the Yen because it was safely--and independently--ensconced behind a wall of policy controls not found

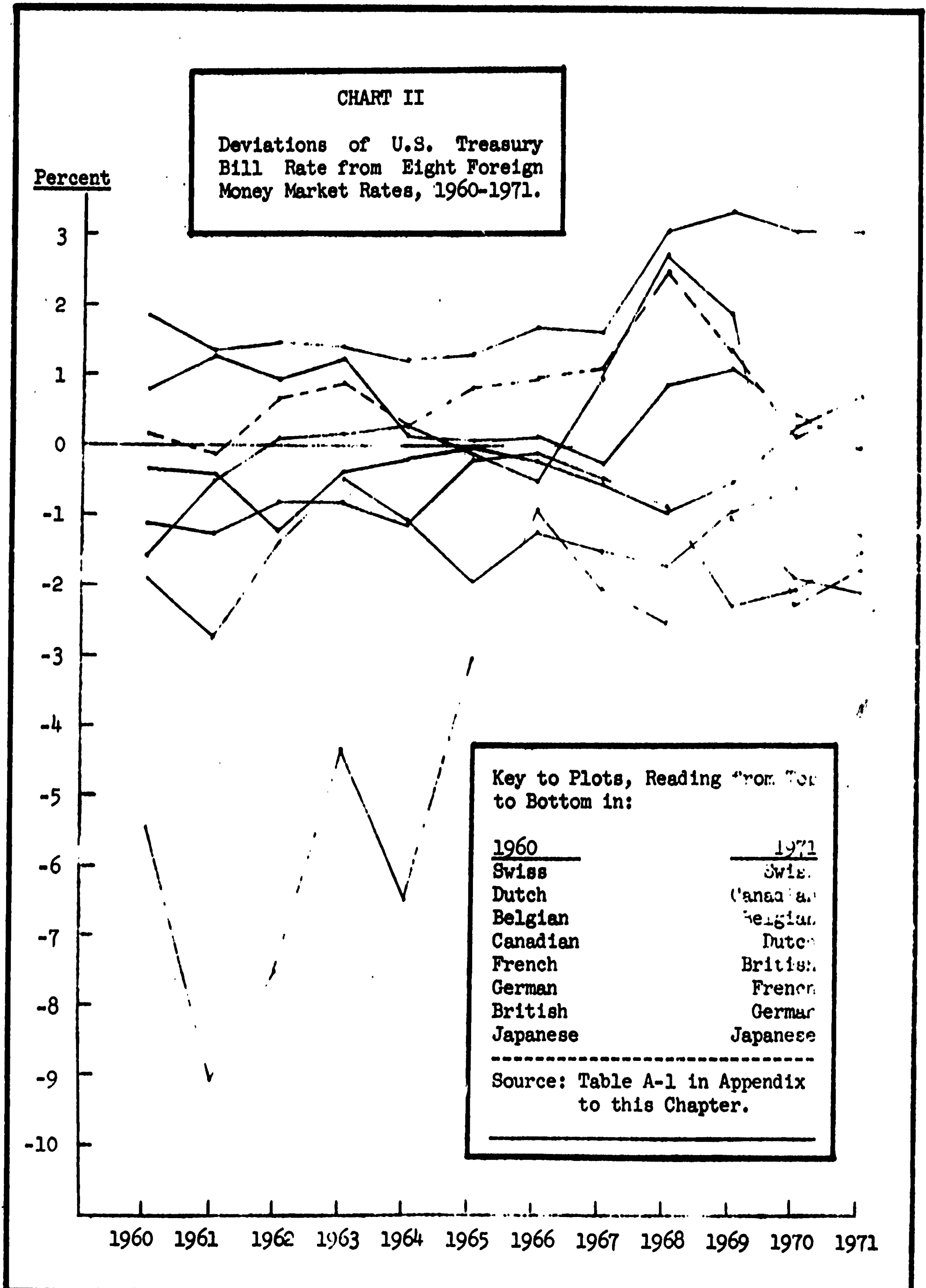

CHART II
Deviations of U.S. Treasury Bill Rate from Eight Foreign Money Market Rates, 1960-1971.
Percent
3
2
1
0
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
1960
1961
1962
1963
1964
1965
1966
1967
1968
1969
1970
1971
Key to Plots, Reading from Top to Bottom in:
1960
Swiss
Dutch
Belgian
Canadian
French
German
British
Japanese
Japanese
Source: Table A-1 in Appendix to this Chapter.

in the West. Not all of these controls are gone but, in present-day discussions, it is not appropriate to forget the Yen, because it too is subject to at least some of the forces affecting the other currencies of the system. At the other end of the chart, on top, the Swiss call money rate moves "perversely." Throughout the period, it was well below the U.S. interest rate and most of the others as well. The Swiss domestic money market is probably the least "integrated" with the rest of the world. As it is so small in relation to the amounts of foreign funds that flow into and through the Swiss banking system, the Swiss have developed elaborate and largely effective mechanisms for insulating their small domestic economy from the massive foreign monetary influences which could be, but are not permitted to be, transmitted through their own banks.

As for the rest of the chart, the first point to be made is that, in 1960 and 1961--the beginning of the period of progressive integration under examination--the several rates were fairly evenly spread across a 3 percent-4 percent total gap, from top to bottom. For the next several years, a fairly general tendency for most of the separate rates to narrow the gap vis-a-vis the United States is apparent; the various plots cluster most tightly in 1966, when, including the United States, five of the observations were small fractions of a percentage point apart, with two others having pulled in closer to the U.S. rate as well. Subsequent movements were more disparate, and it is important to note that the widest discrepancies between U.S. interest rates and the others occurred in 1968, <u>not</u> 1969, the year when U.S. rates peaked

at historic levels. The U.S. rates already were rising in 1968, and there was a lag in the foreign response. By 1969, however, the response was working and the pattern of plots was pulling closer together again. Despite the subsequent reversal of interest rate movements in the United States, this trend continued through 1970 and 1971, with the result that, in the latter year, the overall spread of the plots (excluding the Swiss) was the same as or slightly narrower than in 1960--but with Japan in the fold now, rather than far out of it.

There was one important difference, however. Instead of being evenly spread, the plots for 1971 formed two clusters. In one group were the Canadian, Belgian, and Dutch rates, against which the U.S. rate was only slightly higher (identical in the Dutch case). In the other group were the rates of four countries--France, the United Kingdom, Japan, and Germany--against which the U.S. rate was sharply lower. Each of these countries was defying the markets in one way or another. France devalued in 1971, and by yearend was busy absorbing the effects of the move, while combatting inflation with tight money, behind a barrier of exchange controls that inhibited at least partly the efficient inflow of funds that would otherwise have occurred. The other three countries were employing high-interest-rate policies also--and receiving heavy inflows of funds as a result.

For one of these countries--Germany--the defiance of the system proved to be untenable, as described above. Indeed, the net effect of German interest-rate policy since 1966 had been to induce greater swings vis-a-vis U.S. interest rates than in the case of any other

country. From 1966 to 1968, the U.S. rate moved from a point about half a percent lower than the German rate, to a level nearly 3 percent higher. Germany was in or coming out of a fairly severe recession in 1966 and 1967, and in only the early phase of a new boom in 1968, so that easy money was the rule. By 1969, the Germans, focusing hard on domestic rather than external policies were beginning to think about cooling the boom slightly. They put up their rates and, happily for a change, narrowed the gap against the U.S. rate. Heavy reserve outflows from the Bundesbank were continuing that year, however, as the Eurodollar market sucked funds up for transmittal across the Atlantic. But then, in 1970, Germany was again moving perversely with respect to the trend, and the U.S. rate moved sharply against the German rate, the gap shifting by better than 4 percentage points. That year, and in 1971, the results came swiftly in train. The German central bank was swamped with funds and in practical terms lost control of its own monetary policies. In that situation, the only alternative was to allow the exchange rate to float and, ultimately, to alter the parity of the DM permanently.

Three main points are clear from the foregoing discussion of money and capital market integration during the 1960's. The first is that the Eurobond market for long-term funds and the Eurocurrency markets at the short-term end play a crucial role as the mechanisms through which integrative developments take place. Thus, a single, powerful national financial system does not play the role of integrator; this role is played by a pair of <u>international</u> markets that stands

outside and largely uncontrolled by the authorities of the separate national economies that are affected by the process. Secondly, strong tendencies for an international equalization of interest rates emerge as both result and symptom of the integration process. Third--and this is a consequence of the entire integration process--it has become increasingly difficult, sometimes impossible, for the central bank authorities of any one country to move in directions which run counter to international money and capital market trends, because the markets react with inflows (or outflows) of funds that most domestic monetary systems cannot stand for long periods. Thus, even if a currency's exchange parity is not in serious disequilibrium, a perverse movement of national interest rates can force such a change because of an economy's vulnerability to massive, highly volatile flows of short-term funds.

The International Bond and Eurocurrency Markets

Because they have come to play such a crucial role in the international financial system, the markets which have been described in this chapter as the "integrator" markets--the international bond market and the Eurocurrency market--require separate and extensive discussion. Both are markets in which the MNCs, as well as the multinational banks, (to be described later), have important influences.

The international bond market

International capital issues, 1/ in the form of foreign bonds sold outside the borrower's country, have been an important feature of international finance for centuries. Yet the Eurobond, which in a few years has come virtually to dominate the international bond market, is barely a decade old. Its history began in the early 1960's, when groups of European investment bankers--chiefly in Belgium and Luxembourg, in the beginning--started to organize multinational syndicates of underwriters in order to market long-term bond issues simultaneously in a number of financial centers. Many of these first issues were denominated in unfamiliar monetary units, such as the European "Unit of Account." These were nothing more than rather complicated combinations of the major currencies, which permitted the lender (purchaser) the option of choosing the currency of ultimate repayment, as a protection against possible exchange rate changes. The advantages of such combinations were overwhelmed by their complexities in the eyes of borrowers and lenders, however, and soon Eurobonds were mainly, almost exclusively, in fact, denominated in single currencies. Chief among these is the dollar.

Spurred by the Interest Equalization Tax and later by the U.S. investment restraint programs as well as the innovative efforts of London bankers, chiefly the merchant bankers, the Eurobond market

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1/ See definitions of the various types of bonds discussed here on pp. 453-455.

grew at a staggering rate, with volume of new issues climbing to heights that experts had deemed impossible. New issue volume was a mere $164 million in 1963. By 1968, it had reached $3.6 billion whence it dropped to about the $3 billion level in 1969 and 1970, moved to over $3.6 billion in 1971 and, in the first 10 months of 1972, pushed strongly upward, to $4.9 billion (see Table A-2 in the appendix to this chapter).

Meanwhile, the foreign bond market--handling the traditional type of issues that are not internationally syndicated and are sold mainly in one center in the currency of that center--has not fallen into disuse. The growth in the volume of new issues in this market has been rather more variable than the growth of Eurobond issues but, overall, it has risen strongly. In 1963, new issues of foreign bonds were $389 million. Since then, volume has climbed erratically to $1.1 billion in 1968, $1.5 billion in 1971, and $1.7 billion in the first ten months of 1972 (Table A-2).

The international bond market as a whole, therefore, has undergone great expansion during the past decade, led by the strong performance of its Eurobond sector and aided by fast growth in new foreign bond issues. The following tabulation illustrates this growth, showing total new issue volume outside the United States (in millions of U.S. dollars) from 1963 to the present.

Year	Volume	Year	Volume
1963	553	1968	4,708
1964	983	1969	3,983
1965	1,417	1970	3,344
1966	1,520	1971	5,153
1967	2,405	1972(Jan-Oct)	6,632(preliminary)

Source: Morgan Guaranty Trust Company of New York, World Financial Statistics, March 1972; and World Financial Markets, Oct., 1972.

No market of this size can survive without the presence of a strong and flexible "secondary" market, in which holders of bonds and investors can trade, with little effort, securities that have been issued in the past. Such a market has been developed by a large group of financial houses with multinational connections. These houses generally are also the principal underwriters of new issues. Among them are the major European banks, including the London merchant banks, as well as European subsidiaries of many of the United States' most important financial institutions.

Certain data from the appendix Table, A-2, are pulled together in summary fashion in Table 2, to point up some of the important characteristics of the international bond market. Table 2 focuses on two years of peak issue volume (1968 and 1971) for which full-year data are now available. It shows clearly the extent to which the Eurobond sector dominates the market--to the tune of 76 percent in 1968 and slightly less, 70 percent, in 1971. This small decline in the share of Eurobonds in total new issues testifies to the continuing strength of the traditional form of foreign bond in world capital markets.

Table 2: Some structural characteristics of the International Bond Market in 1968 and 1971

(amounts in millions of U.S. dollars)

	1968		1971	
	Amount	Percent of total	Amount	Percent of total
Total International Bond Issues	4,708	100	5,153	100
Eurobonds	3,573	76	3,624	70
Foreign bonds	1,135	24	1,529	30
Types of borrower:				
U.S. companies	2,235	47	1,290	25
Other companies	659	14	1,327	26
State-owned enterprises	361	9	996	19
Governments	817	17	733	15
International organizations	626	13	807	15
Currencies:				
U.S. dollars	2,554	54	2,203	43
German mark	1,588	33	1,094	21
Dutch guilder	-	-	298	5
Swiss franc	238	5	661	13
Italian lira	72	2	32	1
Pound sterling	19	1	138	3
Other	237	5	727	14
Types of security:				
Long-term straight debt	2,064	43	3,829	74
Medium-term straight debt	659	14	999	19
Certificates of deposit	75	2	-	-
Convertible issues	1,910	41	325	17

Source: Table A-2. See notes to that table.

Among the important borrowers, business firms (including both private enterprises and state-owned corporations such as some of the large Italian conglomerates) hold a commanding position as borrowers; in both years, they accounted for 70 percent of all new issues. However, the relative positions of American and non-American interprises changed rather radically between the two years, with the share of U.S. firms in total borrowings falling from just under half to one-fourth and the proportions accounted for by other types of enterprises rising accordingly. The 30 percent of the market which remained after business enterprises had their fill was shared about equally in both years by foreign governments and international organizations (such as the World Bank--IBRD--and its affiliates).

Not shown in Table 2 is the distribution of international capital issues by country or area. The United States--i.e. U.S. companies--took up exactly a quarter of all new issues in 1971. Entities in other developed countries had the lion's share--58 percent--of which 43 percent fell to the Europeans. The international organizations' 15 percent already is reflected in Table 2. A considerable portion of these funds, of course, are destined to finance capital projects of one sort or another in the LDCs whose share of the market otherwise was a mere 1 percent, or $52 million in 1971. Their access to the market never has been great. It peaked in 1968, at $256 million, or roughly 5 percent of total new-issue volume in that year.

On the evidence of Table 2, there has been a significant increase in the usage of currencies other than the dollar in the international bond market. While the dollar still reigned supreme as the currency

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with the largest single share of the market in 1971 (43 percent), this share was well under the 54 percent of 1968. This drop is due partly to the weakened reputation of the dollar in the international monetary system and partly--probably mainly--to the lesser demands of U.S. companies on the market. At the same time, and despite its strength, the Deutsche mark also saw its share of the market reduced, from about a third in 1968 to just over a fifth in 1971, as greater usage of several other currencies became popular. Consequently the combined shares of the market's two principal currencies, the dollar and the DM, fell sharply from 87 percent to 64 percent--the difference being accounted for by a significant increase in the usage of a number of other currencies. There also has been some revival of interest in combination packages, which allow the lender options on the currency of repayment as a protection against exchange parity changes. Such developments are natural in periods of severe unrest on the foreign exchanges such as 1968-71. Overall, the flexibility of the market in adapting its rapid growth to very restive environmental conditions is impressively demonstrated by its willingness to shift into a wider range of currency denominations for new issues.

Among the different types of securities issued, there is clear evidence of a great revivial of interest in ordinary straight debt bonds. These accounted for almost three quarters of the market in 1971, as against only 43 percent in 1968. The most important reason for this change was a steep decline in convertible issues of U.S. companies--i.e. bonds convertible into the common stock of the firm.

Convertibles had been popular in the mid-1960's, often allowing firms to borrow in the market at significantly lower interest costs. However, the coming of less than buoyant fortunes to the U.S. stock markets destroyed much of the attractiveness of convertibles to the European lender, and their usage dropped apace.

Publicly-announced, medium-term, straight debt issues increased considerably over the period. However, the increase in medium-term loans no doubt has been much greater in the aggregate, because much of this debt is privately placed with banks and institutions such as insurance companies and thus never enters into the published record. The entire medium-term market is of fairly recent vintage. It represents in many cases a bridge or filler for the gap between the long-term "Eurocapital" market and the short-term Eurocurrency or "Euromoney" market. Very often, a bank will use this market to borrow short--through Eurodollar deposits--and lend long--against medium-term notes. For borrowers in general, it represents an important new source of funds. Loans of this type also are discussed in the Eurocurrency section (pp.) below.

The data in Table 3 focus on a narrower subject, the activity of U.S. companies alone in the international bond market in 1968 and 1971. The table reflects the roughly 50 percent drop in U.S. firms' share of total new-issue activity. Virtually all of this drop occurred in the Eurobond sector, where their share fell from 59 percent of total new issues to 30 percent. The drop in relative position was spread across both of the major currencies in which issues are denominated--the dollar

Table 3.--U.S. Company activity in the International Bond Market, 1968 and 1971

(Amounts in millions of U.S. dollars)

	1968				1971			
	Total issues of type shown (amount)	U.S. company issues			Total issues of type shown (amount)	U.S. company issues		
		Amount	Percent			Amount	Percent	
			of U.S. Co issues	of all issues of type			of U.S. Co issues	of all issues of type
International Bonds, Total	4,708	2,235	100	47	5,153	1,291	100	25
Eurobonds	3,573	2,096	94	59	3,624	1,090	84	30
Foreign bonds	1,135	139	6	12	1,529	200	16	13
Straight debt	2,798	593	27	21	4,828	1,116	86	23
Convertible	1,910	1,642	73	86	325	175	14	54
U.S. dollar	2,554	1,915	86	75	2,203	995	77	45
German mark	1,588	226	10	14	1,094	82	7	8
Swiss franc	238	94	4	40	661	170	13	26
Dutch guilder	-	-	-	-	298	14	1	5
Other currencies	328	-	0	0	897	30	2	3

Source: Morgan Guaranty Trust Company of New York, World Financial Statistics, March 1972.

and the DM--and the Swiss franc as well. U.S. firms increased their shares of new issues denominated in the other currencies.

This decline in U.S. firms' relative dominance of the market, it should be stressed, occurred in the context of a rapidly rising volume of new issues in general. While it also represented an absolute decline of some magnitude for the U.S. firms, the real significance of this development is bound up with the market's ability to adapt increasingly to the long term financial needs of the international community as a whole, rather than those of U.S. firms alone. That three-quarters of the market's new issues in 1971 were those of non-U.S. entities (including business enterprises, governments, and international organizations) is extremely significant. It should allay fears often expressed during the 1960's that the Americans had found a way to advance upon European capital markets in a manner that would effectively freeze out other borrowers on their own home ground. Instead, it appears that the new institutions and the new technology of the international bond market have been able to increase the efficiency with which savings are mobilized to the service of those who require borrowed financial capital--and probably to increase the volume of savings so mobilized as well.

In both of the two years covered by Table 3, U.S. firms relied most heavily on the Eurobond sector of the market. Despite their declining share of total issues in that sector, they still obtained 84 percent of their international long-term financing through it in 1971, as against 94 percent in 1968. Nevertheless, their usage of

the foreign bond sector did increase somewhat, from 6 percent to 16 percent of their total issues. At the same time, their switch away from convertibles to straight-debt issues is clearly apparent Of all U.S. company issues floated in 1968, 73 percent were convertibles and 27 percent were straight-debt; in 1971, these proportions were substantially reversed, at 14 percent and 86 percent, respectively.

Although American companies accounted for less than half of all new dollar-denominated issues floated in 1971, the dollar remained the currency of issue that they favored; it accounted for over three-quarters of their flotations in that year, as against 86 percent in 1968. This is not surprising. "Multinationalism" goes only so far, and for even the largest MNCs, the dollar remains their "home" currency, their currency of account, and the currency in which most of their cash flow is generated. As debtors, they also should clearly prefer to have their obligations denominated in a currency which has not been among the strongest over the period under review. The market's continued willingness to accept that dollar-denominated debt without excessive interest premiums reflects in part a collective judgment that the dollar is a strong currency in the long run. Indeed, with the possible exception of Swiss franc bonds, the position of U.S. firms in the markets for new issues denominated in currencies other than the dollar is of little significance. These markets remain dominated by non-U.S. borrowers.

Eurocurrencies

Eurocurrencies may be defined as bank deposits denominated in currencies other than those of the countries in which they are deposited. Eurocurrency operations can take place in any national currency so long as it possesses convertibility and is deposited outside of the country from which it comes. For example, when U.S. dollars deposits are placed in a bank not within the territorial boundaries of the United States, the result is the formation of Eurocurrency, in this case Eurodollars.

Mechanics of the market.--The initial deposit described above is the first step in the Eurocurrency market cycle. This deposit does not involve a foreign exchange transaction; rather, it involves a loan of foreign currency repayable in the same currency. It entails the owner's lending and the accepting institution's borrowing of the foreign currency deposit, which is now in Eurocurrency form. From its acceptance into the system until the time of its removal, the deposit may be subject to numerous loan transactions which could involve banks of the same country or different ones.

Once accepted by the bank, this Eurocurrency deposit may then be used to improve the bank's general position in one of several ways. The bank may use it for the purpose of extracting a profit through a transaction; or to alter its liquidity position; or solely for expansion. The bank can make a profit either by lending the deposit directly to a customer or, more often, by acting as an intermediary

to another bank, either domestic or foreign. Due to the minimum risk involved in the intermediary position, the interest rate differential between the borrowing rate which the bank accepts and the lending rate which it dictates is quite small. The major reason for a bank to act as an intermediary is to reduce its risks while still realizing a profit.

Whether the Eurocurrency cycle continues is determined by whether this intermediary position is taken. If the bank finds it more advantageous to lend the currency directly to a customer who eventually removes it from the bank for daily operations; if the bank uses it to buy exchange for a domestic loan in local currency; or if the bank uses the currency to increase its reserves--it will then have removed the currency from the Eurosystem and the cycle will be completed. Thus, there are three types of participants involved in the Eurocurrency system: The "Original lenders" who are those institutions, whether financial or nonfinancial, which make Eurocurrency deposits; the "intermediaries", which are commercial banks that relend deposits to other commercial banks both local and foreign; and the "Final Borrowers" who in numerous ways extract from the system currencies which earlier had been injected through deposits. The Eurocurrency system may be viewed "as a series of chains along which the deposit of an original lender is transferred to a final borrower via the intermediation of commercial banks." 1/

1/ Swoboda, Alexander K., The Eurodollar Market: An Interpretation, essays in International Finance. No. 64, Princeton University, 1968, p.2.

These transactions, essentially international borrowing and lending, would appear to be a part of the responsibility of a bank's credit department. However, they are normally conducted through foreign exchange departments, for at least two reasons. One is that credit departments, generally organized for transactions in local currency, do not focus on conditions abroad and therefore are less able to determine risk. Also, Eurocurrency operations often involve foreign exchange transactions, since foreign deposits frequently are accepted "...solely for the sake of swapping the proceeds into the local currency or into a third currency." 1/

Suppliers of Eurocurrencies.--The creation of Eurocurrency deposits is due largely to dissatisfaction with the yields obtainable in national money markets. Individuals, organizations, and governments holding foreign currency deposits may choose to invest in either national money markets or the Eurocurrency market. As pointed out in the preceding section (pp.467-471), Eurorates, being those which serve to pull funds from low-rate money centers to high-rate ones, generally are higher than most deposit rates in national money markets. Therefore, they are attractive to lenders.

There are three major suppliers of Eurocurrency: Official institutions, commercial banks, and non-banks. Official institutions, the major suppliers of deposits until 1963, are thought to be the

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1/ Einzig, Paul, The Eurodollar System, London, Macmillion, 1970 (4th ed.), p. 12.

originating force behind the Eurocurrency market, with official dollar deposits having served as the initial resource. These institutions, consisting of central banks, governments, and international organizations, can supply deposits in many ways, both direct and indirect. Central banks may supply deposits by placing foreign reserves in commercial banks located outside of the country where the currency originates. These deposits can be in the form of either swap agreements or direct deposits. The first requires the borrowing bank to surrender or "swap" domestic currency for the Eurocurrency deposit of the central bank, often with a repurchase agreement for the authorities to buy back the deposit at a specified date. By varying the spread between the spot rate at which it sells Eurocurrencies to its banks and the forward rate at which it repurchases them, the central bank can create an incentive for the banks to deal with it. This has been done, notably by the Germans, who used the technique to push their large accretions of dollar reserves back out into the market, soaking up DM liquidity in the process. Only too often, however, these dollar funds wound up back in the Bundesbank's coffers. In addition to swaps, central banks also can make direct deposits of Eurocurrencies with any commercial banks (in any country) that will take them on the terms offered. Finally, the depositing procedure can be less direct, the foreign currency deposits being placed with an international organization that redeposits them in commercial banks. Both the Bank for International Settlements (BIS) and the European Investment Bank (EIB) have played this role.

Foreign central banks have continued to have a fairly important position as suppliers of Eurocurrency, particularly Eurodollars. Because of generally high interest rates available, the Eurodollar deposit represents an attractive form in which to hold a nation's official dollar reserves. Through most of the 1960's--through 1970, in fact--the most important suppliers of the market in this fashion were the central banks of the industrial countries. Eventually, however, the logic of their activities penetrated the central bankers' thinking, when they saw funds which they had placed in the market returning, with obvious inflationary effects. The placing of dollar reserves as Eurodollar deposits merely recycled them along paths by which they had arrived in the first place. An agreement was reached among the central bankers of the developed countries to cease and desist, and to "wind down" their placements in the Eurodollar market.

At the same time, however, the LDCs as a group began to experience heavy additions to their dollar reserves, especially in 1971. Having no reservations about the Eurodollar market, which affects their monetary systems much less directly than those of the developed countries, they began to make heavy placements in the market. As a result, the total of estimated official holdings in the Eurodollar market has risen virtually without interruption since at least 1964.

The following tabulation shows IMF estimates of official holdings of Eurodollars and "unidentified" foreign exchange reserves which may have a Eurodollar component (in billions of dollars):

	1964	1966	1968	1970	1971
Identified Eurodollar holdings:					
Industrial Countries	0.8	1.4	2.3	4.9	3.5
LDCs	0.5	0.7	1.3	4.2	5.8
Total	1.3	2.0	3.6	9.2	9.3
Unidentified item	-0.6	-0.4	-1.1	2.8	8.0

Source: International Monetary Fund, Annual Report, 1972, p. 30.

The second major type of supplier in the Eurocurrency market is the commercial bank. While commercial banks are primarily intermediary borrowers of Eurocurrency, they may also act as suppliers by purchasing foreign currency in the exchange market. The swaps described above are a variation on this. These funds may then be used for intermediary purposes or to finance foreign or domestic trade. Commercial banks also may supply the market through their foreign branch banks. In this case they place domestic funds with overseas branch banks. The principal motivation for commercial banks supplying funds to the market is the likelihood of a gain in yield with little or no loss in liquidity and safety. Commercial banks normally act as suppliers only when an interest arbitrage differential is present. This differential may exist between Eurocurrency rates and those of domestic currency or, possibly, between different types of Eurocurrencies. Although banks employ these funds for arbitrage purposes this does not result

in a weakening of the commercial banks' liquidity, because Eurocurrency deposits at call or with short maturities can be retrieved easily.

The final category of Eurosuppliers consists of non-bank institutions such as corporations and individuals. As international business expands, so do the foreign deposits held by corporations and individuals. These deposits, whether used for operations or reserves, may enter the Euromarket whenever placed in a commercial bank which is foreign to the currency. The most notable examples of firms acting as suppliers are non-U.S. firms holding large dollar reserves for liquidity as well as yield purposes, and foreign subsidiaries of U.S. firms generating and holding large balances of dollars abroad.

The demand for Eurocurrencies.--Demand for Eurocurrency is broken into two major categories. The first category consists of those demands placed on the market by banks, whether for redepositing or final usage. Banks acting as intermediary users borrow funds only to redeposit them. As final users, however, banks demand funds which they will eventually remove from the Euromarket. The second category covers those demands placed on the market by non-bank institutions, generally in final usage form. Non-bank institutions are federal and municipal authorities, business enterprises, and, on occasion, very wealthy individuals. Governments, while active suppliers of Eurocurrency, are relatively small users. However, they do borrow on occasion for various purposes, perhaps to cover budget deficits or benefit from interest rate differentials. The business enterprise uses Eurocurrency to help supplement both domestic and foreign operations. Individuals seldom

undertake transactions in Eurocurrency even though the opportunity is open to them, because transactions generally are conducted in very large standard amounts.

Commercial banks of various size in various countries welcome the opportunity to borrow in the Eurocurrency market. Although the interest rates paid on these loans may be considerably higher than those allowed on domestic currency deposits, the availability of these funds, along with the relative ease with which they can be negotiated, make them increasingly important. Obtaining traditional bank credit in a foreign country, even for banks in good credit standing, is a complex process, demanding time and commitment. Often credit is totally unavailable at prevailing rates. However, banks of first-class standing can borrow Eurocurrency deposits in minutes if standard maturity dates are followed. Eurocurrency availability to banks is as flexible as the banks' willingness to pay. Although borrowing limits between banks do exist, a bank can borrow simultaneously from a number of different lenders; therefore, the total available is almost unlimited. Although when acting in a redepositing capacity, a commercial bank needn't borrow the Eurodeposits from another commercial bank, it must lend to another commercial bank or to someone who will allow the deposit to remain in a commercial bank in Eurocurrency form. The purpose of this lending is to reduce risk while still realizing an acceptable profit through slight interest differentials.

In recent years there have been several new developments in this type of intermediary lending. Occasionally banks will borrow and then re-lend with no apparent attempt at profit for the sole reason of keeping their name in the markets' eye or to maintain and strengthen some desirable relationship. Also, and of much greater importance, is the trend towards borrowing at short-term and lending at medium-term which has recently gathered considerably strength. The movement in this direction appears to have been stimulated through pressures placed upon commercial banks by business borrowers to provide them with term loans. The inherent risks of such operations are in question, the major worry being the increased possibility of a liquidity crisis. Where such actions (in domestic monetary systems) in the past have resulted in a loss of liquidity on a domestic scale, there is little more than speculation as to how they will affect, or if they will affect, an international market of this size. Finally, with the introduction of medium term loans there has been an increased number of loan agreement clauses providing for renegotiation every few months of the rate at which the funds were extended. These renegotiations offer the lender a protective device against upward movements of interest rates. It also acts as a protective device for the borrower when rates fall.

Banks also use Eurocurrency credits to finance foreign trade operations. Since the banks' total credit base is increased by Eurocurrency deposits, they are able to increase lending in both domestic and

foreign currency. This also provides a greater ability to meet customers' foreign currency needs. The customer, who previously was required to make payment in foreign currency and had found it nearly impossible to gain credit abroad and too costly to buy forward, now can borrow foreign funds in Eurocurrency form directly from a domestic commercial bank. Another operational advantage granted banks through their access to the Eurocurrency market is that they are able to balance their foreign exchange commitments more efficiently than by conventional borrowing. This enables them to avoid buying currency when the exchange market is against them.

The further expansion of the Eurocurrency market over recent years has done more than just offer an efficient lending instrument to commercial banks; it also has increased the volume of funds available for different arbitrage purposes. In past years the lack of substantial funds available for these purposes has allowed large discrepancies to arise between forward rates and their interest parities. These funds were at a minimum since foreign exchange departments were allocated only a small amount of working capital for arbitrage purposes, and increased allotments come only with a very high bookkeeping interest rate on the amount. The availability of Eurocurrency deposits thus has had the tendency to reduce interest rate differentials by increasing the market's ability to conduct arbitrage among them, through the Eurocurrency market.

Traditional interest arbitrage occurs whenever a holder of currency deposits converts them into Eurocurrency deposits, or the reverse, in order to take advantage of a rate difference. There are other types of arbitrage which have risen in importance since the expansion of Eurocurrency. Short-borrow/medium-lend, discussed earlier, is considered a time arbitrage. Whether it is carried out in one currency or between several, its basic justification still rests on the fact that short maturity rates are lower than long maturity rates. Thus, if funds can be borrowed and reborrowed at short maturities and lent on one long maturity loan, a profit can be realized. Another type of arbitrage worth mentioning is space arbitrage, which involves taking advantage of the discrepancies between various markets' quoted rates for a certain Eurocurrency. This type of discrepancy exists because Eurocurrency rates are occasionally affected by local factors in various markets.

Eurocurrency deposits also serve as an excellent bridge between the first and second categories of demand, banks and non-banks. They help meet the domestic liquidity needs of banks, aiding them in meeting the demands placed upon them by non-banks. Originally, Eurocurrency deposits were used almost exclusively for financing foreign trade. Later, they were found to be more and more useful in indirectly meeting demands for domestic currency by acting as part of the banks' credit base. Eurocurrency may also serve only for window-dressing purposes, when it is periodically borrowed by banks for a

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short length of time to generate large reserves, only for appearance's sake. This permits the ability to gain additional liquidity at year-end to give strength to financial statements without disrupting other investments.

The second category of demands consists of those placed on the market by non-bank institutions. Governmental borrowing of Eurocurrency has been of little magnitude. In the cases where it has occurred, specific reasons have always been quite clear. For instance, the United Kingdom local authorities, among the more consistent governmental borrowers, employ the market for interest arbitrage purposes. After they borrow Eurodollar deposits, swaps are made for sterling thereby generating the same results as short-term domestic loans. This type of operation can be recognized as arbitrage between Eurodollars and the domestic money market.

Another non-bank institution which generates heavy demand for Eurocurrency is the business enterprise. Whether acting in an importing-exporting capacity, or in a far more internationally developed form such as a multinational corporation, the business enterprise still has Eurocurrency available for financing purposes. It uses Eurocurrency to finance both foreign trade and domestic business, the later use having grown rapidly in importance in recent years. Since the beginning of international trade, there always has existed the problem of currency acceptance, since the seller of a commodity wanted payment in his local currency and the buyer had the inconvenience and cost of

complying. In the past, unless the buyer was willing to buy and hold spot exchange (with its attendant risks), he depended upon the ability to obtain currency credit abroad, which was often difficult, or the ability to buy forward currency for a particular date, which was often expensive. However, the expansion of the Eurocurrency market provides a third means. The borrowing of Eurocurrency enables firms to make payment in those currencies and thus postpone covering requirements until exchange rates have adjusted more to their liking.

Several factors may entice an enterprise to follow the Eurocurrency path of financing. The primary factor is the presence of a sizeable interest differential between Eurocurrency loan and direct currency credits of similar denomination and risk. Even though firms of immense size and of multinational stature cannot obtain Eurocurrency loans at market rates (they have to pay, in normal conditions, anywhere from 1/2 percent to 2 percent more than deposit rates) they still are able often to borrow at favorable rates compared with those on direct foreign credits. This is true in English and American currency, and possibly to a greater extent in other currencies. Many experts feel that this aspect of the Eurocurrency markets, made feasible by Eurobanks' acceptance of smaller margins between deposit and lending rates than is customary in domestic markets, has acted as one spark which induced the rapid expansion of the market over the last few years.

A second factor, crucial in generating business demand for Eurocurrency, has been the commercial bank's inability or unwillingness

to make available the volume of credit sought for foreign lending. For example, U.S. commercial banks have been limited in their freedom to make foreign loans by the imposition of the United States credit restraint programs. Foreign firms and U.S. subsidiaries had previously used U.S. credit abroad for reserves and operations. With restraints in force, they may be forced into the Euromarkets even when the U.S. is in an easy money situation with no shortage of credit and low interest rates. As a result, the interest differential between Eurodollars and national interest rates has lost some of its importance in governing the demand for Eurodollars by firms operating abroad.

A third factor increasing the demands upon the Euromarkets is the availability of domestic credit to domestic firms--or the lack of it. When domestic industry finds it hard to obtain credit due to a tight monetary policy, it may turn to other sources, including the Euromarket. Firms have found it advantageous in times of tight money to locate and obtain currency in their local denomination in the Euromarket abroad. Another similar operation is the increased domestic usage of foreign currency by firms. While in the past all domestic business was conducted in domestic currency, it now is desirable and possible in some cases to buy and sell with a foreign currency, when that currency is is acceptable to both parties involved. The currency used most frequently for such operations has been the Eurodollar. Such actions have raised the question whether national monetary policies may not be irreparably eroded by this escape mechanism. That some such erosion has occurred is beyond question.

Estimated size of the Eurocurrency market.--Measuring the size of the Eurocurrency market is a complicated task. The data most needed for measuring the market are those involving the foreign currency positions of banks vis-a-vis non-residents. In addition to the difficulty of gathering these data from diverse banks throughout the world, a number of conceptual problems arise. In the first place, prior to the establishment of the market, commercial banks always had maintained some mutual foreign currency accounts with correspondents in other countries in the normal course of economic activity. The extent to which the market is composed of these balances is not known; it is clear, however, that banks may have foreign currency assets and liabilities that are not connected with their Eurocurrency activities. Secondly, due to the intermediary position frequently taken by banks, there is the problem of double counting. When banks redeposit funds over and over, there is a need for adjustment of statistics. Finally, adding to these inadequacies, there is a complete lack of data reflecting Eurocurrency transactions between a commercial bank and residents of the country in which the bank operates.

In the absence of any definitive statistics, the annual reports prepared by the Bank for International Settlements give, probably, the best measure of the size of the Eurocurrency market, including specific statistics on the Eurodollar market. The BIS gathers and compiles asset and liability figures in such a way as to indicate the role of the sources of the foreign currencies, which are, for the most part, bank liabilities, and the uses of the foreign currency, which are bank assets.

Table 4 presents the latest BIS estimate of the Eurocurrency market, stressing the origins and destinations of Eurocurrency flows. It attempts to correct the inadequacies and distortions stated above, depending however, to a large extent on estimates. Considered in the formulation of Table 4 were: (1) the downward adjustments of transactions vis-a-vis the United States, which were separate from Eurocurrency activities; (2) the double counting which arises when funds pass through more than one reporting bank on their way from original suppliers to final user; (3) the banks positions vis-a-vis domestic non-bank residents; and finally, (4) on the sources side, the Eurocurrency funds supplied by the banks themselves by switching out of domestic currency; and, on the uses side, the Eurocurrency funds employed by the bank for switching into domestic currency.

The estimated size of the Eurocurrency market as of December 1971 was $71 billion. This was a 26 percent increase over the previous year's estimate of $57 billion and representative of the rapid expansion over the last decade. These estimates, comparing the "inside" or European reporting area with the United States and the rest of the world, makes it possible to determine geographic movements of funds and fluctuations in these movements. It can be seen that a shift in the structure of the Market has been taking place during the three year period shown. Initially, the United States was clearly a net user of funds, to the extent of $16.8 billion in 1969, or 38 percent of the total market. On the other hand, the United States that year supplied only $4.1 billion, or 9 percent of the market. By the end

Table 4.--Estimated Eurocurrency market size

(billions of U.S. dollars)

	1969	1970	1971
Sources:			
Outside area 1/:			
United States	4.1	4.5	6.1
Rest of world	17.6	24.0	31.5
Total	21.7	28.5	37.6
Inside area 1/:			
Banks	10.7	15.0	18.2
Non-banks	2/ 11.6	2/ 13.5	1/ 15.2
Total	22.3	28.5	33.4
Grand total	44.0	57.0	71.0
Uses:			
Outside area 1/:			
United States	16.8	13.1	8.3
Rest of world	12.0	19.0	29.1
Total	28.8	32.1	37.4
Inside area 1/:			
Banks	7.1	9.8	14.5
Non-banks	8.1	15.1	19.1
Total	15.2	24.9	33.6
Grand total	44.0	57.0	71.0

1/ The BIS reporting area consists of eight countries: Belgium, France, Germany, Italy, the Netherlands, Sweden, Switzerland, and the United Kingdom.

2/ Including trustee funds to the extent that they are transmitted by the Swiss banks to the other banks within the reporting area and to the extent they are not reported as liabilities vis-a-vis non-banks outside the reporting area by the Swiss banks themselves.

Source: Bank for International Settlements, Annual Report, Basle, June, 1972, page 155.

of 1971, due to the large backflow of funds to the market in response to domestic monetary ease in the United States, the United States became much more balanced in the "source" and "use" columns ($6.1 billion vs $8.3 billion). Although the 1971 column shows that the European reporting area is almost in balance, this is not indicative of the individual countries in this area since the United Kingdom, Germany, and Belgium are very large net users while Switzerland is a large net supplier.

Eurodollars.--The Eurodollar, the first Eurocurrency to develop, has always had the largest individual market in the Eurosystem. 1/ The dollar component of the system rose to $54 billion in 1971, thus representing 76 percent of all Eurocurrencies outstanding. The market is not geographically located in any one area, although its major financial centers have tended to locate in large European cities such as London, Paris, Geneva, and Frankfurt. London, already possessing highly developed money and foreign exchange markets, is the only market in which large Eurodollar transactions can be made at any time in both directions.

Early major stimuli to Eurodollar market growth were the United States balance-of-payments deficit and Federal Reserve Regulation Q. The balance-of-payments deficit made available to the world a large quantity of U.S. dollars. These dollars--to the significant extent to which they did not move into official reserves--created an excellent

1/ Other significant eurocurrencies are Sterling, DM, French and Swiss Francs, and Dutch Guilders. Of these, Eurosterling is the most important.

ace for the development of the market. Regulation Q prohibits the payment of interest on bank deposits of less than 30 days and sets maximum permissible rates of interest that can be paid on time and savings deposits in the United States. It thus prohibits U.S. time deposit rates (including CD rates) from responding to demand and supply after the maximum ceiling point has been reached. Since investors have been limited in interest compensation by a fixed ceiling, they have tended to look for more attractive markets to invest in, and the Eurodollar market was a result. In October of 1962, in an attempt to reduce the flow of funds from U.S. banks to the Eurodollar market, there was a partial relaxation of Regulation Q. Time deposits made by foreign governments and certain international financial institutions were made exempt from the interest ceiling. Although Eurodollar rates have their ups and downs, they generally remain substantially higher than any domestic rates offered. Hence, the incentive for U.S. residents to move dollar funds into the Eurodollar market has persisted almost without interruption.

Whereas most transactions denominated in other currencies can be explained by risk and return factors, or by specific inadequacies in domestic money markets, the overwhelming acceptance of the Eurodollar is traceable in large part to its use as a vehicle currency, a currency used in financial transactions between countries which are foreign to it. Theoretically, any convertible currency can assume this role, but widespread acceptance depends on several characteristics which presently make Eurodollars the most satisfactory. The first characteristic is

that the supply of a vehicle currency must be large enough to meet both domestic demands as well as vehicle currency demands. Second, the costs associated with the vehicle use of a currency will be low enough and sufficiently stable only in the case where that country's money market is large enough to handle erratic demand movements without undue disturbance of domestic monetary conditions. Instability in demand could be fatal to an economy of a small nation, with a small money market that might be unable to absorb the change.

One final aspect exclusive to Eurodollars is the ability of their rates to affect other Eurocurrency rates. Because of their relatively small size, other Eurocurrency markets tend to have rates which are largely determined by their own forward rates plus the Eurodollar rate. More specifically, most Eurocurrencies' rates are calculated by adding (or subtracting) the currencies' forward discount (or premium) to (or from) the Eurodollar rate. This, in fact, can lead to Eurocurrency rates moving in the opposite direction from that of national interest rates, which is visible evidence of the Eurodollar market's "integrator" function.

The Growth of Multinational Banking

The progressive integration of the world's major money and capital markets during the past decade or so may be interpreted as an economic phenomenon. It has its insititutional counterpart in the rapid expansion not only of multinational business, which has been a major force in the stimulation of truly "international" finance, but also of

multinational banking. The focus here is on multinational commercial banking, but it should be borne in mind that the investment banking field, too, has undergone a similar development. Merchant banking, a kind of cross between the two types of banking enterprise in which the British excel, always has been a largely international business. Perhaps "multinational" before their time, the merchant bankers have reaped great benefit from the fast growth of international business around them. The simultaneous, parallel growth of both business and financial firms into international "space" has important symbiotic elements, of course. The one serves the other.

The overseas movement of U.S. banks and U.S. firms, both of which proceeded at a pace that quickened notably in the second half of the 1960's, exemplify this symbiosis best. A key reason for the widening of the international branch networks of the major U.S. banks has been to serve the banking needs of similarly expanding U.S. business firms, especially those in the manufacturing sector.

As recently as 1960, overseas branching was not a predominant characteristic of the international business conducted by most of even the largest U.S. banks. At that time, only two large banks--the Bank of America and the First National City Bank of New York--had decisively moved in the direction of setting up foreign branch coverage that could accurately be called "networks." Other banks had foreign branches--sometimes multiple ones--but their structure of branch operations did not yet reflect a commitment to use branch operations as the principal path of international expansion. Most banks, even those with enviable

reputations in international banking, still preferred to develop their foreign business through widespread correspondent banking that had been developed in a time when most international banking activity was concerned with financing foreign trade of the traditional, arm's-length variety. Through correspondents, a bank could process collections, letters of credit, and a certain amount of foreign loan activity with reasonable efficiency.

Two developments changed the background to international banking during the 1960's, however. The first was the increasingly sophisticated development of international business itself. This generated new corporate financial needs which were not best serviced through the correspondent banking system. Companies with coordinated international financial operations needed similarly coordinated banking support. At the same time, multinational business bred a new generation of corporate treasurers who are well informed about international banking. They began to see traditional international banking procedures as unnecessarily time-consuming and costly. They balked at transfer delays. Knowing that a customer--possibly their own affiliate--had paid a debt with "good funds" in London last night, they wanted "good funds" credited to their account in New York tomorrow--not next week--and they did not care to see these balances eroded away in transit by "banking" charges that could aggregate to a sizeable amount relative to a transaction's value. As a result, pressure was put on the banks to streamline their operations. In fairness, it should also be noted that many innovative bankers helped push this process along, often providing the spark which alerted company officials to the possibilities of cutting

the costs of international financial transactions.

The second development that altered the international banking climate was the growth of the Eurocurrency market itself. The only way for a bank to obtain a proper piece of that action was to be there. Moreover, as the events of 1969 showed, the ability to use foreign branches as a source of dollar funds when monetary conditions were strongest in the United States led to demonstrable advantages, and set off a boom in branching activity.

These two developments went together. Neither one was primarily causal in the sudden growth of multinational branching by U.S. banks. In fact, the rapid speedup of the branching process itself led to new kinds of business and new developments, so that the entire process of increasing multinationalism on all fronts fed upon itself. In Europe, for example, the U.S. banks were practically the only ones which have had a branch "presence" in nearly all the important countries. As a result of this, they found it much easier than did local banks to move money around the continent to where the needs--and banking profits--were. Thus, when money was tight in Germany and loan rates were high, the Frankfurt branch of Bank A could arrange with its Brussels sister to loan dollars to a German customer direct. Bigger German banks, without Brussels branches, could not match this service.

The result of all these developments has been a vast increase in the number and financial resources of U.S. banks' foreign branches--along with a wholesale shift in American bankers' outlook, towards using branching as the principal device for expansion of their foreign

business. Banks joined the other MNCs as heavy direct investors abroad. Data showing the development of foreign branch banking between 1966 and 1970 indicate that the number of branches of U.S. banks abroad more than doubled over the period, from 244 to 536 (Table 5). At the same time, total assets/liabilities of the branches, worldwide, more than quadrupled, from $12.4 billion to $52.6 billion. In 1970, three quarters of the total asset figure was accounted for by branches in Europe. Also notable was a substantial expansion of branch activity in the Bahamas, which is close to the U.S. geographically, close to Europe technologically and institutionally, and has a minimum of regulations and restrictions.

Some $36.5 billion, or nearly 90 percent, of the foreign branches' total deposit liabilities in 1970 took the form of time deposits, the form in which Eurocurrencies normally are held. This testifies to the heavy activity of the branches in the Eurocurrency markets, especially the Eurodollar market. Time deposit liabilities accounted for nearly 70 percent of the total liabilities of the branches of U.S. banks in 1970, and about 80 percent of these were held in U.S. banks' European branches.

There are some important differences between the asset and liability structures of U.S. branch banks overseas and those of commercial banks generally in the United States. These differences are attributable mainly to the heavy activity of the branches as intermediaries in the Eurodollar market. In general, such activity leads to heavy reliance on time deposits relative to other deposit liabilities, strong

Table 5.—A profile of U.S. Banks' expansion abroad, 1966-1970

(amounts in millions of dollars)

	Total	United Kingdom 1/	Other Europe	Bahamas	Latin America	Far East	Rest of World
Total number of branches:							
1966	244	22	26	NA	102	57	37
1970	536	44	72	61	223	79	57
Total assets/liabilities:							
1966	12,384	6,445	2,022	NA	1,052	1,808	1,057
1970	52,611	29,668	9,496	4,421	2,055	4,423	2,548
Of which cash:							
1966	1,732	1,057	318	NA	173	NA	184
1970	13,625	8,934	2,826	1,306	265	157	137
Loans:							
1966	4,951	2,169	753	NA	576	845	608
1970	20,414	11,340	2,604	2,217	1,129	2,152	972
Amounts due from head offices 2/:							
1966	4,951	2,613	360	NA	85	395	1,498
1970	8,565	5,653	1,145	422	38	437	870
Demand deposit liabilities:							
1966	2,669	895	589	NA	437	402	346
1970	4,931	1,816	1,082	115	684	769	465
Time deposit liabilities:							
1966	7,411	4,832	976	NA	342	717	544
1970	36,548	23,568	5,976	3,779	438	1,276	1,511
Amounts due to head offices 2/:							
1966	607	55	47	NA	92	259	154
1970	1,745	1,194	35	92	78	178	166

1/ Including Ireland.
2/ Includes amounts due to/from other branches.

Source: Federal Reserve Board, as reported in Journal of Commerce.

cash positions, and weak loan positions, as Eurodollars may be lent in the interbank market simply as placements of deposits with other banks. Whereas the branches as a group show time deposit liabilities as nearly 90 percent of their total deposits, the comparable figure for commercial banks in the United States is only 48 percent (1970 figures). Similarly, the branches in 1970 held 33 percent of their assets in the form of cash; the comparable figure for U.S. domestic commercial banks was only 19 percent. About 55 percent of the branches' total assets appeared in their loan accounts, a proportion not much different from the 54 percent reported for domestic banks. However, a large proportion of these loans was "captive" in the form of loans to head offices in the United States. Excluding these, the proportion for the branches of loans to total assets drops to under 40 percent.

In addition to the ordinary elements of commercial banking, the U.S. banks operating overseas have engaged in an immense variety of new services and activities. As the expansion of multinational business proceeded, often on the part of nonbank firms with little prior exposure to international business or foreign investment, the banks began to offer their services as consultants, investment counselors, and promoters in general, particularly to advise multinational corporations on the techniques of International Money Management (IMM).

Taking advantage of relaxed banking laws in some countries and the Edge Act in the United States 1/ the banks have become involved in

1/ The Edge Act permits U.S. commercial banks to establish domestic subsidiaries strictly to conduct international business, with considerable relaxation of restrictions on the kinds of activity in which they can engage. Edge Act subsidiaries have proliferated in recent years, although the enabling legislation has been on the books for many decades.

many species of investment banking operations, including both medium- and long-term financing of capital projects. They have led in the development of leasing techniques abroad. Finally, the U.S. banks operating abroad have become major purveyors to customers of economic, financial, and credit information--intelligence organizations of some skill.

Foreign bankers have responded competitively. Including branches, representative offices, subsidiaries and shareholdings in foreign banks, the U.S. banks have a presence in an estimated 2,000 foreign banking offices of one sort or another. British bankers, with the legacy of their own banking system's strong international position, have a similar presence in around 5,000 places. Elsewhere, foreign banking traditions, especially in Europe, put a strong brake on multinational branching or mergers. But tie-ups of various sorts among foreign banks have begun to increase in recent years. They range across the spectrum from gentlemen's agreements on "close cooperation," to the establishment of new multinationally-owned banks which--notably indeed in light of the development of the Eurocurrency and Eurobond markets as hallmarks of international financial integration--are strongly oriented to medium- and long-term financing as well as investment banking, plus services specifically geared to the requirements of multinational enterprises.

Table 6 is a partial listing of 18 of the more important, truly "multinational" banks--i.e., banks with ownership by persons of more than one nationality. All are creations of other banks in different

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Table 6.--A listing of 18 banks with multinational ownership

1. Midland and International Banks Ltd.

   Founded---------------------------------- 1964
   Headquarters-------------------------- London
   Participating nationalities----------- British, Canadian, Australian

2. Ameribas Holding S.A.

   Founded---------------------------------- 1966
   Headquarters-------------------------- Luxembourg
   Participating nationalities----------- American, French

3. Societe Financiere Europeene S.A.

   Founded---------------------------------- 1967
   Headquarters-------------------------- Paris
   Participating nationalities----------- American, British, German, French, Italian, Dutch

4. International Commercial Bank Ltd.

   Founded---------------------------------- 1967
   Headquarters-------------------------- London
   Participating nationalities----------- American, British, German

5. Compagnie Internationale de Credit a Moyen Terme S.A.

   Founded---------------------------------- 1967
   Headquarters-------------------------- Lausanne
   Participating nationalities----------- American, British, German French, Belgian, Italian, Swiss, Luxembourgeoise, Swedish, Norwegian

6. Banque Europeene de Credit a Moyen Terme

   Founded---------------------------------- 1967
   Headquarters-------------------------- Brussels
   Participating nationalities----------- British, German, French, Italian, Belgian, Dutch

7. Manufacturers Hanover Bank

   Founded---------------------------------- 1968
   Headquarters-------------------------- London
   Participating nationalities----------- American, British, Italian

Table 6.--Listing of multinational banks (cont.)

8. European-American Banking Corporation

Founded------------------------------- 1968
Headquarters-------------------------- New York
Participating nationalities----------- British, German, French, Belgian, Dutch

9. Partnership Pacific Ltd.

Founded------------------------------- 1969
Headquarters-------------------------- Sydney
Participating nationalities----------- American, Australian, Japanese

10. Union Internationale de Financement et de Participation

Founded------------------------------- 1969
Headquarters-------------------------- Paris
Participating nationalities----------- American, British, German, French, Italian, Belgian, Swiss, Canadian

11. Atlantic International Bank Ltd.

Founded------------------------------- 1969
Headquarters-------------------------- London
Participating nationalities----------- American, British, French, Italian, Dutch

12. Rothschild Intercontinental Bank Ltd.

Founded------------------------------- 1969
Headquarters-------------------------- London
Participating nationalities----------- American, British, Belgian, French, Dutch, Swiss, Japanese

13. London Multinational Bank

Founded------------------------------- 1970
Headquarters-------------------------- London
Participating nationalities----------- American, British, Canadian

14. United International Bank

Founded------------------------------- 1970
Headquarters-------------------------- London
Participating nationalities----------- American, British, German, French, Italian, Dutch, Canadian

Table 6.--Listing of multinational banks (cont.)

15. Orion Bank Ltd., Orion Multinational Services Ltd., Orion Termbank Ltd.

Founded	1970
Headquarters	London
Participating nationalities	American, British, German, Italian, Canadian, Japanese

16. European Banks International Co.

Founded	1970
Headquarters	Brussels
Participating nationalities	British, German, Belgian, French, Dutch, Austrian

17. Euro-Pacific Finance Corporation

Founded	1970
Headquarters	Melbourne
Participating nationalities	American, British, German, Belgian, Dutch, Australian, Japanese

18. Centrofin

Founded	1971
Headquarters	Vienna
Participating nationalities	British, French, Italian, Japanese, Spanish, Austrian, Polish

Source: K. Saito, "Internationalization of Banking," Fuji Bank Bulletin, October 1972, pp. 178-179.

countries. Americans are represented in 13 of the 18 institutions listed.

The MNCs' Financial Needs and IMM Practices

So far in this chapter, the MNCs themselves--i.e., U.S. corporations with direct investments abroad--have received scant mention so far as their activity in the international financial markets is concerned. The objective of the discussion so far has been to establish and describe part of the framework within which the MNCs operate--and which they have themselves had a large hand in creating. As indicated, it comprises a steadily more integrated world of international finance, supported by a fast-expanding network of international--not to say multinational--banking institutions. The questions now at hand are, "What kinds of activities do the MNCs engage in, within this framework?" and, "Have they changed the framework itself?"

The large multinational corporation is involved in a multitude of financial activities that transcend national boundaries and involve dealings in both long- and short-term funds. For purposes of exposition, however, it is better to think in terms of a process which begins with planning and ends with involved activity. This process begins with some form of strategic thinking on the part of management. It usually takes place at least once a year, and can vary from "budget" discussions to full-fledged planning of a very sophisticated sort.

For any firm with international production facilities, one fundamental decision--an operating decision with strong financial implications--has to be made and held to for fairly long periods. That

decision concerns the firm's locus of profit responsibility. Is final accountability to be placed with the manager or head of each local branch or subsidiary; with a regional headquarters; or with the corporate headquarters in the United States? From a financial point of view, much hangs on this decision. On the one hand, if the firm decides to grant maximum autonomy to its local managers abroad, then it forecloses the possibility of centralized financial management in the interests of the corporation as a whole, except possibly for the most fundamental investment decisions. Obviously, if the local manager's performance is to stand or fall on his contribution to profitability, he will demand--and should get--nearly total control, including financial control, of his operation, lest his position become untenable. On the other hand, the corporation can maximize its control over its far-flung financial activities only if it centralizes profit responsibility, so that the performance of the corporate treasurer and his finance department is integrated into the overall profit performance of the firm as a worldwide whole.

Many firms do not yet practice centralized control although the trend is in that direction--as any big bank's IMM consultant staff will quickly point out. Centralization is more or less a matter of corporate maturity and corporate size. Small firms with small headquarters staffs and only a few direct investments usually will prefer to hire a good manager and let him go, with full profit responsibility. The same often is true of very rapidly expanding firms, on a path of fast overseas growth, which have not yet taken the time

to reorganize their corporate management structure sufficiently to provide for centralized control.

A large, mature corporation, however, one with a fairly sizeable network of overseas branches and/or subsidiaries and with considerable international experience usually begins to think in terms of centralized management. Its objective becomes the profitability of the organization as a whole rather than the individual performances of overseas holdings engaged in unseemly and possibly unprofitable competition with each other. From this viewpoint, centralization becomes a _sine qua non_ for efficient IMM.

Assuming that the decision to centralize has been made, the process of corporate planning typically involves detailed inputs from the foreign subsidiaries, including sales forecasts, related production plans, and investment plans. In very large MNCs, these plans are coordinated and cleared by regional management staffs before being brought to the corporate headquarters in the United States. Finally, however, the process leads to detailed plans which are approved at headquarters and become the operating Bible for the firm over the course of the plan period--which usually has linked phases extending from the operating year (for which plans are most complete) out to three, five or ten year horizons.

The financial aspects of the plans are complex, for a large firm, with each subsidiary having an operating budget to which it is expected to conform. One of the primary targets of the firm as a whole concerns capital investment. Investment decisions are taken fairly far in advance, whence they are built into operating goals. Decisions about

capital spending obviously are built into the planning process. If investment is to be financed out of internally-generated funds, it must be decided where these funds are to be generated within the overall corporate structure, and whether the source is to primarily depreciation charges, retained earnings, or some combination of the two. If retained earnings are involved, the profit remittance policies of the company clearly are affected. Decisions also must be made on how much capital is to be transferred from the parent organization, how much is to be borrowed in the parent country, and how much abroad. Guidelines are required for changing these decisions in the course of the plan period, should capital market conditions change, and systems must be set up to effect such changes. All of these, essentially, are questions about "cash flow" which, in the centrally-managed corporation, is planned, watched, and manipulated by the headquarters organization.

In sum, the long-term planning of investment merges with the short-term management of cash flow in the ongoing financial life of the firm--and it is the job of the corporate treasurer's department to watch over it all. It is important to note, however--and this often is overlooked in discussions of IMM practices--that most modern corporations work against fixed plans covering all aspects of the business over a fairly long term. The plans are flexible, and they allow for much reaction to current developments, but they are there, and corporate management generally has a clear notion of where it wants to go.

The financial sides of corporate operations are closely inter-

twined with the firm's banking relationships. Typically, a large corporation will have a "lead" bank, with which it maintains large balances; and on which it depends for a variety of financial services. It also will have accounts with one or more other banks--each vying with the others and with the lead bank for a larger share of the firm's business--which gives the firm some optional control over the institutions through which transactions will flow. Each of the firm's subsidiaries will have similar banking relationships, and one of them is likely to be with a foreign branch of one or more of the firm's banks at home. It is obvious but often forgotten that, except for some intracompany transactions treated as offsetting bookkeeping entries, any transaction made by a firm or its subsidiaries is made through one or more banks.

At one end of the financial spectrum, the firm borrows capital funds, to the extent that it has decided not to finance expansion out of internally-generated funds. There is a choice here, among three options: (1) to use the parent's domestic capital markets, thence transferring direct investment capital to desired locations abroad; (2) to use one or more of the local capital markets in which the existing subsidiaries are based; or (3) to borrow in the international market, perhaps through a "finance subsidiary" created by the firm specifically to float such issues. The actual route taken depends in the first instance on relative interest costs, net of any applicable taxes and underwriting costs. It always makes sense to borrow in the cheapest market. However, other factors enter. Regulations, such as

capital controls at home, may put a physical limit on the amount of capital that can be transferred abroad to a given location. Local capital markets may be too narrow to support a large borrowing. The international market may be insisting on sweeteners such as convertible issues, or it may prefer DM issues over dollar issues, which brings up for decision the question of whether the firm wants to risk a long-term debt in a currency that the market thinks is likely to appreciate. It is likely that, in the process of choosing from among these options, the firm will have coordinated closely with an investment banking house that has wide international connections and that, if an international issue is chosen as the path to follow, ultimately will put together a large, multinational underwriting consortium.

Still another factor may be involved. The distinction between "long-term" and "short-term" is not nearly as sharp as described so far. Medium-term financing has risen considerably in popularity. This usually means bank financing, probably abroad, and often with funds related to the Eurocurrency markets. It may involve term loans, or a portfolio of notes spread around to a number of banks (and possibly other financial institutions). It could take the form of simple short-term financing that is rolled over and over until it has that long-term look. It represents another choice for the firm in its financial planning. Often, this kind of financing is "privately placed" with little or no publicity. If so, observers cannot count it when they go about guessing how large the international financial markets really are.

Once a borrowing decision is made, the firm comes into possession of large amounts of funds which it must put somewhere until they are spent for their designated purposes. These now have become, from the firm's point of view, short-term or money market balances, and they thus merge with the other operating cash flows of the firm. What happens from now on essentially becomes the subject matter of IMM.

A distinction should be made here between "stocks" of funds and "flows" of funds. The "stocks" are the balances under the command of the firm at any moment. The "flows" are compounded of the movements of these stocks as well as the patterns by which the stocks are increased or decreased in response to the firm's worldwide operations.

For simplicity, the operational flow-generating mechanisms of the firm--i.e., payrolls, sales, payments for materials and components, interest flows, intracompany payments and all the rest--will be ignored temporarily in order to focus without distraction on what happens to the stocks which exist at any given moment. Since the stocks or balances of the firm are likely to be quite sizeable, financial officers are highly unlikely to hold them in idle, non-interest-earning forms, except for the necessary demand deposits needed to support current operations, which have just been assumed for the moment to have fallen to zero.

In deciding where to hold its balances, the firm has at least half a dozen money markets to choose from, as well as a much larger number of forms in which the balances can be held. Three factors will govern decisions about where the stocks will be allocated. First,

exchange rate, one so strong that a finance officer who knows the markets will see clearly that "speculative" pressures are building up for a possible revaluation on which a profit might be made--a profit possibly bigger than the interest earnings foregone.

In both these cases--high-interest-plus-weak-exchange-rate, as well as low-interest-plus-strong-exchange-rate--the final decision about where to place funds depends in the end on a weighing of risks against potential gains. It is subjective. Most corporate finance officers "go with the market" which is the ostensibly safe thing to do, unless the market is wrong, which usually is not the case. The more courageous but less numerous ones will follow their subjective instincts.

Financial decisions sometimes are easy to make. Weak-currency countries with low interest rates repel funds, while strong-currency countries with high interest rates attract them, and objectives do not conflict. The latter situation applied to West Germany in 1970-71. In retrospect, it seems hard to understand why anyone with available funds would not have placed them with the Germans in that period.

One reason for ignoring operational flows for the moment in this analysis has been to make the obvious point that decisions about where to put stocks of funds lead automatically to flows which can be significant, even before one begins to consider the effects of flows generated by the firm's day-to-day operations. The simplified analysis also serves to reveal the basic principles which govern the movements

because the operations of the firm come first (it is not a bank, but a business),the money ought to be put where it is going to be needed for future use, i.e., for future flows. This may not be an especially important factor, because transfers between and among money markets have become both simple and fairly low in cost in the modern world. One real constraint, however, is the element of time--one cannot invest one's balances for six months when he needs to spend them in three, except in the extraordinary case where he can earn more on the investment than it will cost him to borrow at short term to meet the three-month obligation. 1/ Second, relative interest rate levels on different kinds of instruments in different money markets will influence both the locations and the forms in which balances are held. Other things being equal, the firm clearly will go for the highest possible interest return on its balances.

Third, however, exchange risks intervene. The high-interest country may have a shaky exchange rate, which not only increases the risk of a loss on moving the funds ultimately into a needed currency, but also increases the risk that, to defend its exchange rate, the country in question may offer inducements for short-term capital to flow in, while placing controls on letting capital flow out again. Conversely, the low-interest country may have an exceedingly strong

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1/ Exchange risks have a bearing here. If one expects soon to make a payment denominated in a presently weak currency, it makes sense to hold off on that payment as long as possible in order to take advantage of any exchange depreciation that might occur. On the other hand, buying a strong currency now avoids having to pay more for it on the exchange markets later.

of the firm's funds: (1) the need to get funds to where they are needed, when they are needed; (2) considerations of interest returns available; and (3) foreign exchange market risks and opportunities.

These principles do not disappear when operational flows are reintroduced into the analysis. They continue to function because they govern where the firm will be holding its balances at any given moment, this structure of balances being determined ultimately by all the flows which have taken place up to that moment. Thus, the discussion almost could end here, except that there are some important side issues to explore.

The flows generated by the firm's operational activities--as opposed to the flows produced by its IMM-oriented financial managers--may not necessarily be oriented in directions dictated by IMM requirements. IMM is overlaid upon these operational flows. In some cases, the firm is able to direct or redirect the flows as they occur--a customer can be asked to direct his payments to any of the firm's locations, for example, provided that no additional costs for him are incurred. Similarly, all intracompany payments can be controlled as desired, with offsetting bookkeeping entries. In other cases, however, when operational flows give rise to balances in one spot, IMM-induced flows may well move these balances to other spots. The result is an increase in the overall rate of turnover of the firm's fund balances, so that the volume of transactions which passes through the national and international money markets is increased.

At the same time, however, there are volume-minimizing forces at

work. One of the primary objectives of IMM--an objective which has little if anything to do with the balancing of interest rates against exchange risks--is the rationalization of the structure of cash flows in such a manner as to keep down its costs. This is accomplished in a variety of ways.

Consider the firm which has no IMM procedures and no centralized financial control. The parent organization, with its domestic business, and the foreign subsidiaries--each operating with its own profits in view--all are at work, busily generating flows of funds into and out of national and international money markets, and across the foreign exchanges. Some of these flows relate to dealings with outsiders, and some are internal to the firm--i.e., intracompany payments. These flows incur costs, in one or both of two ways. A movement of funds through a bank or across the exchanges incurs a charge, generally a small one, but a charge nevertheless, that, when aggregated with all the others, can mount over a period of time to substantial amounts for a large firm. These charges have nothing to do with interest rates or exchange rate movements; they simply are the costs of making transactions. Lower than in the past, they still remain generally higher than the costs of transactions in a single, domestic money market. The second kind of costs involved is concerned with time. Transfers from one place to another, especially if they are not coordinated, take time. A payment ordered today could take a week to reach its destination as "good funds" in another country, depending on the route it follows. Until these funds are "good"--i.e., until the firm can draw

on them--there is a dead loss compounded of both the cash flow that is unusable and the imputed interest cost of not having that money available as an interest-earning asset.

IMM procedures can reduce these costs by eliminating duplicative transactions and by cutting down the time it takes to make them. The techniques available for doing this are legion. Intracompany payments are a prime target for rationalization. If detailed, frequent financial reports can be made to a headquarters from all the far-flung enterprises that it controls, duplicative and costly transfers within the company can be identified and eliminated by bookkeeping offsets and consolidation of payments. If foreign branch A is to make a payment to branch B, while branch B owes money to branch C, then it is a simple matter to cut the transaction flow by having branch A remit directly to branch C. In actual practice, of course, matters become a good deal more complex than this simple example, but the principle is unaltered. Techniques for reducing costly delays can be illustrated by the case of payments coming from outsiders such as customers. In the uncoordinated situation, customers are making payments to the firm from all over, to all over, depending on what branch of the enterprise happened to sell the goods. These funds are "collected," in bankers parlance, through many banks in many locations. In the coordinated situation, it is feasible in many of these transactions to ask the customer to remit his payment to a central address, whence the necessary documents can be moved through a single bank and collected in an organized way. Time delays thus are cut significantly.

The use of IMM essentially as a cost-cutting, rationalization tool has been termed the "tactical" phase of International Money Management. On balance, it probably has a good effect on the international financial system, contributing to its overall efficiency. On the other hand, the "strategic" use of IMM, which embraces the movement of funds as dictated by relative interest rates and exchange risk factors, may not have such a good effect inasmuch as it could tend to magnify the flows and send them in directions that are destabilizing from the viewpoint of the system as a whole. The estimation of these possible effects of "strategic" IMM will be considered in the next section of this chapter; in anticipation of that section, however, it is useful to examine some of the techniques that are available to the firm, acting as an MNC, for taking this kind of action.

It can be taken for granted that the MNCs operate in the international financial markets--the money markets, the capital markets, and the foreign exchange markets--with much the same techniques that all firms with international business employ. In this sense, the MNC behaves no differently from the ordinary trader, for example, except that it probably has bigger balances to play with. Thus, it reacts to market developments in the same way as the "small fellow," but with greater speed and with a heavier quantitative impact on the system. It moves more money faster.

In addition to these "normal" sorts of transaction techniques, however, the MNC (or a multinational bank), because of its unique presence in a number of countries on a continuing basis, has certain

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other powerful options available. With its far-flung operations, it is continually generating payments into and out of different markets and currencies, building up debt, liquidating it, and granting credits. The range of its financial interests is large and, most important, a considerable part of this range of transactions is internal to the firm as a whole--or subject to some control through internal firm decisions.

"Leads and Lags" are a case in point. A non-MNC firm dealing with foreigners has some opportunity to play this game, but it is limited. He can delay his payments to a weak-currency country and speed his payments to a strong-currency one for a time; but he cannot do so indefinately unless he can find someone--with whom he must deal at arm's length--to lend him the necessary resources as his debts fall due. The MNC, on the other hand, can instruct its subsidiaries to go on leading and lagging in their <u>intrcompany</u> payments for a very long time. When the subsidiary in the weak-currency country runs short, it can be told to borrow in its own domestic money market, which helps the firm as a whole to inflate its debt position in the weak currency, which is just what is wanted. Similarly, the strong-currency subsidiary may shortly be swimming in funds, which it can place in its local money market, thus building up the entire firm's assets in the strong currency, which also is to be coveted.

Variations on the basic theme of altering the timing of intracompany payments can be used across the whole spectrum of a firm's dealings. Intrafirm trade payments are only part of the picture. Interest and

dividend remittances, royalties and fees, and even capital flows can be affected. Moreover, as the above description of "leads and lags" suggested, the manipulation of timing in intracompany transactions can affect the firm's net positions vis-a-vis outsiders by changing the patterns of subsidiary borrowing and lending in different markets. Again, however, no mystery attaches to the reasons for such behavior. They result from the decisions taken by the firm to minimize interest costs, maximize returns, and avoid exchange risk. These are the basic motivations behind the behavior of any person or entity with balances denominated in currencies other than his own. If the MNCs make a difference for the system, therefore, it is a difference of degree rather than kind. All the rest--the entire field of dazzling IMM techniques and rituals--turns out to be mere technical embellishment which increases the efficiency of the international financial system but does not alter its character.

The Role of the MNCs in Generating Liquid Short-Term Capital Flows and International Monetary Crises

Since 1967, the international monetary system has been subjected to a series of shocks that have threatened its foundations, called into question the utility of the Bretton Woods Agreements of 1944 on which it is based, and, finally, forced the abandonment of the parity of its lynchpin, the United States dollar. The only comparable period of such strain on the system within living memory was that of the hectic international monetary history of the 1920's and 1930's. Indeed, the threat of a return to the disordered conditions of those two decades--and the fear of it--lend urgency and fire to the current debate about

just what is wrong with the present system. It should be clearly underlined, however, that despite the recurrence of severe international financial crises in recent years (especially since 1967), the economic troubles which beset the major countries in the 1920's and 1930's have been absent. Despite disruptions in the monetary sphere, world economic growth, world trade, and international investment have reached record levels.

The typical "crisis"

The international monetary crises of recent years have been more alike than different. They have so many characteristics in common that it is an easy matter to describe the "typical" financial crisis, which begins with a balance of payments disequilibrium between one country with a relatively large deficit and one or more countries with large surpluses, the counterparts of that deficit. National policies are applied with greater or lesser enthusiasm in order to correct this disequilibrium. Generally, they are applied more severely in the deficit country than in the surplus ones, and sometimes the policies applied by the surplus countries turn out to be perverse, from the balance of payments point of view. That is, they find themselves, despite payments surpluses, in inflationary situations which they attempt to combat with tight money and high interest rates. These kinds of policies work to increase rather than decrease payments disequilibria.

In any case, exchange rates begin to reflect the payments problems. The deficit country's rate becomes "weak" and the surplus

countries' rates become "strong." Under a par value system of the Bretton Woods type, exchange rates are fixed within the short run; in practice, the monetary authorities of the developed countries have attempted to keep them fixed in the long run too. Central banks have bent every effort to defend existing rates. In this process, the deficit country must sell off its reserves, while the surplus countries accumulate them.

In fairly short order, this process has led to huge and heavily disequilibrating flows of liquid short-term capital. Funds move away from the weak currency and toward the strong ones. The deficit country loses its reserves at a rapid rate; the surplus countries gain them equally as fast. The deficits get bigger, and so do the surpluses. Soon, the question of the appropriateness of policies to rectify balance of payments problems in the long run--or even the extended short run--becomes academic. Capital flows have depleted the deficit country's reserves and swelled the surplus countries' holdings to the point of unwelcomeness.

The Accusation Against the MNCs

Opponents of the MNCs argue that they play a crucial, destructive role in international monetary crises. The argument sometimes includes an accusation that they bear responsibility for at least part of the balance of payments problems that originally generate the crises, but this accusation is not central to the argument. Rather, the central point is that the MNCs are a source of the large flows of liquid short-term capital that are the proximate cause of the wreckage. Moreover, it is argued that these flows arise because the MNCs are predilected

toward sustained, unstoppable "speculative" attacks upon exchange rates. Thus, it is held, speculators, with the MNCs in the van, can cause enough havoc within the system to produce the threat of devaluations or revaluations of exchange rates even if underlying national economic policies are appropriate and severely enough applied to rectify the balance of payments disequilibria--if only the speculators would give them the necessary time, which they do not. 1/

The evidence

An evaluation of the allegations made against the MNCs should involve an analysis of flows of liquid, short-term capital as they show up in the balance of payments, isolating and measuring those flows that are attributable specifically to the MNCs. Unfortunately, this is not possible. Data for the flows attributable to the MNCs are not available. In this respect, central banks and governments are technologically inferior to the MNCs which, in their own operations, are able to gather, analyze, and act upon the information necessary to them.

There is a useful alternative, however. This approach, the one taken in the following analysis, involves, first, an identification of all those kinds of institutions--banks and business firms--which have dealings in the international money markets, as opposed to

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1/ Defenders of the MNCs are sensitive to these accusations and hasten to deny them. See, for example, The Economist, Oct. 31, 1970, pp. 54-55; Business Week, Sept. 25, 1971, pp. 82-107 (especially pp. 101-102), and Newsweek, Nov. 20, 1972, pp. 96-104. For a statement of the problem that is not necessarily accusing in tone, see Foreign Trade, A Survey of Current Issues to Be Studied by the Subcommittee in International Trade of the Committee on Finance, U.S. Senate, Washington, USGPO, May 14, 1971, p. 4.

strictly domestic ones. Once this identification is made, the next step is to add together, as accurately as possible, the total resources--assets and liabilities vis-a-vis each other--which these institutions have at their command. Essentially, this procedure estimates the amounts of short-term funds that can flow in a crisis situation. If the numbers turn out to be small, then it can be concluded that these institutions' financial muscle is overrated by the critics. If they are large, then it can be concluded at least that the possibility of disequilibrating behavior becomes strong. All that is left to ask in the latter two cases is whether this behavior is speculative. That is, do the MNCs speculate aggressively (by risking assets for financial gain), or do they merely react protectively, to guard their assets against possible loss in value due to an exchange rate change brought on by the underlying balance of payments disequilibrium?

At least seven discrete types of institutions can be identified as significant participants in the international money markets. These are:

1. United States commercial banks;
2. United States "nonbanks"--i.e., nonbanking business enterprises, including the parent firms of the MNCs;
3. Foreign commercial banks, not including foreign branches of U.S. banks;
4. Foreign governments, central banks, and international organizations;
5. Foreign nonbanks, the counterpart of U.S. nonbanks in (2) above;
6. Foreign affiliates of U.S. nonbanks--the MNCs' affiliates;
7. Foreign branches of U.S. banks.

Assets and liabilities of these groups should be included only to the extent that they are connected closely with the international markets,

either because of the nature of the institutions which hold them or because of the kinds of transactions from which they derive. Also, the balances measured should be defined as carefully as possible as those short-term, liquid items that could and would move across international boundaries in times of crisis. Thus, one should exclude reserve holdings of the principal central banks, even if they happen to be held as deposits in commercial banks, because it is highly unlikely that the major central banks would engage in speculation with those assets; they probably would remain so loyal to their fraternity that even protective movements against a weak-currency central bank would not take place.

The appropriate estimates for the seven sets of participants appear in Table 7. In accordance with the guidelines described above, the estimates for each have been made as follows:

United States Banks--all short-term balances with all foreigners, excluding foreign central banks and including foreign branches of the U.S. banks. Also included are small liabilities to nonmonetary international institutions such as the IBRD and IADB.

United States Nonbanks--short-term assets and liabilities with foreigners.

Foreign Banks--external (i.e., non-domestic) foreign currency positions of banks in eight European countries reporting to the BIS (Belgium-Luxembourg, France, Germany, Italy, Netherlands, Sweden, Switzerland, and the United Kingdom), plus Canada and Japan. These figures have been modified in two major ways. First, the ten countries' banks' positions with U.S. banks were subtracted and replaced in the totals by figures showing assets and liabilities of U.S. banks against all foreign banks. This extends the coverage of the estimates. Secondly, on the assumption that most foreign branch activity of U.S. banks is concentrated in these ten countries, the worldwide asset and liability figures for U.S. bank branches were subtracted from the totals and shown in a separate section of the table.

Table 7: Estimated short term asset and liability positions of principal institutions in International Money Markets, 1969-71

(Billion of U.S. dollars)

Holder of assets or liabilities	Denominated in dollars		Denominated in foreign currencies		Total	
	Assets	Liabilities	Assets	Liabilities	Assets	Liabilities
United States banks 1/:						
1969	8.9	28.1	0.5	0.2	9.4	28.3
1970	10.1	21.8	0.6	0.2	10.7	22.0
1971	12.1	15.8	0.9	0.2	13.0	16.0
United States nonbanks:						
1969	3.5	1.7	0.7	0.4	4.2	2.1
1970	3.6	2.2	0.6	0.5	4.2	2.7
1971	4.7	2.2	0.5	0.4	5.2	2.6
Foreign banks 2/:						
1969	3/ 64.9	3/ 52.3	3/ 10.7	3/ 10.6	3/ 75.6	3/ 63.0
1970	43.0	31.7	5.8	5.8	48.8	37.5
1971	44.3	38.3	8.4	8.2	52.7	46.5
Foreign governments, central banks, and international organizations 4/:						
1969	4.9	NA	0.4	NA	5.3	NA
1970	10.0	NA	2.8	NA	12.8	NA
1971	10.7	NA	8.0	NA	18.7	NA
Foreign nonbanks 5/:						
1969	7.3	6.2	NA	NA	7.3	6.2
1970	7.6	9.4	NA	NA	7.6	9.4
1971	6.8	11.4	NA	NA	6.8	11.4
Foreign affiliates of U.S. nonbanks 6/:						
1969	NA	NA	NA	NA	59.9	34.9
1970	NA	NA	NA	NA	80.6	46.9
1971	NA	NA	NA	NA	110.0	63.0
Foreign branches of U.S. banks 8/:						
1969	7/	7/	7/	7/	7/	7/
1970	34.6	36.1	12.7	11.3	47.3	47.4
1971	40.2	42.1	21.2	19.4	61.4	61.5
Totals:						
1969	89.5	88.3	12.3	11.2	161.7	134.5
1970	108.9	101.2	22.5	17.8	212.0	165.9
1971	118.8	109.8	39.0	28.2	267.8	201.0

1/ Data are total foreign short-term assets and liabilities of U.S. banks as reported in U.S. sources, less claims on and liabilities to official monetary institutions.

2/ Basically, these data are those reported to the BIS by banks in eight European countries (Belgium-Luxembourg, France, Germany, Italy, Netherlands, Sweden, Switzerland, and the United Kingdom), plus Canada and Japan. Figures from U.S. sources relating to foreign branches of U.S. banks have been subtracted from these figures and are shown separately in the table for 1970 and 1971. Also, the eight European countries' asset and liabilities vis-a-vis the U.S. (denominated in dollars) were removed from the totals, and data from U.S. sources on total dollar claims and liabilities against foreigners were added.

3/ Includes foreign branches of U.S. banks.

4/ Data cover (1) identified official holdings of Eurodollars, (2) unidentified holdings of Eurocurrencies plus residual sources of reserves--both as estimated by the IMF--plus (3) claims on U.S. banks of nonmonetary official institutions such as the IBRD and IADB. "N.A." = not available.

5/ Available data cover U.S. and foreign banks' claims on and liabilities to all foreign nonbanks, including foreign branches/affiliates of U.S. nonbanks. To insure elimination of double-counting, since positions of the U.S.-affiliated firms are shown separately, the available data have been reduced by 50 percent--i.e. it is assumed that half of the assets and liabilities reported by U.S. and foreign banks against foreign nonbanks actually are liabilities and assets, respectively, of foreign affiliates of U.S. nonbanks.

6/ Data are estimated current assets and liabilities of non-financial affiliates of U.S. firms.

7/ Included under "foreign banks."

8/ Figures are from U.S. sources citing total assets and liabilities of branches. Therefore, some long-term items are included.

Sources: Federal Reserve Bulletin, Sept. 1972; U.S. Treasury Bulletin, Sept. 1972; Bank for International Settlements, Annual Report, 1971 and 1972; International Monetary Fund, Annual Report, 1972; U.S. Commerce Department, Office of Foreign Direct Investment, Foreign Affiliate Financial Survey, July 1971 and Foreign Direct Investment Program, Selected Statistics, July 1971; and data furnished by U.S. Department of Commerce, Bureau of Economic Analysis, Foreign Investment Division.

Foreign Governments, etc.--These data are restricted to foreign official holdings in the Eurocurrency markets, plus small amounts of claims held by nonmonetary international institutions on U.S banks.

Foreign Nonbanks--seriously deficient in coverage, these figures include only U.S. and foreign banks' external claims and liabilities against nonbank firms outside the United States. The original figures obtained include all foreign nonbanks, including foreign affiliates of U.S. firms, which are shown separately in the table and therefore should not be double-counted. In the absence of any hint of the share of U.S.-based affiliates in these totals, the totals were reduced by 50 percent in order to reduce the possibility of double-counting.

Foreign Affiliates of U.S. Nonbanks--estimates of the current assets and current liabilities of all non-financial affiliates of U.S. firms.

Foreign Branches of U.S. Banks--balance-sheet figures for total assets and liabilities of the branches. These data include some long-term, non-liquid items which should not be in the estimates, but this deficiency could not be removed.

Table 7 contains some purposeful double-counting, in the following sense: As the table is constructed the assets of any one set of factors listed constitute the liabilities of all the others to it. The powers of debtors as well as creditors should be borne in mind. The decision to move a balance from one location to another depends not only on the motivations of the balance's owner--who clearly can shift a deposit, say, from a bank in one country to a bank in another--but also upon those of the institution which owes the money; it can transfer its liability with equal facility. The thrust of the analysis is to identify the decision points and measure the resources that are available at each of them.

There is absolutely no doubt that Table 7 contains figures that should not be there, either because they are not to be considered volatile or because they represent balances of an essentially domestic,

rather than international character. On the other hand, it fails also to account for large balances that should be included, such as the assets and liabilities of non-U.S. MNCs. On balance, there is an error in the overall estimates, in one direction or the other. However, as the subsequent analysis will imply, substantial errors could be present in the estimates without necessitating any fundamental alteration of the conclusions which are derived from them.

The key figures in the table are the overall total asset and liability estimates in the lower right-hand corner. These measure the amounts of short-term funds that may have been capable of flowing within the system at the end of each of the 3 years covered--$162 billion in 1969, $212 billion in 1970, and $268 billion in 1971 on the assets side; and $135 billion, $166 billion, and $201 billion respectively on the liabilities side.

These indeed are very large numbers. They should lay to rest any doubts that the seven sets of organizations involved are capable of generating flows that could disrupt normal payments relationships among countries and, in fact, help to generate international monetary crises. Consider the total assets estimated as available at the end of 1971--$268 billion. A movement of a mere 1 percent of these, or $2.7 billion, in response to exchange rate weakness or strength is quite sufficient to produce a first-class international financial crisis.

The seven categories of institutions listed represent a diffuse group. All are heavily involved in the international financial system,

but all are not MNCs under even a very broad definition. The role of the latter 1/ can be estimated by adding only the assets/liabilities of the U.S.-related groups: U.S. banks and their branches; plus U.S. nonbanks and their affiliates. In 1971, these four classes of institutions controlled $190 billion--or 71 percent--of the total assets of $268 billion shown for that year. Thus, the potential role--and almost certainly the active role--of the U.S.-based MNCs (including the multinational banks) is great. In fact, it dominates the system.

A question hardly has to be asked respecting their capacity for disruptive movements of funds. Such a capacity exists. However, if one is willing to presume that at least some movements of funds take place for protective reasons, or alternatively, to admit that only a small fraction of the corporate treasurers and bank vice-presidents in the system tend to speculate, then one can give a clean bill of health to most of the MNCs on this question. The total estimates are so large that only small fractions of the potential flow (or large flows generated by a very few firms) are fully capable of producing monetary crisis. In other words, there is a choice between two conclusions, neither one of which is especially damaging to the MNCs as a group. These are:

(1) That the MNCs react protectively, making only marginal adjustments in their asset and liability positions in the face of crisis. These adjustments add up to an enormous impact, but they do not redound unfavorably on the motivations of the MNCs; or

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1/ For the purposes of this analysis only, the definition of "MNC" has been expanded to include U.S. banks and their foreign branches.

(2) That most MNCs hardly react at all, while a small minority, capable of generating heavy, disruptive movements of funds do so. Some or all of these few firms may actually "speculate" in the sense that, more than simply taking steps to protect their assets in times of monetary unease, they actively risk assets to gamble on the profits that can be made from exchange rate changes.

The estimates of Table 7, however, raise an even larger question. They give evidence of the size of the independent, largely uncontrolled monetary system that has sprung up within the comfortable old world of domestic systems, central banks that manage them (or try to), and stocks of international reserves used to hold things steady until balance of payments "adjustments" can work themselves out, largely through the mechanism of international trade. Some comparisons are appropriate here. The $268 billion asset figure shown in the table for 1971 is:

-- equal to nearly 60 percent of the U.S. money stock at the end of 1971, defined as currency, demand deposits, and time deposits at commercial banks (excluding large CDs) ($465 billion);

-- about equal to the <u>combined</u> stocks of money (currency and demand deposits) and quasi-money (time and savings deposits) of the United Kingdom, Germany, France, and Belgium <u>together</u> at the end of 1971 ($269 billion);

-- more than three times as large as the total international reserves of all the "industrial countries" (as defined by the IMF) at the end of 1971 ($88.5 billion);

-- well over twice as large as total world reserves ($122 billion).

The comparison with total world reserves is perhaps the most startling. During the long debate that ranged over the 1960's about the adequacy of international liquidity--i.e., levels of officially-held liquid reserves--that culminated in the creation of Special Drawing Rights (SDRs) as a new type of reserve asset, attention generally was focused on the adequacy of reserves to finance the traditional

types of international business, chiefly trade. Little attention was given to the adequacy of reserves as a weapon to counter movements of funds into and out of the international money market. Yet that market now commands resources which overshadow those of the central banks by a significant multiple. Because of this, a merely marginal shift in the location of asset holdings in the international money market--especially in a crisis situation where the shift is likely to be reflected in reserve movements--can produce a multiple effect on the location of international reserves. Consider a concrete example: In 1971, West Germany's reserves rose by $4.8 billion, of which $2.4 billion represented an underlying balance of payments surplus (on current and capital accounts). Assuming that the remaining $2.4 billion, essentially composed of flows of liquid, short-term capital, represented a shift in the locus of assets controlled by the international money market, this implies a movement of 1.1 percent of the total assets in the market at end-1970 ($212 billion). But it also implies a much larger relative shift--2.5 percent--in the locus of world reserves, calculated on the basis of world reserve holdings of $92.5 billion at the end of 1970. Actually, most of the shift was concentrated among a relatively few of the industrial countries. If the comparison were narrowed from a world perspective to include only those countries, the multiple effect clearly would be far larger.

In sum, therefore, while it is not appropriate to judge that speculative behavior characterizes the international financial

dealings of the great majority of MNCs, it is appropriate to stress that they have been a primary creative force in the growth of the international money and capital markets. This is the sense in which the MNCs indeed have altered the international realities around which policies of governments--and the international monetary "system" in general--are framed. Indeed, if the large amount of privately-held liquidity which now characterizes the international markets had not been generated as it was by the MNCs, then the last decade's upsurge in world economic growth, trade, and investment might have been more restricted in the absence of some cooperative international effort to act in the MNCs' place.

The size of the international money market which the MNCs have helped to create would not, by itself, necessarily represent an effective change in the realities of international finance, were it not for the parallel and complementary development of new institutions--especially the Eurocurrency markets--which give the market flexibility and an ability to generate almost instant flows of funds among national money markets. In an earlier time, central banks and governments had more freedom to work out appropriate monetary policies because the institutions of international finance were sufficiently underdeveloped that national money markets remained partially isolated from one another. The development of a strong, flexible international money market has taken away that advantage, allowing the international financial community to focus its flows quickly and directly--a focus which, as the recent international monetary crises have shown, has caused serious problems for the world's central banks.

Conclusions

Volatile, short-term capital flows are the chief proximate cause of the crises which have racked (but not wrecked) the international money system in recent years. It follows that some method of dealing with these flows by either controlling them or neutralizing their effects could have a beneficial effect on the functioning of the system.

The flows in question arise from an international money market of vast size, a market in which the MNCs (including the multinational banks) have a key role. It will be recalled that the assets held in that market--an estimated $268 billion--amounted to more than twice the volume of world reserves ($121 billion) at the end of 1971. It is clear also that a shift in the locus of only a small fraction of the international money market's assets, of which the U.S.-based MNCs control a large share, constitutes a movement large enough to generate a crisis condition--and that a shift of this magnitude can induee a multiple relative effect on the locus of central bank reserves.

Remedial steps, therefore, if they are to be oriented toward preserving as many of the features of the present system as possible, will have to be concentrated on the international money market as the source of disruptive flows. Some countries--France, for example--have toyed already with such remedial measures, in the form of controls on capital movements. Exchange controls of this variety are not a new thing. The United States has its own versions in the shape of the Foreign Direct Investment Program (which attacks movements of long-

term capital) and the restrictions under which U.S. banks now operate.

Most private businessmen could argue that exchange controls of any sort are distasteful in the extreme and that they should not exist. This argument begs the question of whether or not controls on capital flows might not constitute a second-best solution which at least saves the system for the preservation of freedom to conduct current transactions. Those who apply the controls accept them as just such a second-best solution, but there is ample evidence that the controls are hard to administer, full of loopholes, and only partially successful. The markets soon learn to evade them.

One of the striking conclusions that emerges in an analysis of the IMM techniques of the MNCs is that they partake of a high level of technology and management science. In particular, their systems embody procedures for the fast development, dissemination, and action upon an extraordinarily complete body of international financial intelligence. It is true that most of this information is about their own internal operations on a worldwide scale, but it is impressive nevertheless; it gives them a basis for decision-making and a scope for independent action rather than mere reaction.

Contrast these systems with those of governments. It is unsettling in the extreme to see much of a country's knowledge about what has happened in an international monetary crisis listed under "Errors and Omissions" in the balance of payments. One has to presume that a handful of central bankers in the world possess some better knowledge about the details--but this "better knowledge" cannot be very

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well organized, because the best that central banks can muster for the struggle is a reactive, delayed defense rather than an offense, and they often lose.

There is a need, therefore, for governments--primarily central banks--to develop information systems at least as good as those possessed by the MNCs. Since the MNCs, at least the important ones, already are developing such information for themselves about themselves, it would seem possible and not excessively costly for central banks to require such information,on a confidential basis, from the MNCs. Access to reports on short-term asset and liability positions and where they are held would greatly enhance the perspective of the monetary authorities respecting international financial problems as they develop, and it would provide insights into the possible solutions to súch problems before they degenerate into international monetary crises. The U.S. Government already has such reporting programs, although they presently fall far short of complete international reporting systems covering all or most of the information item that would be of interest. The greatest need, which is still unmet, is for information which is comprehensive, collected by authorities in the important Western countries in compatible formats, and then both shared and acted upon in concert by the major central banks.

STATISTICAL APPENDIX

Table A-1.—Representative money market rates and deviations of U.S. rates from them, 1960-1971

(All figures in percent per annum)

	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971
Rate levels:												
U.S. Treasury Bills 1/	2.94	2.38	2.78	3.16	3.55	3.95	4.88	4.33	5.35	6.69	6.44	4.34
U.K. Treasury Bills 1/	4.88	5.13	4.18	3.66	4.61	5.91	6.10	5.82	7.04	7.64	7.01	5.59
Belgian call money 2/	2.79	2.56	2.13	2.28	3.34	3.14	3.89	3.22	2.86	5.30	6.25	3.72
French call money 2/	4.08	3.65	3.61	3.98	4.70	4.17	4.79	4.77	6.21	8.97	8.67	5.84
German call money 2/	4.55	2.94	2.66	2.99	3.29	4.11	5.34	3.35	2.58	4.81	8.67	6.10
Dutch Treasury Bills 1/	2.14	1.12	1.84	1.94	3.37	3.87	4.74	4.57	4.46	5.55	5.97	4.34
Canadian Treasury Bills 1/	3.32	2.82	4.00	3.57	3.74	3.97	5.00	4.60	6.25	7.17	6.12	3.58
Japanese call money 2/	8.40	11.44	10.31	7.54	10.03	6.97	5.84	6.39	7.88	7.70	8.29	6.42
Swiss call money 2/	1.10	1.03	1.33	1.75	2.35	2.63	3.18	2.71	2.25	3.28	3.33	1.23
(Average of 1 through 8)	3.91	3.84	3.76	3.46	4.43	4.35	4.86	4.43	4.94	6.30	6.97	4.60
London Eurodollars	3.85	3.58	3.77	3.95	4.62	4.81	6.12	5.46	6.36	9.76	8.52	6.58
Deviations of U.S. Treasury Bill rates from:												
U.K. Treasury Bills	-1.94	-2.75	-1.40	-0.50	-1.06	-1.96	-1.22	-1.49	-1.69	-0.95	-0.57	-1.25
Belgian call money	0.15	-0.18	0.65	0.88	0.21	0.81	0.99	1.11	2.49	1.39	0.19	0.62
French call money	-1.14	-1.27	-0.83	-0.82	-1.15	-0.22	0.09	-0.44	-0.86	-2.28	-2.23	-1.50
German call money	-1.61	-0.56	0.12	0.17	0.26	-0.16	-0.46	0.98	2.77	1.88	-2.23	-1.76
Dutch Treasury Bills	0.80	1.26	0.94	1.22	0.18	0.08	0.14	-0.24	0.89	1.14	0.47	0
Canadian Treasury Bills	-0.38	-0.44	-1.22	-0.41	-0.19	-0.02	-0.12	-0.27	-0.90	-0.48	0.32	0.76
Japanese call money	-5.46	-9.06	-7.53	-4.38	-6.48	-3.02	-0.96	-2.06	-2.53	-1.01	-1.85	-2.08
Swiss call money	1.84	1.35	1.45	1.41	1.20	1.32	1.70	1.62	3.10	3.41	3.11	3.11
(Average of 1 through 8)	-0.97	-1.46	-0.98	-0.30	-0.88	-0.40	0.02	-0.10	0.41	0.39	-0.35	-0.26

1/ Average tender rate for 3 month Treasury Bills.
2/ Average of daily or weekly call money rates.
3/ Average daily quotes for 3 month deposits.

Sources: IMF, International Financial Statistics. Eurodollar rates for 1960-62 from Morgan Guaranty Trust Co. of New York, World Financial Statistics.

Table A-2.--Development of the International Bond Market, 1963-1971

(Issue volumes in millions of U.S. dollars)

	1963		1966		1968		1969		1970		1971	
	Eurobonds	Foreign Bonds	Eurobonds	Foreign Bonds	Eurobonds	Foreign Bonds	Eurobonds	Foreign Bonds	Eurobonds	Foreign Bonds	Eurobonds	Foreign Bonds
Totals, Each type	164	389	1,142	378	3,573	1,135	3,156	827	2,966	378	3,624	1,529
Totals, Both types (International Bonds)	553		1,520		4,708		3,983		3,344		5,153	
By Category of Borrower:												
U.S. companies	-	-	439	24	2,096	139	1,005	223	741	55	1,090	200
Other companies	25	99	376	71	603	56	817	128	1,065	83	1,119	208
State-owned enterprises	80	41	118	7	349	12	682	107	594	16	838	158
Governments	53	183	108	76	500	317	584	98	351	53	479	254
International organizations	6	66	101	200	25	611	68	271	215	171	98	709
By Currency of Donomination:												
U.S. dollar	102	-	921	-	2,554	-	1,723	-	1,775	-	2,203	-
German Mark	-	40	147	-	914	674	1,338	531	688	89	786	308
Dutch Guilder	-	-	-	-	-	-	17	-	391	-	298	-
Swiss Franc	-	143	-	94	-	238	-	196	-	193	-	661
Italian Lira	-	24	-	139	-	72	-	24	-	-	-	32
Pound sterling	-	137	-	76	-	19	-	-	-	12	-	138
Other 1/	62	45	74	69	105	132	78	76	112	84	337	390
By Type of Security:												
Long-term straight debt	92	362	675	376	1,108	956	1,852	641	1,995	345	2,623	1,206
Medium-term straight debt	52	27	225	2	480	179	173	120	733	33	706	293
Certificates of deposit	-	-	-	-	75	-	-	-	-	-	-	-
Convertible	20	-	242	-	1,910	-	1,131	66	238	-	295	30

1/ Eurobonds include European unit-of-account issues, European Currency Unit (ECU) issues, and Z/DM option issues. Foreign bonds include Z/$ option issues. Amounts included in "other" may include small amounts of specific denominations listed above and indicated by a dash (-) entry.

Source: Morgan Guaranty Trust Company of New York, World Financial Statistics, March 1972.

VOLUME III

CHAPTER VI

TECHNOLOGY, R&D, AND THE MULTINATIONAL FIRM

Introduction

One of the paradoxes of U.S. foreign-trade performance during the bulk of the postwar period--i.e. until the balance of trade deteriorated seriously in the latter half of the 1960's--was the persistence of strong exports and a sizeable trade surplus despite the high-wage cost structure of U.S. industry. There have been many explanations of this paradox, the most orthodox being the view that U.S. trade performance was attributable largely to the extraordinary productivity of the American worker, which so surpassed that of the foreign worker that much higher wages in the domestic economy were not only possible but justified.

Complementary explanations began to find increasing acceptance during the last decade. One of these stressed that the United States' position as a surplus trading nation and its high productivity levels stemmed from the overwhelming technological superiority of American manufacturing industry. This superior "fund" of technological knowledge--knowhow, in common parlance--was held to have its origin in the enormous R&D effort which came to be institutionalized in the postwar economy and which provided a continuous stream of new products and new techniques that, by sheer size and quality, kept the nation and its exports in the industrial vanguard of the developed countries.

The foregoing argument has been challenged by the lackluster performance of U.S. trade in recent years. There is question whether U.S. technology and the R&D effort which generates it still can have much influence on the patterns of trade, and whether, even if they do, the United States may not be in the process of throwing away its technological patrimony by dispending its techniques and expertise too freely and too rapidly abroad. Historians will recognize in this an argument which raged across Europe when the U.S. was a young nation and the Industrial Revolution was likewise in its infancy; many a process or design which formed the basis for fledgeling industry in America had to be smuggled past stiff barriers erected against the outflow of technology from the United Kingdom and other economic powers of that age. The United States today has few such barriers, and its technology undeniably is spreading rapidly throughout the world. Those who see American technological leadership dwindling wonder whether barriers ought not be erected.

In recent years the overseas investments of the MNCs in technologically advanced industries have raised deep concern because some consider the MNCs to be the principal institutional conveyor for the export of American technological knowhow. Ultimately, the allegation runs, foreign industries owned partly or wholly by Americans will combine U.S. technology with low foreign wage rates to threaten even the strongest U.S. industries in domestic and foreign markets. The critics believe that Japan and the large European countries already have almost caught up with American technology not only from their

own efforts but also from the transfer abroad of vital U.S. technology by the MNCs.

"Technology" is information or knowledge about physical relationships that permits some task to be accomplished, some service rendered, or some product produced. Conceptually, technology can be distinguished from "science", which organizes and explains data and observations by means of theoretical relationships. Technology translates scientific relationships into "practical" use.

The activities which generate and implement the technological innovative process are labeled "R&D", which includes a range of activities from research devoted exclusively to the disinterested pursuit of scientific knowledge to work designed to improve existing products and to find new uses for them. The three basic types of R&D are the following:

> Basic research:
> Work undertaken primarily for the advancement of scientific knowledge and discovery, without a special practical application in view. Scientific knowledge and discovery is the tiny but essential core of all technological advance.
>
> Applied research:
> The same, but with a specific practical aim in view.
>
> Development:
> The use of the result of basic and applied research directed to the introduction of useful materials, devices, products, systems, and processes, or the improvement of existing ones.

In the United States the division of R&D effort has been about 65 percent for development, 20 percent for applied research, and 15

percent for basic research. Except for the few unusual years during and following World War II, the Europeans have led in the output of useful scientific discoveries and basic research. American companies' prowess has lain in quickly converting such results into commercially successful products and processes. 1/

Technological innovation cannot be satisfactorily measured. Only the inputs of manpower and financial resources to R&D can be measured. It has not yet proved possible to find satisfactory measures of the value of the output of R&D. Hence, comparisons of inputs into R&D cannot be related to outputs or achievements of R&D or to the entire innovative process.

The evolution of technological application, or innovation, has led it to rival investment as the principal agent causing growth. Increasingly, nations feel that they must develop, maintain and exploit technology from a worldwide viewpoint. Many observers have concluded that worldwide science and technology commitments are now so great that no country--not even the United States--can develop internally all the technology it needs for all its purposes. No nation can achieve or maintain modern living and competitive standards solely on the basis of its own technologies and markets. Rather,

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1/ According to a recent count made by the OECD, 38 of the 50 most important inventions of the 20th century were developed or brought to fruition in the United States. This record is the effect as well as the cause of America's unique position in the world economy. Its high wage level fosters the invention of labor-saving machinery and high per capita incomes encourage the type of consumer experimentation that makes the introduction of new products relatively easy.

each nation must decide selectively where to concentrate its own precious science and technology resources, and how best to secure and apply the technologies it cannot effectively develop itself. The adoption of this point of view has characterized the selective economic-technical strategies of countries as diverse as Japan, Sweden, and Israel.

In the free world, private companies are the primary holders of peaceful (nonmilitary) technologies, and the MNCs unquestionably are the dominant institutions transferring industrial technologies across national borders. The MNCs combine superior management techniques, better product or manufacturing technologies, worldwide research activities, centralized authority structures, large financial resources, and good communications systems to bring technological solutions found in one geographical area to bear on a problem or opportunity perceived in another. They have sufficient worldwide market and resource access to benefit from economies of scale in many aspects of their business.

The Technological Prowess of the Multinational Firm

Two basic measures have come into general use as indicators of technological effort in an industry: (1) funds spent on research and development; and (2) professional labor (scientists, engineers, and technicians) employed in R&D. For various reasons, the R&D employment series--which in most industries tends to follow R&D funding and hence seems ostensibly comparable--is not conducive to accurate

estimation of R&D effort. The most important of these reasons lies in variations in the intensity with which non-R&D labor is used in different industries. Some industries (e.g. fibers, textiles, and motor vehicles, as well as some food processing) are inherently labor intensive. Even if R&D is important in them, R&D personnel would tend to represent a small share of total employment. At the other end of the spectrum are industries like basic chemicals, with large-scale, continuous-flow processes carried on in automated plants where operating labor is almost absent and maintenance labor is provided by outside contractors. In these industries, measures of R&D employment as a share of total employment overstate R&D intensity.

On these grounds, the comparisons employed in this chapter rest on R&D funding figures. Unless otherwise specified, these numbers measure total R&D outlays in the various industries--i.e., spending funded both by private enterprises and by governments, primarily the Federal govenment. The totals are used because the focus is on how the MNCs share in the spending rather than where the money comes from.

Fairly hard data are available for R&D spending by all firms in 1966 and 1970, and by the MNCs (in the United States) in 1966. These figures are displayed for a number of manufacturing industries in table 1. The 1966 data indicate that, with few exceptions, the MNCs are overwhelmingly the most important spenders of R&D funds; non-MNC

Table 1.--R & D spending in all firms and in MNCs, United States, 1966 and 1970 (est.)

(Amounts in millions of dollars)

	1966			1970	
	All firms	MNCs	MNCs as percent of all firms	All firms	MNCs (est) 2/
All manufacturing	14,656	7,598	52	16,581	9,197
Food products	153	136	89	198	176
Paper and allied products	88	64	73	119	87
Chemicals	1,461	1,258	86	1,809	1,556
Drugs	318	303	95	484	460
Industrial chemicals	955	777	81	1,075	871
Other chemicals	188	178	95	250	225
Rubber	178	127	71	238	169
Primary and fabricated metals	386	312	81	448	363
Nonelectrical machinery	1,300	743	57	1,727	984
Electrical machinery	3,586	1,814	51	4,324	2,172
Radio, TV., Comm. equipment, and electronic components	2,216	685	30	2,683	827
Other electrical machinery	1,370	1,129	82	1,641	1,345
Transportation equipment	6,786	2,537	37	6,648	3/ 2,790
Textiles and apparel	51	29	57	64	36
Stone, clay, and glass	128	103	80	188	150
Instruments	434	371	85	694	590
All other manufacturing	1/ 105	104	1/ 100	124	124

1/ Estimated.
2/ Estimated on basis of 1966 percent shares of total.
3/ Estimated based on 10 percent growth of non-aircraft R & D, 1966-1970.

Source: All-firm data from National Science Foundation, Research and Development in Industry, 1969 (NSF Publication: NSF 71-18), Washington, April 1971, and Highlights (NSF 71-39), Dec. 10, 1971; MNC data are from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

firms hardly count. For the industries shown, the MNCs' share of total outlays for R&D averages 52 percent. However, this average actually is pulled down by a few exceptionally low numbers in a few industries. Excluding these, it would be higher--about 80 percent, or high enough to preclude any doubt that the amounts and patterns of R&D spending in the United States in general are governed primarily by the amounts and patterns of R&D spending by the MNCs.

The atypical numbers require explanation. The most important one in quantitative terms shows up in the transportation equipment industries, where the MNCs in 1966 had only a 37 percent share of total R&D spending of $6.8 billion. The aggregate figure for this industry is heavily weighted by outlays in the aerospace industries, which have few multinational connections. The MNC figure, on the other hand, is dominated by motor vehicle manufacturers which, although heavy R&D spenders, do not measure up to the aerospace branch in terms of total outlays. Thus, the small share shown for the MNCs results largely from the unavoidable inclusion of dissimilar "industries" in the two data series compared.

The other important atypical measure is the exceptionally low (30%) share of total R&D spending accounted for by the MNCs in the electronics subsector of the electrical machinery industry. It contrasts sharply with the 82 percent share of the MNCs in the rest of the industry. It probably results from two principal factors. First, the electronics industry has an unusually low level of concentration;

many small firms, rather than a few large and dominant ones, characterize its organization. Thus, much R&D in this industry is carried out in small firms which do not have significant foreign direct investments and hence are not MNCs. Second, the industry as a whole is characterized by extremely fast rates of "diffusion" of technology among competing firms. Proprietary control of a new bit of exclusive ·hnology is an ephemeral thing in this industry. Hence, it is possible for firms--including the MNCs--to include newer technologies in their products without incurring the R&D costs of developing them. This factor is especially relevant in the case of consumer products, which often incorporate technologies originally developed for space, military, or industrial applications.

The "MNC" column for 1970 in table 1 contains derived figures, based on the proportions of total R&D spending accounted for by the MNCs in each industry in 1966. The purpose of these figures is merely to indicate roughly how MNC spending may have looked in relation to the generally expanded R&D outlays of all firms in each industry in 1970, assuming no great changes in the distribution of total spending among the various industries over the period.

Simple figures on R&D spending do not, by themselves, distinguish between large and small industries, and therefore each must be related to some indicator of industry size in order to measure appropriately the "intensity" of R&D effort. Development of such an "intensity" series is essential for making interindustry comparisons of R&D performance with other variables, such as investment or

trade performance. The simplest way to proceed here would be to calculate a set of ratios that compare total R&D spending in the United States with total shipments generated in each industry; this is a fairly standard procedure. However, the available data on R&D spending of the MNCs contain a more detailed breakdown by industrial sector than do the all-firm figures, while at the same time the industry definitions are more strictly comparable to those found in the other compilations of MNC data that will be used in the comparisons. Therefore, "technological intensity" will be measured here as the ratio of MNC spending on R&D (in the United States to total (all-firm) shipments generated in each industry. Thus, the series endeavors to measure R&D intensity in terms only of the MNCs' contributions to R&D. It would be more appropriate to cast the ratios in terms of the MNCs' shipments alone, but data for the MNCs' sales or shipments that would facilitate such a comparison are not available. The ratios to be used will allow comparisons of the MNCs' investment and trade performance with the degree to which the MNCs themselves impact upon the technological intensity of their industries in the United States, thus permitting a closer focus on the results of their operations without the intrusion of the effects of R&D spending by firms without multinational affiliations. 1/

1/ It could be argued--the electronics industry being a case in point--that the MNCs, because of rapid technological diffusion in the United States, may have access to others' technology developed from R&D in the United States, so that they can transfer it abroad for use in their foreign operations. This would imply that all-firm figures on technological intensity are the appropriate basis for comparison.

The basic series on the MNCs' R&D intensity in manufacturing for 1966 (the last year for which solid data on MNC spending for R&D are available) is displayed in table 2. The table covers twenty-six separate branches of manufacturing, and shows ratios of MNC R&D spending to total shipments. The ratios range from a high of 8.29 percent in electrical machinery to a low of 0.07 percent in textiles and apparel. The series is arranged according to the degree to which MNC R&D spending characterizes these industries as "high," "medium," or "low" technology industries.

Note that the two "exception" industries (transportation equipment and electronics), discussed earlier as ones in which the MNCs have a realtively light impact on total R&D spending, appear in these rankings as "high-technology" industries. Relative to total shipments, the spending of the MNCs in these industries nevertheless is large and is a major factor tending to put them in the top rank as spenders of funds on R&D. Their impact is all the more impressive, considering that non-MNC firms bear a relatively greater weight in total R&D spending.

Groupings of industries into "high," "medium," and "low" classes usually are arbitrary, and those made here are no exception. The distinction between "high" and "medium" is fairly clear; there is a quite sharp break in the values of the R&D intensity ratio between

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This argument was not considered strong enough to prompt the sacrifice of industrial detail that using the all-firm data would involve (eleven subsectors would have to be dropped), especially because the argument can be taken account of in the analysis. It is not lost by use of the different series.

Table 2.--The MNCs' contribution to R & D Intensity in United States manufacturing industries, 1966

(Millions of dollars)

	Total MNC R & D spending 1/	All firms' shipments 2/	R & D as percent of shipments 3/
High Technology Industries			
Electrical machinery and apparatus, incl. household appliances	1,100	13,267	8.29
Drugs	303	4,826	6.28
Industrial chemicals	777	13,857	5.61
Instruments	372	8,833	4.21
Transportation equipment	2,537	71,650	3.54
Radio, T.V., electronic components	685	21,009	3.26
Farm machinery and equipment	119	4,322	2.75
Electronic computing equipment and miscellaneous nonelectrical machinery	332	16,895	1.97
Office machines	108	5,964	1.81
Medium Technology Industries			
Soaps and cosmetics	66	6,108	1.08
Rubber products	127	11,976	1.06
Industrial machinery and equipment	184	19,413	0.95
Miscellaneous chemicals not included elsewhere	81	8,585	0.94
Stone, clay, and glass products	103	14,629	0.70
Primary and fabricated aluminum, plus misc. metal products	44	9,141	0.48
Fabricated metals (excl. aluminum, copper, and brass)	138	30,508	0.45
Miscellaneous electrical machinery not included elsewhere	29	6,566	0.44
Grain mill products	41	9,242	0.44
Plastics	31	7,404	0.42
Low Technology Industries			
Primary metals (excl. aluminum)	130	37,960	0.34
Paper and allied products	64	20,414	0.31
Miscellaneous manufacturing (incl. ordnace, leather, and tobacco)	61	24,357	0.25
Lumber, wood products, and furniture	25	18,257	0.14
Miscellaneous food products (excl. grain mills)	95	70,509	0.13
Printing and publishing	17	20,201	0.08
Textiles and apparel	29	39,571	0.07

1/ MNC spending on R & D in the United States. 2/ Shipments (sales) of all U.S. firms in each industry. 3/ This series measures the MNC contribution to technological intensity in each U.S. industry.

Source: Table 1 and U.S. Census of Manufactures.

the two groups. But such is not the case for the distinction between "medium" and "low". For example, there are five industries at the bottom of the "medium" range which could be candidates, on the basis of the R&D intensity measurements, for a low-technology rating.

Another question to be explored in this section is whether R&D intensity can be said to have any relation to either domestic investment in the United States or foreign investment by the MNCs. Is there, in other words, any tendency for those industries which show high technological levels as measured by R&D intensity to be also the heavier investors at home and/or abroad--and vice-versa for low-technology industries?

Some measurements relating to an attempt to answer this question appear in table 3. The table compares the R&D intensity series with several different measures of domestic and foreign investment for the 26 branches of manufacturing. At the bottom of the table are sets of correlation coefficients which reveal such assoications as there are between the compared series. Two of these coefficients in each group measure "rank" correlation--i.e., they result from comparisons of the rankings of the several industries rather than their values--while the "linear" measure derives from direct comparisons of the values themselves. 1/

The second and third columns of table 3 contain data on capital stocks of all domestic U.S. firms (column 2) and net fixed capital of

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1/ See footnote on p.564 .

Table 3: Comparison of R & D intensity in U.S. industries with domestic and foreign investment variables

(Value in millions of dollars, except as noted)

	R & D Intensity 1/		Domestic Capital 2/		Foreign Capital 3/		Change in domestic Capital, 1966-1970		Change in foreign Capital, 1966-1970		Percent change in: Domestic Capital, 1966-70		Percent change in: Foreign Capital, 1966-70		Ratio of absolute changes 4/		Ratio of percent changes 5/	
	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank
Electrical machinery and apparatus, incl. household appliances	8.29	1	5,174	18	1,363	8	1,678	18	992	4	48.0	8	267.4	1	.591	3	5.570	2
Drugs	6.28	2	2,693	22	681	17	986	21	271	17	57.8	6	66.0	12	.274	7	1.143	18
Industrial chemicals	5.61	3	18,620	5	1,929	5	5,308	4	737	6	39.9	17	61.8	14	.138	12	1.548	13
Instruments	4.21	4	4,084	20	1,345	9	1,571	19	961	5	62.5	3	250.2	2	.611	2	4.004	4
Transportation equipment	3.54	5	20,418	3	5,131	1	6,455	2	1,670	1	46.2	10	48.2	17	.258	8	1.045	19
Radio, TV, Electronic components	3.26	6	8,356	15	606	20	3,228	10	332	15	62.9	2	121.1	8	.102	17	1.926	11
Farm machinery and equipment	2.75	7	1,388	25	204	25	413	25	-41	25	42.4	14	-16.7	25	-.099	25	-.393	25
Electronic computing equipment and misc. nonelectrical machinery	1.97	8	9,746	10	2,247	2	3,665	8	1,260	2	60.3	4	65.8	13	.343	5	1.170	16
Office machines	1.81	9	832	26	416	23	226	26	238	19	37.3	19	133.7	6	1.053	1	3.584	5
Soaps and cosmetics	1.08	10	1,748	24	478	22	527	24	179	20	43.2	11	59.8	15	.339	6	1.386	14
Rubber products	1.06	11	7,977	16	974	13	2,976	13	242	18	59.5	5	33.0	21	.081	20	.556	21
Industrial machinery and equipment	0.95	12	8,401	14	931	14	2,473	15	300	16	41.7	16	47.5	18	.121	13	1.326	15
Miscellaneous chemicals	0.94	13	4,417	19	1,576	6	1,415	20	140	21	47.1	9	9.7	23	.098	18	.205	23
Stone, clay, and glass products	0.70	14	13,237	8	1,046	11	3,075	11	370	13	30.3	24	54.7	16	.120	14	1.805	12
Primary and fabricated aluminum, plus misc. metal products	0.48	15	8.525	13	907	15	3,643	9	-573	26	74.6	1	-38.7	26	-.157	26	-.479	26
Fabricated metals (excl. aluminum, copper, and brass)	0.45	16	14,998	6	1,030	12	4,029	6	477	9	36.7	21	89.4	11	.118	15	2.351	10
Miscellaneous electrical machinery	0.44	17	2,577	23	644	18	943	22	133	22	57.7	7	26.0	22	.141	11	.450	22
Grain mill products	0.44	18	3,098	21	289	24	700	23	14	24	29.2	25	5.0	24	.020	24	.175	24
Plastics	0.42	19	8,559	11	2,204	4	2,388	16	1,096	3	38.7	18	98.9	10	.458	4	2.555	8
Primary metals (excluding aluminum)	0.34	20	33,860	1	682	16	6,957	1	423	10	25.9	26	163.3	4	.060	22	6.305	1
Paper and allied products	0.31	21	19,357	4	2,007	3	5,145	5	594	8	36.2	22	42.0	19	.115	16	1.160	17
Miscellaneous manufacturing (incl. ordnance, tobacco, leather)	0.25	22	6,979	17	602	21	2,097	17	408	11	43.0	13	210.3	3	.194	10	4.890	3
Lumber, wood, and furniture	0.14	23	8,554	12	1,296	10	2,549	14	650	7	42.4	15	100.6	9	.255	9	2.363	9
Miscellaneous food products	0.13	24	22,453	2	1,564	7	5,947	3	407	12	36.0	23	35.1	20	.068	21	.977	20
Printing and publishing	0.08	25	10,105	9	138	26	3,050	12	82	23	43.2	12	146.4	5	.026	23	3.338	6
Textiles and apparel	0.07	26	13,945	7	625	19	3,755	7	344	14	36.8	20	122.4	7	.091	19	3.326	7
Correlation with R & D Intensity Series:																		
Rank (Spearman)	-		**-0.387		0.176		-0.255		0.158		*0.523		0.008		**0.448		-0.102	
Rank (Kendall)	-		**-0.277		0.126		-0.182		0.117		**0.335		0.022		**0.292		-0.076	
Linear	-		0.188		0.210		0.129		**0.386		0.183		***0.349		***0.370		0.163	

*Statistically significant at .01 level. **Statistically significant at .05 level. ***Statistically significant at .10 level.

1/ R & D spending by the MNCs in the United States as a percentage of shipments (sales) of all firms in the respective industries.
2/ Cumulative value of fixed capital stocks of all firms, 1970.
3/ Net fixed assets of foreign affiliates, 1970.
5/ Ratio of changes in foreign capital to change in domestic capital.

Sources: MNC R & D figures from Table 2. Shipments and domestic investment data from U.S. Census of Manufactures. Foreign investment figures from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

U.S.-based MNCs abroad (column 3). Neither of these shows a very strong association (correlation) with the R&D intensity series. The correlation between the MNCs' stock of foreign capital and R&D intensity is so weak that it signifies nothing. The domestic capital stock series, however, reveals weak but statistically significant rank correlations with the R&D intensity series--and they bear negative signs. Thus there is a feeble <u>inverse</u> relation between the rankings of the various industries in terms of technological intensity and their rankings as domestic investors. The higher ranked industries in technological terms are the lower ranked ones as domestic investors, and vice versa for the lower ranked R&D spenders.

The appearance of this inverse relationship between domestic capital stocks and R&D intensity should not be surprising. Technological muscle and investment do not necessarily go together as economic phenomena, and they may actually move in opposite directions. While in some industries high levels of technology require large stocks of expensive, complex capital equipment, it also is true that relatively low-technology industries (e.g. basic metals) require sometimes even larger amounts of fixed capital because of the nature of their production. Moreover, some industries, such as electronics, get by on relatively little capital, while they depend heavily on technology. This kind of assymmetry between capital intensity and

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1/ Here, as in subsequent sections of this chapter, 1970 figures for various items of data are sometimes compared with the 1966 R&D intensity series.

technological intensity probably is the principal influence on the domestic fixed investment series that tends to produce the inverse correlation. The correlation is weak because there are some industries--e.g. industrial chemicals or transportation equipment--in which the assymmetry is less pronounced so that the rankings match fairly well.

Other factors muddy the waters when one tries to compare R&D intensity with investment, especially domestic investment. R&D efforts lead mainly to investment in plant and equipment to handle new products or processes, and the capital stock data make no distinction between new-product or new-process investment and the larger sums invested in old-line products or systems. Shortly, comparisons will be made using <u>changes</u> in capital stocks--i.e., new investment--and some of this problem may thereby be removed, inasmuch as new investment will tend to have a higher proportion of advanced technology than the cumulative investment of the past. Additional complicating factors are the amounts, directions, and results of R&D efforts in leading foreign countries. A nonprogressive U.S. industry relative to its foreign counterparts ought to be vulnerable to more efficiently produced or more technologically advanced imports; but higher technology imports from abroad will dampen or preclude domestic investment growth only <u>if</u> (a) the imports are not blocked or limited by U.S. import duties or quotas (as in the case of steel and some textiles); and (b) the foreigners have not been willing to license their technology to U.S. companies or to build the more efficient or new-product

plant in the United States themselves (as they have done in steel, plate glass, and certain commodity chemicals and plastics).

An interesting result of the calculations shown in table 3 is that technological intensities and the stocks of foreign capital owned by the MNCs are so poorly correlated. There are no grounds in this result for alleging that high-technology industries have been associated with the larger stocks of U.S.-owned foreign investment capital, with the implication that they have taken their technology abroad with them. Nor are there grounds for a reverse allegation, that companies which are strongest technologically (and thus perhaps more competitive) tend to remain at home while the technologically weaker ones move overseas in a search for lower costs to retain their competitive edge. However--and this is important--these kinds of comparisons take no account of whatever association may be present in new investment, the capital that has flowed abroad in recent years. Changes in capital stocks may be positively associated with R&D intensity.

The remainder of table 3 is an exploration of what associations may be present between different measures of change in domestic and foreign investment and the R&D intensity series. Columns 4 and 5 of the table consider the absolute sizes of changes in domestic capital stocks and the foreign capital of the MNCs, respectively. The domestic investment series shows no meaningful relationship with R&D intensity, although the two rank correlation coefficients do retain their negative signs. For the series on the MNCs' foreign investment, the

rank correlations remain weak and statistically insignificant but, interestingly, the linear measure emerges as a statistically significant one although it is not very strong.

These results are basically indeterminate, but they cease to be so when combined as in column 8. The combination takes the form of a ratio between changes in foreign investment by the MNCs and changes in domestic investment by all U.S. firms (which the MNCs dominate as investors). Thus, this series measures recent (1966-70) flows of new U.S. fixed investment into foreign locations relative to flows of new fixed capital placed in U.S. industries. Somewhat stronger and statistically significant positive correlations now appear between the ratio series of column 8 and the R&D intensity series in column 1. With respect to new investment in the 1966-70 period, the data reveal in the high-technology industries a tendency for relatively less domestic investment and relatively more foreign investment, with the reverse occurring in the low technology industries. The resulting correlation coefficients are not especially large. The associations uncovered here are rather weak, but they exist, nevertheless.

A look at relative changes (percentage changes) in the investment variables (see columns 6, 7, and 9 in table 3) would appear to throw the foregoing conclusion into disarray. The series in column 6 (1966-70 domestic investment as a percent of the domestic capital stock in 1966) shows significant rank correlations with R&D intensity, indicating that industries which rank high (low) in R&D

intensity also tended to rank high (low) in terms of the percentages by which their domestic capital stocks increased over the period. The series in column 7 (1966-70 foreign investment by the MNCs as a percent of their net fixed capital abroad in 1966) shows no really reliable correlation with R&D intensity in the U.S.--and the same goes for the column 7/column 6 ratios in column 9.

What sense can be made from these apparently contradictory bits of evidence about how technological intensity in the United States has affected foreign direct investment by the U.S. MNCs? It is easy to see how, in the public debate over this question, each side has found its ammunition. Critics of the MNCs can cite the kinds of evidence revealed by the column 8 series in the table and assert that in the high technology industries tendencies to move capital abroad have been stronger than tendencies to invest it domestically in recent years. At the other extreme, defenders of the MNCs can cite the evidence of column 6--that the larger relative changes in domestic capital stocks have tended to occur in the higher technology industries. A key point for the referee to note in this debate is that neither of these positions necessarily excludes the other, and both make economic sense. One should expect that--as column 6 shows--the technologically dynamic industires would rank higher as recipients of new investment relative to existing capital stocks, if only because they usually tend to be growing faster than less progressive industries. Similarly, dynamic, high technology industries will usually invest more abroad relative to domestic investment because they

generally are the stronger industries. The weaker, low technology industries (textiles or footwear, for example) find themselves under severe economic pressure at home. With the struggle for domestic survival dominating their investment activity, only a small number of more viable industry leaders are capable of generating the resources to establish significant foreign direct investment enterprises.

In this context, the case of the textile and apparel industry is worth examining in some detail. This industry ranks last--26th--in the R&D intensity series. However, it is a large domestic industry, ranking seventh in terms of the size of its capital stock and in terms of the absolute value of new investment. Domestic _rates_ of new investment are low; the industry ranks 20th as a new investor relative to the size of its capital stock. As a foreign investor, the industry is near the bottom of the rank order--19th--in terms of absolute value of net fixed foreign assets. Because the increase ($344 million) in its foreign capital stock from 1966 to 1970 is large in relation to a base of only $281 million in 1966, it ranks 7th in terms of the relative change in foreign direct investment capital; however, it ranks about in the middle (14th) in absolute amount of new foreign direct investment. The industry's foreign direct investment is less than ten percent as great as its relatively low level of new domestic investment, placing it 19th in the final tabulation of column 8, or in the same range as its last-place showing in the R&D intensity series.

MNC Activity and U.S. Trade in High Technology Goods

Has overseas investment by U.S. firms tended to reduce or increase net U.S. exports of high technology goods? Are the MNCs increasing their imports of high technology items (especially from their overseas affiliates) and allowing their own foreign production of similar goods to supplant U.S. exports in foreign markets?

The background to these questions lies in clear evidence that the fortunes of U.S. export trade in general--like the export trade of most industrial countries--depend heavily on high levels of technology. With imports of low technology items and raw materials increasing rapidly, exports of high technology goods have been the principal factor preventing the U.S. trade deficit from reaching levels even higher than those recently experienced. The following tabulation 1/ highlights this point with some selected U.S. commodity trade balances (in billions of dollars) across the twelve-year span, 1960-1971:

	1960	1965	1970	1971
High technology manufactured goods-------	+6.6	+9.1	+9.6	+8.3
Agricultural products--------------------	+1.0	+2.1	+1.5	+1.9
Low technology manufactured goods--------	-0.9	-2.9	-6.2	-8.3
Raw materials----------------------------	-1.7	-2.8	-2.5	-4.1

It is apparent from these figures that high technology manufactures and agricultural products (which really are high technology commodities for the United States) have been holding up the trade accounts,

1/ From a statement by Secretary of Commerce, Peter G. Peterson, before the House Subcommittee on Science, Research, and Development, April 11, 1972.

The results of the foregoing analysis are summarized in the following tabulation, which groups some of the key figures from table 3 into the three classes of "high," "medium," and "low" technology industires. Amounts are shown in millions of dollars:

1966-70	Technology levels as measured by R&D intensity		
	High	Medium	Low
Change in domestic capital stock:			
Amount	23,530	22,169	29,500
Percent	49	43	34
Change in MNCs' net fixed assets abroad:			
Amount	6,420	2,378	2,908
Percent	86	31	72
Ratio of change (amount) in foreign investment to change (amount) in domestic investment	.272	.107	.098

The tabulation indicates the fairly close association between R&D intensity and relative change in domestic capital stocks. New investment at home as a percent of total investment drops steadily as R&D intensity moves downward. The same is true for new foreign investment as a percent of total foreign investment, except for the 72 percent four-year growth rate for foreign investment in the low technology group. Well over 40 percent of the new foreign investment in this group occurred in the wood products and paper industries, which, more than most manufacturing industries, are resource-based. They send their capital to where the trees are and technology plays little role in that process. Finally, the already-observed and close association between R&D intensity and the ratios between foreign and direct investment stands out clearly in the bottom line of the tabulation.

while trade deficits in raw materials and, even more, in low technology manufactures are large and rapidly deteriorating. Aside from the serious balance of payments implications of these trends, the social implications of lost trade positions in the low technology industries are severe. These industries also happen to be the more labor-intensive sectors of U.S. manufacturing (as well as the less multinational sectors), so that a given drop in net exports leads to a greater direct loss of employment than would a similar deterioration in net exports in the high technology and less labor intensive sectors.

There is a further, and not especially encouraging, dimension to the background of deteriorating overall U.S. trade performance. A recent study by the U.S. Tariff Commission 1/ looked fairly rigorously into the relationships between technological prowess and U.S. exports and imports of manufactured goods. While it confirmed that as recently as the late 1960's U.S. exports remained more technology-intensive than either U.S. imports or domestic production in general, it also found that the technology content of U.S. imports was rising faster than that of exports and that the last decade's changes in the technology content of traded goods was leading to an erosion of the United States' comparative advantage in high technology products.

1/ See U.S. Tariff Commission, Competitiveness of U.S. Industries, first report to the President on Investigation No. 332-65 under Section 332 of the Tariff Act of 1930, TC Publication 473, Washington, April, 1972, especially pp. 151-162 and 193-201. This analysis was in part merely an updating of an important study conducted by Donald B. Keesing, "The Impact of Research and Development on United States Trade," Journal of Political Economy, February, 1967.

Another analysis, by Harvey Brooks, 1/ looks at trade in goods of different technology levels from a geographic perspective. One unsettling finding was that, although in 1970 the U.S. trade balance in high technology products still was favorable by over $9 billion, it was negative with Japan by $1.1 billion, positive with Europe by $2.4 billion, and favorable with the rest of the world (excluding Canada) by $7.4 billion. Thus, three quarters of the 1970 U.S. trade surplus in even these products was largely with the less-developed world.

With fairly solid evidence of the United States' declining superiority in exports of high technology goods, it remains to ask what role the MNCs may be playing in this decline. Statistics analyzing this role appear in tables 4 and 5. Table 4 presents sets of correlation coefficients measuring the degree of association between the R&D intensity series developed in table 2 and a number of series on MNC-related trade in manufactured goods. Table 5 presents several ratios indicating trade performance by all firms and by the MNCs in the three groups or classes of manufacturing industries characterized by high, medium, and low R&D intensity ratios. In both tables, the sample data include twenty-five sectors of manufacturing--all those listed in table 2, except transportation equipment (mainly motor vehicles). This industry is excluded because, as pointed out in

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1/ Brooks, Harvey, "What's Happening to the U.S. Lead in Technology?", Harvard Business Review, May-June 1972, p. 110 ff.

Table 4.--Comparison of R & D intensity and trade variables for 25 industries 1/

	Correlations with U.S. R & D intensity series		
	Rank		Linear
	Spearman	Kendall	
MNC- Related U.S. Exports 2/			
Value, 1970	** 0.451	** 0.327	** 0.477
Change, 1966-70	0.303	0.180	0.312
Percent change, 1966-70	0.059	0.040	-0.105
Exports to MNC Affiliates 3/			
Value, 1970	* 0.652	* 0.425	** 0.499
Change, 1966-70	0.301	0.151	0.267
Percent change, 1966-70	-0.022	-0.050	-0.076
MNC-Related U.S. Imports 2/			
Value, 1970	-0.091	-0.060	-0.130
Change, 1966-70	0.044	0.027	-0.051
Percent change, 1966-70	0.107	0.077	0.102
Imports from MNC Affiliates 3/			
Value, 1970	0.159	0.114	-0.016
Change, 1966-70	0.219	0.194	0.078
Percent change, 1966-70	0.128	0.100	0.218
Ratio: MNC-Related Exports to MNC-Related Imports			
Value, 1970	** 0.460	** 0.311	0.113
Change, 1966-70 4/	-0.029	-0.013	-0.191
Ratio: Exports to MNC Affiliates to all MNC-Related Exports			
Value, 1970	** 0.418	*** 0.276	0.214
Change, 1966-70 4/	0.059	0.040	-0.105
Ratio: Imports from MNC Affiliates to all MNC-Related Imports			
Value, 1970	0.201	0.164	0.240
Change, 1966-70 4/	0.270	0.211	0.116

1/ Includes the 26 industries shown in table 2, excluding transportation equipment.

2/ Exports or imports by parent firms to/from affiliates and others, plus exports or imports by non-parents to/from MNC affiliates.

3/ Exports/imports by all U.S. firms to/from MNC affiliates.

4/ Changes are calculated in ratio form--i.e. 1970 value divided by 1966 value.

*Statistically significant at .01 level.
**Statistically significant at .05 level.
*** Statistically significant at .10 level.

Source: R & D intensity series from Table 2. Trade data from U.S. Commerce Department, Bureau of Economic Analysis, International Investment Division. See also Chapter XII.

Table5.--Aggregate and MNC-related trade performance in 25 U.S. industries, by R & D intensity class 1/

Ratio (in percent)	Eight High Technology Industries	Ten medium Technology Industries	Seven low Technology Industries
Ratios based on levels of trade in 1970:			
Total U.S. exports to total U.S. imports	168	232	62
MNC-related exports to MNC-related imports 2/	396	191	142
Exports to majority owned affiliates to imports from majority owned affiliates 2/	473	294	88
Exports to majority owned affiliates 2/ to total U.S. exports	45	15	12
Imports from majority owned affiliates 2/ to total U.S. imports	16	12	8
Majority owned affiliates' sales outside U.S. to total U.S. exports	169	242	185
Majority owned affiliates' sales outside U.S. to MNC-related exports 2/	203	536	433
Ratios based on increases or decreases in trade, 1966-70:			
Total U.S. exports to total U.S. imports	124	171	81
MNC-related exports to MNC-related imports 2/	433	149	193
Exports to majority owned affiliates to imports from majority owned affiliates 2/	425	167	120
Exports to majority owned affiliates 2/ to total U.S. exports	46	11	11
Imports from majority owned affiliates 2/ to total U.S. imports	13	11	7
Majority owned affiliates' sales outside U.S. to total U.S. exports	229	299	180
Majority owned affiliates' sales outside U.S. to MNC-related U.S. exports 2/	289	777	487

1/ See table 2 for classifications of industries by R & D intensity. This table includes all industries shown in table 2, except for transportation equipment.

2/ See table 4 for definitions of "MNC-related" and "affiliate" trade.

Source: Table 2 and chapter III. Underlying trade data are from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

chapter III, its trade experience is dominated by a massive deterioration in the U.S. balance of trade in automotive products with Canada, a change directly attributable to the automotive agreement between the two countries, a change which has little or nothing to do with the level of technology in the U.S. motor vehicle industry.

The message of table 4 is fairly clear. With respect to the levels of MNC-related trade in manufactures in 1970, associations between MNC-related exports and R&D or technological intensity are considerably stronger than those for the comparable imports. In fact, none of the correlations for the import series is statistically meaningful, so that essentially no relationship between MNC-related imports and technological intensity is visible. Generally, with respect to the export series, the rank correlations--i.e., comparisons of how industries rank as R&D spenders relative to sales and how they rank as exporters--are stronger than the linear correlations (comparisons of the values of the series).

Thus, the statistics in table 4 suggest that the MNCs--especially in trade with the U.S. generated by their overseas affiliates--still retained in 1970 a strong bias toward heavy exports of high-technology goods, with no apparent tendency for the MNCs in the higher technology industries to be contributing much if anything to imports of higher technology goods. However, this evidence only validates that the MNCs play a significant role in the superior position which the United States still retains as an exporter of items embodying advanced technology. It does not address the question whether changes in MNC-

related trade during the 1966-70 period had any part in the observed deterioration of the U.S. position. Here, in fact, the correlations draw a blank. For the "change" variables--expressed either as absolute changes in trade or as relative changes--the table is void of statistically significant results.

The statistics in table 5 help to resolve this conundrum. They show that with respect to both levels of and changes in trade, the MNCs in the high technology industries lead the pack. On the one hand, they exceed the comparable all-firm performance in the high technology group and, on the other hand, are better than the performance of the MNCs in the medium and low technology classifications. Generally, the medium technology MNCs, while not performing as well as the high technology group, still show better results than the MNCs in the low technology class.

Of special interest in table 5 are the performance ratios relating sales of MNC affiliates outside the United States and U.S. exports--both aggregate export shipments and those of the MNCs. As far as levels of trade and sales are concerned, the ratios show, of course, that affiliates' foreign sales considerably exceed U.S. exports in all three technology intensity classes--but that the ratios by which this excess is measured are lower in the high technology group than in the other two. In all three technological intensity classes, the ratios of changes in affiliates' sales outside the United States to changes in either total U.S. exports or MNC-related exports all are

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greater than 100 percent--which indicates of course that the affiliates' foreign sales grew much faster than U.S. exports. Yet the more relevant of these two change measurements--the ratio of new foreign sales by affiliates to new MNC-related exports--clearly indicates that the growth of affiliates' foreign sales relative to MNC-related exports was slowest in the high technology industries. In these industries, affiliates sales abroad grew 2.9 times as fast as MNC-related exports; in the medium technology group their growth was 7.8 times as fast; and in the low technology industries it was 4.9 times as fast.

It now is possible to move toward an overall interpretation of how the MNCs have affected U.S. trade in high technology goods, with emphasis on changes in trade between 1966 and 1970. First, aggregate new U.S. exports of high-technology items were only about 1.2 times as large as aggregate new imports in this class, but the comparable ratio for MNC-related trade was 4.3: The MNCs produced more than four times as much in new exports as in new imports in the high technology category, easily outperforming the non-MNC portion of the economy in the process. The ratio of new exports to affiliates to new imports from affiliates was about the same as that for overall MNC-related trade. Moreover, new exports of high technology goods to affiliates represented about half (46%) of aggregate new U.S. exports of such items, while new imports from affiliates were only 13 percent of aggregate new imports. All told, therefore, the direct

effect of MNC operations on U.S. trade in high technology goods was favorable, and clearly superior to the performance of non-MNC firms.

This conclusion still leaves in question the indirect trade effects--i.e., the erosion of U.S. export markets that may have occurred through the sales of MNC affiliates in foreign countries. That such sales rose considerably faster than U.S. exports of high technology goods is beyond question, although the rise was much less steep than in the cases of medium and low technology industries. Thus, there is prima facie evidence of an erosion of U.S. export markets by foreign sales of MNC affiliates abroad. Whether this can be considered "erosion" in an economic sense depends on how much of the new market found by the affiliates abroad could have been retained or obtained by U.S. domestic producers in the affiliates' absence.

The overall market that could have been eroded by the affiliates' foreign sales may be defined as that measured by the sum of U.S. exports and the affiliates' foreign sales. U.S. exporters of high technology products held 43 percent of the market thus defined for those products in 1966. The total market grew over the 1966-70 period by $12,396 million. If U.S. exporters had retained their 1966 share, they would have increased their exports by 43 percent of the total market growth, or $5,330 million. The actual growth of U.S. exports, however, was only $3,765 million. The difference between projected new exports based on U.S. exporters' 1966 market share and actual new U.S. exports may be taken as a rough measure of the erosion which may have taken place as the market grew--on the

assumption that U.S. exporters could have done at least as well as in 1966 against foreign (non-affiliate) competition in markets for the same kinds of goods. The difference amounts to $1,565 million.

The affiliates' foreign sales of high technology goods actually increased by $8,631 million. If the affiliates had made no gains over the period in market share, as compared with U.S. exporters, their new sales would have been $1,565 million--or 18 percent--less than they actually were. This 18 percent figure is the correct number to focus on as the proportion of the affiliates' new foreign sales of high-technology goods which might be said to have eroded the foreign market share of U.S. exports of such goods in the 1966-70 period. It is a maximum and it implies that 82 percent, or about $7.1 billion, of the affiliates' total increase in foreign sales of $8.6 billion had no erosive effect whatever on U.S. exports' share of the foreign markets served by them and affiliates' sales together.

Having narrowed the possible erosion of U.S. export markets for high technology goods by new sales of the MNCs' majority-owned affiliates over the 1966-70 period down to this figure (18 percent of the affiliates' new foreign sales), the analysis can go no further. Whether one decides to attribute this 18 percent (or $1.6 billion) of new sales to the MNCs as their "responsibility" depends on the assumption one makes about whether U.S. exporters (including the parent MNCs) could have held on to their 1966 market share in the MNCs' absence. Such assumptions are articles of faith. The hard

results of the foregoing analysis have been to show, first, that the MNCs' direct impact on U.S. trade in high-technology goods has been strongly favorable and much superior to the performance of the non-MNC firms in the high-technology industires; second, that the direct contribution of the MNCs has been more favorable to U.S. trade performance in the high-technology sectors than in either the medium or low technology industries; and, third, that the indirect effects on U.S. trade produced by the MNCs' affiliates' sales abroad probably were small relative to the size of the affiliates' total new foreign sales.

R&D in the Multinational Firm

This section discusses the allocation of R&D functions and costs among the MNCs' worldwide operations. It seeks to answer the following questions. What are the MNCs' R&D policies? Can they be typified for the MNCs as a group? Do they provide results for the foreign affiliates at heavy cost to domestic R&D in the United States? Do they transfer U.S. technology to foreign hands?

The actual expenditures on R&D abroad by the MNCs are but a small fraction of the MNCs' R&D effort in the United States. Overall, in 1966 the MNCs in manufacturing spent about $7.6 billion on R&D in the United States and only $526 million abroad (or 6 percent of their total expenditures--see table 6). The manufacturing total was about 90 percent of the R&D expenditures by MNCs in all industries. Most of the foreign R&D was conducted in three countires--Canada, the

Table 6.—R & D spending by multinational firms in manufacturing

(Amounts in millions of dollars)

	1966 spending					Imputed 1970 spending						
	In U.S.	Abroad	Total	Percent of total		In U.S. 2/	Abroad (A) 3/	Abroad (B) 4/	Total (A) 3/	Total (B) 4/	Percent of total (B)	
	Amount	Amount	Amount	In U.S. (percent)	Abroad (percent)						In U.S.	Abroad
All manufacturing	7,598	586	8,124	94	6	9,197	646	770	9,843	9,967	92	8
Food products	136	18	154	88	12	176	24	26	200	202	87	13
Grain mill products	41	2	43	95	5	53	3	3	56	56	95	5
Other	95	16	111	86	14	123	21	23	144	146	84	16
Paper and allied products	64	3	67	96	4	87	4	4	91	91	96	4
Chemicals	1,258	74	1,332	94	6	1,556	103	108	1,659	1,664	94	6
Drugs	303	25	328	92	8	460	40	37	500	497	93	7
Soaps and cosmetics	66	13	79	84	16	78	15	19	93	97	80	20
Industrial chemicals	777	8	785	99	1	871	9	12	880	883	99	1
Plastics	31	12	43	72	28	54	21	17	75	71	76	24
Other	81	16	97	84	16	93	18	23	111	116	80	20
Rubber products	127	4	131	97	3	169	5	6	174	175	97	3
Primary and fabricated metals	312	10	322	97	3	363	11	15	374	378	96	4
Primary (excl. aluminum)	130	5	135	96	4	152	6	7	158	159	96	4
Fabricated (excl. aluminum, copper, and brass)	138	5	143	97	3	160	5	8	165	168	95	5
Primary and fabricated aluminum and other	44	0	44	100	0	51	0	0	51	51	100	0
Nonelectrical machinery	743	90	833	89	11	984	120	132	1,104	1,116	88	12
Farm machinery and equipment	119	13	132	90	10	157	17	19	174	176	89	11
Industrial machinery and equipment	184	44	228	81	19	246	58	64	304	310	79	21
Office machines	108	5	113	96	4	138	6	7	144	145	95	5
Electronic computing equipment and other	332	28	360	92	8	443	39	42	482	485	91	9
Electrical machinery	1,814	103	1,917	95	5	2,172	111	151	2,283	2,323	93	7
Electrical machinery and equipment 1/	1,100	13	1,113	99	1	1,325	13	19	1,338	1,344	99	1
Radio, TV, electronic components	685	28	713	96	4	826	34	41	860	867	95	5
Other	29	62	81	23	77	21	70	91	91	112	19	81
Transportation equipment	2,537	134	2,671	95	5	2,790	147	196	2,937	2,986	93	7
Textiles and apparel	29	0	29	100	0	36	0	0	36	36	100	0
Lumber, wood, and furniture	25	61	86	29	71	30	73	89	103	119	25	75
Printing and publishing	17	0	17	100	0	21	0	0	21	21	100	0
Stone, clay, and glass	103	4	107	96	4	150	6	6	156	156	96	4
Instruments	372	21	393	95	5	590	31	31	621	621	95	5
Other	61	4	65	94	6	73	5	6	78	79	92	8

1/ Includes household appliances.
2/ Estimates from table 1.
3/ Based on distribution of 1966 between domestic and foreign R & D in each industry.
4/ Based on (hypothetical) growth of 10 percent per year in R & D spending abroad.

Source: Table 1, and U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

United Kingdom, and West Germany--with the remainder spread rather thinly around the rest of the world. The following tabulation illustrates, showing the percentages of R&D conducted outside the United States in various countries by manufacturing MNCs in 1966:

Canada	27
United Kingdom	25
West Germany	20
France	8
Other, including Australia, Belgium, Italy, and the Netherlands in particular	20

Table 6 contains two alternative estimates of the MNCs' R&D expenditures in 1970. These are not intended to be definitive, but rather to show simply that, even under fairly generous assumptions about how fast the MNCs' foreign R&D spending may have grown after 1966, it probably still remained quite small compared to R&D outlays by the MNCs in the United States and worldwide. Estimate A, which is based on the notion that the foreign portion of the MNCs' R&D outlays merely kept up with the growth of spending by the MNCs in the United States, shows the foreign total for manufacturing MNCs at $646 million, six percent of the estimated worldwide total, as in 1966. Estimate B posits that the foreign portion expanded at a steady ten percent per year between 1966 and 1970; on this assumption, the foreign share of the world wide total rises to a still-small eight percent, or $770 million.

Table 6 outlines the distribution of domestic and foreign R&D expenditures by the MNCs among industries. In most industries, the foreign share of worldwide outlays is low, but in a few it rises rather high. To facilitate discussion of R&D spending in these industries, the

following tabulation lists those in which the foreign share is 10 percent or greater, with the recorded share noted:

"Other" electrical machinery	77
Lumber, wood, and furniture	71
Plastics	28
Industrial machinery and equipment	19
"Other" chemicals	16
Soaps and cosmetics	16
Food products (excl. grain mill products	14
Farm machinery and equipment	10

Some of the relationships revealed by these figures are spurious, and they can be ignored with a fair degree of confidence that they result from misspecifications of where the R&D funds were spent, especially on the U.S. side. This applies to the two catchall "other" categories; lumber, wood, and furniture; and plastics. In each case, domestic R&D expenditures properly allocable to these industries were listed under other industries, so that the proportions of worldwide expenditures "accounted for" by foreign R&D spending were inflated. In all these cases, the misspecifications are not large enough to alter materially the relationships shown in Table 6.

The foregoing eliminations leave for serious discussion the industrial and farm machinery industries, soaps and cosmetics in the chemicals group, and the food products industry. All have one essential characteristic which "explains" relatively higher levels of foreign R&D spending than in the rest of manufacturing: the existence of a high level of product differentiation based on special factors that differ rather widely among countries. For soaps, toiletries, and food products this characteristic is especially important. Here, "tastes"--meaning cultural factors that determine demand patterns--play a key role and require heavy expenditures on tailoring products

to meet local consumers' requirements (real or imagined) in the host countries. In the two machinery industries listed, a similar kind of phenomenon prevails but it is more fundamental than merely differences in "tastes." Industrial machinery designs often need to be fitted to the systems and production conditions prevailing in local plants, and these can differ from those found in the United States. Similarly, foreign modes of agricultural production different from those found in the United States require altered--and sometimes entirely different --farm machinery designs. In all of these cases, the problems of product differentiation are sufficiently large--and sufficiently exclusive to the host country environment--that it is economic to perform the necessary R&D, product-testing, and market testing on the spot, under local conditions and probably with knowledgeable local staff. Often, the "R&D" involves little more than the alteration of a basic U.S. product--modifying the design of a machine or tractor, for example, or altering slightly the formula for a laundry soap or shampoo--but in other cases it can take more fundamental forms.

Surveys of multinational companies show that practically all of the basic research of U.S. industry is done in the central research headquarters in the United States. The few companies which have established overseas laboratories do more development work there than research. A few, notably IBM, farm selected research projects out to the foreign affiliate. Duplication of efforts by the parent and the foreign affiliates is shunned because of the high cost of research.

Most of the development tends to be in the United States also,

because the U.S. market is large and provides perhaps the best testing ground for new products (excepting products like food and cosmetics where national tastes and cultures are very different). European companies with affiliates overseas have an even tighter centralization of R&D efforts than American MNCs--with Royal Dutch Shell providing a notable exception.

Centralization of research also is governed by the prevailing view that R&D professionals work better when there is an aura of success within the group. This feeling of success is more readily gained within a large organization working on many projects, at least some of which are successful. If one of the research divisions is in another country and fails to produce, not only does the company fail to attract good new men there, but also the estimation by the parent of the desirability of continuing the work or maintaining the research affiliate might be more negative than if it were located in the central organization. At one time, research directors as a group felt that the optimum number of professionals in an R&D unit was between 1,000 and 5,000. More recent surveys have turned up several companies which now feel that groups of as many as 6,000 are economic and efficient.

There are other problems with having separated research units. If a foreign research facility does produce some striking and useful results, the problem arises of where they should be "innovated." Should they be production tested first in the United States or abroad? Where should they be market tested? To keep an elan in the foreign country where the research was successful, some managers have felt

it almost necessary to permit initial production and marketing there. But that market might not be the best for testing in either the short or long term. Such problems are avoided by proceeding with the development in the parent's facilities and then deciding where the best foreign location should be for later innovation or production.

Considerations such as the foregoing ones on the part of the MNCs have led to a pattern whereby new products are normally introduced first in the market of the parent, and only later, usually after an interval of several years, are they passed on to the foreign affiliates. Often, however, pressure by a host government or minority partner of an affiliate may cause the transfer abroad of some part of the innovative process.

The few companies which do maintain fairly sizable foreign research facilities can cite several reasons for doing so. Pressures and encouragements by host governments often are a deciding factor. Many governments judge that creative, company-sponsored research in their economies will accelerate efforts in other areas of scientific activity and innovation. Indeed, the presumed possibility of the injection of new technology into the local environment, with its stimulative effects on the rest of the economy, often is viewed as a reason for encouraging MNC activity despite disadvantages which host governments see in such activity on other grounds (see Chapter I where such viewpoints are listed and discussed). Many governments even go so far as to offer subsidies to companies establishing research facilities within their borders; Canada is a good example.

Nevertheless, the view that MNC R&D activity is a positive contribution to the host country is not unanimous. Some countries (notably France) have argued that MNC-sponsored research can stifle the creation of a domestically owned research base.

Conducting research abroad often costs less. Professionals and technicians may work for lower pay, and subsidies--where they exist--clearly have a bearing here too. However, lower direct costs can be and often are offset by difficulties of communication and coordination of research.

A final justification for doing R&D abroad lies in the simple observation that the host country may actually have a more advanced technology in particular industrial fields than that to which the MNC has access domestically. The MNC has a better chance of obtaining some of that technology if it has an R&D operation on the spot. More broadly, a worldwide R&D network can widen the firm's scope and increase the probabilities that innovations will be found. Good ideas for new products or processes are scarce. Well-dispersed research operations not only will contribute to their creation, but also can perform intelligence functions by being alert to new ideas generated in local universities, among customers on the local scene, and even among competitors.

The costing of R&D within the corporation comes within the province of internal accounting. Because neither law nor the stockholders or other influential groups require detailed revelation of the R&D phase of a company's business, companies generally publish--

or otherwise reveal--descriptions of only a tiny fraction of what goes on. Company attitudes in this respect are similar to corporate secrecy on other "internal" administrative matters such as salary administration for supervisory and management personnel, or transfer-price policies for products made in one division or affiliate and "sold" or transferred to another part of the business.

As discussed earlier in this section, centralized R&D facilities are the rule rather than the exception in large MNCs. This centralization tends to govern R&D costing policies. Inasmuch as the companies themselves have difficulty in precisely matching the expenses of R&D against the actual results and locations in which its fruits are realized, there is a strong tendency to cover the costs of research simply by fixed assessments--often based on sales volumes--against all operating affiliates, domestic and foreign. In those cases where previously developed technology that can also be well defined--such as a product design or a process--is assigned to a specific operating affiliate for production, the "overhead" fee for supporting the budget of the central R&D organization may be supplemented by a fixed royalty payment. In companies which disperse their R&D activities, the operating affiliates usually share the total costs on the same sort of basis as in the case of centralized research. It is possible, however, that a firm which places strong organizational stress on geographical differentiation, with "national" companies forming the core of its organization, may give a measure of proprietary control over R&D to its separate national or regional affiliates. Thus,

the "French company" within the MNC's universe may set up and run a research facility on its own, charging fees and royalties to other affiliates or the parent only when usable technology is developed and transferred.

As a general rule, management attention is not focused primarily on R&D costing policies. Pro forma sharing of total R&D costs of the worldwide firm continues to be a largely mechanical, non-policy matter--until some "special situation" arises to demand management attention. These "special situations" often have little to do with technology; more often, management finds in royalty and fee arrangements a convenient way to extract profits from a subsidiary when other avenues are closed. For example, if an affiliate is located in a high-tax country or one that limits profit repatriations, inflated fees and royalties (including "management" fees) furnish a simple way of getting the profits home without calling them such. Another example: an MNC whose affiliate is partly owned by foreign citizens or governments could rig the profit split in its own favor by overcharging the affiliate for technology or management services. Royalties and fees remitted abroad come off the top of the income statement as costs, thus reducing the eventual declared profit on which taxes must be paid and out of which foreign shareholders must be recompensed with dividends.

In the current state of knowledge about how R&D is conducted, it is not possible to evaluate with even a semblance of definitiveness the extent to which the R&D costing policies of the MNCs may or may not have the effect of "giving away" U.S. technology. The best that

can be done is to suggest some sensible approaches to looking at the problem.

Perhaps the most important point is that in the MNC context, as opposed to technology transfers under licensing and similar agreements with unrelated foreigners, neither ownership nor proprietary control of technology pass from American hands. To the extent, therefore, that affiliates receive and pay for U.S.-developed technology, that technology remains a possession of U.S. citizens. Thus, a clear distinction must be made between the ownership of technology and the locus at which it is employed in production. Clearly, there are greater direct economic benefits to the United States in cases where ownership and production location are both domestic. But _if_ technology moves abroad, the loss probably is less if it flows to an affiliate than if it is sold or rented to a foreigner. The affiliate may pay no more than the foreigner would in royalties, but (a) returns in the form of profits from production using the technology accrue to U.S. citizens; and (b) diffusion of the technology to the proprietary ownership of foreigners is longer delayed than in the case of a direct transfer to an unrelated firm. Thus, the U.S. firm, if it is an MNC, tends to capture more of the fruits of technological advance than does the non-MNC, while it can repidly achieve a greater presence in the foreign market without rapidly turning over its technology to foreigners for exploitation.

Because most of the MNCs, especially those in high technology industries, conduct centralized research for their worldwide operations in the United States, and because they usually finance R&D costs by

assessments against all affiliates make it possible for foreign affiliates to pay for R&D in the United States from which they receive no benefit or only delayed benefit. Much R&D leads to dead ends; that is why it is carried as an overhead cost. Current R&D spending may produce results only in the distant future, yet operating affiliates pay for it on a current basis. As a general rule, therefore, the larger the proportion of an MNC's sales that is realized outside the United States, the higher the share of foreign affiliates in U.S.-based R&D costs. A plausible but hypothetical example of how R&D costs are shared in a particular firm might be the following. Suppose that a given firm has a $100 million R&D budget, of which 25 percent is financed by Federal Government funds, the rest with company funds. Suppose, in addition, that half its sales are generated abroad by foreign affiliates. The cost of the R&D operation may therefore be shared in the proportions of 25 percent by the Federal Government, 37.5 percent by domestic operating subsidiaries, and 37.5 percent by foreign operating affiliates. Thus, the lower the share of the U.S. Government and the higher the proportion of sales generated abroad, the greater will be the share of domestic R&D in the United States borne by the foreign part of the business. This, clearly, is an input to U.S. technological potential, not an extraction from it.

The extraction comes, however, in the form of U.S.-developed technology that is made available to foreign affiliates for production abroad. Theoretically, all the technology available to the

parent MNC is available to its affiliates. In practice, this is rarely the case. The foreign affiliates may have less immediate access to U.S.-developed technology than do domestic operating affiliates in the United States, so that, if they share R&D costs equally with the domestic subsidiaries, they may pay for more than they get. This can occur for several reasons. As a matter of strategy, large firms with semi-monopolistic market positions (which are characteristic of the important MNCs) will introduce new products to their markets only when older products cease to generate acceptable returns. If a firm is technologically superior to its foreign competition, it may hold back on transferring its first-line technology even to its own affiliates until either (a) a slightly older technology ceases to provide sales growth at a satisfactory rate; or (b) competition by foreign firms forces the introduction of the new technology as a means of protecting a market share.

To sum up, in the interaction of the MNCs' affiliates' bearing of R&D costs and the benefits that accrue to them in the form of new products and processes, there is a possibility that the affiliates (at least in some industries) may contribute more to R&D in the United States than they take from it--and a virtual certainty that their net withdrawal of technology from the United States (if it exists) is not as large as the gross amount which is transferred.

Technology Transfers

Technology is diffused within and among countries through two conceptually distinct channels. The first or "direct" route involves

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expansion of the enterprise which owns or controls the technology, via direct investment in new production facilities and direct transmission of the technology to the affiliate. The second or "indirect" route involves the sale or rental of technology to an unrelated firm, for a fee or royalty. It obviously entails the relinquishment of more proprietary control over the technology than in the case of a direct transfer.

At its minimum, technology transfer can be merely selling a license to another company (related or unrelated) to manufacture a product that has been patented by a licensor. At its maximum, it may become a long, complex process. If the recipient firm is unskilled in the technology or needs more information than is given in the patent, it may pay a higher fee and buy the complete "knowhow" as well. Such knowhow frequently goes beyond technology and mechanics; it can include managerial and marketing skills and, in many cases, some unique knowledge possessed by only one or a few individuals. In other words, technology can be transferred in two basic forms. One form is physical, consisting of items such as drawings, tooling, machinery process information, specifications, and patents. The other form is personal contact. If the technology is embodied in people's expertise, a personnel transfer may be necessary--often in the form of a technical-assistance program. Generally the extent of technology transfers between U.S. companies and foreign firms--affiliated and non-affiliated--is therefore related to the amounts of royalties and fees remitted for patent rights, licensing arrangements,

rentals, managerial services, research and development, and other charges. The ease and cost of transfer, as well as the fees to be charged, hinge on the industrial skills of the donor and the recipient. 1/

When international technology transfers are at issue, most firms prefer direct transfers of technology to new or existing affiliates--provided that they have the resources with which to create such affiliates--chiefly because retention of the technology within the firm is thereby insured. Several subsidiary or related reasons also come into play. These include situations where (a) control over

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1/ A firm skilled in the manufacture of some general line of products will find it easy and inexpensive to obtain the technology for a new product within that line. The opposite will hold if the transfer entails a substantial advance in the technical level of the new producer. The extent to which disparities in skill between donor and recipient will come into play depends in large part upon the kinds of information to be transferred. Following G.R. Hall and R.E. Johnson ("Transfers of United States Aerospace Technology to Japan," in R. Vernon, ed., The Technology Factor in Foreign Trade, MIT, 1970), types of technological information can be classified as "general," "system-specific," and "firm-specific" technologies. General technology is information common to an industry; it is held by all firms in the industry, and hence is the ticket of admission to the industry. It may be very difficult and costly to transfer internationally because of its heavy content of general educational skills which are time consuming to impart and may be so expensive to teach that societies as a whole must undertake the costs. System-specific technology is information that differentiates each firm from its rivals and provides its competitive edge. It relates to the manufacture of specific items. Firm-specific knowledge differs from system-specific knowledge in that, while unique to the firm, it may not relate to a single product or system. For example, a firm may have special capabilities in thin-wall casting or metallurgical techniques, but these capabilities may not necessarily be attributable to any specific item that the firm has produced. Because firm-specific technology is more likely to be embodied in people rather than patents and other physical forms, it is more costly to transfer than a system-specific technology. Firms are most willing to transfer system-specific technology because, being more physical in form, it is more easily duplicable. They are least willing to transfer firm-specific technology because, being based more on interpersonal dynamics than any other factor, it can be retained as a proprietary asset for a longer period.

present and future market development is desired, particularly with products and techniques having a longer life cycle; (b) the firm fears licensing will result in the giveaway of valuable knowhow or will threaten its position in important established markets; (c) the transfer would involve a broad line of products or is an integrated part of marketing and financial management; (d) the technology is complex to the degree that a long and sustained relationship would be required to effect the transfer; (e) there is concern over protecting the product standards; or (f) there is a desire to avoid certain antitrust implications of licensing to non-affiliated companies, particularly the attempt to include geographic or marketing limitations in the licensing agreement.

Whether technology flows via a direct or an indirect route, it is quite certain that an MNC--i.e., a firm with direct investments in at least some locations abroad--will be the transferror or recipient, usually the former. This does not occur because the firms involved are MNCs; it occurs because the MNCs happen to be technologically the strongest firms in their domestic industries. As a result of this strength, the MNCs are by far the principal vehicle for the transfer of technology from the United States to foreign countries.

MNCs may favor licensing over direct investment where (a) the market is too small to warrant investment, or the product cycle or proprietary position is ephemeral; (b) the firm has a marketable technology but lacks the resources or experience for more expanded direct investment; (c) further direct investment is precluded by

legal restraints or seems to involve high risk and uncertainties of a political or economic nature; (d) reciprocal benefits are obtainable through cross-licensing; (e) patent litigation or competitive technological development may thereby be avoided; (f) it provides an entree to foreign markets without as large a capital outlay as that required for a direct investment; (g) royalty taxes are lower than corporate taxes on business conducted through a permanent establishment; (h) a firm can establish its trademarks and maintain its foreign patent rights abroad through licensing arrangements; (i) licensees can explore the foreign market for a product, saving a U.S. firm money which might otherwise have been invested unwisely; or (j) it is a means of complying with governmental restrictions, both domestic and foreign, on overseas investment without entirely giving up market presence (e.g., there has been no alternative to licensing in Japan, where incoming direct investment flows have been officially restricted, and severely so, during the postwar period).

The procedures by which firms establish "prices" at which technology is transferred are almost notoriously non-economic. In the case of direct transfers to foreign affiliates, "pricing" may depend less on the value of the technology transmitted than on the overall financial strategy of the firm. Yet the pricing of indirect transfers as well is an imprecise art. The foreign licensee may be willing, in the end, to pay a sum equal to his (secret) expectations of profits to be earned by the use of the technology in an uncertain future. However, the licensor's own calculations of what these profits might be are likely to be lower; were they to be identical or higher, the licensor

might very well decide to enter the foreign market via the direct investment path (except in countries like Japan where regulations preclude following such a course). Prospective licensors frequently put such a low value on the prospective licensees' expectations that the income from a license is viewed as a sort of windfall; firms with such views will take what they can get for a license, without arguing too hard for a higher price. The essential point, therefore, is that technology transfers are rarely if ever priced according to rigorously applied present-value discount techniques. Instead, both parties to a transaction are likely to hew to going rates on past transfers of similar technology, basing their agreements on old, but not necessarily accurate, formulas.

As a result, there is little certainty that published figures on inbound and outbound payments of royalties and fees actually measure the value of technology transferred in the past. Our imprecise knowledge of the technology transfer process suggests that royalty and fee payments on "direct" transfers account may overstate the value of the technology involved, whereas the "indirect" account may be an understatement--but it is not possible to pronounce on the degree of bias that might be present in either case.

In table 7 the available data on receipts and payments for royalties and fees by the United States are outlined for the years 1960 through 1971. Net incoming payments, at $2,275 million in 1971, were nearly four times as large as they had been in 1960. Over the period, outbound payments have tended to run at about ten percent of

Table 7.--Payments and receipts on royalties and fees accounts, 1960-1971

(Amounts in millions of dollars)

Year	Direct flows: Total	Direct flows: Royalties, license fees, and rentals 1/	Direct flows: Management and service fees	Indirect flows	Total, direct and indirect	Percentages of total: Direct	Percentages of total: Indirect
Receipts:							
1960	403	NA	NA	247	650	62	38
1961	463	NA	NA	244	707	66	34
1962	580	NA	NA	256	836	70	30
1963	659	NA	NA	273	932	71	29
1964	756	264	492	301	1,057	72	28
1965	924	331	593	335	1,259	73	27
1966	1,030	361	669	353	1,383	75	25
1967	1,140	438	702	398	1,538	75	25
1968	1,246	522	724	454	1,700	74	26
1969	1,394	655	739	501	1,895	74	26
1970	1,620	793	826	579	2,199	74	26
1971	1,874	940	934	621	2,495	75	25
Payments:							
1960	35	NA	NA	40	75	47	53
1961	43	NA	NA	46	89	49	51
1962	57	NA	NA	44	101	57	43
1963	61	NA	NA	51	112	55	45
1964	67	NA	NA	60	127	53	47
1965	68	NA	NA	67	135	51	49
1966	64	NA	NA	76	140	46	54
1967	62	NA	NA	105	167	38	62
1968	80	NA	NA	106	187	44	56
1969	101	NA	NA	120	221	46	54
1970	111	NA	NA	114	225	50	50
1971	94	NA	NA	126	220	43	57
Net flows:							
1960	368	NA	NA	207	575	64	36
1961	420	NA	NA	198	618	68	32
1962	523	NA	NA	212	735	72	28
1963	598	NA	NA	222	820	73	27
1964	689	NA	NA	541	930	75	25
1965	856	NA	NA	268	1,124	77	23
1966	966	NA	NA	248	1,214	80	20
1967	1,078	NA	NA	292	1,370	79	21
1968	1,166	NA	NA	334	1,500	78	22
1969	1,293	NA	NA	387	1,680	77	23
1970	1,509	NA	NA	465	1,974	76	24
1971	1,780	NA	NA	495	2,275	78	22

1/ Excludes film rentals of about $300 million annually.

Sources: U.S. Commerce Department, Policy Aspects of Foreign Investment by U.S. Multinational Corporations, January 1972 and Survey of Current Business, various issues.

inbound flows, so that the rise in the latter has dominated the growth of the net flows account. Whereas, on the payments side, direct and indirect flows each account for about half the total, both the receipts and the net flows come in greater proportion--about three quarters--from direct transactions. The receipts on direct account are about equally divided between "royalties, license fees, and rentals" and "management and service fees."

In 1966 (the last year for which actual MNC figures are available), the MNCs accounted for $1,074 million, or 88 percent, of the total net receipts of $1,214 million recorded in table 7. Some $590 million, or 55 percent, of these net MNC-related receipts arose in the manufacturing sector. The $966 million recorded for all industries in table 7 as net direct flows (which are, by definition, MNC-related) amounted to 90 percent of the MNC-related total. This implies that $108 million of the $248 million in recorded indirect flows also was attributable to the MNCs. Thus, these payments figures validate that the MNCs overwhelm the non-MNCs as recipients of payments for technology transfers.

In table 8, the $590 million in net receipts by manufacturing enterprises in 1966 is disaggregated into figures for twenty-three individual subsectors of manufacturing. These figures are than compared with the level of affiliates' sales abroad and with the MNCs' domestic R&D spending in the United States. The array indicates that the receipts of the various industries are far from evenly spread; the first seven industries listed account for $359 million, or 61 percent, or the $590 million total. Moreover, while the rankings of

Table 8.--Net royalties and fees received by MNCs in 1966 compared with affiliates' sales and MNCs' domestic R & D spending

Industry	Net royalties and fees received	Net royalties and fees as percent of--	
		Affiliates' foreign sales	MNCs' U.S. R & D spending
	Million dollars		
Electronic computing equipment, office machines, farm machinery and equipment, and miseellaneous nonelectrical machinery	98	2.1	17.6
Transportation equipment	82	.7	3.2
Drugs	46	.3	15.2
Rubber products	37	1.7	29.1
Food products (excl. grain mill products)	34	.7	35.8
Industrial machinery and equipment	32	1.4	17.4
Miscellaneous chemicals	30	1.5	37.1
Soaps and cosmetics	25	1.5	37.9
Instruments	25	1.6	6.7
Plastics	24	1.5	77.5
Miscellaneous electrical machinery and equipment (incl. household appliances)	24	.8	1/ 62.0
Fabricated metals (excl. aluminum, copper, and brass)	22	1.1	15.9
Electronic components, radio, and TV	18	1.4	2.6
Paper and allied products	15	.7	23.4
Industrial chemicals	15	1.1	1.9
Stone, clay, and glass products	15	1.3	14.6
Miscellaneous manufacturing (incl. ordnance, tobacco, leather)	11	1.2	18.1
Printing and publishing	10	2.6	58.8
Electrical equipment and apparatus	9	1.1	1/ 1.4
Miscellaneous primary and fabricated metal products, incl. aluminum	7	.2	4.0
Textiles and apparel	6	.7	20.6
Grain mill products	4	.4	9.8
Lumber, wood, and furniture	1	.1	4.0
Total, all industries	590	1.1	7.7

1/ Household appliances excluded in line 11 and included in line 19.

Source: Basic data from U.S. Commerce Department, Bureau of Economic Analysis, International Investment Division.

Note: Data include an unspecified amount -- probably between 10 and 20 percent of the total shown for net receipts in the first column -- of indirect payments from unaffiliated foreigners. Thus, comparing total receipts with affiliates' sales overstates the relative share of sales paid by the affiliates themselves.

the various industries are broadly the same as these industries' R&D intensity rankings (see table 2, p. above), there are some significant exceptions. Food products (excluding grain mills), for example, ranks as number five in terms of net royalties and fees received, but it is down near the bottom in table 2 as a "low technology" industry. Several of the high technology industries--e.g., instruments, industrial chemicals, and electronics--rank much lower as royalty and fee recipients than as R&D spenders. These anomalies suggest either that (1) the data on international payments for "technology are but an imprecise measure of the actual amounts of technology that have flowed abroad in the past; or (2) to the extent that the figures do accurately measure past flows of technology, some of the important high-technology industries appear to have transferred less technology abroad than is commonly supposed. Certainly, if the high-technology industries such as electronics or industrial chemicals _had_ transferred significant amounts of technology abroad before 1966, the royalty figures for that year indicate rather small payments for it, whereas the food processors seemed to be profiting rather handsomely from teaching affiliated or non-affiliated foreigners how to accomplish the technological marvels of putting soup in a can, spicy rice in a box, or vegetables in frozen packages.

For all manufacturing, net royalty and fee receipts in 1966 averaged a mere 1.1 percent of the MNCs' affiliates total sales. The percentage rises above two percent in only two industries--the group of nonelectrical machinery producers on the first line (2.1 percent)

and the printing and publishing industry (2.6 percent). In the latter case, the ratio clearly is inflated by a non-technological item, namely ordinary publishing royalties. These comparisons suggest that, relative to affiliates' sales, the levy put on affiliates by their parents to bear the cost of technology developed in the United States is rather small--unless, of course, the technology content of the affiliates' sales themselves actually lags significantly behind that of the parents' output, in which case technology transfers to affiliates would not have been large.

In contrast to the low proportion of affiliates' sales accounted for by net receipts of royalties and fees, these receipts turn out to be rather large in relation to the MNCs' domestic R&D spending. For all manufacturing, the average is 7.7 percent. Excluding four industries in which R&D spending is very large, especially in relation to the payments from abroad (electrical machinery and equipment, line 19; industrial chemicals, line 15; electronics, line 13; and transportation equipment, line 2), the average for the remaining nineteen industries rises to 16.1 percent. Eight of the 23 industries listed in table 8 show net royalty and fee receipts equal to twenty percent or more of total domestic R&D spending by the MNCs. These calculations represent a different way of looking at the issue of technology transfers: whereas the rather low figures for the MNCs' receipts on royalties and fees account may or may not suggest less transfer of technology abroad than generally has been thought to be the case, these receipts nevertheless could be viewed as offsetting the costs of a

significant chunk of the heavy amounts of R&D which the MNCs themselves conduct in the United States.

Conclusions: The Consequences of MNC Activity for U.S. Technological Leadership

An overall assessment of the MNCs' effect on U.S. technological leadership can be suggested, although not conclusively validated, on the basis of the analysis in this chapter. Up to a point, the MNCs seem indicted by their clearly established roles as undisputed leaders in the generation of new technology in the United States and, consequently, equally undisputed leaders in the large net flow of technology to foreign countries which has occurred in recent years. Yet the bad effects on the MNCs' trade in high technology goods which one would expect as the logical result of these roles cannot be found on the evidence presented. Instead, the reverse seems to be the case, despite good evidence that the MNCs in high technology industries are placing more capital abroad, in comparison with new domestic investment, than are the MNCs in either the medium or low technology industrial groups. The direct erosion of the U.S. comparative advantage in trading high technology goods is concentrated in the performance of non-MNC firms. The MNCs in this high technology class continue to generate a better ratio of new exports to new imports than do all firms in the same class, as well as a better ratio than do the MNCs in either the medium or low technology classes. At the same time, the indirect effect, via erosion of U.S. export markets by the foreign sales of the MNCs' affiliates, is, at worst, small.

CHAPTER VII

IMPACT OF THE MULTINATIONAL FIRM ON LABOR IN THE UNITED STATES AND ABROAD

Part A. Introduction

General plan

This chapter has several objectives. The first section--Part B--assembles, organizes and compares a mass of information on employment, wages, output, productivity, and unit labor costs, by industry, in the United States and the seven key foreign countries 1/ that form the core sample of the study. Data for the MNCs and for all firms in each country and industry are compared and contrasted. From these discussions emerges a detailed picture of how foreign economies operate in relation to the U.S.--as far as the key variables affecting labor are concerned--and of how the presence of the U.S.-based MNCs has or has not had an impact on these operations, both at home and abroad.

Part C attempts an assessment--under varying assumptions about what the "real" world really is like--of the number of U.S. jobs that may have been lost or gained as a result of the spread of multinational business under the leadership of American capital. None of these answers is definitive; each depends essentially upon the assumptions that seem most reasonable to the reader.

Part D concludes the chapter with a review of the public reactions of major trade union movements to the MNCs, both in the

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1/ Canada, the United Kingdom, Belgium-Luxembourg, France, West Germany, Mexico, and Brazil.

United States and abroad. These reactions are compared and then evaluated, in light of the information and analysis developed in the preceding sections of the chapter.

A note on the data

The reader should be aware that many of the numbers used in this chapter are estimates. It was necessary to make such estimates at several points because comprehensive data to support the analysis required were not available in a suitable form. The estimates have been checked where possible against similar compilations of figures, and they are serviceable for the purposes at hand.

The figures used in the chapter fall into three broad groupings. The first of these consists of the aggregate, all-firm data on sales, labor costs, employment, and the like, against which data relating specifically to the MNCs are compared. These figures, for both 1966 and 1970, cover the U.S. and the seven key countries on which the analysis concentrates. All are estimates, in the sense that they consist of data from various official sources, reworked to match the industry groupings in which figures on the MNCs are available, and revised to conform to uniform definitional standards. These estimates were developed by the Tariff Commission and checked for consistency against similar estimates prepared for the Commission by the Bureau of Labor Statistics, U.S. Department of Labor.

The second major grouping of numerical information consists of data on the MNCs for 1966. These figures, being based on a complete

census of all U.S. direct investors in that year, may be considered as "hard" figures, reported by the MNCs. They represent part of the data collection provided to the Commission by the U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division.

The third group of figures is linked to the second. It consists of the MNC-related data for 1970. These figures are based on a survey which covered a large sample of the MNCs, "blown up" to represent universe values comparable in definition to the 1966 figures. 1/ In some of the series--wage costs per employee, for example--the sample data themselves were used on occasion, as they were considered to represent the underlying true figures more accurately than "estimates" which would have been derived by taking the ratio of one blown up number (e.g. total wages and salaries) to another (e.g. number of employees). Because the sample is large--50 percent to 80 percent of the "universe," depending on the particular data series involved--this was adopted where possible as the more conservative and accurate approach.

1/ See chapter III, pp. 267-268, for a description of the blow up-procedure.

Part B. The Employment Environment and the MNCs' Impact Upon It

The impact of the multinational corporation on world employment patterns

Employment-related issues rank high among those which generated this study. The role of the MNC in terms of job creation and job destruction is a center-stage controversy. As a first approach to analyzing the issues, this section surveys the MNCs' impact on employment in the eight countries under review. With respect to the United States, the survey is a preliminary one; the MNCs' role in the creation or destruction of U.S. jobs is taken up in greater detail in Part C. The principal focus in the present section will be on the MNCs' impact on employment abroad, in the seven countries forming the core sample for this study.

Basic employment information on the MNCs, as compared with all firms in the eight countries, is laid out in detail in tables A-17 through A-33 in the appendix to this chapter. Tables 1 and 2 on pages 609-610 represent an attempt to summarize and analyze this mass of information with as few additional numbers as possible.

In the United States, the MNCs are neither minor employers nor a special case which can be analyzed independently of the national economy: they are the backbone of the demand side of the U.S. labor market, the firms which not only have the biggest quantitative punch in terms of the numbers of people they hire, but also--as will be shown in a subsequent section on wages--generally lead their industries in terms of labor compensation. The figures shown for the

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Table 1 .--An analysis of the impact of employment by majority-owned affiliates of U.S. firms on aggregate manufacturing employment in seven key countries, 1966 and 1970

Item	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico	Total	Average
A. Affiliates' share of total employment in manufacturing (percent):									
1966	35	6	7	1	2	7	6	-	9
1970	34	8	13	4	5	8	10	-	12
B. Affiliates' employment in each country as percent of total affiliate employment, world-wide:									
1966	21	21	3	3	6	5	4	63	-
1970	16	20	4	6	12	5	5	68	-
C. Percent of total manufacturing employment in 1970 accounted for by manufacturing subsectors in which affiliates' share of subsector employment rose or remained constant	54	79	90	71	97	65	90	-	78
D. Percent of total manufacturing employment in 1970 accounted for by manufacturing subsectors in which affiliates led or kept up with aggregate employment increases or decreases 1/	43	54	55	58	53	57	53	-	54
E. Percent of aggregate change for industries of Row D above that was accounted for by affiliates	132	26	114	18	25	35	64	-	2/ 33
F. Impact Factor: Percent of total manufacturing employment in 1970 which had been affected in industrial subsectors where affiliates led or matched trend of change 3/	57	14	63	10	13	20	34	-	18

Notes:

1/ In these subsectors, the percentage change in affiliates' employment (1966-1970) was in the same direction as, and equal to or greater than the aggregate (all-firm) change.

2/ Average calculated separately from sums of aggregate and affiliate-related changes.

3/ Equals row D figure multiplied by row E figure--i.e., for Canada: 0.43 x 132 = 57. Figure in "average" column is calculated in the same manner.

Source: Tables A-19 through A-33 in appendix to this chapter.

Table 2 .—Manufacturing subsectors in which MNC majority-owned affiliates accounted for 10 percent or more of total subsector employment in 1970

(figures shown are percentages of total subsector employment)

Industry	Canada	West Germany	United Kingdom	Belgium-Luxembourg	Mexico	[illegible]
Food products	25	-	-	-	-	-
Paper and allied products	36	-	-	18		-
Chemicals and allied products	70	-	-	21	-	18
Rubber	88	-	26	56	25	28
Primary and fabricated metals	23	-	-	-	18	-
Non-electrical machinery	80	-	-	28	26	19
Electrical machinery	59	-	-	32	19	34
Transportation equipment	65	17	-	-	-	28
Textiles and apparel	-	-	-	-	-	-
Lumber, wood, and furniture	15	-	-	-	-	-
Printing and publishing	-	-	-	-	-	-
Stone, clay, and glass	27	-	-	-	-	-
Instruments	90	-	27	67	-	-
Other manufacturing	19	-	-	-	76	-

Source: Table A-19 through A-33 in appendix to this chapter.

United States in tables A-17 through A-33 in the appendix for each industry are impressive enough, but they do not tell the whole tale because they represent only the sample of parent firms which were the "reporters" in the Commerce Department's 1970 survey of direct investors. Roughly, they probably account for only about half of total manufacturing employment that should be attributed to foreign direct investors. In the aggregate, the MNCs provided an estimated 70 percent or so (12-13 million) of all the jobs in manufacturing in 1970 (18 million). However, the sample coverage is much better in some of the more concentrated industries, where a few giant firms--which almost invariably also are MNCs--traditionally have provided the bulk of employment. In other industries, with low concentration ratios (textiles and apparel, for example), neither the sample figures nor plausible estimates for the MNC "universe" reveal the MNCs as very significant domestic employers.

There were no cases among the 14 industrial subsectors shown in the tables in which MNC employment in the United States did not either rise or remain stable as a proportion of total employment. Thus, in the sample of parent firms--and, by sound inference, in the "universe" as well--the MNCs, without exception, either led or kept up with overall employment in their respective industries. In fact, the MNCs' shares of total employment rose in all of the 14 industries except two (primary and fabricated metals, and printing/publishing), where their shares remained constant. In neither of these did total employment fall. Thus, the conclusions emerge that (1) in most U.S.

industries, the MNCs took a rising share of rising employment over the period; (2) in a few, the MNCs increased their share of falling total employment, thus tending to offset increasing unemployment generated among non-MNC employers; and (3) in no cases did the MNCs lead in a situation of declining total employment.

Outside the United States, the majority-owned affiliates of U.S.-based MNCs employed a total of 3.9 million persons in 1966, of whom 2.7 million worked in manufacturing industries. By 1970, the total had risen to slightly more than 5 million, with 3.5 million of these employed in manufacturing. The Seven key foreign countries used as the basic sample for this study account for by far the largest proportion of the total in manufacturing. In 1966, their share was 63 percent; in 1970 it had climbed to 68 percent of the worldwide total (see table 1). Canada and the United Kingdom take the honors as the most important sources of affiliate employment, the former with 16 percent and the latter with 20 percent of the worldwide industrial total in 1970. Germany was next, with 12 percent, and the remaining four countries in the group rang up approximately equal shares of around 5 percent each.

On average, the MNCs' majority-owned affiliates provided some 12 percent of total manufacturing employment in the Seven countries, up from only 9 percent in 1966. As table 1 shows, Canada has experienced the greatest MNC penetration of the industrial labor market. Here, the MNCs' employ around a third of the industrial labor force. Belgium-Luxembourg takes second place, rather far behind Canada, with

Mexico, the United Kingdom, Brazil, West Germany, and France trailing, in that order.

These numbers seem relatively small. However, being averages, they hide a number of fairly significant penetration ratios for the MNCs' employment in particular industrial subsectors--even in countries where the MNCs do not have an especially large share in total manufacturing employment. Out of a total of 96 industry/country combinations (among the Seven) shown in the appendix tables A-19 through A-33, it is possible to pick out 31, in which MNC affiliates account for 15 percent or more of total subsector employment. These are listed by industry in table 2. Canada, of course, has the largest number of cases (12). Belgium-Luxembourg is next (six), followed by Mexico and Brazil (five each), the United Kingdom (two), and Germany (one).

Although affiliate employment is a major factor in labor markets for some of the key industries of the Seven, it still is an open question whether the MNCs can be said to have played a causal role in changes in overall employment patterns in the manufacturing sectors of these countries. The last four rows of information in table 1 represent an attempt to examine this question.

The third row of the table (row C) indicates the percentages of total manufacturing employment in each of the Seven countries accounted for by subsectors in which U.S.-owned affiliates' shares of total subsector employment either rose or held steady in the 1966-70 period. Thus, it is basically a measure of the proportion of the industrial labor market that was affected either by a rising affiliate employment

influence or by an essentially constant MNC presence. For the Seven countries, the average share of industrial employment impacted in this way by the MNCs' was 78 percent.

This measurement indicates only that the MNCs tended in all Seven countries to maintain or increase their shares of total employment in the great majority of cases and that most of the industrial labor force was influenced by this tendency. It does not indicate what, if any, role the MNCs had in altering patterns of employment among industries, in shifts of employment from one industry to another, and therefore in changes in the industrial structure. The figures shown in row D of table 1 begin to focus on these changes. They indicate the proportions of total manufacturing employment accounted for by cases in which the MNCs can legitimately be said to have led, or at least kept up with, changes in pattern as well as volume, when such changes occurred.

The figures in row D of the table indicate that, in each of the countries listed except Canada, the MNCs' affiliates led or matched employment changes (from 1966 through 1970) in industries which accounted for more than half of total manufacturing employment. In Canada, the affiliates led or matched the rates of aggregate employment change in seven of the fourteen industries, but these accounted for less than half (43%) of total manufacturing employment in 1970. Across all manufacturing, declines in the affiliates' employment in Canada roughly equalled increases, and the MNCs' share of total Canadian manufacturing employment fell slightly, by one percentage point.

Canada was the only country of the Seven in which such a drop occurred. It reflects the MNCs' shift of the focus of their dynamic expansion away from Canada and toward other areas, chiefly Western Europe.

The evidence of row D shows only that changes in MNC employment were consistent with national trends in industries which provide a livelihood for at least half of the industrial labor force (Canada excepted). It does not show how strong the MNCs' influence was in these industries. The calculations in row E of table 1, however, compare the numbers of actual job changes (hirings or firings) generated within the industries of row D by the MNCs, with the aggregate changes in employment that took place in the same industries from 1966 through 1970. In two countries--Canada and Belgium-Luxembourg--the MNCs clearly led, producing greater changes in employment than the all-firm averages in the industries involved. In Mexico, their influence was important, at 64 percent of the aggregate employment change. In the remaining countries, it was more moderate.

In order to complete the analysis of the MNCs' impact on changes in patterns of employment in the Seven, it is necessary to combine the statistics of rows D and E in table 1. The figures in row F of the table represent such combinations. Each figure shown measures the proportion of the industrial labor force that can be said to have been affected by the MNCs' presence--but only in those industries where changes in affiliate employment were clearly associated with national trends in the pattern of employment. For example, consider the case of France. MNC employment changed in the same direction and

at least as fast as the industry-wide averages in industries which employed 58 percent of the industrial labor force in 1970 (row D). However, because the MNCs account for significant amounts of employment in only a few French industries, their impact on changes in employment in the industries where they were associated with the general trends was small, at 18 percent of the total change (row E). Therefore, the proportion of the manufacturing labor force which can actually be said to have been affected by the MNCs' association with the trends in these industries cannot be considered to be as large as 58 percent. Weighted by the MNCs' 18 percent share in the changes observed in employment in these industries, the proportion of the industrial labor force so affected becomes only 10 percent (row F).

The measurements in row F show the MNCs as having a strong association with changes in employment patterns in only two countries--Canada and Belgium-Luxembourg. In the former, declines in MNC affiliate employment predominated. They were concentrated in two industries, metals and transportation equipment, which lost 6,000 jobs in the aggregate but in which MNC affiliate employment dropped by 20,000. In Belgium, however, the MNCs' impact was on the positive side. Here, three industries predominated--metals, non-electrical machinery, and electrical machinery. Aggregate Belgian employment in these industries rose by 29,000 persons over the four years covered; the increase in MNC affiliate employment in the three together was exactly the same.

The "impact factors" calculated for row F of the table may be compared with the figures of row A, which show the MNCs' shares of

aggregate manufacturing employment in each of the Seven. In each case shown in the table, the row F entry significantly exceeds the row A entry, indicating that the MNCs' impact on changes in employment that were associated with overall national patterns was considerably greater than their share of the aggregate industrial labor force in each country would suggest. Nevertheless, with the exceptions of Canada and Belgium-Luxembourg--and possibly Mexico, where the row F figure is 34 percent--the MNCs' overall influence on changes in the patterns of employment among manufacturing industries remains rather modest, although not negligible.

The influence of the MNCs on manufacturing output

U.S.-owned firms--both parents and affiliates--account for slightly more than a quarter of the aggregate industrial sales of the eight countries forming the core sample of this study. Excluding the United States, the ratio for the Seven is about a fifth. It runs from a high of 52 percent in Canada to a low of 6 percent in France.

These measures are based on 1970 figures. They establish beyond much doubt that the MNCs are a significant force in world manufacturing. Data for the actual values and key ratios involved in these estimates are presented in detail, by country and industry, in tables A-43 through A-57 in the appendix to this chapter.

Estimates of the *levels* of output accounted for by the MNCs understate the influence that these firms have had on the *growth* of world output, especially that large chunk of it which is generated

in the eight countries under review. Data to facilitate an exploration of this issue are presented in table 3; they show the impact of the MNCs on the growth of output (sales) in each of the eight countries. For all manufacturing, the average share of the MNCs works out to slightly more than 40 percent for all eight countries; it drops to a still substantial one-third among the Seven. The range among the Seven runs from a high of 91 percent (sic) in the United Kingdom to a low of 7 percent in France.

The data in tables A-43 through A-57 in the appendix represent a total of 110 industry/country observations of MNC sales vs. all-firm sales. Of these, exactly half--55--reveal the MNCs as having a 20 percent or larger share in the sales growth of particular industries in particular countries. These are listed, by country, in table 3, along with the actual share of aggregate sales growth realized by the MNCs'. In slightly more than a fifth of the 110 cases--23 of them--the MNCs share reached 70 percent or more. The incidence of strong and usually dominant MNC influence on the expansion of output in the key, dynamic, high-technology industries of the Seven is very high. On average, among the Seven, the overseas affiliates of U.S. firms accounted for 41 percent of the sales growth in the chemical industries, 50 percent in electrical machinery, 56 percent in nonelectrical machinery, and 67 percent in transportation equipment.

The MNCs' impact on world output is considerably heavier than is their impact on employment. The relevant statistics for manufacturing

Table 3.--The impact of the MNCs on the growth of output in manufacturing industries of eight countries, 1966-70

(Percent of MNC's share of aggregate sales growth)

Industry	United States 1/	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing industries	51	63	91	27	7	12	33	44
Selected industries in which MNC's accounted for 20 percent or more aggregated sales growth:								
Food products	-	24	-	-	-	-	-	-
Paper and allied products	49	29	-	35	25	-	-	40
Chemicals	72	68	57	80	-	-	38	-
Rubber	33	98	2/ 112	64	-	-	52	-
Nonelectrical machinery	66	88	2/ 111	45	-	-	47	74
Electrical machinery	2/ 106	77	65	72	-	-	28	88
Transportation equipment	3/	96	2/ 136	-	-	27	2/ 157	38
Textiles and apparel	28	46	-	49	-	-	-	-
Lumber, wood, and furniture	21	82	-	-	-	-	-	-
Stone, clay, and glass	45	36	42	-	-	-	-	47
Primary and fabricated metals	-	-	-	-	-	-	-	89
Instruments	89	2/ 117	2/ 314	45	38	37	-	-
Other manufacturing	38	44	2/ 395	-	-	-	71	2/ 188

1/ Data for U.S. MNC's (parent firms) cover only the sample of enterprises which reported in the Commerce Department's 1970 survey.

2/ A figure greater than 100 indicates that non-MNC firms in this industry suffered a sales loss (or that U.S. based MNC's acquired firms counted as non-MNC's in 1966), with the result that MNC sales rose by more, in absolute terms, than did aggregate industry sales.

3/ Total sales declined slightly in this industry. MNC sales rose, increasing this share of the total from 67 percent to 77 percent.

Source: Tables A-43 through A-57 in appendix to this chapter.

industries in the Seven are pulled together in table 4 to demonstrate this phenomenon. They show that, on average for the Seven, the MNCs managed to generate 16 percent of total output using only 9 percent of the total manufacturing labor force in 1966. By 1970, the gap had narrowed only slightly in relative terms; in that year, they generated 20 percent of the ouput with only 12 percent of the employed labor. These comparisons highlight the point that the heaviest incidence of MNC activity abroad is in the high-technology, capital-intensive industries which employ relatively less labor and relatively more capital per unit of output than does the general run of manufacturing.

Average compensation paid by the MNCs

The best that can be said about the MNCs' influence on wage rates--both internationally and within the labor markets of individual countries--is that it is "mixed." In some countries, the MNCs tend to pay their labor somewhat more than the average for the industries in which they operate; in other countries, they tend to pay a little less. Moreover, there is virtually no evidence that the strong influence of the MNCs in the major industrial countries has led to any trend toward international equalization of wage rates.

Estimates of average hourly compensation (wages plus fringes) for both the "all-firm" and MNC groups of employers in the eight key countries and the 14 important industrial subsectors are presented in table A-42 in the appendix to this chapter. These numbers are displayed for analysis in Charts I and II on the following two pages. The cautionary notes appended to the tables should be stressed. These figures--

Table 4 .--MNC shares of manufacturing employment and output in Seven countries, 1966 and 1970

Country and Year	MNC share of employment	MNC share of sales
	Percent	Percent
Canada:		
1966	35	49
1970	34	52
United Kingdom:		
1966	6	11
1970	8	16
Belgium-Luxembourg:		
1966	7	10
1970	13	16
France:		
1966	1	6
1970	4	6
West Germany:		
1966	2	6
1970	5	8
Brazil:		
1966	7	12
1970	8	18
Mexico:		
1966	6	16
1970	10	25
Average for the Seven:		
1966	9	16
1970	12	20

Sources: Tables A-19 and A-43 in appendix.

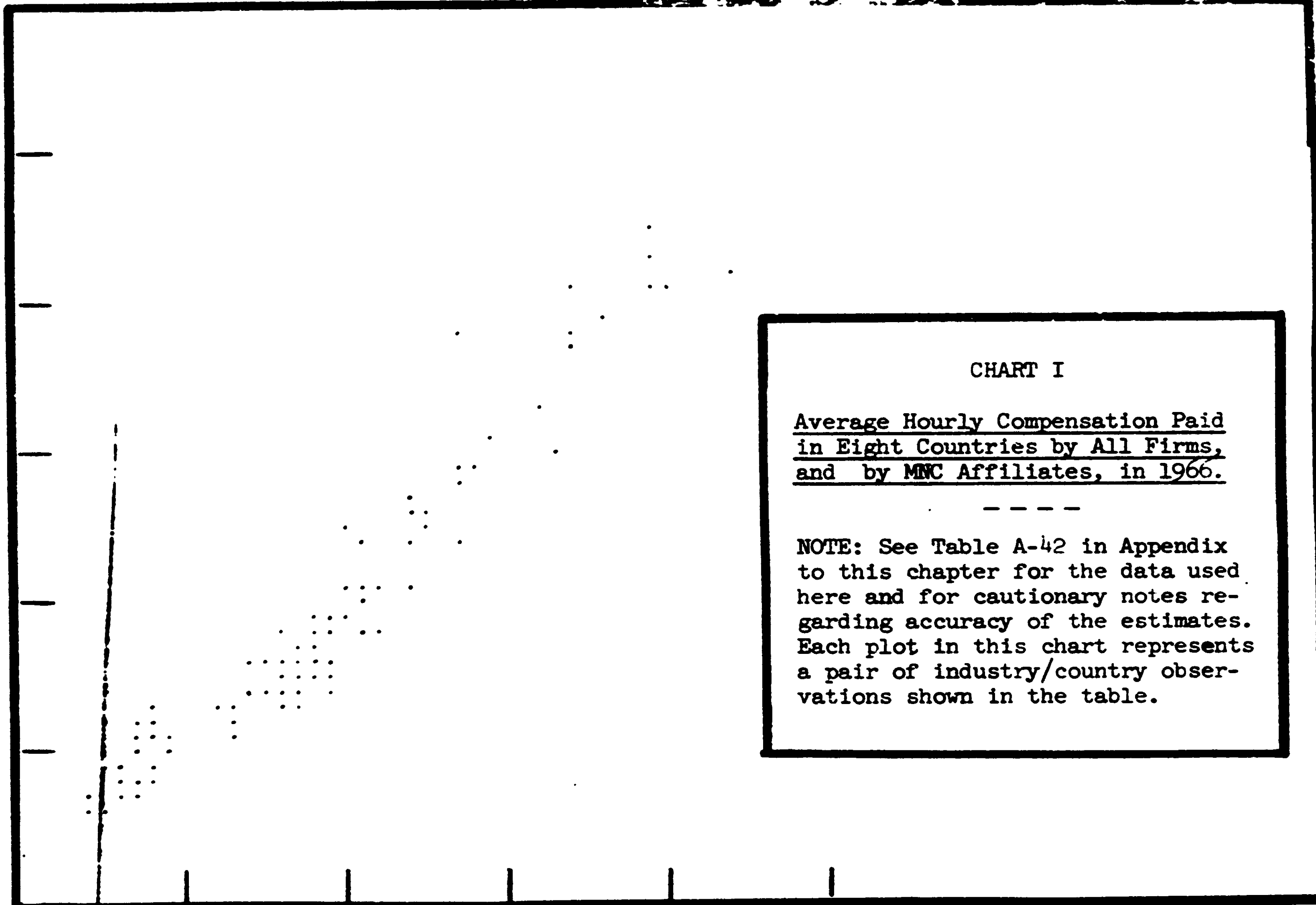

CHART I

Average Hourly Compensation Paid in Eight Countries by All Firms, and by MNC Affiliates, in 1966.

NOTE: See Table A-42 in Appendix to this chapter for the data used here and for cautionary notes regarding accuracy of the estimates. Each plot in this chart represents a pair of industry/country observations shown in the table.

MNCs

$5.00

$4.00

$3.00

$2.00

$1.00

0

$1.00 $2.00 $3.00 $4.00 $5.00 -- All Firms

CHART II

Average Hourly Compensation Paid in Eight Countries by All Firms, and by MNC Affiliates, in 1970.

NOTE: See Table A-42 in Appendix to this chapter for the data used here and for cautionary notes regarding accuracy of the estimates. Each plot in this chart represents a pair of industry/country observations shown in the table.

especially those relating to the MNCs--are estimates of varying accuracy. They are sufficiently accurate to support the main points of this discussion, but ought not be pushed much farther than that. 1/ The usefulness of the estimates lies in their revelation of general trends and tendencies, and for this purpose they are adequate.

Charts I and II are constructed to facilitate comparisons between all-firm wages and MNC wages. In cases where the two are equal in a given industry and country, the plots for those observations will fall on a 45-degree line emanating from the origin of the chart. Given the range of error possible in the estimates, this "line of equality" has been expanded to a band, which is bounded by the straight lines shown on the charts. Plots which fall within this band should, in general, be considered as denoting little or no significant differences between all-firm and MNC wage levels.

Chart I compares all-firm and MNC wages in 1966. It shows a definite pattern. The plots in the upper-right area all represent industries in the United States. Most of them are near the upper boundary or above the band, indicating clearly that the MNCs tend to lead the rest of U.S. industry in compensation paid to employees. This is not surprising. The MNCs tend, even in industries where concentration ratios are low, to be the larger firms that are the industry leaders. Moreover, they either are fully unionized or are willing to

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1/ See cautionary notes appended to table A-42 in the appendix to this chapter.

pay their employees handsomely to keep the union movements outside their doors. The non-MNC firms, on the other hand, tend to pull the all-firm averages down. These are generally smaller companies with fewer, less well-organized employees, and which in many cases cannot come up with the operating results that, in the end, permit higher wage payments. They also may tend to be the less technologically advanced firms in their industries and to employ the less skilled portion of the labor force.

Moving downward and to the left, the next important scattering of plots--those within the band--displays the Canadian experience. Next to the United States, Canada is the highest-wage country among the Eight but, unlike in the United States, the MNCs clearly tend to conform rather closely to wage-rate patterns prevailing North of the border. They pay neither more nor less than their local counterparts, but this may be a reflection of their dominance on the Canadian labor scene. Inasmuch as they employ slightly over a third of the Canadian industrial labor force, affiliates of U.S. firms may be the major influence on the all-firm figures. Hence, the string of plots indicating virtual equality between MNC and all-firm wages is to be expected.

Continuing to move downward and to the left, the lower-wage Canadian industries begin to merge with plots for the higher-wage European industries, especially those for Germany. However, the European experience is concentrated in the rather closely-packed cluster appearing directly above the \$2-per-hour mark on the all-firm scale and horizontally aligned between the \$1 and \$2 marks on the

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MNC scale. Because of the high degree of integration among the European economies, international differences among wage rates for the European industries tend to be small--hence the tight cluster--and the MNCs fairly well match that pattern. Most of the plots for Europe fall within the band signifying rough equality between all-firm and MNC wages, but they do lie closer to the lower bound line than to the upper one, and a few points appear outside and below the band. The appropriate conclusion is that, indeed, the MNC affiliates in Europe do not quite come up to the all-firm standard. On balance, they tend to compensate their employees a little less generously than do local employers.

The last cluster of plots, that located at the lower left of the chart, represents the industries of Mexico and Brazil. Here, a tendency for the MNCs to pay somewhat more than local employers is clearly apparent, although the <u>amounts</u> of the differences probably are overstated to a greater or lesser degree in the estimates. The estimates for Mexico and Brazil probably contain a greater potential error than those for the other countries shown. Nevertheless, the clear pattern showing higher MNC wages than all-firm wages <u>in general</u> almost certainly reflects a true tendency in the data.

There are at least three reasons why this result for Mexico and Brazil need not be especially surprising--one of them economic, the other two simply factors inherent in the data. In these two countries, as in the others of the Seven, <u>most</u> MNC activity tends to be concentrated in the high-technology industries. These industries make

relatively strong demands for both skilled production manpower and technological manpower (scientists and engineers), both of which are scarcer in these countries than in Europe or North America. To find such manpower--and to hold it after hiring--the MNCs may be constrained to offer somewhat higher wages and salaries than their competitors in those countries.

A problem of measurement, more pronounced in countries like Mexico and Brazil than in the advanced industrial countries, is that the MNCs and indigenous firms may be operating in environments so different as to distort comparisons. Many industries have two sectors, one advanced and small, and one not-so-advanced and large, with the MNCs operating in the former (perhaps paying only an accepted higher average national wage for workers in that sector), and local firms operating for the most part in the latter, low-wage sector which drives down the average compensation figures estimated by the national statisticians. A classic case is the automotive "industry" from which, in national statistics, it is almost impossible to remove all the small garages and repair shops that creep into the data--even though it is inappropriate to compare wages paid in such establishments with those found in sophisticated automobile factories.

Another problem of measurement arises from the distribution of industrial activity within subsectors; it may be different for the MNCs than for all firms. Many of the 14 subsectors considered here are quite broadly defined. Several contain a number of smaller branches, and it is entirely possible--in fact, likely--that the

activity of the MNCs is more concentrated in the high-technology, high-wage branches while the reverse is true for local firms. The electrical machinery industry in Mexico offers an excellent example. According to the estimates, the average wage for the industry as a whole in Mexico in 1970 was $0.63 per hour. Yet the MNC figure--again, for the industry as a whole--appears to be radically higher, at $1.10. However, in the separate branch encompassing electronic components, radio, and television manufacturing, the figure for the MNCs is only $0.76, much closer to the Mexican national average for the entire electrical machinery industry. MNC activity in this electronics branch in 1970 accounted for only about 13 percent of total MNC sales in the electrical machinery industry ($480 million), Three quarters of the rest of the overall industry sales arose in another branch--heavy electrical machinery and equipment. It was the higher average MNC wage in this latter branch which doubtlessly drove up the MNC average for the "electrical machinery" industry as a whole. Local-firm concentration in the lower-wage branches (e.g. light manufacturing such as household appliances and "miscellaneous" assembly and manufacturing operations) affected the national average wage for the sector as a whole in the opposite direction.

One additional and important point emerges from examination of Chart I--and Chart II as well. It is clear that, when one is attempting to evaluate the "low wage" argument as an incentive for the movement of capital abroad, the appropriate comparisons should include

not only differences between national average wage levels in one country and those in another, but also, differences in wages that the MNCs themselves actually pay. Largely because MNC wage scales in the United States are so much higher than the national averages for each industry, the charts show clearly that the international gaps in wage costs per man for the MNCs are considerably wider than those implied by the national averages.

Chart II displays wage comparisons for 1970. It may be viewed exactly as Chart I; the plots for the different countries and regions fall into the same relative positions in both charts and, if anything, the differences between MNC wages and all-firm wages observed in Chart I were more strongly accentuated in the latter year. One other interesting diffence between the two charts, however, is a perceptible tendency in 1970 for the several plots to break out of clusters and spread more uniformly--and more widely--across the chart. This is graphic evidence that international tendencies toward wage equalization certainly are not easily visible--if they are present at all.

Productivity in the MNCs

The productivity data for the MNCs --as measured in terms of sales per man for both all employees and production workers--tell an interesting and surprising tale. They indicate that, as expected, the MNCs are vastly more productive than other firms in host countries. Also, however, the evidence shows that, relative to productivity levels in the United States, the MNCs' operations abroad fall far behind

the average performance of U.S. industry and, indeed, far behind their own performance at home. In the 1966-1970 period, there probably was some improvement in MNC productivity levels abroad relative to output per man in their plants at home, but relative to competing firms in host countries, the MNCs only barely held their own in productivity terms, and they may even have lost a little ground.

Data on sales per man in all manufacturing as well as in the 14 industries under study are displayed in tables A-64 through A-80 in the appendix to this chapter. Tables A-81 through A-97 tabulate sales per man for production workers only. For convenient reference, the summary tables for "all manufacturing" are reproduced here in the text as tables 5 and 6.

The figures for the entire manufacturing sector are fairly representative of the individual country/industry combinations in the detailed appendix tables. In each of the Seven, the all-employee figures show the MNCs to have a significant productivity edge over local firms; for all Seven countries, the average by which MNC sales per man exceeded all-firm sales per man in 1966 was almost 50 percent. There were substantial changes in the ratios in individual countries (see column 3 of table 5), but in 1970 the average percentage difference was the same as it had been 4 years before. Relative to "all-firm" standards, the MNCs showed improvements in Canada, the United Kingdom, and Brazil, but lost some of their relative productivity advantage in the other four countries: Belgium-Luxembourg, France, Germany, and Mexico. Thus, the <u>sizes</u> of the gains in the first three

Table 5 .--All manufacturing: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	$28,551	1/ $27,845	98	100
1970	33,138	1/ 32,798	99	100
Canada:				
1966	20,206	26,583	132	95
1970	26,630	37,405	140	114
United Kingdom:				
1966	9,960	11,223	113	40
1970	10,954	19,930	182	61
Belgium-Luxembourg:				
1966	9,350	15,297	164	55
1970	14,841	19,539	132	60
France:				
1966	12,122	18,927	156	68
1970	17,146	25,219	147	77
West Germany:				
1966	11,509	16,674	145	60
1970	16,460	22,054	134	67
Brazil:				
1966	7,154	10,250	143	37
1970	9,135	13,648	149	42
Mexico:				
1966	7,935	14,925	188	54
1970	10,280	16,261	158	50
Average for the Seven (excluding the U.S.)				
1966	-	-	149	58
1970	-	-	149	67

1/ U.S. figures for MNC's are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table 6.--All manufacturing: Sales per production worker ; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	$37,571	1/ $40,463	108	100
1970	44,764	1/ 49,768	111	100
Canada:				
1966	28,276	40,019	142	99
1970	37,593	55,107	147	111
United Kingdom:				
1966	13,157	16,760	127	41
1970	14,945	28,218	189	57
Belgium-Luxembourg:				
1966	11,509	20,214	176	50
1970	18,523	34,438	189	69
France:				
1966	14,450	31,673	219	78
1970	20,567	37,165	181	75
West Germany:				
1966	15,036	24,253	161	60
1970	21,951	32,737	149	66
Brazil:				
1966	8,804	17,493	199	43
1970	11,148	20,185	181	41
Mexico:				
1966	9,896	24,719	250	61
1970	12,932	30,222	234	61
Average for the Seven (excluding the U.S.):				
1966	-	-	208	62
1970	-	-	181	69

1/ U.S. figures for MNC's are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

countries were considerably larger than those of the losses in the other four; otherwise, the averages among the Seven for the 2 years would not have been virtually equal.

Column four of table 5 looks at the MNCs' performance abroad relative to their own domestic performance in the United States. The divergence is great. In 1966, the MNC affiliates operating manufacturing establishments in the Seven were, on average, only 58 percent as productive in terms of sales per man as were parent firms in the same industries in the United States. There was an improvement by 1970, when the comparable ratio was 67 percent. The improvement was generalized across all of the countries considered, except Mexico.

The data on sales per production worker tell a slightly different story (see table 6). On average, the MNCs showed a decline in production-worker productivity relative to host-country firms over the 1966-70 period. However, their average net advantage over the all-firm performance--which amounted to over 100 percent in 1966 and over 80 percent in 1970--was considerably greater than the 50 percent average advantage revealed by the all-employee measurements. Does this imply that nonproduction workers of the MNCs pull productivity ratios <u>down</u>? Not necessarily. The MNCs, on average, tend to employ more nonproduction personnel than most foreign firms. U.S. companies are famous for being top-heavy with management and scientific/technological manpower. However, the effect of these employees is to raise the all-employee productivity ratios above the levels they would otherwise reach--which is part of the explanation for the MNCs' significant

advantage over local firms--and, more importantly, to increase the productivity of production workers whose techniques and processes are supposed to be rationalized by high-priced management and technical talent.

Table 7 takes a more detailed look at the MNCs' productivity history (based on all-employee data) from 1966 to 1970 in the 14 manufacturing subsectors of the Seven and in the United States. It shows, first, that the MNCs' parent establishments generally either held their own or gained slightly relative to all firms in their industries in the United States. Moreover, counting up the country/industry observations in the appendix tables which fall into various classes of productivity performance, it shows 42 cases in which the MNC affiliates gained relative to their parents' domestic operations, 30 in which there was no change, and only 16 cases of deterioration in the relative position. Comparing the MNCs with their local competition in host countries, however, one finds 37 cases of productivity improvement, 45 of deterioration in relative terms, and 10 with no change. Thus, there were more "worse" cases than "better" ones. These results are symmetrical with the all-manufacturing averages already discussed.

Unit labor costs of the MNCs

The unit labor cost performance of the MNCs --derived from the interaction of sales (demand), labor costs, and productivity--helps considerably to explain why the MNCs find production in foreign

Table 7 :—Summary of changes in productivity (sales per employee) of MNC's relative to foreign and domestic firms and to the MNCs' U.S. experience, 1966-1970

Industry	Parents' domestic position relative to other domestic firms			Affiliates' foreign position relative to parents' domestic experience (No. of cases)			Affiliates' foreign position relative to foreign firms (No. of cases)			Affiliates' overall change relative to	
	Better	Worse	No change 1/	Better	Worse	No change 1/	Better	Worse	No change 1/	Parents in the United States	Foreign firms
Food products			x	0	3	4	1	6	0	Worse	Worse
Paper and allied products			x	1	2	4	1	6	0	Worse	Worse
Chemicals			x	6	0	1	5	0	2	Better	Better
Rubber			x	2	4	1	2	5	0	Worse	Worse
Primary and fabricated metals			x	3	0	4	0	5	2	Better	Worse
Nonelectrical machinery			x	4	1	2	1	3	3	Better	Worse
Electrical machinery	x			3	1	3	4	3	0	Better	Better
Transportation equipment	x			3	3	1	4	3	0	No change	Better
Textiles and apparel	x			3	0	4	4	2	1	Better	Better
Lumber, wood, and furniture 2/			x	1	0	3	3	1	0	Better	Better
Printing and Publishing 3/	Data	Not	Available	Data	Not	Available	0	6	0	N.A.	Worse
Stone, clay and glass			x	4	1	2	3	3	1	Better	No change
Instruments 4/			x	6	0	1	4	1	0	Better	Better
Other manufacturing		x		6	1	0	5	1	1	Better	Better
All manufacturing (sums of above)	3	1	9	42	16	30	37	45	10	Better	Worse
All manufacturing (separately calculated 5/			x	4	1	2	3	4	0	Better	Worse

1/ Relative change of 5 percentage points or less is considered "no charge."
2/ Data availabe in only four cases.
3/ Six cases only.
4/ Five cases only for affiliates relative to foreign firms.
5/ Figures separately calculated from sums of sales and employment over all manufacturing industries.

Source: Tables A-66 through A-80 in appendix to this chapter.

locations attractive. On the evidence that will be presented in this section, the MNCs demonstrate considerable ability to operate in most countries with unit labor costs that are lower--much lower--than both the costs of their local competitors and the costs of their parent firms in the same industries in the United States. This is an important conclusion, and it requires careful exploration.

Table 8 presents the necessary summary information for all manufacturing. It is backed by detailed industry/country figures shown in tables A-102 through A-118 in the appendix. The first point to be noted from table 8 is that the MNCs (parent firms) are high-cost producers relative to the average for manufacturing in the United States. This is a carry-over of the high-wage evidence noted in an earlier section (pp.624-5). In both 1966 and 1970, the MNCs, for their domestic U.S. operations, showed unit labor costs approximately 35 percent higher than the average for U.S. manufacturing.

Secondly, in each of the Seven except Mexico and Brazil, the MNCs' affiliate unit labor costs are lower--significantly lower--than those shown for all firms in these countries. For the group of five countries that excludes Mexico and Brazil, the average difference was about 40 percent of the all-firm level in 1970; for all Seven countries together, it was about 30 percent. At the same time, the MNCs' costs in most countries were roughly equal to or slightly lower than the all-firm average for domestic U.S. industries. In other words, the MNCs abroad do not perform very much better, in unit labor cost terms, than is the standard for performance in U.S. manufacturing.

Table 8.—All manufacturing: Average unit labor costs; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	0.22	1/ 0.30	136	100
1970	.23	1/ .31	135	100
Canada:				
1966	.25	.21	84	70
1970	.29	.21	72	68
United Kingdom:				
1966	.38	.28	74	93
1970	.40	.18	45	58
Belgium-Luxembourg:				
1966	.36	.21	58	70
1970	.33	.17	52	55
France:				
1966	.33	.21	64	70
1970	.34	.19	56	61
West Germany:				
1966	.31	.21	68	70
1970	.33	.24	73	77
Brazil:				
1966	.13	.19	146	63
1970	.12	:21	175	68
Mexico:				
1966	.16	.16	100	53
1970	.17	.18	106	58
Averages:				
Seven countries:				
1966	.27	.21	78	70
1970	.28	.20	71	65
Five countries (Mexico and Brazil excluded)				
1966	.33	.22	67	73
1970	.34	.20	59	65

1/ U.S. figures for MNC's are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-102 and A-103 for MNC figures.

On the other hand, the affiliates very handsomely out-perform their parents. As the fourth column of table 8 shows, the affiliates' unit labor costs in each of the Seven are substantially lower than the parent-firm MNC values in both years. Moreover, the gap increased over the 4 years from 1966 through 1970, except for West Germany, Brazil, and Mexico. In 1966, costs in the Seven averaged some 70 percent of the U.S. parent-firm level; by 1970, this figure had dropped to under 65 percent.

The scenario which unfolds from these data is a curious one. It begins with the key observation that all-firm unit labor costs abroad (i.e., in the Seven countries where the MNCs' have taken most of their capital) are generally <u>higher</u> than in the United States, except for Mexico and Brazil. It proceeds to the evidence that the MNCs, operating at home, turn in a significantly poorer unit cost record than other firms in U.S. manufacturing. This is due to their higher wage levels, because, as was shown in the section on productivity (pp. 629-34), their productivity record is about as good as the manufacturing average in the United States. Then, one sees the MNCs' moving abroad to capture a cost advantage--and that advantage turns out to be little more than the domestic "standard" for the United States. In the process, they obtain a significant advantage over their foreign competition and over their own parent firms; but they do no more than achieve a sort of "par" with non-MNC American firms with which they compete in U.S. and foreign markets.

The evidence can be presented graphically as well as in tabulations, with the advantage that more industrial detail can be shown conveniently. Charts III and IV display unit labor cost information in the same format as that for the basic wage data in Charts I and II in an earlier section (see pp. 622-623). For each of the 90-plus country/industry combinations in the eight-country-by-14-industry data set, unit labor costs of the MNCs are plotted against the all-firm figure. Plots on the 45-degree line indicate equality between the two figures; plots above it indicate an MNC value higher than the all-firm one; and plots below and to the right of it indicate lower MNC values. There is one difference from Charts I and II: the plots for the United States are indicated by an "x" rather than a point, for easy identification.

In Charts I and II, most of the plots fell along a line or band. The correlation between MNC wage levels and all-firm levels was so obvious that actual calculations of correlation coefficients would have been superfluous. It was rather easy to pick out the plots for different countries merely by observing their locations on the charts.

Charts III and IV (each of which covers one of the terminal years, 1966 for Chart III and 1970 for Chart IV), show no such relationship. Trial calculations showed absolutely no associative connection between the MNC and the all-firm unit cost figures. Furthermore, the scatters for 1966 and 1970 appear almost identically diffuse; there is no ground for concluding that the MNCs had any effect of significance on local, all-firm unit cost changes anywhere over the 4-year period. The

CHART III.

MNC Payroll Costs Per Dollar of Sales vs. Comparable All-Firm Figures in Eight Countries, 1966.

Source: Tables A-105 through A-118

MNCs

$0.50

$0.40

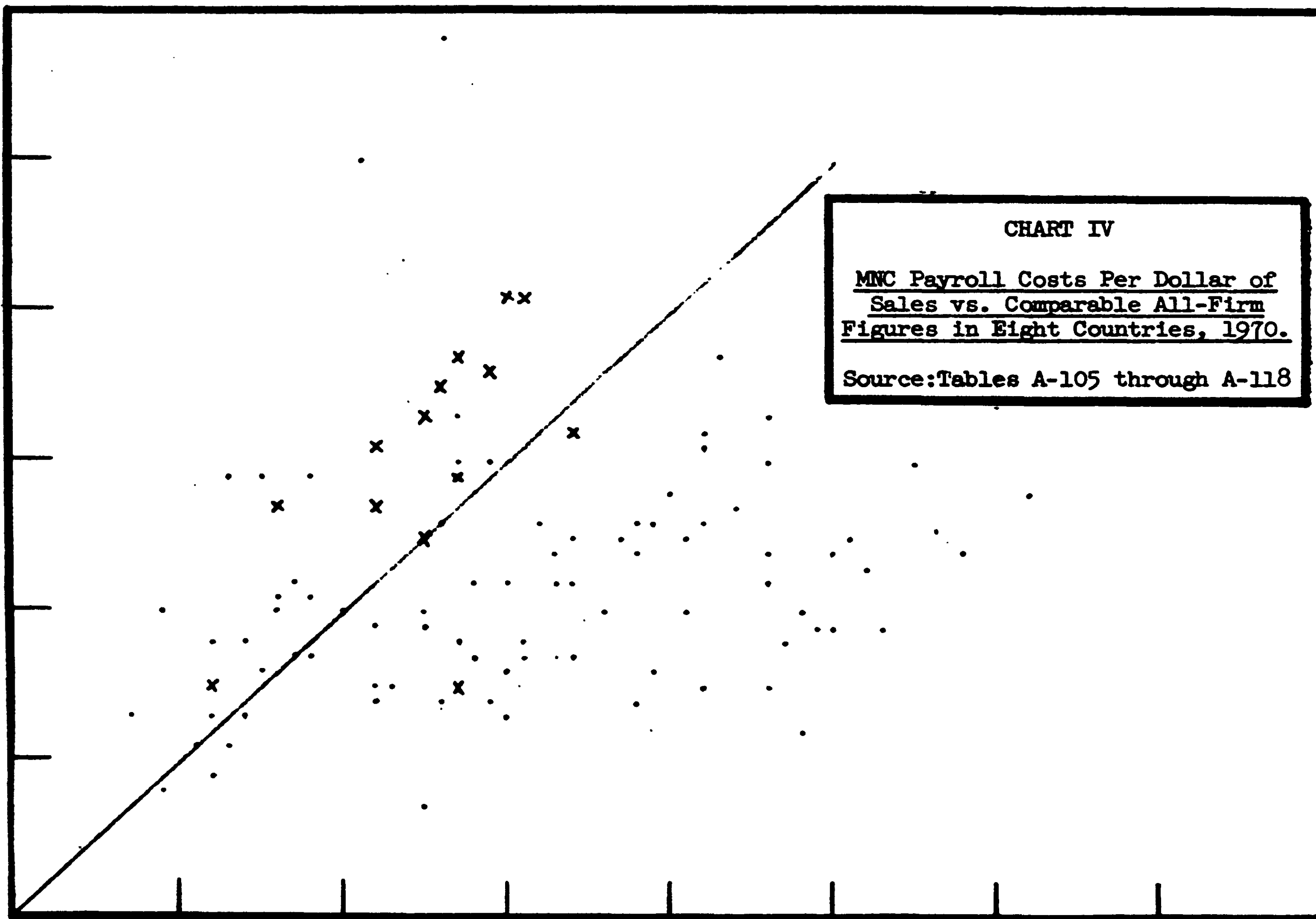
$0.30

$0.20

$0.10

0

$0.10 $0.20 $0.30 $0.40 $0.50 $0.60 $0.70 -- All Firms



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levelling influence of the MNCs is absent.

The charts verify the story revealed by the more aggregated figures of table 8. Note first that the vast majority of the non-U.S. plots are below the 45-degree line, indicating, as the previous tabulations of averages also showed, that the MNCs' unit costs generally are well below the all-firm figures. Secondly, most of the plots fall within the range of $0.10 to $0.30 per dollar of sales on the vertical MNC scale. This suggests a fairly uniform performance by the MNCs, regardless of country or industry. Moreover, it is the same range as that for most of the U.S. plots, viewed upward from the all-firm scale, which is a complicated way of verifying that the previously-discussed averages showing the MNC performance abroad to be roughly comparable to the all-firm performance in the United States correctly represent the experience of most MNCs in individual industries and countries.

Summary of Part B

The preceding sections have looked at the principal relationships which affect unit labor costs, and at how the MNCs behave with respect to each of them. They have shown that the MNCs, operating abroad in the Seven countries that absorb the bulk of their direct investment capital and account for the bulk of their affiliates' sales and employment, have a significant effect on levels of both employment and output (sales) in the manufacturing industries of the host countries. Because of their productivity edge relative to local firms, their effect on sales is greater than their effect on employment. They

account for a large (20 percent) share of total sales, but only a smaller--but still important--share of employment. In the United States, the MNCs, as employers and generators of output, are preeminent. They are the country's industrial leaders.

In all eight countries, the MNCs tend to conform fairly closely to local standards of labor compensation, with some variations. In the United States, they are far and away the most generous relative to all-firm standards. In Canada, their conformity with national compensation standards is very close, probably because the MNCs so heavily influence Canadian industry that they themselves set the national standards. Canada is the highest-wage country of the group under study, next to the United States. In Europe, the MNCs tend, on balance, to pay their labor slightly less than the local-firm average The five European countries in the group of Seven studied here--the United Kingdom, Belgium-Luxembourg, West Germany, and France--show a tight bunching of wage levels, both for all firms and for the MNCs; wages in the United Kingdom tend towards the bottom of the European scale. Finally, in the two LDCs of the sample wage levels in manufacturing tend, of course, to be much lower than in the other countries of North America and Europe. Here, the evidence seems to suggest that the MNCs pay, on average, somewhat more than their local counterparts.

The productivity performance of the MNCs in host countries (as measured by sales per worker) is much superior to that of local firms in each of the Seven. It also is much inferior to that of the MNCs

parent firms in similar industries in the United States. This is equivalent to stating that it is inferior to all-firm productivity standards in the United States, because the parent-firm MNCs show roughly the same productivity as is the average in U.S. industry.

Several factors--employment and output levels, wages and salaries, and productivity--mix and have their separate effects on unit labor costs. These are the key figures to be used in evaluating the MNCs' performance at home and abroad. Leaving the MNCs aside for the mement, all-firm data for the United States show unit labor costs to be generally lower than in the Seven, except for Mexico and Brazil. This is a direct consequence of the U.S. worker's greater productivity edge, which is not quite offset by higher wages than those paid in Canada and Europe. However, the MNCs, in their U.S. operations, show unit labor costs about 35 percent higher than those for manufacturing firms in general. In these high-wage companies, the productivity edge is fully offset, so that the MNCs' U.S. operations show unit labor costs roughly equal to those for all firms in Canada and Europe. Operating abroad, the MNCs turn in a unit cost performance that is better than that of host-country firms and better than their own performance in the United States. In the end, it turns out that they manage little more abroad than to attain parity with all-firm unit cost standards prevailing in the manufacturing sector of the U.S. economy.

Part C. The Impact of the MNCs on U.S. Labor: Job Creation vs. Job Destruction

Spokesman for U.S. labor have contended that the multinational corporations displace U.S. employment by locating production overseas through foreign direct investment. The analysis which follows is an attempt to evaluate the actual impact of the MNCs on U.S. labor in terms of the number of jobs lost or gained, at the finest possible level of industry detail.

It is important to note in the very beginning that this estimate of net impact on U.S. labor is a hypothetical result derived from conditions best expressed as "what would have happened" if the MNCs had not taken their capital abroad. Therefore, the reader must devote particular attention to the assumptions underlying the argument. The conclusion one chooses depends exclusively on the particular assumptions adopted at the outset. In this exercise, one cannot "measure;" he can only decide what seems to be the most reasonable way of looking at the world, thence proceeding to estimate what that view implies.

Methodology

The principal difficulty in formulating the hypothetical construct, "what would have happened," is the inability to specify quantitatively the dynamic conditions which should be considered. Knowledge of these dynamic factors is necessary to assure the authenticity of this hypothetical world, so that legitimate comparisons can be made between it and the real world circa 1970. The most direct way of providing a basis

for such comparisons was to frame postulates in a way that provides reasonable boundaries within which the analysis could be conducted. This task is accomplished by formulating sets of assumptions which are both reasonable and self-evident to the reader, so that no ambiguity or confusion arises. The assumptions also have authoritative precedent in this line of research. 1/

The limits or boundaries imposed on the hypothetical world depend on what effect foreign direct investment exerts on the investment behavior of both the host and home countries. There are two possible extremes: the foreign direct investment can be treated as an addition to the host country's domestic investment and a reduction in domestic investment; 2/ or the foreign investment can be viewed as exerting no effect on either country's domestic investment. 3/ In addition, a third situation is possible, which results in a net addition to world capital formation. The foreign direct investment in this situation increases the host country's domestic investment but no fall in home investment takes place. 4/

1/ See Overseas Manufacturing Investment and the Balance of Payments; G. C. Hufbauer and F. M. Adler, Tax Policy Research Study Number One, U.S. Treasury Department, 1968, Washington, D.C.; and Effects of United Kingdom Direct Investment Overseas; Interim and Final Reports; W. B. Reddaway, J. O. N. Perkins, S. J. Potter, and C. T. Taylor, 1967 and 1968, Cambridge University Press.

2/ This is the classical approach, to use Hufbauer and Adler terminology, and it implies a net change in world investment of zero.

3/ Hufbauer and Adler call this the reverse classical effect.

4/ This is the anticlassical construct.

Since the question of assumptions is so important, the possible alternatives ought to be restated in different language, for the sake of clarity. Basically, there are two extremes to choose from, plus a middle ground. Option One loads the argument heavily in favor of the MNCs' critics. It says that, when a foreign direct investment takes place, investment at home drops absolutely and host-country investment increases absolutely; one country's investment falls, the other's rises. If the MNC had not made the investment, nobody else would have. The foreign investment substitutes directly for a domestic one that was not made. Option Two loads the argument the other way. It says that foreign investment causes no fall in domestic investment at home, while it does substitute for domestic investment in the host country. Investment is unchanged in both places. Note that the investment substitutes for one that the foreigner would have made. This opens up the possibility of foreigners' competitive investment in the absence of the MNCs. If this were the case, then there would be no "job impact" to analyze, except for a positive one. Any negative effect that might be attributed to the MNCs is assumed away by allowing the foreigner to take the MNCs' place and responsibility.

Option Three is in between One and Two but, in its effects on the estimates to be presented here, it is somewhat closer to One than to Two. It is the one that will be adopted as the starting point of this presentation, so it needs to be taken apart rigorously. It is close to Option One in the sense that it presumes no substitution in the host country. Host country investment rises absolutely, and it would not

have done so, had the MNC not come along. It is assumed with finality that no foreigner would have made the investment abroad; therefore, none of the potential bad effects of MNC investment are assumed away by putting the onus on the foreigner. On the other hand, Option Three does not assume an absolute drop in domestic investment in the home country of the MNC. It says that investment there is unchanged.

It is assumed, under Option Three, that direct investment in the host country generates a net increase in the host country's total investment. Various arguments in favor of this assumption are: That the investment takes place in productive facilities that native firms or third country firms are unwilling or otherwise unable themselves to put in place; that the presence of the U.S. multinational does not deter any other form of local investment; and/or that the local government does not take any neutralizing steps in the face of this autonomous increase in doemstic investment, but rather welcomes any such augmentation of its capital stock.

All of these arguments describe host country conditions in much of the real world. So long as the arguments are plausible enough to prevent outright rejection of the assumption, the primary reason for its selection is as follows: If one postulated that all the accumulated MNC direct investment never took place, then there would be no substitute output by native or third country firms to take its place. In addition, it is assumed in this hypothetical world that U.S. exports can entirely replace this lost production. These assumptions will provide a basis on which to estimate the maximum displacement of U.S. jobs, the limit or boundary on net impact discussed earlier.

To complete the case, one must consider also the impact on the home or investing country. It is assumed that foreign direct investment does not displace U.S. domestic investment. One could justify this assumption by saying that monetary and fiscal policies operating to achieve "full employment" tend to be largely successful in the long run, 1/ and/or that foreign investment only reduces idle corporate cash balances such that only American dissaving is involved. 2/ Therefore, the investment abroad has no effect on domestic investment in the United States--or at least not a permanent one.

There also are empirical justifications for positing that an absolute drop in U.S. domestic investment does not result from the MNCs direct investment abroad, so that one can safely assume a zero net effect on domestic investment when the foreign investment takes place. This study is concerned primarily with the period after 1965. This was a period of high and rising rates of foreign direct investment by U.S. firms. It also was a period in which the United States went through a domestic investment boom--a boom sparked by the very group of firms which was also investing so heavily abroad--that ended only in the recessionary period of 1970. One could argue that, if the foreign investment had not taken place, the boom at home would have been even bigger, but that is a weak argument in the face of evidence that high rates of

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1/ Monetary and fiscal policy must contend with cyclical and secular changes in the economy. In a contractionary period when policy attempts to bolster sagging investment at home, it is dubious that curtailed foreign investment would become domestic investment. See Reddaway, Appendix C, The Macro-Economic Assumptions, Interim Report, pp. 165-175.

2/ See Hufbauer and Adler, Overseas Manufacturing Investment, pp. 52-55, which is a development of H.G. Johnson's "The Transfer Problem and Exchange Stability," Journal of Political Economy, June 1956. The implications of capital financing abroad within the confines of the anticlassical model are ignored for the present.

foreign and domestic investment seem to go together--including the evidence presented in chapter III (p. 328), which demonstrated clearly that industries in which MNC investment abroad is high also are industries which are heavy domestic investors. 1/

To sum up, the principal assumptions with which the analysis begins can bear one more restatement, they are:

(1) The MNCs' foreign investment increases the capital stock of the host country. It does not substitute for an investment a foreigner would have made, and the foreigner would not have made it in the MNCs' absence;

(2) Domestic investment in the U.S. is not reduced by the MNCs' foreign investment; and

(3) U.S. exports could have substituted completely for affiliates' production abroad.

One other point has to be added. Fairness in this analysis dictates that the employment effects of investment in the United States by foreign-owned MNCs be included. This is done, under assumptions which are exactly symmetrical with those applied to the activity of the U.S.-owned MNCs.

It now is possible to proceed to the first--and most pessimistic--estimate of the impact of MNC activity on U.S. employment. Call it Case 1.

1/ Examples have appeared in recent years of plant closings attributed to shifts of production abroad by MNCs. The assumption made here does not deny that these occur; it denies that they are the general rule, across the entire spectrum of industry that is here being considered, and it denies that, when they do occur, they produce a permanent, net decline in domestic investment.

Impact on U.S. employment--Case 1 1/

It has been assumed that American exports are able to substitute completely for the affiliates' production abroad. There are no competitive exports from third countries to these newly opened markets and U.S. industry suffers from no competitive disadvantages in any of the various subsectors of manufacturing. Column 1 of table 9 is an estimate of the number of American jobs that would be required to produce these exports. Therefore, it is an estimate of the maximum gross job loss that can be attributed to all previous direct investment, given the nature of the assumptions.

Against this maximum gross job loss calculation, however, it is necessary to contrast a number of employment gains that can be established as having occurred as a direct result of MNC foreign direct investment operations. These are shown as deductions from the gross loss figure in columns two through five of table 9. They are described in more detail in the following paragraphs.

A multinational corporation must maintain a home office staff to direct the various affiliates. The sizes of these staffs, and the degrees to which affiliates are closely controlled or allowed relative autonomy, vary greatly. They depend on the peculiar hierarchies and policies of particular companies. Therefore, no estimate can be made of this staff without going directly to the companies themselves. A

1/ Full descriptions of the methods employed to derive the figures shown in this section are contained in a methodological appendix to this chapter (pp. 809 through 817).

Table 9.—Estimation of net employment impact: Case 1, 1970

(Columns 1 through 6 show numbers of employees)

Industry	Potential Gross job loss (1)	Offsets to potential gross loss: MNC Headquarters employment (2)	Effect of MNC exports to affiliates abroad (3)	Income effect of direct investment abroad (4)	U.S. employment of foreign MNCs (5)	Net impact (6)	Ratio of net impact to gross loss (7)
anufacturing	-2,379,400	140,200	286,600	34,400	621,200	-1,297,000	0.55
ood	-99,700	1,700	6,100	1,000	77,900	-13,000	0.13
Grain mill products	-10,600	300	1,000	100	300	-8,900	0.84
Beverages	-18,400	300	1,100	0	17,500	+500	-0.03
Miscellaneous and combinations	-70,000	1,100	4,000	900	60,100	-4,600	0.07
per and allied products	-66,800	4,400	7,000	900	31,900	-22,600	-0.34
emicals	-204,600	16,900	20,500	2,200	151,700	-13,300	0.07
Drugs	-50,200	7,600	6,200	200	15,200	-21,000	0.42
Soaps and cosmetics	-27,900	300	800	100	14,800	-11,900	0.43
Industrial organic and inorganic	-33,600	8,400	11,500	1,000	43,000	+30,300	-0.90
Plastics materials	-52,300	300	700	600	26,900	-23,800	0.46
Miscellaneous and combinations	-40,600	300	1,300	300	51,800	+13,100	-0.32
bber	-77,800	5,200	1,900	500	6,300	-63,900	0.82
imary and fabricated metals 1/	-218,700	37,700	16,300	4,000	94,300	-66,400	0.30
Primary 1/	-39,800	5,200	4,000	1,600	37,400	+8,400	-0.21
Fabricated, excluding aluminum, copper and brass	-143,300	17,200	5,200	1,900	19,600	-99,400	0.69
Primary and fabricated aluminum 1/	-35,300	11,000	4,700	300	20,800	+1,500	-0.04
Miscellaneous metal products 1/	-300	4,300	2,000	200	16,500	+22,700	-75.67
achinery, except electrical	-355,700	27,900	84,600	8,900	50,200	-184,100	0.52
Farm machinery and equipment	-25,600	3,800	8,100	500	4,800	-8,400	0.33
Industrial machinery and equipment	-141,000	17,300	21,500	4,400	15,600	-82,200	0.58
Office machines	-44,900	1,300	22,700	100	9,500	-11,200	0.25
Electronic computing equipment	-81,800	3,400	24,700	1,800	4,000	-47,900	0.59
Miscellaneous nonelectrical machinery	-62,400	2,100	7,600	2,100	16,200	-34,400	0.55
ectrical machinery	-343,400	12,700	31,300	4,000	63,400	-232,000	0.68
Household appliances	-41,800	1,900	1,400	300	15,200	-23,000	0.55
Electrical equipment and apparatus	-90,300	3,500	13,200	1,200	10,600	-61,800	0.68
Electronic components, radio and T.V.	-117,900	4,000	14,400	2,100	33,700	-63,700	0.54
Miscellaneous electrical machinery	-93,400	3,300	2,300	400	3,900	-83,500	0.89
ansportation equipment	-388,200	8,800	79,400	6,100	20,100	-273,800	0.71
xtiles and apparel	-84,600	2,500	1,900	1,000	40,800	-38,400	0.45
mber, wood, and furniture	-56,100	3,000	2,300	700	23,400	-26,700	0.48
inting and publishing	-24,200	1,200	2,400	700	4,600	-15,300	0.63
one, clay, and glass	-66,400	3,300	2,700	700	16,200	-43,500	0.66
struments	-91,500	5,500	23,300	1,600	10,100	-51,000	0.56
scellaneous manufacturing, ordnance, leather, tobacco	-301,700	9,400	6,900	2,100	30,300	-253,000	0.84

1/ Excludes SIC 333 (Primary Smelting and Refining of Non-ferrous Metals) when related to mining operations in same country.

Sources: Based on data from U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division, and U.S. Tariff Commission rveys. See methodological appendix to this chapter.

telephone survey was conducted to determine the sizes of home office staffs, the existence of whose jobs depended upon production facilities abroad. Particular care was directed to exclude any staff in support of domestic export operations. These jobs are jobs gained by foreign direct investment and must be deducted from the gross job loss. Their numbers are listed in column 2 of the table.

Production overseas generates exports from the United States. Setting up production abroad requires machinery and related equipment, some proportion of which is exported from the United States. A more constant factor is the export of raw materials and intermediate goods. These exports to affiliates generate domestic employment which constitutes another offset to the gross job loss from production abroad. Estimates of its size appear in column 3 of table 9.

There is an additional export effect which must be considered. Under the assumptions employed, foreign direct investment is an addition to the host country's domestic investment. It therefore generates an income effect felt throughout the rest of the host economy. An estimate of the total increase in income attributable to the original investment permits an estimate of the host-country imports attributable to this income. A certain portion of these imports would be imports from the United States. Again, U.S. jobs can be tied to these exports and must be deducted from the gross job loss, as shown in column 4 of the table.

The size of the gross job loss is dependent largely on the assumptions of our hypothetical world. The job gains are dependent on the

real world in which a given amount of U.S. foreign direct investment controlled by U.S. multinational corporations has taken place. To describe completely these real-world job gains, an inward flow of direct investment from abroad must be acknowledged and its effects studied.

Foreign multinational corporations have made substantial direct investments in the United States. A complete picture of the multinational corporation employment situation should include the jobs attributable to the production of U.S. affiliates of these foreign corporations. However, care must be taken to apply to foreign investors in the United States the same regimen of assumptions as that to which U.S. direct investors abroad are subjected in the analysis. Strictly speaking, this amounts to a subtraction from actual U.S. employment of the number of jobs created in the United States by foreign-owned MNCs, because the analysis runs in terms of what would have happened if the investment had not taken place. The "Gross Job Loss" estimates in column 1 of table 9 essentially measure the number of jobs in the U.S. that would have been gained in the United States if the U.S.-based MNCs had not invested abroad. Therefore, the effect of considering the impact of foreigners' investments in the U.S. would be a reduction of the column 1 figures, because it is really an estimate of the number of U.S. jobs that would have been lost if the foreign-based MNCs had not invested in the United States. Reflecting these considerations, the estimated numbers of U.S. jobs accounted for by foreign direct investors in U.S. manufacturing

industries are listed in column 5 as a separate group of offsets to the column 1 figures.

The hypothetical net impact on U.S. labor of overseas direct investment--equal to the gross loss (column 1) minus the sum of the gains (columns 2 through 5)--is calculated in column 6 of the table. This is an estimate of the maximum job loss that could have occurred. It is the most pessimistic possible conclusion so far as U.S. employment is concerned. Even under the stringent assumptions which generate it, the net effect for all manufacturing turns out to be only about half as large as the original gross job loss hypothesized--1.3 million as against 2.4 million jobs.

There are important differences in net effects among the various subsectors and branches of manufacturing. Among the 14 subsectors which correspond to the two-digit level of the SIC (Standard Industrial Classification) code, Transportation E ipment was the largest contributor to the net loss shown, to the tune of almost 274,000 jobs. "Other" Manufacturing (ordnance, leather, tobacco, and miscellaneous manufacturing) followed with 253,000; Electrical Machinery with 232,000; Nonelectrical Machinery with 184,000; and Metals with 66,000. At the other end of the spectrum, subsectors showing the smallest contributions to the overall net employment loss were Food Processing and Chemicals with 13,000 each; and Printing and Publishing with 15,000.

The net impact calculations contain some results at the more disaggregated "branch" levels that are immediately apparent and possibly surprising. These are in Beverages, Industrial Chemicals,

"Miscellaneous" Chemical Production, 1/ Primary Metals, Primary and Fabricated Aluminum, and Miscellaneous, Primary and Fabricated Metals. 2/ In these industries, the net employment effect is positive. In all others, the effect was negative--i.e., the job gains due to both U.S. and foreign multinationals were not sufficient to overcome the assumed gross job loss.

One result of the estimates that should be highlighted is that they are heavily influenced by the impact of foreign-based MNCs on U.S. domestic employment. At the all-manufacturing level, the foreign MNCs account for over 57 percent of the 1.08 million U.S. jobs estimated as gains in employment which offset the gross losses in column 1. This offset by foreigners' employment of U.S. workers is not uniform across industries, however. Some 70 percent of the foreigners' U.S. employment--437,500 jobs--is concentrated in five industries: Chemicals, Metals, Food Products, Electrical Machinery, and Non-Electrical Machinery.

To facilitate orderly analysis of the various net effects at the detailed industry levels, the results are arranged by rank in table 10. Column 1 of that table is a ranking of all branches from the largest positive net effect to the largest negative net effect. It

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1/ Paints, Varnishes, Lacquers, Enamels, and Allied Products (SIC Code 285); Gum and Wood Chemicals (SIC Code 286); Agricultural Chemicals (SIC Code 287); and Miscellaneous Chemical Products (SIC Code 289).

2/ Primary Smelting and Refining of Copper (SIC Code 3331); Rolling, Drawing, and Extruding of Copper and Aluminum (SIC Codes 3351 and 3352); Aluminum Castings (SIC Code 3361); and Brass, Bronze, Copper, Copper Base Alloy Castings (SIC Code 3362).

Table 10:-- Ranking of sectors at lowest possible division

Industry Sectors	Rank by Net Impact 1/	Rank by Ratio 2/
Industrial chemicals	1	2
Miscellaneous primary & fabricated metals	2	1
Miscellaneous chemicals & combination firms 3/	3	3
Primary metals, except aluminum 4/	4	4
Primary and fabricated aluminum 4/	5	5
Beverages	6	6
Miscellaneous food products & combination firms 3/	7	7
Farm machinery and equipment	8	9
Grain mill products	9	28
Office machines	10	8
Soaps and cosmetics	11	12
Printing and Publishing	12	22
Drugs	13	11
Paper and allied products	14	10
Household appliances	15	18
Plastics materials	16	14
Lumber, wood products, and furniture	17	15
Miscellaneous non-electrical machinery	18	17
Textiles and apparel	19	13
Stone, clay, and glass products	20	23
Electronic computing equipment	21	21
Instruments	22	19
Electrical equipment and apparatus	23	24
Electronic components, radio, and T.V.	24	16
Rubber	25	27
Industrial machinery and equipment	26	20
Miscellaneous electrical machinery	27	30
Fabricated metals, except aluminum, copper,brass	28	25
Miscellaneous manufacturing	29	29
Transportation Equipment	30	26

1/ Rank by size of net impact as shown in column 6 of table 9, from largest positive value to largest negative value.

2/ Rank by ratio of net impact to gross loss as shown in column 7 of table 9, from lowest to highest values.

3/ "Combination firms" are those which manufacture several lines within a broad product category.

4/ Excludes SIC 333 (primary smelting and refining of non-ferrous metals) when related to mining operations in same country.

Source: Table 9

49 120 O - 73 - 44

permits a determination of the relative contribution of each industrial branch to the total employment displacement.

This ranking by absolute net impact gives a general idea of how the sectors affect the total net employment attributable to the MNCs, but the approach is deficient on several counts for an examination of how the individual sectors are affected. An examination of this type is particularly obscured by ranking according to absolute size, which shows mainly that large firms or sectors have large employment effects. Moreover, this ranking indicates nothing about what changes have occurred to give rise to the net employment effect; it merely presents an end result. These defects can be demonstrated by a few examples.

Consider the Farm Machinery and Grain Mill Products industries as they appear in table 9. Their net impacts are very similar, minus 8,400 jobs versus minus 8,900 jobs. However, Farm Machinery leads off with an imputed gross job loss of almost 26,000, whereas Grain Mill Products began with only about 11,000 jobs in its column 1 entry. Even though the end results were approximately the same with respective rankings of 8 and 9 (table 10), the difference in jobs lost at the initial gross level is greater than at the net impact level. This difference between gross and net is a result of differing sizes of job gains attributable to the MNCs in each case.

A more obvious discrepancy appears when Grain Mill Products are compared with Office Machines. In the rankings, Grain Mill Products are ninth and Office Machines tenth, but the initial gross loss of the farmer is less than a fourth of the gross loss of the latter.

There are very few job gains in Grain Mill Products due to the MNC effect, and its fairly high ranking is due more to its relatively small size than to any other factor. This information is lost by just presenting a ranking by the end result.

The reverse of Grain Mill Products is the case of Industrial Machinery with gross loss 141 thousand, net impact 82 thousand, and rank 26. It can be contrasted with miscellaneous Electrical Machinery, gross loss 93 thousand, net loss 84 thousand, and rank 27. The job gains in Industrial Machinery are much greater than in miscellaneous Electrical Machinery, and the rank of 26 ignores this completely. This is a case of a relatively large sector being ranked relatively low due more to size than any other factor, although its performance in terms of job gains is indeed significant.

In summary, the most logical first choice of the presentation of results, that of absolute net job impact, is not entirely suitable. The net job losses are indeed meaningful but this presentation obscures too much useful information involving those changes that generate the net impact--job gains that arise due to the modus operandi of the MNC.

The effect of these job gains also can be simply described in the form of a ratio. This is presented in column 7, table 9; it is calculated as the ratio of net job impact to hypothetical gross job loss. This ratio in its turn is unable to summarize all of the relevant information, but must be considered in conjunction with the absolute net impact.

Some introductory examples may help to clarify what this ratio describes. If an industrial branch has no job gains to offset the gross job loss, then the ratio reaches a limiting value of one. This limit is theoretically impossible due to the income effect and the requirement of some overhead personnel, necessary by definition to run a multinational corporation. Depending on the particular industry, more and more job gains offset that industry's gross loss. If the gains completely offset the loss, the resulting ratio is zero. Therefore, one can obtain a ranking for each industry within the range of zero to one. 1/ Relative comparisons can be made among industries, as a lower number indicates a more important job creating effect. This approach also tends to reduce the effect of industry size which earlier affected the absolute net impact series. Now each industry is considered solely on its ability to recoup jobs, with less emphasis on relative size.

The new ratio appears in column 7 of table 9, and the industries are ranked by values of the ratio (from lowest to highest) in column 2 of table 10. The problems uncovered in the column 1 rankings of table 9 now can be examined in light of the new ratios and their rankings. Recall that Farm Machinery and Grain Mill Products were

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1/ In those cases where the net impact is positive, a separate ranking is used. Since the ability of job gains to offset losses is at issue, this group must be superior to the former group and concern is only with ranking within the group. The total job gain is divided by the loss, which results in a ratio greater than one that should be ranked in ascending order instead of descending order.

ranked approximately the same (8 and 9) in column 1 because of the similarity of end results in terms of absolute net impact. Now it can be seen that Farm Machinery (ratio 0.33) has an almost unchanged rank of 9 in column 2--while Grain Mill Products (ratio 0.84) falls in rank from 9th in column 1 to 28th in column 2. Among other industries, Printing and Publishing falls from 12th to 22nd; Industrial Machinery moves up from 26th to 20th; and Miscellaneous Electrical Machinery falls from 27th to 30th. Electronic Components, Radio and TV increases in rank from 24th to 16th; and Textiles and Apparel moves up from 19th to 13th.

The Miscellaneous Metals ratio (-75.67) is so far out of line with the others that some explanation is in order. The primary difficulty with this sector is in the conflict between the manner of reporting by the companies and the SIC classification system which underlies the schedule of industries used here. When mining, smelting, and refining all occur in the same country, SIC 333 (Primary Smelting and Refining of Nonferrous Metals) is taken out of the manufacturing scheme and moved up into mining. This throws off the calculation of net impact to an unknown extent in the direction of overstating the job gains because the data on job gains could not be so divided. If the job impact were calculated for all sectors outside manufacturing, there would tend to be a cancelling out of this effect in the aggregate results but this approach was not attempted.

The presentation and analysis of the Case 1 employment-impact estimates now can be summarized. For a hypothetically constructed

world in which any substitution of foreign-owned production facilities for those of the MNCs is assumed away as "what would not have happened" if the MNCs had not invested abroad, estimates of gross job losses and net job impacts on industries and subindustries have been calculated. For all manufacturing, the gross job losses by 1970 were estimated at 2.4 million, whereas the net impact was only 1.3 million jobs. Among different industries, the amounts by which job gains generated by MNC operations are able to offset the gross losses vary quite considerably. Some industries successfully create almost as many jobs as the gross loss figures show in the other direction; others do more poorly in this respect.

Two different methods of ranking the industries were presented. It was shown that the ratio of net job impact to gross job loss contained valuable information that was lost by consideration of the size of the net impact alone. This was demonstrated by the shifts that took place in the relative positions of various industries in the respective ranking schemes.

<u>Job impact estimates--Case 2</u>

The net impact in table 9 is calculated on the assumption that no substitution in production abroad would occur if this production was reduced. That this is not the case is generally accepted--it is more a question of degree. In developed areas such as Western Europe, highly competitive local industry may possess the potential to step into any position relinquished by a U.S. MNC. In developing nations

which do their best to encourage capital inflows through tax and tariff policies, third-country MNCs certainly are encouraged to step into any profitable gaps created by U.S. firms' withdrawal or absence. This potential ability of host country and third country firms to provide the production of goods now supplied by U.S. MNCs could have been treated as completely the reverse of its treatment in Case 1. It would have been merely a matter of different assumptions--100 percent substitution instead of 0 percent substitution. In the case of complete substitution, the net impact would be positive in every case and would be equal to the job gains due to MNC operations--the sum of columns 2 through 4 in table 9, or a total of 461,200 jobs. 1/ This estimation appears in the context of the Case 1 approach, but additional information as to the maximum limit of job loss is presented. Therefore, it was considered worthwhile to approach the subject in the manner followed, which generates plausible estimates under both assumptions--a net loss of 1.3 million jobs versus a net gain of 0.5 million.

It has proved impossible to determine what rate of substitution would take place. Even the newly available data on U.S. MNC activities do not provide a means of tackling this problem. The situation will vary from country to country and depend on a combination of factors that are both unmeasurable from a data standpoint and require

1/ Jobs provided by foreign MNCs in the U.S. (column 5) cannot be included here because, with 100 percent substitution, all of them would have been provided by U.S. employers. Therefore, the foreign MNCs' presence makes no difference under the new assumption.

assumptions about policy variables that would vitiate any creditable data that could be assembled. Therefore, the only alternative at this point is to indicate the potential effects of substitution in production both in the U.S. and abroad. This exercise will demonstrate the additional usefulness of the net-impact-to-gross-loss ratio because, as the possibility of substitution abroad increases, those sectors with low ratios will generate positive job balances with relatively less fractional substitution abroad.

If the assumption is relaxed that no foreign firms will take advantage of the production opportunities whose potential has been demonstrated by U.S.-owned affiliates, then whatever portion of affiliate production that would have been lost through substitution abroad cannot be considered a potential job loss attributable to U.S. direct investment. Only that fraction of affiliate production that would not be substituted for by local production can be described as a potential job loss and contrasted with the job gains associated with the full amount of direct investment that currently takes place. (U.S. exports are still expected to capture all sales that are not substituted for by foreign production in the host country.)

This contrast appears in table 11 and the results can be read in the same manner as those of table 9. The difference between the two tables is that the estimated Gross Loss in table 11 allows for a substitution factor of one-half in each industry, while the column 5 estimates allow for similar substitution in the U.S. This is a completely arbitrary factor. The actual figure would vary in each sector

Table 11.—Estimation of net employment impact: Case 2, 1970

(Columns 1 through 6 show numbers of employees)

Industry	Potential gross job loss with 50 percent substitution	Offsets to potential gross loss				Net impact with 50 percent substitution
		MNC headquarters employment	Effect of MNC exports to affiliates abroad	Income effect of direct investment abroad	U.S. employment of foreign MNCs	
	(1)	(2)	(3)	(4)	(5)	(6)
Manufacturing	-1,189,600	140,200	286,600	34,400	310,600	-417,800
Food	-49,800	1,700	6,100	1,000	39,000	-2,000
Grain mill products	-5,300	300	1,000	100	200	-3,700
Beverages	-9,200	300	1,100	0	8,800	+1,000
Miscellaneous and combinations	-35,300	1,100	4,000	900	30,000	+700
Paper and allied products	-33,400	4,400	7,000	900	16,000	-5,100
Chemicals	-102,200	16,900	20,500	2,200	75,800	+13,200
Drugs	-25,100	7,600	6,200	200	7,600	-3,500
Soaps and cosmetics	-13,900	300	800	100	7,400	-5,300
Industrial organic and inorganic	-16,800	8,400	11,500	1,000	21,500	+25,600
Plastics materials	-26,100	300	700	600	13,400	-11,100
Miscellaneous and combinations	-20,300	300	1,300	300	25,900	+7,500
Rubber	-38,900	5,200	1,900	500	3,200	-28,100
Primary and fabricated metals 1/	-109,400	37,700	16,300	4,000	47,200	-4,200
Primary 1/	-19,900	5,200	4,000	1,600	18,700	+9,600
Fabricated, excluding aluminum copper and brass	-71,700	17,200	5,200	1,900	9,800	-37,600
Primary and fabricated aluminum 1/	-17,700	11,000	4,700	300	10,400	+8,700
Miscellaneous metal products 1/	-100	4,300	2,000	200	8,200	+14,600
Machinery, except electrical	-177,900	27,900	84,600	8,900	25,100	-31,400
Farm machinery and equipment	-12,800	3,800	8,100	500	2,400	+2,000
Industrial machinery and equipment	-70,500	17,300	21,500	4,400	7,800	-19,500
Office machines	-22,500	1,300	22,700	100	4,800	+6,400
Electronic computing equipment	-40,900	3,400	24,700	1,800	2,000	-9,000
Miscellaneous non-electrical machinery	-31,200	2,100	7,600	2,100	8,100	-11,300
Electrical machinery	-171,600	12,700	31,300	4,000	31,700	-91,900
Household appliances	-20,900	1,900	1,400	300	7,600	-9,700
Electrical equipment and apparatus	-45,100	3,500	13,200	1,200	5,300	-21,900
Electronic components, radio and TV	-58,900	4,000	14,400	2,100	16,800	-21,600
Miscellaneous electrical machinery	-46,700	3,300	2,300	400	2,000	-38,700
Transportation equipment	-194,100	8,800	79,400	6,100	10,000	-89,800
Textiles and apparel	-42,300	2,500	1,900	1,000	20,400	-16,500
Lumber, wood, and furniture	-28,100	3,000	2,300	700	11,700	-10,400
Printing and publishing	-12,100	1,200	2,400	700	2,300	-5,500
Stone, clay, and glass	-33,200	3,300	2,700	700	8,100	-18,400
Instruments	-45,700	5,500	23,300	1,600	5,000	-10,300
Miscellaneous manufacturing, ordnance, leather, tobacco	-150,900	9,400	6,900	2,100	15,200	-117,300

1/ Excludes SIC 333 (Primary Smelting and Refining of Non-ferrous Metals) when related to mining operations in same country.

Sources: See table 9.

in every country and the world gross loss would be calculated by adding up all these individual results--an impossible task at the moment. Therefore, the table is purely illustrative. It serves two purposes: one, it conveys an idea of the effect on the total net impact produced by allowing substitution to enter the model; and two, it shows the potential of the earlier analysis as a basis for moving closer to reality.

The first point is obvious by comparison of the two tables' all-manufacturing net impact results. The net impact (job loss) drops from 1.3 million to 418 thousand. The second point can easily be demonstrated. Recall the original examples of Farm Machinery and Grain Mill Products. The original Case 1 gross loss for Farm Machinery of 26 thousand jobs has been reduced to 13 thousand in Case 2, while Grain Mill Products' gross loss has been lowered from 11 thousand to 15 thousand. The initial respective net effects in Case 1 were very similar--8 thousand and 9 thousand--but their ratios indicated a greater divergence--0.33 and 0.84, respectively. These ratios point toward the new Net Impact figures with 50 percent substitution in Case 2--Farm Machinery, +2 thousand jobs, and Grain Mill Products, -3.7 thousand jobs. The industry with the larger initial gross loss and lower ratio develops a substantial positive job effect over an industry which began with a smaller initial gross loss and, most importantly, a higher ratio.

The above demonstration should convey the importance of the net impact to gross loss ratio when the possibility of substitution is

admitted. It cannot be established what amount of potential substitution is inherent in any industry. The amount of potential substitution is a characteristic of a particular sector in a particular country under a particular regime. The ratio serves the useful purpose of focusing on the job gains which develop from MNC activities and which vary from sector to sector according to the existing industrial operating organizations in those sectors. If a set of substitution ratios could be determined, these, in conjunction with the net impact to gross loss ratios, could begin to summarize the job effect of the MNCs.

Job impact estimates--Case 3

In deriving the Case 1 and Case 2 estimates of gross loss, it was assumed that U.S. exports could supply all those products produced overseas by U.S. affiliates under variant assumptions about substitution in production. It would have been more realistic to note that, if U.S. direct investment had never occurred, U.S. exporters would have had to compete in this market with traders of other countries. A determination of gross job loss could hinge upon what proportion of there markets U.S. exports could be expected to supply. The share that U.S. exports could not reasonably be expected to supply could not be considered as contributing to potential job losses. This proportion can be estimated with currently available data so long as a normative standard of success can be agreed upon--so long as it can be agreed what level of exports is "appropriate" for U.S. industry.

A suitable measure of U.S. exports' ability to supply these new markets would be the share of U.S. exports in world trade for each industry for some period in the past which nearly everyone would agree was a time of "success" for U.S. exports. The real question concerns which period to select as a standard.

Critics of the MNCs argue that foreign direct investment has depressed U.S. exports by shifting production overseas and by more rapid dispersal of U.S. technological advantages. These factors, plus whatever cost factors pertain, have reduced U.S. export shares. In order to satisfy this complaint, a time period was chosen that ante-dated the rapid expansion of foreign direct investment but which did not become overly clouded by the lingering after-effects of World War II. Two adjacent years, 1960 and 1961, were averaged; one could be considered a very good year for U.S. export shares, and one a slightly less successful year. In both years, investments abroad by U.S.-based MNCs were still relatively small, and widespread fear of sagging U.S. exports was absent.

Taking U.S. exports' shares of the industrial countries' exports in 1960-61 as a standard of high performance, it is assumed that U.S.-origin products would have been able to capture those same shares of the affiliates' total sales in the affiliates' absence. The strict no-substitution rule of Case 1 also is assumed once again. Under these assumptions, the net employment impact of the operations of U.S.-based MNCs can be re-estimated.

The requirements of logical symmetry within the model also demand that similar assumptions be applied to foreign-based firms with direct investments in the United States. If U.S. export shares have fallen since 1960-61, then foreign export shares must have risen. But, by assumption, U.S. export shares are to be held at their 1960-61 levels in the calculations. Therefore, it is necessary to hold foreign export shares constant as well, which implies that, had foreigners been unable to increase their export shares, they would have invested more heavily in the United States, thus generating more new U.S. jobs. These considerations are given effect in the Case 3 estimates in the following manner. If foreign shares of the industrial countries' exports actually increased between 1960-61 and 1970 (the year on which the estimates are centered), the column 5 figures of table 9 were adjusted upward proportionally to the amounts of increases, on the reasoning that, if the shares are assumed not to have increased, greater foreign direct investment in the United States would have occurred. Similarly, if foreign export shares decreased over the period, the adjustments were made in a downward direction, proportional to the amount of decrease.

Table 12 presents the new calculations of estimated potential Gross Loss based on an expected export performance tied to U.S. export shares of the 1960-61 period (column 2). Against this gross loss that could be expected to derive from foreign direct investment are set off the estimated U.S. job gains that result from the current operations of MNCs, both U.S. and foreign, the latter being adjusted from Case 1

Table 1[illegible].--Estimation of net employment impact: Case 3, 1970

(Columns 1 through 6 show numbers of employees)

Industry	Potential Gross loss on share basis	Offsets to potential gross loss: MNC headquarters employment	Effect of MNC exports to affiliates abroad	Income effect of direct investment abroad	U.S. employment of foreign MNCs on share basis	Net impact export share basis
	(1)	(2)	(3)	(4)	(5)	(6)
Manufacturing	-603,100	140,200	286,600	34,400	629,900	+488,000
Food	-16,500	1,700	6,100	1,000	52,900	+45,200
Grain mill products	-4,600	300	1,000	100	200	-3,000
Beverages	-200	300	1,100	0	16,800	+18,000
Miscellaneous and combinations	-11,700	1,100	4,000	900	35,900	+30,200
Paper and allied products	-9,600	4,400	7,000	900	31,000	+33,700
Chemicals	-58,700	16,900	20,500	2,200	167,400	+148,300
Drugs	-14,800	7,600	6,200	200	17,100	+16,300
Soaps and cosmetics	-8,600	300	800	100	17,200	+9,800
Industrial organic and inorganic	-8,400	8,400	11,500	1,000	43,400	+55,900
Plastics	-17,000	300	700	600	31,300	+15,900
Miscellaneous and combinations	-9,900	300	1,300	300	58,400	+50,400
Rubber	-22,000	5,200	1,900	500	7,800	-6,600
Primary and fabricated metals 1/	-46,900	37,700	16,300	4,000	99,500	+110,600
Primary 1/	-6,200	5,200	4,000	1,600	39,600	+44,200
Fabricated, excluding aluminum, copper and brass	-32,700	17,200	5,200	1,900	20,300	+11,900
Primary and fabricated aluminum 1/	-7,900	11,000	4,700	300	21,500	+29,600
Miscellaneous metal products 1/	-100	4,300	2,000	200	18,100	+24,500
Machinery, except electrical	-107,800	27,900	84,600	8,900	54,700	+68,300
Farm machinery and equipment	-10,600	3,800	8,100	500	6,600	+8,600
Industrial machinery and equipment	-47,100	17,300	21,500	4,400	18,200	+14,300
Office machines	-15,100	1,300	22,700	100	8,900	+17,900
Electronic computing equipment 2/	-19,000	3,400	24,700	1,800	3,700	+14,600
Miscellaneous non-electrical machinery	-16,000	2,100	7,600	2,100	17,000	+12,800
Electrical machinery	-84,900	12,700	31,300	4,000	65,500	+28,600
Household appliances	-10,100	1,900	1,400	300	17,700	+11,200
Electrical equipment and apparatus	-20,000	3,500	13,200	1,200	11,200	+9,100
Electronic components, radio and TV	-28,600	4,000	14,400	2,100	32,100	+24,000
Miscellaneous electrical machinery	-26,200	3,300	2,300	400	4,500	-15,700
Transportation equipment	-113,400	8,800	79,400	6,100	22,000	+2,900
Textiles and apparel	-8,900	2,500	1,900	1,000	43,200	+39,700
Lumber, wood, and furniture	-6,700	3,000	2,300	700	20,900	+20,200
Printing and publishing	-7,000	1,200	2,400	700	5,000	+2,300
Stone, clay, and glass	-9,800	3,300	2,700	700	16,100	+13,000
Instruments	-19,800	5,500	23,300	1,600	9,600	+20,200
Miscellaneous manufacturing, ordance, leather, and tobacco	-91,100	9,400	6,900	2,100	34,300	-39,200

1/ Excludes SIC 333 (Primary Smelting and Refining of Non-ferrous Metals) when related to mining operations in same country.
2/ Estimated as residual in Machinery sector.

Sources: See table 9. Export shares based on OECD statistics.

as described above. The results are self evident. The net impact for all manufacturing has turned positive. Among the subsectors, the only significantly negative net impact figures appears for Miscellaneous Manufacturing (39,200 jobs lost) and Transportation Equipment (15,700 jobs lost). There are some strongly positive results, especailly in Chemicals and Metals.

The original all-manufacturing net impact of -1.3 million jobs under the most negative of trade and substitution assumptions becomes a net gain of one-half million jobs only through a relaxation of the trade assumption. The model is still a strictly logical approach with zero substitution in production assumed. The only change is to assume that U.S. exports could not capture all of the markets of U.S. affiliates abroad, but that they could capture a share of those markets based on a period when U.S. exports were still highly successful abroad and substantial trade surpluses--and jobs--were being generated.

Under Case 3, the MNCs have contributed a net job gain for the U.S. economy, relative to a reasonably high standard of what they should have been able to contribute to U.S. exports and export-related employment, had they kept their capital at home. Indeed, this estimate is biased in the direction of excessive pessimism because it totally rejects--by assumption--the MNCs argument that at least a portion of the MNCs foreign direct investment has to go abroad to prevent foreigners from getting there first. As the analysis of cases 1 and 2 has shown, a relaxation of both the substitution and

export trade assumptions would quickly show the MNCs producing even larger net gains for U.S. manufacturing employment than those shown in Case 3.

Part D. Labor Union Reactions to the MNCs in the United States and Abroad

Introduction and summary

Worldwide, trade union attitudes and views toward multinational corporations can be ranged along a "permissive-to-protectionist" scale. Generally, unions in countries hosting MNC operations are relatively permissive; those in the United States are less so.

Probably the major determinant of a particular union's position on the scale is the perceived degree of employment or unemployment of its members resulting from MNC activities. Unions in countries hosting MNC facilities, albeit with specific, numerous, and wide-ranging concerns prompted by the advent of MNCs, see an apparent positive employment benefit for their members. Under these circumstances, all other problems are bearable until long-run solutions can emerge as a result of continuing union pressure on the companies. In Belgium, where there is a greater U.S. investment per capita than in any other country in Europe, there is a remarkable absence of resentment against that investment even though U.S.-based MNCs reportedly often do not prepare themselves properly to operate under local conditions and customs. In Canada, where some 65 percent of the trade union membership is structurally affiliated with U.S. international unions, the major concern is less with the issue of collective bargaining with MNCs as with the fear that Canadian sovereignty might be undermined by the actions of foreign (U.S.) trade union officials insensitive to Canadian aspirations.

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In West Germany, much of the MNC investment is in capital-intensive production. The MNCs do not bid up wages and, because of management attitudes, there is a fair amount of social opposition to working for them. They generally locate in the over-industrialized areas rather than those designated for development where unemployment is highest. However, partly because of their contribution to the growth economic activity, there are not enough workers to go around for the size of the industrial establishment. As a result, labor and the government have not focussed on the MNC, are not particularly aware of an MNC issue, and warmly welcome the MNC.

The reaction of British trade unions is less permissive but not particularly virulant. The United Kingdom is both the "home" country to many MNCs and the "host" country to a large number of foreign-owned MNCs based in the United States and elsewhere. The unions have expressed some anxiety over MNC tendencies to locate in areas other than where unemployment is high, which ignores and frustrates governmental development policies. The insensitivity of MNCs to the traditional British system of industrial relations is not considered a radical challenge and has been accepted by labor. There is little concern on the part of British labor that United Kingdom-based MNCs may be creating jobs overseas and that direct investment abroad should be curbed. Instead, the union's position may be characterized as leaning toward setting ground rules for the orderly advance of multinationalism.

Most labor unions in the United States occupy the non-permissive end of the scale. They acknowledge that the MNCs might bring benefits,

but allege that these are not great enough to compensate the nation for their cost in terms of unemployment. Any benefits that might accrue are generalized, diffuse, and measurable only in the aggregate while unemployment resulting from displaced production is specific, tangible, and disaggregated. The unions see the social welfare of workers as more important than profits. They reject the comparative advantage argument that by allocating resources on an international basis the United States can concentrate successfully on those industries where its technological advantage offsets the higher costs of production. They point out that technology is mobile and assert that the benefits of international specialization do not flow to labor. They want curbs on MNCs and believe that these will assist a return to full employment in this country. The fundamental assumption in the foregoing argument, which is most articulately and warmly supported by the AFL/CIO among the large union groups, is that the issues raised by MNC expansion abroad and the declining competitiveness of U.S. goods in international trade are closely linked.

Labor reaction in the United States

The growth of multinational corporations has aroused serious concern among labor unions. In the United States, the American Federation of Labor-Congress of Industrial Organizations (AFL-CIO) has been one of the most articulate in voicing these fears. It sees the establishment of foreign subsidiaries of U.S. firms as contributing substantially to the internationalization of technology. This allegedly leads to

productivity levels close to those in similar U.S. plants. At the same time, the subsidiaries take maximum advantage of lower wage and fringe benefit costs and produce goods at lower unit costs than in the United States. These goods displace U.S. exports to markets in the host country and in third countries, and also are imported into United States for sale at U.S. market prices. The result is displacement of U.S. production, loss of American jobs, and deterioration of the U.S. position in world trade.

The export of American jobs.--The AFL-CIO perceives the growth of the MNCs as a major cause of the decline of the United States' world trade position. Its estimate of adverse domestic employment is accordingly cast in the larger context of this nation's changing trade patterns. As seen by the AFL-CIO, at least 25 percent of both U.S. exports and imports consist of closed-system transactions between U.S.-based MNCs and their foreign affiliates. Another 25 percent involves other operations of MNCs with foreign licensees, patent holders, and others with which they have arrangements. Estimates of the number of jobs associated with overall U.S. foreign trade in 1966 and 1969, prepared for the Industrial Union Department of the AFL-CIO, is shown below:

(In thousands)

	Employment related to merchandise exports		Employment required to produce imports 1/	
Total	2,464	2,651	1,824	2,538
Agricultural	471	333	159	187
Nonagricultural	1,993	2,318	1,665	2,351
Manufacturing	1,203	1,410	1,124	1,600
Nonmanufacturing	790	908	541	751

1/ Only those items most nearly comparable with domestic products.

Source: Bureau of Labor Statistics, as shown in Needed: A Constructive Foreign Trade Policy, Industrial Union Department, AFL-CIO

The AFL-CIO study concludes that during 1966-69 U.S. foreign trade produced the equivalent of a net loss of 527,000 U.S. jobs. This is based on the estimates above, which show that whereas employment in 1966 related to U.S. exports amounted to 640,000 more jobs than the employment which would have been required to produce U.S. imports, in 1969 the net surplus of export-associated jobs over import-associated jobs was only 113,000. Thus while the number of export-related jobs increased during the period, the number of jobs required to produce imports increased at a faster rate. About half of the estimated number of jobs lost, 269,000, was in manufacturing industries, 32 percent or 166,000 in agriculture, and the balance of 92,000 jobs in other activities.

On an overall basis, by extension, the union maintains that at least 25 percent of these job losses are directly attributable to operations between MNCs and their affiliates, another 25 percent due to MNC arrangements with other foreign firms, and an unknown extra

number of jobs adversely affected as a result of markets lost to sales by MNC affiliates abroad. In addition, there is an indirect adverse effect on U.S. employment. Machinery, for example, is made from foreign produced steel with an indirect adverse effect on U.S. steel production and employment. Employment associated with producing all components or parts is also indirectly affected.

Capital-intensive and labor-intensive jobs.--Furthermore, the jobs being lost as a result of MNC operations increasingly represent high technology jobs rather than labor intensive jobs, according to the unions. Comparing the increase in the value of competitive imports in 1966-69 and the increase in the number of jobs required to produce those imports, they find a 60 percent increase in value but only a 42 percent increase in required jobs. The disproportionate rates reflect the inclusion of more capital intensive products in U.S. imports in 1969 than in 1966. This may also be seen in an examination of the kinds of products produced by some MNCs, which eliminates the market for U.S.-made goods in host countries and reduces the market in third countries.

Wage costs.--There is no question that wage costs are lower in other countries than in the United States. Despite efforts of the labor movement over a long period of time to establish universal fair labor standards (efforts such as creation of the ILO and attempts at international collective bargaining), wide wage differentials continue to exist between the United States and its major competitors.

This exposes the MNCs to the accusation that they can exploit relatively high rates of unemployment in some countries or the insulated or managed economies of others. This ability comes about through the ready transferability of capital, management, technology and technical know-how among countries, as opposed to the immobility of labor.

Preferential tariff treatment.--In addition to the favorable wage cost differential enjoyed by the MNC in other countries, it is alleged that U.S. tariff laws encourage the establishment and increase the profitability of subsidiaries through preferential treatment of imports of products only partially fabricated outside U.S. borders. Items 806.30 and 807.00 of the TSUSA limit duties on such imports to the value added (at low labor rates) by foreign processing or assembly.

The MNC thus finds itself in the best of all possible worlds. It uses U.S. technological know-how frequently developed with the U.S. taxpayers' money (An example cited is the more than two-thirds of the $23 billion spent on research and development in electronics and communications from 1957-65 that was accounted for by federal funds). It pays substantially lower wages and fringe benefits to foreign workers than those prevailing in the United States. It enjoys lower taxes through transfer-pricing and reinvestment of earnings. And for that portion of its production imported into the United States, the MNC receives what amounts to a U.S. tariff subsidy.

Union remedies.--Remedies proposed by the labor movement to counter what it sees as adverse effects of the MNC are designed to make it profitable for private corporations to promote desired social, political

and economic goals. These include tax measures to remove incentives to establish production facilities in other countries and to erect disincentives that would curb expanded production abroad. Profits earned by the foreign operations of MNCs should be taxed at the time they are earned. Taxes paid to other countries should only be allowed as a deduction rather than as a tax credit as under present practices. The existing depreciation write-off allowance for foreign subsidiaries should be replaced with one taking into account the proportion of federal funds used in developing the technology and the extent to which national social goals are being served. Taxes should be imposed on licensing and other technology export devices and also should be levied on royalties or other income derived from such arrangements. Finally, items 806.30 and 807.00 of the TSUSA should be repealed.

Other measures necessary to the control of MNCs include foreign investment controls taking into consideration the kind of investment proposed, the product, country, and the effect on trade, U.S. employment, and the economy. An effective system of reporting is required, with standardized bookkeeping methods, reporting of transactions, and international accounting. Included should be information on wages and hours such as is now required within the United States. International fair labor standards should be included in trade agreement and the U.S. Fair Labor Standards Act should be applied to foreign as well as domestic commerce as intended by the law.

Union reactions to the MNCs in other countries

The reactions of host-country labor unions to MNC penetration of their economies are conditioned in large part by local custom and practice in labor relations. The MNCs, especially when they are direct investors making their first forays into overseas operations, often have been demonstrably insensitive to the need for different sorts of interface with labor than has been their experience in the United States.

A few major ways in which foreign labor relations are conducted differently than in the United States can be cited for illustration. In Europe, worker compensation is determined by complex interactions of custom, legislation, and collective bargaining. Governments tend to play a greater role than is the case in the United States. Social insurance systems and other "fringe benefits" developed much earlier in Europe than in the United States. They are more advanced, comprehensive and widespread, and consequently have taken a far higher proportion of payroll costs than in the United States. Much of prevailing labor practice in Europe has been legislated, while collective bargaining has played the major role on this side of the Atlantic. Issues differ too. One of the current burning questions in European labor-management relations is the issue of labor "participation" in company management and/or profit-sharing, this issue is virtually absent in the United States. Outside Europe, of course, the major factor in labor relations is the relative weakness of the labor movement. Everywhere--and this includes Europe--dissension among unionists

about policies toward the MNCs has been a principal stumbling-block to effective coordination of labor strategies.

Although concentrating on host country problems brought about by MNC activities, most labor unions in other countries, and particularly those with international affiliations, are cognizant of a larger problem resulting from the operation of most trade unions within nation states as opposed to MNC operations on a world wide scale. Decisions made by global managements are rarely capable of being challenged by any trade union (or governmental) body on an international level. These decisions nevertheless affect drastically present and future employment patterns in countries where MNC operations are situated. The MNC thus is thought to have a favorable balance of bargaining power vis-a-vis unions which may lead to undermining of established industrial relations systems, restricting the right of workers to organize to protect their interests, limiting the right to enter into collective bargaining with the appropriate level of MNC decision-making, exploitation of international labor cost and raw material differentials through worldwide sourcing, and selling the products to consumers everywhere at prices reflecting the price leadership or collusion characteristic of oligopoly. Moreover, the policies of MNCs take advantage of the lowest level of social responsibility permitted by the nations within whose borders they operate such as, for example, in South Africa and lesser developed countries, and tend to retard or distort rather than promote development.

Employment effect.--The concern of foreign labor unions has generally centered on the operations of foreign owned subsidiaries in their respective countries rather than on the adverse effects of locally-based MNCs on their national economies. They recognize a favorable effect on employment when investment is used to set up new firms. When investment is used to take over existing firms, however, in many cases the MNC institutes international rationalization measures resulting in unemployment. Among the first casualties of such measures may be the local research facilities, and this may have adverse long term effects on the host countries' technology development.

Union recognition.--The problem of union recognition is of universal concern. The MNC, as opposed to a national company, is large and has resources at its command to resist union attempts to win or maintain recognition. Examples of MNCs reportedly refusing recognition at one time or another are: IBM, Kodak, Gillette, Holokrome, Caterpillar Tractor, Roberts Arundel, Comprehensive Designers (associated with Lockheed), Continental Oil, Nestle, Goodyear, Cummins Engines, Firestone, KLM, Air Canada, and TWA--all in the United Kingdom; the United Fruit Company in various Latin American Countries; Monsanto and Dupont de Nemours in Luxembourg; and two German firms, Muller Wipperfurth and Kurt Wokan, in Austria.

Job security.--Job security of union members also is felt to be threatened because of the MNCs' ability to switch production to subsidiaries of the same company in other countries. Threats to employ

such a strategy have been made, for example, by Ford in the United Kingdom and Belgium and by Pirelli in Italy. U.S. copper companies used a variant of this tactic to withstand an 8 month strike in the United States affecting 80 percent of their output. Their production in other countries sold for inflated prices on the world market due to the strike-provoked scarcity.

Strikes.--MNCs can minimize the financial effect of labor union action through duplicate production and the use of excess capacity in other subsidiaries. Markets hit by union action can in this way be serviced by importing from other countries.

National economic and social objectives.--There is a potential conflict between the goals of the MNC and the economic and social goals of the host government. If the government encourages new enterprises in areas of high unemployment but the MNC prefers to locate in an area providing external economies, for the government to insist on conformity with its policies may mean losing the investment (and employment) of the MNC to another country. Such a conflict may be resolved against the best interests of labor.

Information for effective collective bargaining.--Trade unions are at a disadvantage in dealing with the MNC since the firm is required only to publish information about its finances and operations in the host country. After contract settlements, differences in wages and working conditions among the various host countries can then be exploited through shifting of production lines or other measures by the MNC in the interest of profit maximization. This lack of readily

available information extends to the profitability of the MNC and to locating the source of decision-making with respect to labor relations matters.

Industrial relations practices.--A final major concern of labor unions in host countries of MNCs is the possiblity of conflict with "imported" foreign industrial relations practices of the parent country, or the MNCs ignorance of fundamental differences between the two systems. Prior to 1971 in the United Kingdom, for example, the legal framework surrounding industrial relations covered few aspects of collective bargaining and was essentially a voluntary system. Many U.S.-based MNCs operating in the United Kingdom therefore have not entered into or followed the traditional British system of an employers' association negotiating with national trade union leaders at the industry level, but have opted instead for bargaining with trade unions at company and plant levels.

Analysis of organized labor's reactions to the MNCs in the United States and abroad

Probably the most important labor relations advantage which the MNCs have in their international operations as opposed to their domestic ones is the ability to escape from the disciplines of dealing with unions organized as monoliths in all their domestic plants. This is the "divide and conquer" argument most effectively raised by unions abroad, especially those with international affiliations. U.S. labor groups do not articulate it as well, but, in the end, the company

advantages which they complain of as being unfair are the result of the companies being able, by operating abroad, to break the U.S. unions' exclusive role in their labor relations affairs.

Organized labor abroad tends to look toward the eventual cohesion of the international labor movement to the point where unions in different trades and industries will be able to approach the MNCs with the same single-minded view of the world as a whole as that of the companies themselves. U.S. labor, on the other hand, doubts the possibility of any meaningful international labor solidarity as an unworkable goal. Indeed, such a goal may not serve highly-paid U.S. labor's own self interest. All unionists would like to be committed to the notion of international brotherhood among working men, but the fact is that the world labor movement is troubled by divisions and disagreements among key national and international leaders. These divisions are an important factor preventing unified labor policies toward the companies.

In setting wage rates, the companies almost invariably approximate local standards--sometimes paying a little more, sometimes a little less--but they always show greater productivity than local firms, so that unit labor costs tend to be much lower than for all firms in the host countries. Theoretically, the higher productivity of the foreign worker in the MNC-owned plant abroad should justify a higher wage than the national average for his trade or industry.

In the United States, the MNCs are high-wage firms, relative to the rest of U.S. manufacturing. But their productivity performance

is only about average. Therefore, their unit labor costs exceed the average in most cases--and they also exceed their affiliates' unit labor costs. In this sense, then, the argument of many U.S. unions that the MNCs gain an edge by moving abroad is valid. Yet it should not be pushed too far. The analysis of Part B (pp. 634-42) has shown that the MNCs are not as miraculously efficient as many think; more often than not, the best that they can do by going abroad is to get their average unit labor costs down to something approximating the averages for their industries in the United States. Moreover, international differences in labor costs, while the primary reason for the movement of capital abroad in the relatively few cases where most of the foreign-made output is destined to return to the U.S. market as imports, are not the principal reason for going abroad in many if not most cases. Here, proximity to markets is the primary incentive for capital flows, and the resulting output is sold outside the United States.

The contentions of many spokesmen for U.S. labor tie the "MNC Problem" and the "Trade Competitiveness Problem" In Chapter III of this study, it was pointed out that, indeed, the MNCs thoroughly dominate U.S. foreign trade--which should not be surprising because they are the firms which dominate the U.S. economy in general. But that is not the same thing as saying that the MNCs are the primary cause of declining U.S. exports and rising imports. The evidence presented in Chapter III showed that the reverse is true in terms of the MNCs' net impact on U.S. trade. However, it also was shown that the

incidence of MNC impact on trade flows varies widely among industries, which leads to the important conclusion that generalizations about aggregate effects--as well as policies that may be based on them--could be wide of the mark for important, specific industries.

In Part C of this Chapter, the reader is presented with three possible choices about the net impact of MNC operations on U.S. employment. His choice from among the three will depend on the extent to which he wishes to believe (a) that foreigners could take the place of the MNCs by investing on their own, with the result that, if the MNCs were not there, the markets and the jobs would be lost to the United States anyway; and/or (b) that foreign competition might be capable of taking away the MNCs present markets in the event that the MNCs tried to serve them by exports from the United States. The reason for presenting the choice of three separate estimates was to show how crucially these "assumptions" affect judgments about how the MNCs have impacted upon U.S. employment. The implication is that, if one is willing to grant the possibility of some foreign investment in substitution for the MNCs investment, and/or the possibility that U.S. exports cannot be universally competitive with foreign-made goods in all lines of production, then the net job "loss" generated by the MNCs declines rapidly and soon turns into a net job "gain." In the U.S. economy, more than a million jobs depend on multinational business in manufacturing, including a large number of people employed by foreign-owned MNCs operating in the United States.

A noteworthy insight which U.S. labor has had in perceiving its problems with respect to the MNCs is its appreciation of the higly disaggregated nature of the problem. The issue must always be looked at on an industry-by-industry basis, at as fine a level of detail as possible. Some industries, despite their heavy investments abroad, generate enough jobs in the U.S. nearly to offset the "gross job losses" posited to occur as a result of their foreign investment (even under highly pessimistic assumptions), while other industries perform much more poorly in this respect. Nevertheless, the policy prescriptions of the AFL/CIO do not align with their insights about the problem. They are generally, rather than selectively, aimed against all the MNCs. To the extent that the better-performing industries with respect to job creation from MNC activity may actually be contributing a net gain to U.S. employment under some reasonable hypothesis about real-world conditions, the adoption of generalized restrictions on MNC activity might produce an undersired effect, namely a decline in employment in those industries. On the other hand, generalized policies may not be tough enough on the industries where MNC activity really hurts in terms of lost employment.

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APPENDIX A: Tables

Table A-1.—United States: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	4,323.0	13,682.3	18,005.3	39.1	115,617.6	514,063.4	$3.50	$3.08	$28,550.7	$37,571.4	$14.0	$18.48	$0.22	$0.15
Food	544.1	1,098.0	1,642.1	39.2	9,542.1	79,750.9	3.16	2.78	48,566.4	72,632.9	23.8	35.61	.12	.07
Grain mill products	39.9	74.5	108.4	42.1	689.9	9,242.0	3.22	2.98	85,258.0	124,053.7	38.9	56.66	.07	.05
Beverages	105.4	110.7	216.1	39.2	1,437.0	8,347.2	3.62	3.40	38,626.6	75,403.8	19.0	37.03	.17	.08
Combinations	404.8	912.8	1,317.6	39.0	7,406.2	62,205.9	3.07	2.70	47,211.5	68,148.4	23.3	33.61	.12	.07
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and allied products	130.7	503.2	633.9	41.1	4,235.9	20,413.9	3.44	3.14	32,203.3	40,567.8	15.1	18.98	.21	.15
Chemicals	293.9	528.5	822.4	39.2	6,129.3	40,780.4	4.03	3.48	49,587.1	77,162.5	24.3	37.85	.15	.08
Drugs	48.7	60.4	109.1	38.9	842.5	4,826.0	4.20	3.32	44,234.7	79,900.6	21.9	39.49	.17	.08
Soaps and cosmetics	35.9	59.3	95.2	38.6	647.7	6,107.7	3.73	3.07	64,156.5	102,996.6	31.9	51.28	.11	.05
Industrial organic and inorganic chemicals	83.5	161.6	245.1	39.3	2,012.9	13,856.8	4.42	3.99	56,535.3	85,747.5	27.6	41.95	.15	.09
Plastics materials	53.2	124.2	177.4	39.2	1,298.6	7,403.5	3.59	3.13	41,733.4	59,609.5	20.5	29.26	.18	.11
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	72.7	122.9	195.6	39.5	1,327.4	8,586.4	3.30	2.80	43,897.8	69,864.9	21.4	34.02	.15	.08
Rubber	101.2	390.6	491.8	39.4	3,072.0	11,976.0	3.41	3.04	24,351.4	30,660.5	11.9	14.97	.26	.18
Primary and fabricated metals	488.8	2,004.5	2,493.3	39.7	17,744.1	76,179.2	3.87	3.56	30,553.6	38,004.1	14.8	18.42	.23	.17
Primary	191.5	882.5	1,074.0	39.4	8,279.5	37,960.0	4.23	3.97	35,344.5	43,014.2	17.3	21.01	.22	.17
Fabricated, excluding aluminum, copper, and brass	265.1	972.2	1,237.3	39.7	8,160.1	30,508.3	3.18	2.83	24,657.2	31,380.7	11.9	15.13	.27	.19
Primary and fabricated, aluminum	19.4	88.8	108.2	40.2	792.7	4,016.6	3.46	3.22	37,122.0	45,232.0	17.5	21.36	.20	.15
Other	27.9	101.6	129.5	39.8	865.6	5,123.8	3.23	2.95	39,566.0	50,431.1	19.1	24.40	.17	.12
Machinery, except electrical	493.8	1,309.9	1,803.7	41.1	13,469.8	46,621.9	3.86	3.49	25,847.9	35,592.0	12.1	16.68	.29	.19
Farm machinery and equipment	32.1	105.2	137.3	39.1	966.3	4,382.0	3.82	3.51	31,951.4	41,139.6	15.5	20.27	.22	.16
Industrial machinery and equipment	220.9	532.7	753.6	41.1	5,993.5	19,413.3	3.83	3.48	25,760.8	36,443.2	12.0	17.04	.29	.18
Office machines	68.1	116.1	184.2	39.8	1,399.3	5,963.8	3.67	3.08	32,376.8	51,367.8	15.6	24.83	.23	.12
Electronic computing equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	172.8	555.8	728.6	41.6	5,510.7	16,894.7	3.50	3.19	23,187.9	30,397.1	10.7	14.05	.33	.23
Electrical machinery	492.5	1,318.5	1,811.0	38.5	11,988.1	40,842.6	3.64	3.03	22,522.5	30,976.6	10.3	15.46	.29	.18
Household appliances	32.3	137.4	169.7	38.0	1,098.5	5,120.3	3.28	2.93	30,172.7	37,265.7	15.3	18.88	.21	.16
Electrical equipment and apparatus	96.9	269.8	366.4	39.0	2,464.8	8,146.7	3.32	2.86	22,234.4	30,228.9	11.0	14.92	.30	.19
Electronic components, radio, and TV	271.7	740.0	1,011.7	38.5	6,802.8	21,009.4	3.36	2.68	20,766.4	28,391.1	10.4	14.92	.32	.19
Other	55.6	207.6	263.2	38.6	1,622.1	6,566.2	3.07	2.70	24,947.6	31,629.1	12.4	15.77	.25	.17
Transportation equipment	484.3	1,407.4	1,891.7	40.4	15,439.6	71,649.5	4.35	3.90	37,875.7	50,909.1	18.0	24.22	.22	.14
Textiles and apparel	256.9	2,030.2	2,287.1	37.3	9,450.6	39,570.9	2.35	2.07	17,301.8	19,491.1	8.9	10.04	.24	.19
Lumber, Wood, and furniture	133.4	867.0	1,000.4	38.8	4,880.6	18,257.4	2.67	2.42	18,250.1	21,058.1	9.0	10.43	.27	.21
Printing and publishing	398.5	619.1	1,017.6	37.6	6,751.1	20,201.7	3.68	3.43	19,852.3	32,630.8	10.2	16.71	.33	.19
Stone, clay, and glass	128.0	488.0	616.0	39.4	3,837.5	14,629.4	3.37	3.11	23,749.0	29,978.3	11.6	14.65	.26	.19
Instruments	113.2	248.8	362.0	38.2	2,509.3	8,832.7	3.87	3.20	24,399.7	35,501.2	12.3	17.88	.28	.16
Ordnance, leather, tobacco, and other manufacturing	263.6	868.6	1,132.2	37.5	6,567.7	24,356.9	3.28	2.60	21,512.9	28,041.6	11.0	14.39	.27	.16

Source: Compiled from official statistics of the U.S. Department of Commerce.

Table A-2.—United States: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours worked per man per week	Total wage bill	Deliveries and sales	Hourly Compensation (total includes fringes): All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per: All employees	Unit labor costs: Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	4,701.2	13,399.4	18,100.6	37.9	139,181.0	599,808.6	$4.37	$3.84	$33,138	$44,764	$16.83	$2[illegible].73	$0.23	$0.15
Food	518.4	1,120.8	1,639.2	38.5	11,711.0	97,647.0	4.00	3.57	59,570	87,123	29.76	43.53	.12	.07
Grain mill products	33.7	79.0	112.7	40.3	895.5	10,759.6	4.24	3.94	95,471	136,197	45.54	6[illegible].97	.06	.0[illegible]
Beverages	112.1	117.5	229.6	38.3	1,862.5	12,152.7	4.57	4.22	52,930	103,427	26.59	[illegible].96	.15	.07
Combinations and other	372.6	984.3	1,296.9	38.4	8,953.0	74,734.7	3.88	3.46	57,626	80,855	28.89	[illegible].54	.1[illegible]	.0[illegible]
Paper and allied products	138.1	518.5	696.6	39.8	5,321.1	24,658.7	4.36	3.98	37,555	[illegible],558	18.16	22.99	.2[illegible]	.15
Chemicals	323.6	554.4	878.0	38.7	7,954.5	49,253.0	5.00	4.31	56,097	88,840	27.86	44.13	.1[illegible]	.09
Drugs	59.0	71.7	130.7	12.5	1,306.2	6,792.8	5.52	4.28	51,972	94,739	25.84	47.11	.10	.04
Soaps and cosmetics	42.6	66.4	109.0	14.8	893.2	8,183.5	4.61	4.16	75,078	123,245	38.15	62.6[illegible]	.1[illegible]	.0[illegible]
Industrial organic and inorganic chemicals	91.0	161.7	252.7	39.1	2,509.8	15,895.2	5.43	4.39	62,902	98,301	30.91	48.21	.16	.06
Plastics materials	55.4	132.0	187.4	38.6	1,625.1	8,785.7	4.80	3.82	46,882	66,558	23.35	33.15	.18	.12
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	76.1	122.6	198.7	38.7	1,620.2	9,995.6	4.51	3.41	48,293	78,269	24.02	38.93	.17	.09
Rubber	118.6	429.0	547.6	38.0	3,994.7	15,387.8	4.17	3.69	28,100	35,869	14.21	18.14	.26	.18
Primary and fabricated metals	542.2	1,988.5	2,530.7	38.5	21,182.7	86,406.5	4.75	4.40	34,143	43,453	17.04	21.69	.25	.16
Primary	200.5	886.1	1,086.6	38.0	9,254.6	39,274.2	5.18	4.84	38,257	47,542	19.36	24.06	.24	.18
Fabricated excluding aluminum, copper, and brass	304.0	1,017.4	1,321.4	38.9	10,449.0	38,754.2	4.42	3.96	29,328	38,091	14.47	18.80	.27	.19
Primary and fabricated											20.34	25.46	.28	.1[illegible]
aluminum	22.3	88.6	110.9	38.[illegible]	912.1	4,490.4	4.69	3.78	40,490	50,681	20.34	25.46	.28	.15
Other	31.2	94.8	126.0	38.4	985.1	5,486.5	4.45	3.56	43,544	57,875	21.82	29.00	.18	.12
Machinery, except electrical	584.0	1,305.9	1,889.9	38.5	16,560.0	55,859.9	4.87	4.35	29,557	42,775	14.74	21.35	.30	.18
Farm machinery and equipment	31.8	92.8	124.5	37.2	976.3	4,367.3	4.52	4.06	35,051	47,061	20.41	24.33	.22	.15
Industrial machinery and equipment	249.1	513.3	762.4	38.7	6,588.6	22,329.0	4.79	4.34	29,288	43,501	14.57	21.64	.30	.18
Office machines	23.1	56.5	79.6	36.8	698.8	2,285.6	4.82	3.83	28,714	40,453	15.01	21.14	.29	.18
Electronic computing equipment	78.7	67.0	145.7	38.2	1,432.3	5,232.4	5.51	3.75	35,912	78,096	18.09	39.34	.27	.10
Other	201.3	576.3	777.6	38.9	6,904.0	21,645.6	4.89	3.96	27,836	37,560	13.78	18.59	.32	.21
Electrical machinery	603.1	1,237.3	1,840.4	37.6	14,756.4	48,137.4	4.5[illegible]	3.82	26,156	38,905	13.37	19.88	.31	.17
Household appliances	34.6	139.7	174.3	37.2	1,311.9	6,052.9	4.33	3.43	34,727	43,388	17.93	22.38	.22	.15
Electrical equipment and apparatus	109.6	865.4	975.0	40.1	2,983.5	9,524.1	4.40	3.42	25,398	35,886	12.61	17.82	.31	.19
Electronic components, radio, and TV	394.7	614.2	1,008.9	37.3	8,352.0	24,543.6	4.78	3.44	24,327	39,960	12.55	20.62	.34	.17
Other	65.2	217.0	282.2	37.7	2,079.0	8,016.8	4.19	3.31	28,408	36,944	14.48	18.83	.26	.18
Transportation equipment	484.9	1,200.6	1,685.5	38.3	15,997.9	72,456.8	5.42	4.88	42,395	59,518	21.31	29.91	.22	.14
Textiles and apparel	271.0	1,980.8	2,251.8	36.5	11,301.9	45,823.6	2.91	2.59	20,350	23,134	10.72	12.18	.25	.19
Lumber, wood, and furniture	141.6	838.0	979.6	37.6	5,876.0	21,975.9	3.42	3.07	22,434	26,224	11.47	13.41	.27	.20
Printing and publishing	426.4	654.7	1,081.1	3[illegible].1	6,719.8	25,741.0	4.56	4.27	23,810	39,317	12.33	20.36	.34	.19
Stone, clay, and glass	121.3	474.0	595.3	38.5	4,533.2	16,872.5	4.26	3.94	28,343	35,596	14.16	17.79	.27	.20
Instruments	192.9	261.4	404.3	37.2	[illegible]	11,723.2	4.80	3.88	28,996	44,848	15.00	23.20	.29	.15
Other manufacturing	285.1	835.5	1,120.[illegible]	36.3	[illegible]	28,865.3	4.17	3.32	25,759	34,549	13.66	18.32	.27	.16

Source: Compiled from official statist[illegible] of the U.S. Department [illegible]

Table A-3.—Canada: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor (wage cost per dollar sales): All employees	Unit labor (wage cost per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	495,866	1,141,518	1,597,384	40.8	8,220,106	32,277,154	$2.42	$2.22	$20,206	$28,276	$9.52	$13.27	$0.25	$0.[illegible]
Food	86,500	140,721	227,221	40.3	1,040,334	6,515,959	2.06	1.87	28,677	46,304	13.68	21.84	.16	.08
Grain mill products	5,994	8,586	14,580	41.9	69,015	780,651	2.25	2.14	49,427	83,933	22.69	38.07	.10	.06
Beverages	15,643	14,212	29,855	41.5	167,765	796,795	2.52	2.36	26,689	56,065	12.37	26.16	.21	.09
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	61,815	118,104	179,919	40.0	783,100	5,001,178	2.00	1.87	27,797	42,346	13.36	20.05	.16	[illegible]
Paper and allied products	28,426	88,414	116,840	41.8	711,672	2,920,893	2.78	2.62	25,000	33,037	11.50	15.03	.24	
Chemicals	35,099	33,723	68,822	41.2	423,511	1,922,330	2.76	2.43	27,932	57,004	13.04	26.46	.22	.[illegible]
Drugs	6,760	4,889	11,649	40.2	67,608	248,593	2.68	1.96	21,340	50,847	10.21	24.67	.27	.08
Soaps and cosmetics	5,519	4,809	10,328	41.4	59,688	301,738	2.90	2.65	29,216	62,745	13.57	29.70	.20	.09
Industrial chemicals	7,013	12,573	19,586	41.4	130,027	710,483	2.98	2.81	36,275	56,509	16.85	25.96	.18	.11
Plastics materials	1,614	2,415	4,029	41.2	26,176	145,978	2.76	2.43	36,232	60,446	16.91	26.53	.18	.09
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	10,173	9,037	19,210	41.2	108,888	515,538	2.76	2.43	26,837	57,047	12.53	26.36	.21	.09
Rubber	8,242	19,579	27,821	41.5	150,289	498,745	2.50	2.36	17,927	25,473	8.31	11.96	.30	.20
Primary and fabricated metals	53,387	170,342	223,729	41.3	1,309,754	4,634,304	2.72	2.62	20,715	27,206	9.65	12.71	.28	.21
Primary	15,215	56,051	71,266	40.8	454,198	1,660,802	2.97	2.81	23,304	29,630	10.98	13.99	.27	.30
Fabricated (excluding aluminum, copper, and brass)	32,236	94,684	126,980	41.8	708,606	2,207,588	2.55	2.42	17,384	23,315	8.00	10.87	.32	.23
Primary and fabricated aluminum	1,250	3,693	4,943	42.0	28,930	163,340	2.60	2.44	33,045	44,230	15.13	19.98	.18	.12
Other	4,676	15,914	20,590	41.8	116,433	602,574	2.56	2.42	29,265	37,864	13.46	17.42	.19	.14
Machinery, except electrical	28,612	46,839	75,451	42.1	447,329	1,351,003	2.67	2.51	17,906	28,844	8.18	13.25	.33	.19
Farm machinery and equipment	3,166	11,332	14,498	41.0	83,794	302,945	2.74	2.69	20,896	26,734	9.80	12.49	.28	.2[illegible]
Industrial machinery and equipment	17,112	32,736	49,848	42.6	264,915	910,774	2.56	2.45	18,271	27,822	8.25	12.70	.31	.26
Office machines	7,400	2,771	10,171	41.9	72,896	137,284	3.00	2.68	13,498	49,543	6.19	22.88	.52	.32
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	44,077	71,310	115,387	40.8	607,668	1,702,601	2.50	2.21	14,756	23,876	6.95	11.27	.36	.2[illegible]
Household appliances	5,648	13,987	19,635	40.0	98,851	384,652	2.45	2.30	19,590	27,501	9.42	13.1[illegible]	.26	[illegible]
Equipment and apparatus	8,323	15,949	24,272	41.5	136,567	396,555	2.63	2.42	16,338	24,864	7.57	[illegible]	.34	.2[illegible]
Components, radio, TV	15,393	30,229	45,622	39.9	233,534	637,297	2.40	1.99	13,969	21,082	6.73	9.98	.[illegible]	.26
Other	4,408	12,266	16,674	40.7	76,382	301,617	2.12	1.93	18,089	24,590	8.95	11.72	.25	.27
Transportation equipment	38,471	108,461	146,932	41.2	947,231	3,910,698	2.94	2.77	26,616	36,056	12.42	1[illegible].58	.24	[illegible]
Textiles and apparel	33,967	166,598	200,565	39.8	1,051,408	2,602,336	2.43	1.50	12,975	15,620	6.27	7.96	.40	.[illegible]0
Lumber, wood, and furniture	20,359	113,773	134,132	41.1	605,934	2,008,249	2.04	1.93	14,972	17,651	7.01	8.24	.30	[illegible]
Printing and publishing	35,159	46,837	81,996	38.9	449,237	1,111,519	2.67	2.64	13,556	23,732	6.70	11.6[illegible]	.40	[illegible]
Stone, clay, and glass	13,628	39,561	53,189	43.3	290,580	1,034,732	2.43	2.31	19,454	26,155	8.64	[illegible]	.28	[illegible]
Instruments	7,502	11,400	18,902	40.4	98,013	260,974	2.43	2.01	13,807	22,892	6.57	[illegible]	.38	[illegible]
Other manufacturing	18,297	72,813	91,110	39.3	378,870	1,383,999	2.10	1.90	15,190	19,008	7.43	[illegible]	.2[illegible]	.26

Source: Dominion Bureau of Statistics various publications: The Manufacturing Industries of Canada Section A 1966; Review of Man-hours and Hourly Earnings 1966-1968; Employment, Earnings, and Hours (assorted issues); Man-Hours and Hourly Earnings (assorted issues); Labour Costs in Manufacturing 1967

Table A-4.—Canada: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	466,346	1,132,797	1,599,143	39.7	12,397,881	42,585,155	$3.64	$3.32	$26,630	$37,593	$12.90	$18.21	$0.29	$0.18
Food	83,884	140,317	224,201	39.4	1,468,790	8,531,723	3.20	2.89	38,054	60,803	18.57	29.68	.17	.10
Grain mill products	5,910	8,841	14,751	40.6	108,037	774,353	3.46	3.17	52,495	87,587	24.87	41.49	.14	.08
Beverages	15,559	14,469	30,028	40.4	242,381	1,125,174	3.76	3.58	37,471	77,764	17.84	37.02	.22	.10
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	62,421	117,001	179,422	39.1	1,118,300	6,632,196	2.98	2.71	36,964	56,685	18.18	27.88	.17	.10
Paper and allied products	30,270	91,204	121,474	40.9	1,042,037	3,840,048	4.03	3.79	31,612	42,104	14.86	19.80	.27	.19
Chemicals	37,710	35,010	72,720	40.6	624,060	2,490,204	3.99	3.50	34,244	71,128	16.22	33.69	.25	.10
Drugs	7,701	5,663	13,364	39.3	107,395	394,054	3.93	2.97	29,486	69,584	14.43	34.05	.27	.09
Soaps and cosmetics	5,499	4,982	10,481	41.0	83,191	391,648	4.16	3.73	37,367	78,613	17.53	36.87	.21	.10
Industrial chemicals	7,634	13,422	21,056	40.9	197,758	888,219	4.41	4.13	42,184	66,176	19.83	31.12	.22	.13
Plastics materials	1,516	2,431	3,947	40.9	35,614	192,176	4.41	4.13	48,689	79,052	22.89	37.17	.19	.11
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	11,121	9,377	20,498	40.7	131,020	737,710	3.99	3.26	35,989	78,672	17.00	37.17	.18	.09
Rubber	7,968	16,064	24,032	40.0	201,641	628,485	3.96	3.67	26,152	39,124	12.57	18.81	.32	.20
Primary and fabricated metals	55,467	166,839	222,306	40.6	1,861,399	6,876,949	4.07	3.81	30,935	41,219	14.65	19.52	.27	.26
Primary	15,785	54,964	70,749	40.6	665,697	2,289,916	4.26	4.16	32,367	41,662	15.33	19.73	.29	.21
Fabricated (excluding aluminum, copper, and brass)	33,351	92,073	125,424	40.5	972,239	2,767,279	3.62	3.46	22,063	82,974	10.48	14.27	.35	[illegible]
Primary and fabricated aluminum	1,459	4,347	5,806	41.1	143,517	255,086	4.14	3.46	43,935	58,681	20.96	27.46	.56	[illegible]
Other	4,872	15,455	20,327	40.9	150,991	673,844	3.87	3.40	33,150	43,600	15.59	20.50	.22	.17
Machinery, except electrical	33,921	47,031	80,952	40.7	723,332	1,776,898	4.23	3.87	21,950	37,781	10.37	17.85	.41	.22
Farm machinery and equipment	2,767	7,049	9,816	40.4	84,362	224,413	4.06	3.94	22,862	31,836	10.88	15.15	.38	.26
Industrial machinery and equipment	19,069	35,880	54,949	41.1	471,492	1,345,532	4.04	3.86	24,487	37,501	11.46	17.55	.35	.22
Office machines	11,600	3,719	15,319	40.1	157,496	196,451	4.93	4.10	12,824	52,824	6.15	25.33	.80	.16
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	45,403	70,707	116,110	39.3	870,394	2,175,571	3.69	3.16	18,737	30,769	9.17	15.06	.40	.21
Household appliances	5,092	10,949	16,041	39.9	113,432	424,883	3.44	3.31	26,487	38,806	12.77	18.99	.27	.18
Equipment and apparatus	8,294	15,415	23,709	39.9	182,291	476,881	3.70	3.39	20,114	30,936	9.69	15.14	.38	.23
Components, radio, TV	17,557	32,090	49,607	39.3	372,818	936,988	3.55	2.92	18,888	29,235	9.24	14.31	.40	.20
Other	5,148	13,331	18,479	39.8	118,252	374,251	3.23	2.86	20,253	28,074	9.79	13.56	.32	.21
Transportation equipment	39,154	104,254	143,408	40.3	1,306,539	5,611,007	4.35	4.04	39,126	53,821	18.67	25.68	.23	.16
Textiles and apparel	30,775	161,099	191,874	38.2	951,502	3,280,610	2.43	2.16	17,098	20,364	8.61	10.25	.29	[illegible]
Lumber, wood, and furniture	20,466	111,599	132,065	39.6	828,933	2,631,995	3.00	2.78	19,930	23,584	9.68	11.45	.32	.24
Printing and publishing	36,690	49,071	85,761	37.2	662,185	1,515,589	3.99	3.87	17,672	30,886	9.14	15.95	.44	[illegible]
Stone, clay, and glass	13,696	37,311	51,007	41.7	410,054	1,260,220	3.71	3.49	24,707	33,776	11.39	15.58	.32	.22
Instruments	8,186	12,065	20,251	39.6	151,561	372,265	3.63	2.99	18,383	30,855	8.93	14.98	.41	.20
Other manufacturing	20,872	78,871	99,743	38.9	592,268	1,915,796	3.15	2.80	19,207	24,290	9.50	12.01	.31	.23

Source: Statistics Canada (new name for Dominion Bureau of Statistics): Canadian Statistical Review May 1972; the Review of Employment, and average weekly wages and salaries 1966-1970; Preliminary and Final Reports on selected industries.

Table A-5.--United Kingdom: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours worked per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage bill per dollar of sales): All employees	Unit labor costs (wage bill per dollar of sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	2,231	6,951	9,182	46.0	35,165	91,451	$1.70	$1.26	$9,960	$13,157	$4.41	$5.83	$0.38	$0.32
Food	173	648	821	45.1	3,342	9,539	1.79	1.22	11,633	14,721	5.11	6.47	.35	.19
Grain mill products	60	224	284	45.1	1,156	2,927	1.79	1.22	23,694	30,040	4.53	5.74	-	-
Beverages	35	133	168	45.1	684	2,807	1.79	1.22	16,708	21,105	7.35	9.30	.24	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	78	291	369	45.1	1,502	3,802	1.79	1.22	-	-	4.53	5.74	-	-
Paper and allied products	63	178	241	46.4	1,017	2,561	1.80	1.43	10,627	14,388	[illegible].53	6.13	.40	.23
Chemicals	177	300	477	46.0	2,126	8,669	1.91	1.29	18,174	28,897	7.79	12.36	.25	.10
Drugs	30	50	80	46.0	357	-	1.91	1.29	-	-	-	-	-	-
Soaps and cosmetics	14	23	37	46.0	164	-	1.91	1.29	-	-	-	-	-	-
Industrial chemicals	18	31	49	46.0	218	-	1.91	1.29	-	-	-	-	-	-
Plastics materials	14	25	39	46.0	174	-	1.91	1.29	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	1.91	1.29	-	-	-	-	-	-
Other	101	171	272	46.0	1,213	-	1.91	1.29	-	-	-	-	-	-
Rubber	31	106	137	45.8	491	1,096	1.55	1.24	8,000	10,340	3.46	4.38	.45	.28
Primary and fabricated metals	136	492	628	46.2	9,340	7,327	1.60	1.30	11,667	14,892	-	-	.32	.28
Primary	66	233	299	46.2	1,115	-	1.60	1.30	-	-	-	-	-	-
Fabricated (excluding aluminum, copper, and brass)	39	141	180	46.2	670	-	1.60	1.30	-	-	-	-	-	-
Primary and fabricated aluminum	13	47	60	46.2	224	-	1.60	1.30	-	-	-	-	-	-
Other	19	70	89	46.2	332	-	1.60	1.30	-	-	-	-	-	-
Machinery, except electrical	418	930	1,348	46.0	5,179	10,993	1.65	1.25	8,155	11,820	3.50	5.08	.47	.25
Farm machinery and equipment	11	26	37	46.0	142	-	1.65	1.25	-	-	-	-	-	-
Industrial machinery and equipment	142	317	459	46.0	1,764	-	1.65	1.25	-	-	-	-	-	-
Office machines	19	42	61	46.0	234	-	1.65	1.25	-	-	-	-	-	-
Electronic computers and equipment	22	48	70	46.0	269	-	1.65	1.25	-	-	-	-	-	-
Other	224	497	721	46.0	2,770	-	1.65	1.25	-	-	-	-	-	-
Electrical machinery	269	599	868	45.5	3,299	8,303	1.65	1.26	9,566	13,861	-	-	.40	.21
Household appliances	19	43	62	45.5	236	-	1.65	1.26	-	-	-	-	-	-
Equipment and apparatus	75	168	243	45.5	924	-	1.65	1.26	-	-	-	-	-	-
Electronic components, radio, and TV	107	237	344	45.5	1,307	-	1.65	1.26	-	-	-	-	-	-
Other	68	151	219	45.5	832	-	1.65	1.26	-	-	-	-	-	-
Transportation and equipment	297	780	1,077	43.4	3,970	11,724	1.68	1.41	10,886	15,031	4.96	6.89	.34	.21
Textiles and apparel	185	1,081	1,266	45.8	5,016	9,519	1.72	1.13	7,519	9,233	3.26	3.84	.53	.30
Lumber, wood, and furniture	60	262	322	46.7	1,264	2,561	1.67	1.17	7,953	9,775	3.38	4.18	.49	.26
Printing and publishing	109	304	413	46.4	1,742	4,637	1.80	1.43	11,228	15,253	4.70	6.47	.38	.22
Stone, clay, and glass	73	296	369	48.0	1,411	3,541	1.58	1.21	9,596	11,963	3.97	4.96	.40	.27
Instruments	47	104	151	45.2	601	1,225	1.65	1.27	8,113	11,779	3.54	5.13	.49	.25
Other manufacturing	193	871	1,064	46.3	3,367	9,768	1.67	1.22	9,180	11,215	4.85	5.91	.34	.22

Source: United Kingdom Annual Abstract, No. 107-108, 1970-71; Department of Employment Gazette, February 1971 and January 1972; Monthly Digest of Statistics, No. 313, January 1972, IMF. Information Financial Statistics, No. 4, April 1972.

Table A-6 .— United Kingdom: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours worked per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar of sales): All employees	Unit labor costs (wage costs per dollar of sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	2,406	6,604	9,010	44.9	39,315	98,692	$1.95	$1.54	$10,954	$14,945	$4.86	$6.66	$0.40	$0.23
Food	199	664	863	44.0	3,890	10,294	2.03	1.52	11,988	15,503	5.37	6.70	.38	[illegible]
Grain mill products	66	221	287	44.0	1,293	2,973	2.03	1.52	25,307	32,864	4.67	6.06	.43	.25
Beverages	37	125	162	44.0	731	3,031	2.03	1.52	18,710	24,248	8.42	10.93	.24	.14
Combinations	-	-	-	-	-	-	-	-				-	-	-
Other	96	318	414	44.0	1,866	4,290	2.03	1.52	-	-	4.67	6.06	.43	.25
Paper and allied products	70	167	237	45.3	1,091	2,763	2.01	1.78	11,658	16,545	5.09	7.27	.39	.25
Chemicals	192	291	483	44.9	2,402	9,356	2.18	1.56	19,371	32,151	8.49	14.15	.26	[illegible]
Drugs	30	46	76	44.9	377	-	2.18	1.56	-	-	-	-	-	-
Soaps and cosmetics	18	28	46	44.9	229	-	2.18	1.56	-	-	-	-	-	-
Industrial chemicals	25	37	62	44.9	307	-	2.18	1.56	-	-	-	-	-	-
Plastics materials	24	37	61	44.9	303	-	2.18	1.56	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	2.18	1.56	-	-	-	-	-	-
Other	94	144	238	44.9	1,184	-	2.18	1.56	-	-	-	-	-	-
Rubber	31	102	133	44.7	576	1,185	1.92	1.53	8,910	11,618	3.95	5.13	.49	[illegible]
Primary and fabricated metals	146	458	604	45.1	2,482	7,905	1.79	1.59	13,088	17,260	5.75	7.56	.31	[illegible]
Primary	77	241	318	45.1	1,296	-	1.79	1.59	-	-	-	-	-	-
Fabricated (excluding aluminum, copper, and brass)	42	128	169	45.1	689	-	1.79	1.59	-	-	-	-	-	-
Primary and fabricated aluminum	14	44	58	45.1	236	-	1.79	1.59	-	-	-	-	-	-
Other	14	45	59	45.1	240	-	1.79	1.59	-	-	-	-	-	-
Machinery, except electrical	412	863	1,275	44.9	5,421	11,862	1.87	1.52	9,304	13,745	4.09	6.02	.46	[illegible]
Farm machinery and equipment	11	22	33	44.9	140	-	1.87	1.52	-	-	-	-	-	-
Industrial machinery and equipment	153	322	475	44.9	2,020	-	1.87	1.52	-	-	-	-	-	-
Office machines	17	35	52	44.9	221	-	1.87	1.52	-	-	-	-	-	-
Electronic computers and equipment	20	42	62	44.9	264	-	1.87	1.52	-	-	-	-	-	-
Other	211	443	653	44.9	2,781	-	1.87	1.52	-	-	-	-	-	-
Electrical machinery	304	559	863	44.4	3,769	8,961	1.94	1.49	10,384	16,030	4.61	7.10	.42	[illegible]
Household appliances	23	42	65	44.4	[illegible]	-	1.94	1.49	-	-	-	-	-	-
Equipment and apparatus	101	185	286	44.4	[illegible]	-	1.94	1.49	-	-	-	-	-	-
Electronic components, radio, and TV	106	196	302	44.4	1,319	-	1.94	1.49	-	-	-	-	-	-
Other	74	136	210	44.4	904	-	1.94	1.49	-	-	-	-	-	-
Transportation and equipment	309	754	1,063	[illegible]	4,811	12,645	2.11	1.83	11,896	16,771	5.55	7.81	.38	[illegible]
Textiles and apparel	195	943	1,138	44.7	4,815	10,275	1.88	1.35	9,029	10,896	4.01	4.83	.47	[illegible]
Lumber, wood, and furniture	62	245	[illegible]	[illegible]	[illegible]	2,763	1.80	1.37	9,000	11,278	3.91	4.89	.46	[illegible]
Printing and publishing	125	301	426	45.3	[illegible]	5,003	2.01	1.78	11,744	16,621	5.13	7.22	.39	[illegible]
Stone, clay, and glass	76	273	349	46.9	[illegible]	3,818	1.76	1.47	10,940	13,985	4.62	5.93	.38	[illegible]
Instruments	55	102	157	[illegible]	702	[illegible]	2.00	1.45	8,414	12,951	3.76	5.79	.53	.25
Other manufacturing	242	870	[illegible]	[illegible]	[illegible]	[illegible]	1.85	[illegible]	9,479	12,116	4.16	5.33	.44	.26

Source: United Kingdom Annual Abstract, No. [illegible] 1970-71; Department of Employment Gazette, February 1971 and January 1972, Monthly Digest of Statistics, No. 313, January 1972, IMF International Financial Statistics, No. 4, April 1972.

Table A-7.—Belgium: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours worked per man per week	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage bill per dollar sales): All employees	Unit labor costs (wage bill per dollar sales): Production workers
	Thousands	Thousands	Thousands		1,000 dollars	1,000 dollars								
All manufacturing	206	892	1,098	44.1	4,020,105	11,221,220	$ 1.68	$ 1.47	$ 9,350	$ 11,509	$ 4.08	$ 5.02	$ 0.36	$ 0.[illegible]
Food	22	85	107	45.1	419,063	1,779,500	1.67	1.40	16,631	20,935	7.09	8.93	.24	[illegible]
Grain mill products	1	4	5	45.1	19,582	149,160	1.67	1.28	29,832	37,290	12.72	15.90	.09	-
Beverages	4	21	25	45.4	98,563	365,900	1.67	1.45	14,636	17,424	6.20	7.38	.27	-
Combinations and Other	17	60	77	45.0	300,901	1,264,440	1.67	1.38	16,421	21,074	7.02	9.01	[illegible]	-
Paper and allied products	5	22	27	44.6	99,563	328,920	1.59	1.39	12,182	14,951	5.25	6.45	.30	[illegible]
Chemicals	22	41	63	45.5	320,379	834,820	2.12	1.78	13,251	20,362	5.60	8.61	.38	[illegible]
Drugs	2	4	6	43.0	25,759	86,140	1.92	1.33	14,357	21,535	6.42	9.63	[illegible]	-
Soaps and cosmetics	2	3	5	45.0	22,464	75,040	1.92	1.33	15,008	25,013	6.41	10.69	[illegible]	-
Industrial chemicals, plastics, Combinations, and other	18	34	52	46.6	272,173	673,640	2.16	1.87	12,955	19,813	5.35	8.18	.25	-
Rubber	2	6	8	44.3	31,329	67,900	1.70	1.50	8,488	11,317	3.68	4.91	.46	.31
Primary and fabricated metals	31	156	187	45.0	735,922	2,598,760	1.70	1.54	13,897	16,659	5.94	7.12	.28	.21
Primary	20	103	123	45.1	582,689	1,643,380	2.02	1.83	13,361	15,955	5.70	6.80	.10	-
Fabricated and other	11	53	64	43.4	236,873	955,380	1.64	1.48	19,428	18,026	6.61	7.99	.58	-
Machinery, excluding electrical	20	64	84	44.3	334,758	655,200	1.73	1.55	7,800	10,238	3.39	4.44	.51	.35
Farm machinery and equipment	-	-	-	43.7	-	-	1.97	1.82	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	44.7	-	-	1.96	1.69	-	-	-	-	-	-
Electrical machinery	25	67	92	44.9	397,384	574,660	1.85	1.49	6,246	8,577	2.68	3.67	.69	.41
Transportation equipment	18	61	79	44.5	340,019	964,760	1/ 1.86	1/ 1.67	12,212	15,816	5.28	6.83	.35	.24
Textiles and apparel	27	208	235	42.1	607,065	1,617,120	1.18	1.08	6,881	7,775	3.14	3.95	.38	.30
Lumber, wood, and furniture	5	44	49	44.7	160,593	313,900	1.41	1.33	6,406	7,134	2.76	3.07	.51	.43
Printing and publishing	10	27	37	42.7	139,664	276,760	1.70	1.58	7,480	10,250	3.37	4.62	.50	.34
Stone, clay, and glass	10	56	66	45.2	249,753	515,460	1.61	1.47	7,810	9,205	3.32	3.92	.48	.38
Instruments	1	2	3	44.0	12,355	19,580	1.80	1.60	6,527	9,790	1.59	2.37	.63	.37
Other manufacturing	8	53	61	43.1	172,258	673,880	1.86	1.14	11,047	12,715	3.30	5.67	.26	.20

1/ Autos, all employees $1.93; production workers $1.71.

Source: Belgium, Ministere des Affaires Economiques, Institut National de Statistique: Annuaire Statistique de la Belgique, —Tome 87, 1966. —Tome 90, 1970; Bulletin de Statistique —No. [illegible]-9, August-September, 1970, —No. 12, December 1971; Statistiques Industrielles, —No. 11-12, November-December, 1971; Statistical Office of the European Communities: Statistiques Sociales, No. [illegible], 1971.

Table A-8.--Belgium: Estimated basic employment, labor cost, and productivity for manufacturing industries, 197[illegible]

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours worked per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		1,000 dollars	1,000 dollars								
All manufacturing	223	899	1,122	42.6	5,577,609	16,651,940	$2.34	$2.04	$14,841	$18,523	$ 6.71	$ 8.37	$ 0.33	$0.24
Food	23	77	100	44.0	524,256	2,414,780	2.37	1.99	24,148	31,361	10.55	13.71	.22	.15
Grain mill products	1	4	5	44.0	26,312	202,360	2.30	1.77	40,472	50,590	17.69	22.11	.13	-
Beverages	6	19	25	43.4	129,766	503,840	2.30	2.00	20,154	26,518	8.93	11.75	.26	-
Combinations and other	16	54	70	44.3	368,178	1,708,580	2.39	1.97	24,408	31,640	10.62	13.76	.22	-
Paper and allied products	6	22	28	43.7	140,715	495,680	2.21	1.93	17,703	22,531	7.78	9.91	.28	.19
Chemicals	24	38	62	43.3	404,837	1,357,440	2.90	2.44	21,894	35,722	9.72	15.87	.30	.15
Drugs	6	7	13	43.0	67,462	154,760	2.17	1.50	11,905	22,109	5.32	9.89	.44	-
Soaps and cosmetics	2	2	4	43.0	19,408	90,500	2.17	1.50	22,[illegible]	45,250	10.12	20.24	.21	-
Industrial chemicals, plastics, combinations, and other	16	29	45	43.6	317,967	1,112,180	3.13	2.72	24,715	38,351	10.95	16.99	.29	-
Rubber	2	7	9	44.0	48,597	96,080	2.36	2.09	10,676	13,726	4.67	6.00	.51	.35
Primary and fabricated metals	34	168	202	42.8	1,069,979	3,989,000	2.38	2.16	19,748	23,744	8.87	10.67	.27	.20
Primary	21	108	129	42.8	806,757	2,563,680	2.81	2.54	19,873	23,738	8.93	10.67	.31	-
Fabricated and other	13	60	73	43.0	263,222	1,425,320	2.30	2.07	19,525	23,755	8.77	10.67	.18	-
Machinery, excluding electrical	24	68	92	43.2	510,472	1,058,800	2.47	2.22	11,509	15,571	5.12	6.93	.48	.32
Farm machinery and equipment	-	-	-	-	-	171,920	2.74	2.53	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	-	-	-	2.86	2.47	-	-	-	-	-	-
Electrical machinery	30	78	108	42.4	616,726	993,420	2.59	2.09	9,198	12,736	4.17	5.78	.62	.36
Transportation equipment	17	72	89	42.5	519,262	1,523,380	1/ 2.64	1/ 2.37	17,117	21,158	7.75	9.57	.34	.25
Textiles and apparel	25	181	206	41.3	716,698	2,001,840	1.62	1.48	9,718	11,060	4.52	5.15	.36	.29
Lumber, wood, and furniture	6	45	51	42.9	224,129	477,840	1.97	1.86	9,369	10,619	4.20	4.76	.47	.39
Printing and publishing	12	29	41	41.9	220,648	390,400	2.47	2.29	9,522	13,462	4.37	6.18	.57	.37
Stone, clay, and glass	11	58	69	42.4	337,731	726,800	2.22	2.03	10,533	12,531	4.78	5.68	.46	.36
Instruments	1	2	3	42.6	16,615	33,400	2.50	2.22	11,133	16,700	5.03	7.54	.50	.29
Other manufacturing	8	54	62	41.9	226,944	1,093,080	1.68	1.52	17,630	20,242	8.09	9.29	.21	.16

1/ Autos, all employees, $2.80; production workers $2.48.

Source: Belgium, Ministere des Affaires Economiques, Institut National de Statistique: Annuaire Statistique de la Belgique, --Tome 87, 1966, --Tome 90, 1970; Bulletin de Statistique--No. 8-9, August-September, 1970, --No. 12, December 1971; Statistiques Industrielles, --No. 11-12, November-December, 1971; Statistical Office of the European Communities: Statistiques Sociales, No. 4, 1972.

Table A-9.—France: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	823	4,286	5,109	45.6	20,500	61,932	$1.68	$1.31	$12,122	$14,450	$5.08	$6.05	$0.33	$0.22
Food processing	32	288	320	47.2	1,131	8,800	1.44	1.16	27,500	30,556	11.20	12.45	.13	.09
Grain mill products	2	20	22	47.2	75	607	1.39	1.12	27,591	30,350	11.24	12.37	.12	.09
Beverages	6	58	64	47.2	253	1,760	1.61	1.30	27,500	30,345	11.20	11.20	.14	.12
Combinations and other	24	210	234	47.2	804	6,433	1.40	1.13	27,491	30,633	11.20	12.85	.13	.09
Paper and allied products	25	105	130	46.2	490	1,742	1.57	1.25	13,400	16,590	5.58	6.91	.28	.18
Chemicals	133	166	299	45.0	1,497	5,888	2.14	1.57	19,692	35,470	8.42	15.16	.25	.10
Drugs	20	23	43	45.0	215	1,054	2.14	1.57	24,512	45,826	10.48	19.58	.20	.08
Cosmetics	13	10	23	45.0	115	469	2.14	1.57	20,391	46,900	8.71	20.04	.25	.08
Plastics materials	11	14	25	45.0	125	483	2.14	1.57	19,320	34,500	8.26	14.74	.26	.11
Industrial, combinations, and other	89	119	208	45.0	1,042	3,882	2.14	1.57	18,663	32,622	7.98	13.94	.27	.11
Rubber	21	62	83	45.0	357	1,014	1.84	1.35	12,217	16,355	5.[illegible]	6.99	.35	.19
Primary and fabricated metals	172	505	677	47.1	2,808	6,636	1.69	1.38	9,802	13,141	4.00	5.36	.42	.26
Primary (excluding aluminum and magnesium)	62	180	242	47.5	962	2,371	1.61	1.37	9,798	13,172	3.97	5.33	.41	.26
All other (fabricated, aluminum and magnesium)	110	325	435	46.9	1,846	4,265	1.74	1.39	9,805	13,123	4.02	5.38	.43	.26
Nonelectrical machinery	22	648	670	47.0	2,954	6,920	1.80	1.44	10,328	10,679	4.23	4.37	.43	.33
Agricultural and industrial machinery	9	254	263	47.0	1,157	3,133	1.80	1.44	11,913	12,335	4.87	5.05	.37	.29
All other	13	394	407	47.0	1,790	3,787	1.80	1.44	9,305	9,612	3.81	3.93	.47	.37
Electrical machinery	135	230	365	46.0	1,624	4,053	1.86	1.37	11,104	17,622	4.64	7.37	.40	.19
Electronics	63	79	142	46.0	632	1,721	1.86	1.37	12,120	21,785	5.07	9.11	.37	.15
All other	72	151	223	46.0	992	2,332	1.86	1.37	10,457	15,444	4.37	6.46	.43	.21
Transportation equipment	51	462	513	47.0	2,282	7,910	1.82	1.47	15,419	17,121	6.31	7.01	.28	.21
Textiles and apparel	74	815	889	43.4	2,648	7,682	1.32	1.03	8,641	9,426	3.83	4.18	.35	.25
Lumber, wood, and furniture	48	243	291	48.0	966	1,953	1.33	1.12	6,711	8,037	2.69	3.22	.50	.55
Printing and publishing	21	215	236	43.2	1,161	2,967	2.19	1.79	12,572	13,800	5.60	6.14	.39	.29
Stone, clay, and glass	34	194	228	47.0	892	2,201	1.60	1.33	9,654	11,345	3.95	4.64	.41	.29
Instruments	10	111	121	46.5	527	1,442	1.80	1.44	11,917	12,991	4.93	5.37	.37	.27
Other manufacturing	45	242	287	45.3	1,163	2,724	1.72	1.31	9,491	11,256	4.03	4.78	.43	.27

Source: INSEE, Annuaire Statistique de la France, 1967, 1968, 1970-71; Swedish Confederation of Industries; INSEE, National Accounts, various issues.

Table A-10.—France: Estimated basic employment, labor cost, and productivity for manufactur[illegible]tries, 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	897	4,497	5,394	44.9	31,310	92,488	$2.49	$1.81	$17,146	$20,567	$7.34	$8.81	$0.34	$0.21
Food processing	46	412	458	46.3	2,205	17,137	2.00	1.61	37,417	41,595	15.54	17.28	.13	.09
Grain mill products	3	29	32	46.3	149	1,200	1.93	1.56	37,500	41,379	15.58	17.19	.12	.09
Beverages	9	83	92	46.3	496	3,445	2.24	1.81	37.446	41,506	15.55	17.24	.14	.13
Combinations and other	34	300	334	46.3	1,560	12,492	1.95	1.57	37,401	41,640	15.54	17.30	.13	.09
Paper and allied products	26	107	133	45.4	706	2,161	2.25	1.79	16,248	20,196	6.88	8.56	.33	.21
Chemicals	158	186	344	44.0	2,361	8,190	3.00	2.20	23,808	44,032	10.41	19.25	.29	.11
Drugs	28	30	58	44.0	398	1,546	3.00	2.20	26.655	51,533	11.65	22.52	.26	.10
Cosmetics	20	13	33	44.0	227	680	3.00	2.20	20,606	52,308	9.01	22.86	.33	.12
Plastics materials	13	16	29	44.0	199	666	3.00	2.20	22,966	41,625	10.04	18.19	.30	.12
Industrial, combinations, and other	97	127	224	44.0	1,538	5,298	3.00	2.20	23,652	41,717	10.34	18.23	.29	.12
Rubber	25	70	95	44.0	561	1,854	2.58	1.89	19,516	26,486	8.53	11.58	.30	.16
Primary and fabricated metals	167	492	659	46.1	3,682	10,750	2.33	1.90	16,316	21,850	6.80	9.11	.34	.21
Primary (excluding aluminum and magnesium)	57	166	223	45.8	1,184	3,841	2.23	1.90	17,224	23,139	7.23	9.72	.31	.20
All other (fabricated, aluminum and magnesium)	110	326	436	46.3	2,498	6,909	2.38	1.90	15,846	21,193	6.58	8.80	.36	.22
Nonelectrical machinery	24	690	714	45.6	5,485	10,581	3.24	2.64	14,819	15,335	6.25	6.47	.52	.41
Agricultural and industrial machinery	10	270	280	45.7	2,063	4,790	3.10	2.64	17,107	17,741	7.20	7.47	.43	.35
All other	14	420	434	45.5	3,422	5,791	3.31	2.64	13,343	13,788	5.64	5.82	.59	.45
Electrical machinery	144	246	390	44.8	3,489	6,059	3.84	2.82	15,536	24,630	6.67	10.57	.58	.27
Electronics	67	84	151	44.8	1,351	2,573	3.84	2.82	17,040	30,63[illegible]	7.31	13.15	.53	.22
All other	77	162	239	44.8	2,138	3,486	3.84	2.82	14,586	21,519	6.26	9.24	.61	.31
Transportation equipment	57	509	566	45.5	3,401	12,086	2.54	2.05	21,353	23,745	9.02	10.04	.28	.20
Textiles and apparel	69	765	834	42.6	3,455	8,220	1.87	1.46	9,856	10,745	4.45	4.65	.42	.30
Lumber, wood, and furniture	47	238	285	46.5	1,281	3,135	1.86	1.57	11,000	13,172	4.55	5.45	.41	.29
Printing and publishing	48	244	292	42.6	1,992	4,320	3.08	2.52	14,795	17,705	6.68	7.99	.46	.32
Stone, clay, and glass	32	188	220	45.6	1,189	2,897	2.28	1.90	13,168	15,410	5.55	6.50	.41	.29
Instruments	10	114	124	45.5	951	1,976	3.24	2.64	15,935	17,333	6.74	7.33	.48	.36
Other manufacturing	44	236	280	44.8	1,552	3,122	2.38	1.81	11,150	13,229	4.79	5.[illegible]8	.50	[illegible]

Source: INSEE, Annuaire Statistique de la France, 1967, 1968, 1970–71; Swedish Confederation of Industries; INSEE, National Accounts, various issues.

Table A-11.—West Germany: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	1,836	6,061	7,897	43.9	28,140	91,108	$1.80	$1.59	$11,509	$15,036	$6.05	$7.91	$0.31	$0.21
Food	135	349	484	45.7	1,486	11,755	1.49	1.32	24,287	33,682	11.79	16.35	.13	.08
Paper and allied products	38	168	206	44.7	653	2,437	1.62	1.45	11,830	14,506	6.05	7.41	.27	.20
Chemicals	188	350	538	44.9	2,285	9,149	2.21	1.83	17,006	26,140	8.85	13.59	.25	.13
Rubber	11	98	109	43.2	388	1,232	1.96	1.58	11,303	12,571	6.22	6.92	.31	.23
Primary and fabricated metals	295	1,139	1,434	44.3	5,520	16,357	2.00	1.85	11,407	14,361	5.93	7.46	.34	.25
Primary	128	534	662	44.2	2,510	9,109	2.00	1.85	13,760	17,058	7.26	9.00	.28	-
Fabricated	167	605	772	44.4	3,040	7,248	2.02	1.85	9,389	11,980	4.82	6.14	.42	-
Machinery, excluding electrical	318	779	1,097	44.4	4,004	10,196	1.88	1.66	9,294	13,089	4.79	6.74	.39	.25
Office machinery and electrical components	30	47	77	44.4	282	693	1.89	1.66	9,000	14,745	4.65	7.62	.41	-
All other	288	732	1,020	44.4	3,724	9,503	1.88	1.66	9,317	12,982	4.80	6.68	.39	-
Electrical machinery	287	678	965	42.5	3,481	8,200	1.99	1.66	8,497	12,094	4.69	6.67	.42	.25
Transportation equipment	126	504	630	43.9	2,593	7,998	2.17	1.99	12,695	15,869	6.69	8.37	.32	.24
Textiles and apparel	158	786	944	42.0	2,361	8,392	1.42	1.28	8,890	10,677	5.05	6.06	.28	.21
Lumber, wood, and furniture	53	242	295	44.4	882	3,072	1.49	1.43	10,414	12,694	5.19	6.32	.29	.23
Printing and publishing	44	172	216	43.2	791	1,719	1.92	1.79	7,958	9,994	4.17	5.24	.46	.34
Stone, clay and glass	74	360	434	46.3	1,976	4,386	2.20	2.06	10,106	12,183	4.88	5.89	.45	.35
Instruments	37	117	154	42.3	541	1,030	1.94	1.66	6,688	8,803	3.69	4.86	.53	.34
Other manufacturing	72	319	391	42.5	1,179	5,185	1.66	1.48	13,261	16,254	7.30	8.96	.23	.17

Source: Statistisches Bundesamt, W. Germany, Statistisches Jahrbuch fur die Bundesrepublik Deutschland, 1968 and 1971, various pages.

Note: Data refer to all establishments with ten or more employees. Wage data include some, out not all, fringes.

Table A-12.—West Germany: Estimated basic employment, labor cost, and productivity for manufacturing industries 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Average hours per man per week	Total wage bill	Sales	Hourly Compensation: All employees	Hourly Compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands		Million dollars	Million dollars								
All manufacturing	2,064	6,193	8,257	43.8	45,454	135,923	$2.78	$2.50	$16,460	$21,951	$8.66	$11.55	$0.33	$0.23
Food	146	337	483	45.5	2,242	15,583	2.26	1.98	32,263	46,240	15.71	22.52	.14	.09
Paper and allied products	43	170	213	44.4	1,025	3,474	2.50	2.29	16,310	20,435	8.47	10.62	.30	.22
Chemicals	232	368	600	42.4	3,942	13,888	3.52	2.96	23,147	37,739	12.48	20.22	.28	.15
Rubber	30	110	140	43.1	678	1,972	2.68	2.46	14,086	17,927	7.79	9.91	.34	.25
Primary and fabricated metals	305	1,123	1,428	44.9	8,518	25,280	3.04	2.87	17,703	22,511	9.02	11.48	.34	.25
Primary	134	523	657	44.6	3,991	14,593	3.14	2.96	22,212	27,902	11.48	14.42	.27	.21
Fabricated	171	600	771	45.1	4,685	10,687	3.06	2.83	13,861	17,812	6.98	8.97	.44	.32
Machinery, excluding electrical	374	826	1,200	45.1	6,876	16,529	2.90	2.61	13,774	20,011	6.97	10.13	.42	.26
Office machinery and electrical components	29	51	80	45.1	451	1,132	3.27	2.42	14,510	22,196	8.20	12.86	.40	-
All other	345	775	1,120	45.1	6,386	15,397	2.86	2.62	13,747	19,867	6.90	9.97	.41	-
Electrical machinery	321	774	1,095	42.6	6,028	13,888	3.08	2.59	12,683	17,943	7.10	10.04	.43	.26
Transportation equipment	148	577	725	44.4	4,744	12,843	3.43	3.18	17,714	22,258	9.29	11.66	.37	.27
Textiles and apparel	158	722	880	41.9	3,322	10,470	2.18	1.95	11,898	14,501	6.87	8.38	.32	.23
Lumber, wood, and furniture	58	235	293	44.0	1,327	4,475	2.26	2.17	15,273	19,043	7.62	9.50	.30	.23
Printing and publishing	48	176	224	43.4	1,284	2,589	3.00	2.83	11,558	14,710	6.05	7.71	.50	.37
Stone, clay, and glass	78	328	406	46.1	2,784	6,043	3.31	3.15	14,884	18,424	7.19	8.90	.46	.35
Instrument	44	125	169	41.9	884	1,608	2.89	2.51	9,515	12,864	5.25	7.12	.55	.35
Other manufacturing	79	322	401	42.5	1,800	7,282	2.49	2.22	18,160	22,615	10.07	12.53	.25	.18

Source: Statistisches Bundesamt, W. Germany, *Statistisches Jahrbuch für die Bundesrepublik Deutschland*, 1968 and 1971, various pages.

Note: Data refer to all establishments with ten or more employees. Wage data include some, but not all, fringes.

Table A-13.--Brazil: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production	Employment: Total	Total hours worked: All employees	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands	Millions	Million dollars	Million dollars								
All manufacturing	356	1,544	1,900	4,268	1,732	13,593	$0.57	$0.46	$7,154	$8,804	$3.18	$3.92	$0.127	$0.083
Food	66	216	282	638	236	2,947	.52	.35	10,450	13,644	4.62	6.03	.080	.041
Grain mill products	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and allied products	10	38	48	109	41	353	.53	.44	7,354	9,289	3.25	4.10	.116	.076
Chemicals	57	117	174	394	220	2,501	.79	.59	14,374	21,376	6.35	9.44	.088	.04[illegible]
Drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soaps and cosmetics	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plastics materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubber	4	21	25	57	27	267	.67	.56	10,680	12,714	4.72	5.62	.101	.07[illegible]
Primary and fabricated metals	34	176	210	475	221	1,467	.6[illegible]	.56	6,986	8,335	3.09	3.68	.151	.10[illegible]
Primary	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fabricated (excluding aluminum, copper, and brass)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Primary and fabricated aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machinery, except electrical	19	70	89	199	99	485	.70	.59	5,449	6,929	2.43	3.10	.204	.136
Farm machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office machines	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	22	73	95	215	109	728	.71	.59	7,663	9,973	3.38	4.41	.150	.095
Household appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment and apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Components, radio, T.V.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation equipment	27	107	134	303	196	1,270	.91	.75	9,478	11,869	4.19	5.24	.154	.102
Textiles and apparel	44	360	404	915	265	4,139	.41	.35	10,245	11,497	4.52	5.08	.064	.049
Lumber, wood, and furniture	20	112	132	301	85	468	.40	.34	3,545	4,179	1.55	1.83	.182	.130
Printing and publishing	17	50	67	152	68	230	.63	.58	3,433	4,600	1.51	2.03	.296	.204
Stone, clay and glass	20	118	138	310	95	548	.43	.37	3,971	4,644	1.77	2.07	.173	[illegible]
Instruments	-	-	-	-	NA	NA	-	-	-	-	-	-	-	-
Other manufacturing	16	86	102	158	70	463	.62	.35	4,539	5,384	2.92	3.48	.151	[illegible]

Source: Produçao Industrial 1966; Instituto Brasileiro De Estatistica, Deicom.

Table A-14.—Brazil: Estimated basic employment, labor cost, and productivity for manufacturing [illegible], 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Total hours worked All employees	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands	Millions	Million dollars	Million dollars								
All manufacturing	376	1,706	2,082	4,795	2,330	19,019	$0.68	$0.54	$9,135	$11,148	$3.97	$4.84	$0.12	[illegible]
Food	73	219	292	663	266	3,947	.56	.45	13,517	18,023	5.95	7.94	.067	.040
Grain mill products	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beverages	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and allied products	10	46	56	128	61	504	.67	.57	9,000	10,957	3.98	4.84	.121	.083
Chemicals	55	136	191	423	307	3,325	1.00	.73	17,408	24,449	7.69	10.80	.092	.048
Drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soaps and cosmetics	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plastics materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubber	4	25	29	66	34	363	.72	.59	12,517	14,520	5.50	6.38	.094	.066
Primary and fabricated metals	39	211	250	566	319	2,209	.79	.65	8,836	10,429	3.90	4.62	.144	.100
Primary	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Fabricated (excluding aluminum, copper, and brass)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Primary and fabricated aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machinery, excluding electrical	22	85	107	243	157	895	.91	.72	8,364	10,529	3.69	4.65	.175	.110
Farm machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office machines	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	23	84	107	242	151	1,014	.86	.68	9,477	12,071	4.19	5.33	.149	.091
Household appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment and apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Components, radio, TV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation equipment	29	126	155	351	282	1,792	1.13	.93	11,561	14,222	5.11	6.28	.157	.105
Textiles and apparel	41	381	422	957	317	2,405	.47	.39	5,699	6,312	2.51	2.78	.132	.099
Lumber, wood, and furniture	23	129	152	345	108	705	.44	.36	4,638	5,465	2.05	2.41	.153	.106
Printing and publishing	22	59	81	183	113	429	.88	.76	5,296	7,271	2.34	3.21	.263	.168
Stone, clay and glass	22	135	157	356	135	821	.53	.43	5,229	6,081	2.31	2.69	.164	.144
Instruments	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other manufacturing	13	70	83	189	78	630	.58	.45	7,590	9,000	3.35	[illegible]	.124	.081

Source: Produçao Industrial 1970; Instituto Brasileiro, Deicom.

Table A-15.—Mexico: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1966

Description	Employment: Salaried	Employment: Production workers	Employment: Total	Total hours worked: All employees	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands	Millions	1,000 dollars	1,000 dollars								
All manufacturing	325	1,315	1,640	3,607	2,123,499	13,012,752	$0.59	$0.34	$7,935	$9,896	$3.61	$4.50	$0.163	$0.075
Food	84	409	493	1,100	471,546	4,102,946	.43	.27	8,322	10,032	3.73	4.50	.115	.058
Grain mill products	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beverages	21	61	82	190	102,562	614,590	.54	.30	7,495	10,075	3.23	4.35	.167	.068
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and allied products	7	27	34	80	60,337	379,668	.75	.43	11,167	14,062	4.73	5.98	.159	.072
Chemicals	81	135	216	483	411,325	2,507,274	.85	.35	11,608	18,572	5.20	8.31	.164	.042
Drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soaps and cosmetics	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plastics materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubber	4	12	16	37	31,265	177,864	.84	.54	11,117	14,822	4.79	6.41	.176	.084
Primary and fabricated metals	27	134	161	372	260,606	1,343,914	.75	.49	8,347	10,029	3.61	4.34	.194	.100
Primary	10	43	53	124	122,684	858,790	.98	.58	16,204	19,972	6.90	8.54	.143	.068
Fabricated (excluding aluminum, copper, and brass)	16	86	102	224	142,651	585,268	.64	.43	5,738	6,805	2.62	3.10	.244	.132
Primary and fabricated aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machinery, except electrical	8	27	35	78	50,553	210,958	.65	.41	6,027	7,813	2.70	3.51	.240	.116
Farm machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office machines	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	16	60	76	167	97,968	574,832	.59	.38	7,553	9,567	3.44	4.35	.171	.082
Household appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment and apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Components, radio, TV	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation equipment	22	60	82	179	134,151	800,838	.75	.38	9,766	13,347	4.48	6.11	.168	.062
Textiles and apparel	37	240	277	578	315,638	1,475,755	.55	.38	5,328	6,149	2.55	2.95	.214	.129
Lumber, wood, and furniture	5	69	74	152	52,999	218,974	.35	.25	2,959	3,174	1.44	1.55	.242	.163
Printing and publishing	12	35	47	104	65,764	296,522	.63	.45	6,309	8,472	2.85	3.83	.222	.117
Stone, clay, and glass	13	80	93	196	117,563	475,629	.60	.35	5,114	5,945	2.42	2.82	.247	[illegible]
Instruments	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other manufacturing	9	27	36	81	53,694	448,378	.67	.35	12,454	16,606	5.57	7.38	.120	.047

Source: Estimated from VIII Censo Industrial 1966 using samples from Anuario Estadistico de los Estados Unidos Mexicanos 1966-67 and Revista de Estadistica 1970.

Note.—May not add due to rounding.

Table A-16.—Mexico: Estimated basic employment, labor cost, and productivity for manufacturing industries, 1970

Description	Employment: Salaried	Employment: Production	Employment: Total	Total hours worked: All employees	Total wage bill	Sales	Hourly compensation: All employees	Hourly compensation: Production workers	Sales per man: All employees	Sales per man: Production workers	Sales per man hour: All employees	Sales per man hour: Production workers	Unit labor costs (wage costs per dollar sales): All employees	Unit labor costs (wage costs per dollar sales): Production workers
	Thousands	Thousands	Thousands	Millions	1,000 dollars	1,000 dollars								
All manufacturing	379	1,469	1,848	[illegible]	[illegible]	[illegible]	$0.78	$.47	[illegible]	[illegible]	[illegible]	[illegible]	$0.166	[illegible]
Food	95	434	529	1,182	706,340	5,772,784	.60	.39	10,913	13,301	4.88	5.95	.122	.063
Grain mill products	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Beverages	26	57	83	193	170,373	899,944	.88	.90	10,843	15,788	4.66	6.79	.189	.077
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Paper and allied products	8	29	37	87	115,703	525,458	1.33	.73	14,202	18,119	6.04	7.71	.220	.094
Chemicals	82	144	226	505	581,251	3,887,762	1.15	.50	17,202	26,998	7.70	12.08	.150	.041
Drugs	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Soaps and cosmetics	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial chemicals	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Plastics materials	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Combinations	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Rubber	3	13	16	37	47,326	267,074	1.28	.86	16,692	20,544	7.22	8.88	.178	.096
Primary and fabricated metals	38	162	200	469	388,180	1,980,183	.83	.60	9,906	12,230	4.22	5.22	.196	.104
Primary	14	51	65	155	182,726	1,261,254	1.18	.79	18,403	24,730	8.14	10.37	.145	.071
Fabricated (excluding aluminum, copper, and brass)	23	105	128	281	210,918	917,464	.75	.51	7,168	8,738	3.26	3.98	.230	.127
Primary and fabricated aluminum	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Machinery, excluding electrical	11	39	50	111	83,973	349,890	.75	.52	6,397	8,498	2.97	3.81	.255	.136
Farm machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Industrial machinery and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Office machines	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electronic computers and equipment	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Electrical machinery	24	86	110	242	153,756	919,330	.63	.42	8,358	10,690	3.80	4.86	.167	.088
Household appliances	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment and apparatus	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Components, Radio, TV.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Transportation equipment	28	82	110	239	230,396	1,260,930	.96	.49	11,463	15,377	5.28	7.08	.183	.070
Textiles and apparel	43	255	298	622	431,908	1,969,480	.69	.51	6,609	7,723	3.17	3.70	.229	.137
Lumber, wood, and furniture	6	72	78	124	72,498	316,444	.59	.36	4,057	4,385	2.55	2.76	.229	.168
Printing and publishing	14	39	53	118	88,052	386,451	.70	.52	7,480	10,165	3.36	4.57	.207	.115
Stone, clay and glass	16	92	107	226	179,065	724,762	.79	.48	6,773	7,964	3.21	3.77	.247	.130
Instruments	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Other manufacturing	11	23	34	76	73,008	645,202	.96	.51	18,976	28,052	8.49	12.55	.113	.069

Source: Estimated from VIII Censo Industrial 1966 using samples from Anuario Estadistico de los Estados Unidos 1966-67 and Revista de Estadistica, 1970.

Note.—May not add due to rounding.

Table A-17 .--Estimated employment in manufacturing industries by majority-owned affiliates of U.S. firms, 1966

(Thousands of persons)

Industry	United States 1/	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	5,886	554	164	74	566	74	106	128
Food products		48	9	4	38	4	18	15
Paper and allied products	188	48	4	2	4	2	3	3
Chemicals	660	57	17	8	67	8	24	27
Rubber	100	23	4	2	10	2	4	8
Primary and fabricated metals	713	64	13	4	59	4	12	11
Non-electrical machinery	619	58	41	18	108	18	8	13
Electrical machinery	991	78	45	22	84	12	12	20
Transportation equipment	1,667	101	80	34	116	15	11	14
Textiles and apparel	110	13	9	2	7	1	4	1
Lumber, wood, and furniture	65	13	5	1	5	2	2	1
Printing and publishing	50	4	6	1	7	2	0	1
Stone, clay, and glass	163	16	11	1	6	2	4	8
Instruments	185	15	14	13	40	2	2	5
Other manufacturing	139	16	5	2	15	0	2	1

1/ These data do not include all MNC's but only a sample of 298 enterprises reporting as parent firms.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division. Some figures, suppressed for reasons of confidentiality by the source agency, are Tariff Commission estimates.

Table A-18.--Estimated employment in manufacturing industries by majority-owned affiliates of U.S. firms, 1970

(thousands of persons)

Industry	United States 1/	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	6,338	551	429	196	715	141	184	176
Food products	262	56	19	14	43	6	19	7
Paper and allied products	237	44	5	8	6	5	5	4
Chemicals	721	51	25	23	69	13	25	34
Rubber	100	21	5	4	35	5	4	8
Primary and fabricated metals	727	52	57	13	47	12	36	8
Nonelectrical machinery	748	65	68	42	155	26	13	21
Electrical machinery	1,112	69	58	30	86	35	21	36
Transportation equipment	1,553	93	125	35	145	5	13	43
Textiles and apparel	160	21	12	1	5	14	5	5
Lumber, wood, and furniture	78	20	5	5	5	0	1	1
Printing and publishing	50	6	5	5	12	5	0	5
Stone, clay, and glass	182	14	13	5	11	5	10	8
Instruments	245	18	22	9	42	2	6	5
Other manufacturing	163	19	10	2	54	5	26	5

1/ These data do not include all MNCs, but only a sample of 298 enterprises reporting as parent firms.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, International Investment Division. Some figures, suppressed for reasons of confidentiality by the source agency, are Tariff Commission estimates.

Table A-19.--All manufacturing: Comparison of all firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of firms
United States:			
1966	18,005	1/ 5,886	33
1970	18,101	1/ 6,338	35
Canada:	1,597	554	35
1966	1,599	551	34
1970			
United Kingdom:			
1966	9,182	566	6
1970	9,010	715	8
Belgium-Luxembourg:			
1966	1,098	74	7
1970	1,122	141	13
France:			
1966	5,109	74	1
1970	5,394	196	4
West Germany:			
1966	7,897	164	2
1970	8,257	429	5
Brazil:			7
1966	1,900	128	
1970	2,082	176	8
Mexico:			
1966	1,640	106	6
1970	1,848	184	10

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18

Table A-20.--Food products: Comparison of all-firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1,642	1/ 236	14
1970	1,639	1/ 262	16
Canada:			
1966	227	48	21
1970	224	56	25
United Kingdom:			
1966	821	38	5
1970	863	43	5
Belgium-Luxembourg:			
1966	107	4	4
1970	100	6	6
France:			
1966	320	4	1
1970	458	14	3
West Germany:			
1966	484	9	2
1970	483	19	4
Brazil:			
1966	282	15	5
1970	292	7	2
Mexico:			
1966	493	18	4
1970	529	19	4

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-21.--Pape. and allied prodicts: Comparison of all-firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	634	1/ 188	30
1970	657	1/ 237	36
Canada:			
1966	117	48	41
1970	121	44	36
United Kingdom:			
1966	241	4	2
1970	237	6	3
Belgium-Luxembourg:			
1966	27	2	7
1970	28	5	18
France:			
1966	130	2	2
1970	133	8	6
West Germany:			
1966	206	4	2
1970	213	5	2
Brazil:			
1966	48	3	6
1970	56	4	7
Mexico:			
1966	34	3	9
1970	37	5	14

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-22.--Chemicals and allied products: Comparison of all-firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	822	1/ 660	80
1970	878	1/ 721	82
Canada:			
1966	69	57	83
1970	73	51	70
United Kingdom:			
1966	477	67	14
1970	483	69	14
Belgium-Luxembourg:			
1966	63	8	13
1970	62	13	21
France:			
1966	299	8	3
1970	344	23	7
West Germany:			
1966	538	17	3
1970	600	25	4
Brazil:			
1966	174	27	16
1970	191	34	18
Mexico:			
1966	216	24	11
1970	226	25	11

1/ These data do not include all MNC s; but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-23.--Rubber: Comparison of all-firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	942	1/ 100	11
1970	548	1/ 100	18
Canada:			
1966	28	23	82
1970	24	21	88
United Kingdom:			
1966	137	10	7
1970	133	35	26
Belgium-Luxembourg:			
1966	8	2	25
1970	9	5	56
France:			
1966	83	2	2
1970	95	4	4
West Germany:			
1966	109	4	4
1970	140	5	4
Brazil:			
1966	25	8	32
1970	29	8	28
Mexico:			
1966	16	4	25
1970	16	4	25

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms in 1970.

Source: Tables A-1 through A-18.

Table A-24.--Primary and fabricated metals: Comparison of all-firm and MNC employment ~~data~~ for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	2,493	1/ 713	29
1970	2,531	1/ 727	29
Canada:			
1966	224	64	29
1970	222	52	23
United Kingdom:			
1966	628	59	9
1970	604	47	8
Belgium-Luxembourg:			
1966	187	4	2
1970	202	12	6
France:			
1966	677	4	1
1970	659	13	2
West Germany:			
1966	1,434	13	1
1970	1,428	57	4
Brazil:			
1966	210	11	5
1970	250	8	3
Mexico:			
1966	161	12	7
1970	200	36	18

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-25.--Non-electrical machinery: Comparison of all-firm and MNC employment data for selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1,804	1/ 619	34
1970	1,890	1/ 748	40
Canada:			
1966	75	58	77
1970	81	65	80
United Kingdom:			
1966	1,348	108	8
1970	1,275	155	12
Belgium-Luxembourg:			
1966	84	18	21
1970	92	26	28
France:			
1966	670	18	3
1970	714	42	6
West Germany:			
1966	1,097	41	4
1970	1,200	68	6
Brazil:			
1966	89	13	15
1970	107	21	19
Mexico:			
1966	35	8	23
1970	50	13	26

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-[illegible].--Electrical machinery: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1811	1/ 991	55
1970	1840	1/ 1112	60
Canada:			
1966	115	78	68
1970	116	69	59
United Kingdom:			
1966	868	84	10
1970	863	86	10
Belgium-Luxembourg:			
1966	92	12	13
1970	108	35	32
France:			
1966	365	22	6
1970	390	30	8
West Germany:			
1966	965	45	5
1970	1095	58	5
Brazil:			
1966	95	20	21
1970	107	36	34
Mexico:			
1966	76	12	16
1970	110	21	19

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms in 1970.

Source: Tables A-1 through A-18.

Table A-27.--Transportation equipment: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1,892	1/ 1,667	88
1970	1,686	1/ 1,553	92
Canada:			
1966	147	101	69
1970	143	93	65
United Kingdom:			
1966	1,077	116	11
1970	1,063	145	14
Belgium-Luxembourg:			
1966	79	15	19
1970	89	5	6
France:			
1966	513	34	7
1970	566	35	6
West Germany:			
1966	630	80	13
1970	725	125	17
Brazil:			
1966	134	14	10
1970	155	43	28
Mexico:			
1966	82	11	13
1970	110	13	12

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-28.--Textiles and apparel: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	2,287	1/ 110	5
1970	2,252	1/ 160	7
Canada:			
1966	201	13	6
1970	192	21	11
United Kingdom:			
1966	1,266	7	1
1970	1,138	5	negl.
Belgium-Luxembourg:			
1966	235	1	negl.
1970	206	14	7
France:			
1966	889	2	negl.
1970	834	1	negl.
West Germany:			
1966	944	9	1
1970	880	12	1
Brazil:			
1966	404	1	negl.
1970	422	5	1
Mexico:			
1966	277	4	1
1970	298	5	2

1/ These data do not include all MNC's, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-29.--Lumber, wood, and furniture: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1000	1/ 65	7
1970	980	1/ 78	8
Canada:			
1966	134	13	10
1970	132	20	15
United Kingdom:			
1966	322	5	2
1970	307	5	2
Belgium-Luxembourg:			
1966	49	2	4
1970	51	0	0
France:			
1966	291	1	negl.
1970	285	5	2
West Germany:			
1966	295	5	2
1970	293	5	2
Brazil:			
1966	132	1	1
1970	152	1	1
Mexico:			
1966	74	2	3
1970	78	1	1

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms in 1970.

Source: Tables A-1 through A-18.

Table A-30.--Printing and publishing: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1,018	1/ 50	5
1970	1,081	1/ 50	5
Canada:			
1966	82	4	5
1970	86	6	7
United Kingdom:			
1966	413	7	2
1970	426	12	3
Belgium-Luxembourg:			
1966	37	2	5
1970	41	5	12
France:			
1966	231	1	negl.
1970	292	5	2
West Germany:			
1966	216	6	3
1970	224	5	2
Brazil:			
1966	67	1	2
1970	81	5	7
Mexico:			
1966	47	0	0
1970	53	0	0

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-31.--Ston:, clay, and glass: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	616	1/ 163	26
1970	595	1/ 182	31
Canada:			
1966	53	16	30
1970	51	14	27
United Kingdom:			
1966	369	6	2
1970	349	11	3
Belgium-Luxembourg:			
1966	66	2	3
1970	69	5	7
France:			
1966	228	1	negl.
1970	220	5	2
West Germany:			
1966	434	11	3
1970	406	13	3
Brazil:			
1966	138	8	6
1970	157	8	5
Mexico:			
1966	93	4	4
1970	107	10	9

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

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Table A-32.--Instruments: Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	362	1/ 185	51
1970	404	1/ 245	61
Canada:			
1966	19	15	79
1970	20	18	90
United Kingdom:			
1966	151	40	26
1970	157	42	27
Belgium-Luxembourg:			
1966	3	2	67
1970	3	2	67
France:			
1966	121	13	11
1970	124	9	7
West Germany:			
1966	154	14	9
1970	169	22	13
Brazil:			
1966	na	5	-
1970	na	5	-
Mexico:			
1966	na	2	-
1970	na	6	-

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Tables A-1 through A-18.

Table A-33.-Miscellaneous manufacturing:—Comparison of all-firm and MNC employment in selected countries, 1966 and 1970

(Values in thousands of persons)

Country and Year	Value for all firms	Value for MNCs	MNCs as percent of all firms
United States:			
1966	1,132	1/ 139	12
1970	1,121	1/ 163	15
Canada:			
1966	91	16	18
1970	100	19	19
United Kingdom:			
1966	1,064	15	1
1970	1,112	54	5
Belgium-Luxembourg:			
1966	61	0	0
1970	62	5	8
France:			
1966	287	2	1
1970	280	2	1
West Germany:			
1966	391	5	1
1970	401	10	2
Brazil:			
1966	102	1	1
1970	83	5	6
Mexico:			
1966	36	2	6
1970	34	26	76

1/ These data do not include all MNC s, but only the the sample of enterprises reporting as parent firms.

Source: Table A-1 through A-18.

Table A-34.--Estimated average hourly compensation of all employees, for selected industries and countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	$ 3.50	$ 2.42	$ 1.80	$ 1.68	$ 1.70	$ 1.68	$ 0.59	$ 0.57
Food	3.16	2.06	1.49	1.44	1.79	1.67	.43	.52
Paper	3.44	2.78	1.62	1.57	1.80	1.59	.75	.53
Chemicals	4.03	2.76	2.21	2.14	1.91	2.12	.85	.79
Rubber	3.41	2.50	1.96	1.84	1.55	1.70	.84	.67
Metals	3.87	2.72	2.00	1.69	1.60	1.70	.75	.65
Non-electrical machinery	3.86	2.67	1.88	1.80	1.65	1.73	.65	.70
Electrical machinery	3.64	2.50	1.99	1.86	1.65	1.85	.59	.71
Transportation equipment	4.35	2.94	2.17	1.82	1.68	1.86	.75	.91
Textiles and apparel	2.35	2.43	1.42	1.32	1.72	1.18	.55	.41
Lumber, wood, and furniture	2.67	2.04	1.49	1.33	1.67	1.41	.35	.40
Printing and publishing	3.68	2.67	1.92	2.19	1.80	1.70	.63	.63
Stone, clay, and glass	3.37	2.43	2.20	1.60	1.58	1.61	.60	.43
Instruments	3.87	2.43	1.94	1.80	1.65	1.80	NA	NA
Other	3.28	2.10	1.66	1.72	1.67	1.26	.67	.62

Source: Tables A-1 through A-16.

Table A-35.--Estimated average hourly compensation of all employees, for selected industries and countries, 1959

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Beligum-Luxembourg	Mexico	Brazil
All manufacturing	$ 4.37	$ 3.64	$ 2.78	$ 2.49	$ 1.95	$ 2.34	$ 0.78	$ 0.68
Food	4.00	3.20	2.26	2.00	2.03	2.37	.60	.56
Paper	4.36	4.03	2.50	2.25	2.01	2.21	1.33	.67
Chemicals	5.00	3.99	3.52	3.00	2.18	2.90	1.15	1.00
Rubber	4.17	3.96	2.68	2.58	1.92	2.36	1.28	.72
Metals	4.75	4.07	3.04	2.33	1.79	2.38	.83	.79
Non-electrical machinery	4.87	4.23	2.90	3.24	1.87	2.47	.75	.91
Electrical machinery	4.57	3.69	3.08	3.84	1.94	2.59	.63	.88
Transportation equipment	5.42	4.35	3.43	2.54	2.11	2.64	.96	1.13
Textiles and apparel	2.91	2.43	2.18	1.87	1.88	1.62	.69	.47
Lumber, wood, and furniture	3.42	3.00	2.26	1.86	1.80	1.97	.59	.44
Printing and publishing	4.56	3.99	3.00	3.08	2.01	2.47	.70	.88
Stone, clay, and glass	4.26	3.71	3.31	2.28	1.76	2.22	.79	.53
Instruments	4.80	3.63	2.89	3.24	2.00	2.50	NA	NA
Other	4.17	3.15	2.49	2.38	1.85	1.68	.96	.58

Source: Tables A-1 through A-16.

Table A-36.--Indexes of estimated average hourly compensation of all employees in selected industries and countries, 1966

(United States = 100)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	100	69	51	48	49	48	17	16
Food	100	65	47	46	57	53	14	16
Paper	100	81	47	46	52	46	22	15
Chemicals	100	68	55	53	47	53	21	20
Rubber	100	73	57	54	45	50	25	20
Metals	100	70	52	44	41	44	19	17
Non-electrical machinery	100	69	49	47	43	45	17	18
Electrical machinery	100	69	55	51	45	51	16	20
Transportation equipment	100	68	50	42	39	43	17	21
Textiles and apparel	100	103	60	56	73	50	23	17
Lumber, wood, and furniture	100	76	56	50	63	53	13	15
Printing and publishing	100	73	52	60	49	46	17	17
Stone, clay, and glass	100	72	65	47	47	48	18	13
Instruments	100	63	50	47	43	47	NA	NA
Other	100	64	51	52	51	38	20	19

Source: Tables A-1 through A-16.

Table A-37.--Indexes of estimated average hourly compensation of all employees in selected industries and countries, 1970

(United States = 100)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	100	83	64	57	45	54	18	16
Food	100	80	57	50	51	59	15	14
Paper	100	92	57	52	46	51	31	15
Chemicals	100	80	70	60	44	58	23	20
Rubber	100	95	64	62	46	57	31	17
Metals	100	86	64	49	38	50	17	17
Non-electrical machinery	100	87	60	67	38	51	15	19
Electrical machinery	100	81	67	84	42	57	14	19
Transportation equipment	100	80	63	47	39	49	18	21
Textiles and apparel	100	84	75	64	65	56	24	16
Lumber, wood, and furniture	100	88	66	54	53	58	17	13
Printing and publishing	100	88	66	68	44	54	15	19
Stone, clay, and glass	100	87	78	54	41	52	19	12
Instruments	100	76	60	68	42	52	NA	NA
Other	100	76	60	57	44	40	23	14

Source: Tables A-1 through A-16.

Table A-38.--Estimated average hourly compensation of production workers in selected industries and countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	$3.08	$2.22	$1.59	$1.31	$1.26	$1.47	$0.34	$0.46
Food	2.78	1.87	1.32	1.16	1.22	1.40	.27	.35
Paper	3.14	2.62	1.45	1.25	1.43	1.39	.43	.44
Chemicals	3.48	2.43	1.83	1.57	1.29	1.78	.35	.59
Rubber	3.04	2.36	1.58	1.35	1.24	1.50	.54	.56
Metals	3.56	2.62	1.85	1.38	1.30	1.54	.49	.56
Non-electrical machinery	3.49	2.51	1.66	1.44	1.25	1.55	.41	.59
Electrical machinery	3.03	2.21	1.66	1.37	1.26	1.49	.36	.59
Transportation equipment	3.90	2.77	1.99	1.47	1.41	1.67	.38	.75
Textiles and apparel	2.07	1.50	1.28	1.03	1.13	1.08	.38	.35
Lumber, wood, and furniture	2.42	1.93	1.43	1.12	1.17	1.33	.25	.34
Printing and publishing	3.43	2.64	1.79	1.79	1.43	1.58	.45	.58
Stone, clay, and glass	3.11	2.31	2.06	1.33	1.21	1.47	.35	.37
Instruments	3.20	2.01	1.66	1.44	1.27	1.60	NA	NA
Other	2.60	1.90	1.48	1.31	1.22	1.14	.35	.35

Source: Tables A-1 through A-16.

Table A-39.--Estimated average hourly compensation of production workers in selected industries and countries, 1970

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	$3.84	$3.32	$2.50	$1.81	$1.54	$2.04	$0.47	$ 0.54
Food	3.57	2.89	1.98	1.61	1.52	1.99	.39	.45
Paper	3.98	3.79	2.29	1.79	1.78	1.93	.73	.57
Chemicals	4.31	3.50	2.96	2.20	1.56	2.44	.50	.73
Rubber	3.69	3.67	2.46	1.89	1.53	2.09	.86	.59
Metals	4.40	3.81	2.87	1.90	1.59	2.16	.60	.65
Non-electrical machinery	4.35	3.87	2.61	2.64	1.52	2.22	.52	.72
Electrical machinery	3.82	3.16	2.59	2.82	1.49	2.09	.42	.68
Transportation equipment	4.88	4.04	3.18	2.05	1.83	2.37	.49	.93
Textiles and apparel	2.59	2.16	1.95	1.46	1.35	1.48	.51	.39
Lumber, wood, and furinture	3.07	2.78	2.17	1.57	1.37	1.86	.36	.36
Printing and publishing	4.27	3.87	2.83	2.52	1.78	2.29	.52	.76
Stone, clay, and glass	3.94	3.49	3.15	1.90	1.47	2.03	.48	.43
Instruments	3.88	2.99	2.51	2.64	1.45	2.22	NA	NA
Other	3.32	2.80	2.22	1.81	1.47	1.52	.51	.45

NA - not available.

Source: Tables A-1 through A-16.

Table A-40.--Indexes of estimated average hourly compensation of production workers in selected industries and countries, 19[illegible]

(United States = 100)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Bra[illegible]
All manufacturing	100	72	52	43	41	48	11	15
Food	100	67	47	42	44	50	10	13
Paper	100	83	46	40	46	44	14	14
Chemicals	100	70	53	45	37	51	10	17
Rubber	100	78	52	44	41	49	18	18
Metals	100	74	52	39	37	43	14	16
Non-electrical machinery	100	72	48	41	36	44	12	17
Electrical machinery	100	73	55	45	42	49	12	19
Transportation equipment	100	71	51	38	36	43	10	19
Textiles and apparel	100	72	62	50	55	52	18	17
Lumber, wood, and furniture	100	80	59	46	48	55	10	14
Printing and publishing	100	77	52	52	42	46	13	17
Stone, clay, and glass	100	74	66	43	39	47	11	12
Instruments	100	63	52	45	40	50	NA	NA
Other	100	73	57	50	47	44	13	13

Source: Tables A-1 through A-16.

Table A-41--Indexes of estimated average hourly compensation of production workers in selected industries and countries, 1970

(United States = 100)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	100	86	65	47	40	53	12	14
Food	100	81	55	45	43	56	11	13
Paper	100	95	58	45	45	48	18	14
Chemicals	100	81	69	51	36	57	12	17
Rubber	100	99	67	51	41	57	23	16
Metals	100	87	65	43	36	49	14	15
Non-electrical machinery	100	89	60	61	35	51	12	17
Electrical machinery	100	83	68	74	39	55	11	18
Transportation equipment	100	83	65	42	38	49	10	19
Textiles and apparel	100	83	75	56	52	57	20	15
Lumber, wood, and furniture	100	91	71	51	45	61	12	12
Printing and publishing	100	91	66	59	42	54	12	18
Stone, clay, and glass	100	89	80	48	37	52	12	11
Instruments	100	77	65	68	37	57	NA	NA
Other	100	84	67	55	44	46	15	14

NA - not available.

Source: Tables A-1 through A-16.

Table A-42.--Estimated average hourly compensation paid to all employees by all firms and by MNC s in the manufacturing industries of eight key countries, 1966 and 1970

(In dollars)

	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing: 1/								
1966:								
All firms	$3.50	$2.40	$1.70	$1.70	$1.70	$1.80	$0.60	$0.60
MNC's	4.10	2.70	1.50	1.60	1.70	1.90	.80	1.10
1970:								
All firms	4.40	3.60	2.00	2.30	2.50	2.80	.70	.80
MNC's	5.50	3.90	1.70	2.20	2.40	2.90	1.00	1.30
Food products:								
1966:								
All firms	3.20	2.10	1.80	1.70	1.40	1.50	.50	.40
MNC's	3.30	2.40	1.50	1.50	1.40	1.60	.60	.70
1970:								
All firms	4.00	3.20	2.00	2.40	2.00	2.30	.60	.60
MNC's	4.10	3.30	1.80	1.80	1.70	2.10	.80	1.00
Paper and allied products:								
1966:								
All firms	3.40	2.80	1.80	1.60	1.60	1.60	.50	.80
MNC's	3.80	2.90	1.80	1.60	1.50	1.80	.90	1.10
1970:								
All firms	4.40	4.00	2.00	2.20	2.30	2.50	.70	1.30
MNC's	4.10	4.40	1.60	2.00	2.00	2.40	1.00	1.20
Chemicals and allied products:								
1966:								
All firms	5.00	2.80	1.90	2.10	2.10	2.20	.80	.90
MNC's	4.10	2.90	1.40	1.80	2.10	2.10	.80	1.10
1970:								
All firms	5.00	4.00	2.20	2.90	3.00	3.50	1.00	1.20
MNC's	5.10	4.00	1.70	2.70	2.70	3.20	.80	1.60
Rubber:								
1966:								
All firms	3.40	2.50	1.60	1.70	1.80	2.00	.70	.80
MNC's	3.70	2.60	1.40	1.60	1.90	2.10	.80	1.20
1970:								
All firms	4.20	4.00	1.90	2.40	2.60	2.70	.70	1.30
MNC's	4.60	4.10	1.80	2.00	2.20	2.60	1.10	1.40
Primary and fabricated metals:								
1966:								
All firms	3.90	2.70	1.60	1.70	1.70	2.00	.70	.80
MNC's	4.10	2.90	1.30	1.60	1.50	1.90	.70	.90
1970:								
All firms	4.80	4.10	1.80	2.40	2.30	3.00	.80	.80
MNC's	5.10	4.00	1.40	2.50	2.00	2.60	1.00	1.10
Nonelectrical machinery:								
1966:								
All firms	3.90	2.70	1.70	1.70	1.80	1.90	.70	.70
MNC's	4.30	2.80	1.40	1.70	1.70	1.90	1.10	1.20
1970:								
All firms	5.90	4.20	1.90	2.50	3.20	2.90	.90	.80
MNC's	5.70	4.20	1.80	2.40	2.90	3.40	1.40	1.50
Electrical machinery:								
1966:								
All firms	3.60	2.50	1.70	1.90	1.90	2.00	.70	.60
MNC's	3.90	2.50	1.30	1.50	1.80	1.90	.70	.90
1970:								
All firms	4.60	3.70	1.90	2.60	3.80	3.10	.90	.60
MNC's	5.30	3.70	1.60	2.20	2.60	3.10	.70	1.10
Transportation equipment:								
1966:								
All firms	4.40	2.90	1.70	1.90	1.80	2.20	.90	.80
MNC's	4.20	3.10	1.70	1.60	1.80	2.10	1.00	1.30
1970:								
All firms	5.40	4.40	2.10	2.60	2.50	3.40	1.10	1.00
MNC's	5.50	4.40	2.30	2.60	2.50	3.40	1.20	1.50

See footnotes at end of table.

Table A-2.--Estimated average hourly compensation paid to all employees by all firms and by MNC's in the manufacturing industries of eight key countries, 1966 and 1970—Continued

(In dollars)

	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
Textiles and apparel:								
1966:								
All firms	2.40	2.40	1.70	1.20	1.30	1.40	.40	.60
MNC's	2.70	2.10	1.60	1.30	1.20	1.60	2/	.70
1970:								
All firms	2.90	2.40	1.90	1.60	1.90	2.20	.50	.70
MNC's	3.20	2.60	1.80	1.70	1.80	2.10	2/	1.10
Lumber, wood, and furniture:								
1966:								
All firms	2.70	2.00	1.70	1.40	1.30	1.50	.40	.40
MNC's	3.80	2.50	2/	2/	1.10	1.40	2/	2/
1970:								
All firms	3.40	3.00	1.80	2.00	1.90	2.30	.40	.60
MNC's	4.70	2.80	2/	2/	1.90	2.30	2/	2/
Printing and publishing:								
1966:								
All firms	3.70	2.70	1.80	1.70	2.20	1.90	.60	.60
MNC's	NA 3/	2.40	2/	2/	2/	2/	2/	2/
1970:								
All firms	4.60	4.00	2.00	2.50	3.10	3.00	.90	.70
MNC's	NA 3/	3.70	2/	2/	2/	2/	2/	2/
Stone, clay, and glass:								
1966:								
All firms	3.40	2.40	1.60	1.60	1.60	2.20	.40	.60
MNC's	4.10	2.40	1.30	1.60	1.80	1.80	.60	.80
1970:								
All firms	4.30	3.70	1.80	2.20	2.30	3.30	.50	.80
MNC's	4.90	3.50	1.40	2.20	2.00	3.20	.90	.80
Instruments:								
1966:								
All firms	3.90	2.40	1.70	1.80	1.80	1.90	NA	NA
MNC's	4.50	2.60	1.50	1.60	1.70	1.80	2/	2/
1970:								
All firms	4.80	3.60	2.00	2.50	3.20	2.90	NA	NA
MNC's	5.80	3.50	1.70	2.30	3.00	3.00	2/	2/
Other manufacturing:								
1966:								
All firms	3.30	2.00	1.70	1.30	1.70	1.70	.60	.70
MNC's	3.00	2.00	1.50	1.30	1.40	1.70	2/	1.00
1970:								
All firms	4.20	3.20	1.90	1.70	2.40	2.50	.60	1.00
MNC's	4.00	3.20	1.70	1.60	1.50	2.40	2/	.80

1/ These figures are separately derived and do not represent average values of the industrial sectors listed separately.
2/ Data are lacking for a reasonable estimate.
3/ "NA": Not available.

Source: Tables A-1 through A-16 (for all-firm data) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC data).

Notes.—General: All figures are rounded to the nearest 10 cents. In comparing MNC and all-firm data, the reader should bear in mind that differences of 30 cents an hour or less could be within the range of possible error inherent in these estimates. Each estimate is probably correct to (±) $0.10 on either side of its true value. Thus the total possible variation between all-firm and MNC observations not due to real differences in the figures can be broken down as follows:

Estimate error:	
For all firms	(±) $0.10
For MNC's	(±) $0.10
Rounding error:	
For all firms	(±) $0.05
For MNC's	(±) $0.05
Total	(±) $0.30

The probable errors in the estimates are greatest for Mexico and Brazil, less for the European countries, and least for the United States and Canada.

Table A-43.--All manufacturing: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	514,063	1/ 163,874	32	-
1970	599,809	1/ 207,780	35	51
Canada:				
1966	32,277	15,682	49	-
1970	42,585	22,128	52	63
United Kingdom:				
1966	91,451	9,634	11	-
1970	98,692	16,246	16	91
Belgium-Luxembourg:				
1966	11,221	1,158	10	-
1970	16,652	2,608	16	27
France:				
1966	61,932	3,644	6	-
1970	92,488	5,641	6	7
West Germany:				
1966	91,108	5,238	6	-
1970	135,923	10,788	8	12
Brazil:				
1966	13,593	1,578	12	-
1970	19,019	3,382	18	33
Mexico:	13,013	2,105	16	-
1966	18,997	4,715	25	44
1970				

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-44.--Food products: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	79,750	1/ 11,465	14	-
1970	97,647	1/ 14,292	15	16
Canada:				
1966	6,516	1,737	27	-
1970	8,532	2,220	26	24
United Kingdom:				
1966	9,539	956	10	-
1970	10,294	1,054	10	13
Belgium-Luxembourg:				
1966	1,780	109	6	-
1970	2,415	121	5	2
France:				
1966	8,800	292	3	-
1970	17,137	473	3	2
West Germany:				
1966	11,755	430	4	-
1970	15,583	634	4	5
Brazil:				
1966	2,947	198	7	-
1970	3,947	107	3	-
Mexico:				
1966	4,103	334	8	-
1970	5,773	487	8	9

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-45.--Paper and allied products: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	20,414	1/ 5,421	27	-
1970	24,659	1/ 7,514	30	49
Canada:				
1966	2,921	1,242	43	-
1970	3,840	1,505	39	29
United Kingdom:				
1966	2,561	113	4	-
1970	2,763	141	5	14
Belgium-Luxembourg:				
1966	329	38	12	-
1970	496	96	19	35
France:				
1966	1,742	80	5	-
1970	2,161	183	8	25
West Germany:				
1966	2,437	68	3	-
1970	3,474	69	2	negl.
Brazil:				
1966	353	46	13	-
1970	504	65	13	13
Mexico:				
1966	380	63	17	-
1970	525	121	23	40

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

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Table A-46.--Chemicals: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	40,780	1/ 21,981	54	-
1970	49,253	1/ 28,091	57	72
Canada:				
1966	1,922	1,740	91	-
1970	2,490	2,124	85	68
United Kingdom:				
1966	8,669	1,526	18	-
1970	9,356	1,918	21	57
Belgium-Luxembourg:				
1966	835	238	29	-
1970	1,357	654	48	80
France:				
1966	5,888	558	9	-
1970	8,190	971	12	18
West Germany:				
1966	9,149	486	5	-
1970	13,888	963	7	10
Brazil:				
1966	2,501	307	12	-
1970	3,325	623	19	38
Mexico:				
1966	2,507	533	21	-
1970	3,888	764	20	17

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-47.--Rubber: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	11,976	1/2/ 2,750	23	-
1970	15,388	1/2/ 3,250	21	15
Canada:				
1966	499	486	97	-
1970	628	613	98	98
United Kingdom:				
1966	1,096	273	25	-
1970	1,185	373	31	3/ 112
Belgium-Luxembourg:				
1966	68	61	90	-
1970	96	79	82	64
France:				
1966	1,014	111	11	-
1970	1,854	119	6	1
West Germany:				
1966	1,232	157	13	-
1970	1,972	211	11	7
Brazil:				
1966	267	2/ 125	47	-
1970	363	2/ 175	48	52
Mexico:				
1966	178	111	62	-
1970	267	108	40	-

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.
3/ Percentage greater than 100 indicates rapid MNC growth as against a loss in sales for domestic firms.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-48.--Primary and fabricated metals: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs' as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	76,179	1/ 19,317	25	-
1970	86,407	1/ 22,679	26	33
Canada:				
1966	4,634	1,980	43	-
1970	6,877	1,964	29	-
United Kingdom:				
1966	7,327	968	13	-
1970	7,905	804	10	-
Belgium-Luxembourg:				
1966	2,599	63	2	-
1970	3,989	252	6	14
France:				
1966	6,636	170	3	-
1970	10;759	208	2	1
West Germany:				
1966	16,357	327	2	-
1970	25,280	1,821	7	17
Brazil:				
1966	1,467	120	8	-
1970	2,209	262	12	19
Mexico:				
1966	1,344	184	14	-
1970	1,981	749	38	89

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-49.--Nonelectrical machinery: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	46,621	1/ 14,550	31	-
1970	55,860	1/ 20,611	37	66
Canada:				
1966	1,990	1,532	77	-
1970	2,778	2,222	80	88
United Kingdom:				
1966	10,993	1,530	14	-
1970	11,862	2,496	21	2/ 111
Belgium-Luxembourg:				
1966	655	248	38	-
1970	1,059	429	41	45
France:				
1966	6,920	929	13	-
1970	10,581	1,439	14	14
West Germany:				
1966	10,196	911	9	-
1970	16,529	1,742	11	13
Brazil:				
1966	485	112	23	-
1970	895	304	34	47
Mexico:				
1966	211	120	57	-
1970	330	208	63	74

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ Percentage greater than 100 indicates decline in sales by domestic firms, offset by rapid growth of MNC sales.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-50.--Electrical machinery: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	40,843	1/ 20,132	49	-
1970	48,137	1/ 27,872	58	3/ 106
Canada:				
1966	1,720	1,442	84	-
1970	2,213	1,822	82	77
United Kingdom:				
1966	8,303	1,181	14	-
1970	8,961	1,607	18	65
Belgium-Luxembourg:				
1966	575	2/ 125	22	-
1970	993	2/ 425	43	72
France:				
1966	4,053	325	8	-
1970	6,059	514	8	9
West Germany:				
1966	8,200	409	5	-
1970	13,888	876	6	8
Brazil:				
1966	728	166	23	-
1970	1,014	246	24	28
Mexico:				
1966	574	174	30	-
1970	919	478	52	88

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.
3/ Percentage greater than 100 indicates decline in sales by non-MNC firms.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-51.--Transportation equipment: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	71,650	1/ 48,072	67	-
1970	71,457	1/ 55,170	77	-
Canada:				
1966	3,911	3,383	86	-
1970	6,222	5,600	90	96
United Kingdom:				
1966	11,724	2,174	19	-
1970	12,645	3,430	27	3/ 136
Belgium-Luxembourg:				
1966	965	2/ 215	22	-
1970	1,523	2/ 275	18	11
France:				
1966	7,910	739	9	-
1970	12,086	936	8	5
West Germany:				
1966	7,998	2/ 1,950	24	-
1970	12,843	2/ 3,250	25	27
Brazil:				
1966	1,270	352	28	-
1970	1,792	1,171	65	3/ 157
Mexico:				
1966	801	390	49	-
1970	1,261	567	45	38

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

2/ This figure was supressed for reason of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.

3/ Percentage greater than 100 indicates decline in sales by domestic firms.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-52.--Textiles and apparel: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	39,571	1/ 2,164	5	-
1970	45,824	1/ 3,938	9	28
Canada:				
1966	2,602	218	8	-
1970	3,281	532	16	46
United Kingdom:				
1966	9,519	92	1	-
1970	10,275	77	1	-
Belgium-Luxembourg:				
1966	1,617	15	1	-
1970	2,002	207	10	49
France:				
1966	7,682	32	negl.	-
1970	8,220	21	negl.	-
West Germany:				
1966	8,392	73	1	-
1970	10,470	100	1	1
Brazil:				
1966	4,139	2/ 35	1	-
1970	2,405	2/ 124	5	-
Mexico:				
1966	1,476	35	2	-
1970	1,969	66	3	6

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-53.--Lumber, wood, and furniture: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	18,257	1/ 1,642	9	-
1970	21,976	1/ 2,439	11	21
Canada:				
1966	2,008	812	40	-
1970	2,632	1,322	50	82
United Kingdom:				
1966	2,561	2/ 15	1	-
1970	2,763	2/ 35	1	1
Belgium-Luxembourg:				
1966	314	0	0	-
1970	478	0	0	-
France:				
1966	1,953	2/ 15	1	-
1970	3,135	2/ 15	negl.	negl.
West Germany:	3,072	13	negl.	-
1966	4,475	33	1	1
1970				
Brazil:				
1966	468	2/ 5	1	-
1970	705	2/ 5	1	negl.
Mexico:				
1966	219	2/ 5	2	-
1970	316	2/ 5	2	negl.

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-54.--Printing and publishing: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	20,202	1/ 2/ 750	4	-
1970	25,741	1/ 2/ 950	4	4
Canada:				
1966	1,111	98	9	-
1970	1,516	176	12	19
United Kingdom:				
1966	4,637	2/ 75	2	-
1970	5,003	2/ 125	2	14
Belgium-Luxembourg:				
1966	277	2/ 5	2	-
1970	390	2/ 5	1	negl.
France:				
1966	2,967	36	1	-
1970	4,320	51	1	1
West Germany:				
1966	1,719	2/ 20	1	-
1970	2,589	2/ 35	1	2
Brazil:				
1966	230	7	3	-
1970	429	4	1	-
Mexico:				
1966	297	2/ 15	5	-
1970	396	2/ 5	1	-

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-55.--Stone, clay, and glass: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	14,629	1/ 3,723	25	-
1970	16,873	1/ 4,729	28	45
Canada:				
1966	1,035	325	31	-
1970	1,260	406	32	36
United Kingdom:				
1966	3,541	125	4	-
1970	3,818	242	6	42
Belgium-Luxembourg:				
1966	515	27	5	-
1970	727	45	6	8
France:				
1966	2,201	145	7	-
1970	2,897	252	9	15
West Germany:				
1966	4,386	143	3	-
1970	6,043	239	4	6
Brazil:				
1966	548	52	9	-
1970	821	76	9	9
Mexico:				
1966	476	74	16	-
1970	725	191	26	47

1/ These figures cover only a sample of 298 parent firms reporting in 1970.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-56.--Instruments: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	8,833	1/ 5,121	58	-
1970	11,723	1/ 7,697	66	89
Canada:				
1966	447	353	79	-
1970	626	563	90	2/ 117
United Kingdom:				
1966	1,225	438	36	-
1970	1,321	739	56	2/ 314
Belgium-Luxembourg:				
1966	20	9	45	-
1970	33	15	45	45
France:				
1966	1,442	194	13	-
1970	1,976	399	20	38
West Germany:				
1966	1,030	192	19	-
1970	1,608	406	25	37
Brazil:				
1966	NA	43	-	-
1970	NA	91	-	-
Mexico:				
1966	NA	22	-	-
1970	NA	76	-	-

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ Percentage greater than 100 indicates loss in sales by domestic firms.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-57.--Other manufacturing: Comparison of all-firm and MNC data on total sales, 1966 and 1970

Country and Year	Value for all firms	Value for MNC's	MNCs' as percent of all firms	MNCs' share of aggregate growth
	Million dollars	Million dollars		Percent
United States:				
1966	24,357	1/ 6,722	28	-
1970	28,865	1/ 8,425	29	38
Canada:				
1966	1,384	334	24	-
1970	1,916	567	30	44
United Kingdom:				
1966	9,768	150	2	-
1970	10,541	3,205	30	3/ 395
Belgium-Luxembourg:				
1966	674	2/ 5	1	-
1970	1,093	2/ 5	negl.	negl.
France:				
1966	2,724	2/ 18	1	-
1970	3,122	2/ 35	1	1
West Germany:				
1966	5,185	59	1	-
1970	7,282	409	6	17
Brazil:				
1966	463	10	2	-
1970	630	128	20	71
Mexico:				
1966	448	40	9	-
1970	645	411	64	3/ 188

1/ These figures cover only a sample of 298 parent firms reporting in 1970.
2/ This figure was suppressed for reasons of confidentiality by the source Agency. The figure shown is a Tariff Commission estimate.
3/ Figure greater than 100 indicates decline in sales by domestic firms.

Sources: Tables A-1 through A-16 (for national figures) and International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce (for MNC figures).

Table A-58.—Estimated sales per man, all employees in manufacturing, by industrial sector and selected countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	$48,566	$28,677	$24,287	$27,500	$11,633	$16,631	$8,322	$10,450
Paper	32,203	25,000	11,830	13,400	10,627	12,182	11,167	7,354
Chemicals	49,587	27,932	17,006	19,692	18,174	13,251	11,608	14,374
Rubber	24,351	17,927	11,303	12,217	8,000	8,488	11,117	10,680
Metals	30,554	20,715	11,407	9,802	11,667	13,897	8,347	6,986
Non-electrical machinery	25,848	17,906	9,294	10,328	8,155	7,800	6,027	5,449
Electrical machinery	22,553	14,756	8,497	11,104	9,566	6,246	7,553	7,663
Transportation equipment	37,876	26,616	12,695	15,419	10,886	12,212	9,766	9,478
Textiles and apparel	17,302	12,975	8,890	8,641	7,519	6,881	5,328	10,245
Lumber, wood, and furniture	18,250	14,972	10,414	6,711	7,953	6,406	2,959	3,545
Printing and publishing	19,852	13,556	7,958	12,572	11,228	7,480	6,309	3,433
Stone, clay, and glass	23,749	19,454	10,106	9,654	9,596	7,810	5,114	3,971
Instruments	24,400	13,807	6,688	11,917	8,113	6,527	NA	NA
Other	21,513	15,190	13,261	9,491	9,180	11,047	12,454	4,539

Source: Tables A-1 through A-16.

Table A-59.--Estimated sales per man, all employees in manufacturing, by industrial sector and selected countries, 1970

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	$ 59,570	$38,054	$32,263	$37,417	$11,928	$24,148	$10,913	$13,517
Paper	37,555	31,612	16,310	16,248	11,658	17,703	14,202	9,000
Chemicals	56,097	34,244	23,147	23,808	19,371	21,894	17,202	17,408
Rubber	28,100	26,152	14,086	19,516	8,910	10,676	16,692	12,517
Metals	34,143	30,935	17,703	16,316	13,088	19,748	9,906	8,836
Non-electrical machinery	29,557	21,950	13,774	14,819	9,304	11,509	6,597	8,364
Electrical machinery	26,156	18,737	12,683	15,536	10,384	9,198	8,358	9,477
Transportation equipment	42,395	39,126	17,714	21,353	11,896	17,117	11,463	11,561
Textiles and apparel	20,350	17,098	11,898	9,856	9,029	9,718	6,609	5,699
Lumber, wood, and furniture	22,434	19,930	15,273	11,000	9,000	9,369	4,057	4,638
Printing and publishing	23,810	17,672	11,558	14,795	11,744	9,522	7,480	5,296
Stone, clay, and glass	28,343	24,707	14,884	13,168	10,940	10,533	6,773	5,229
Instruments	28,996	18,383	9,515	15,935	8,414	11,133	NA	NA
Other	25,759	19,207	18,160	11,150	9,479	17,630	18,976	7,590

Source: Tables A-1 through A-16.

Table A-60.--Indexes of estimated sales per man, all employees, by industrial sector, selected countries, 1966

(United States = 100)

Industry	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	59	50	57	24	34	17	22
Paper	78	37	42	33	38	35	23
Chemicals	56	34	40	37	27	23	29
Rubber	74	46	50	33	35	46	44
Metals	68	37	32	38	45	27	23
Non-electrical machinery	69	36	40	32	30	23	21
Electrical machinery	65	38	49	42	28	33	34
Transportation equipment	70	34	41	29	32	26	25
Textiles and apparel	75	51	50	43	40	31	59
Lumber, wood, and furniture	82	57	37	44	35	16	19
Printing and publishing	68	40	63	57	38	32	17
Stone, clay, and glass	82	43	41	40	33	22	17
Instruments	57	27	49	33	27	NA	NA
Other	71	62	44	43	51	58	21

Source: Table A-58.

Table A-61.--Indexes of estimated sales per man, all employees, by industrial sector, selected countries, 1970

(United States = 100)

Industry	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	64	54	63	20	41	18	23
Paper	84	43	43	31	47	38	24
Chemicals	61	41	42	35	39	31	31
Rubber	93	50	69	32	38	59	45
Metals	91	52	48	38	58	29	26
Non-electrical machinery	74	47	50	31	39	22	28
Electrical machinery	72	48	59	40	35	32	36
Transportation equipment	92	42	50	28	40	27	27
Textiles and apparel	84	58	48	44	48	32	28
Lumber, wood, and furniture	89	68	49	40	42	18	21
Printing and publishing	74	49	62	49	40	31	22
Stone, clay, and glass	87	53	46	39	37	24	18
Instruments	63	-	55	29	38	NA	NA
Other	75	-	43	37	68	74	29

Source: Table A-59.

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Table A-62.--Estimated sales per man of production workers in selected industries and countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All manufacturing	37,571	28,276	15,036	14,450	13,157	11,5[illegible]		
Food	72,633	46,304	33,682	30,556	14,721	[illegible],935	9,8[illegible]	[illegible],804
Paper	40,568	33,037	14,506	16,590	14,388	1[illegible],951	10,032	13,644
Chemicals	77,163	57,004	26,140	35,470	28,897	20,362	14,062	9,289
Rubber	30,661	25,473	12,571	16,355	10,340	11,317	18,572	21,376
Metals	38,004	27,206	14,361	13,141	14,892	16,659	14,822	12,714
Non-electrical machinery	35,592	28,844	13,089	10,679	11,820	10,238	10,029	8,335
Electrical machinery	30,977	23,876	12,094	17,622	13,861	8,577	7,813	6,929
Transportation	50,909	36,056	15,869	17,121	15,031	15,816	9,567	9,973
Textiles and apparel	19,491	15,620	10,677	9,426	9,233	7,775	13,347	11,869
Lumber, wood, and furniture	21,058	17,651	12,694	8,037	9,775	7,134	6,149	11,497
Printing and publishing	32,630	23,732	9,994	13,800	15,253	10,250	3,174	4,179
Stone, clay, and glass	29,978	26,155	12,183	11,345	11,963	9,205	8,472	4,600
Instruments	35,501	22,892	8,803	12,991	11,779	9,790	5,945	4,644
Other	28,042	19,008	16,254	11,256	11,215	12,715	-	-
							16,606	5,384

Source: Tables A-1 through A-16.

Table A-63.--Estimated sales per man of production workers in selected industries and countries, 1970

(In U.S. dollars).

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
All Manufacturing	44,764	37,593	21,951	20,567	14,945	18,523	12,932	11,148
Food	87,123	60,803	46,240	41,595	15,503	31,361	13,301	18,023
Paper	47,558	42,104	20,435	20,196	16,545	22,531	18,119	10,957
Chemicals	88,840	71,128	37,739	44,032	32,151	35,732	26,998	24,449
Rubber	35,869	39,124	14,927	26,486	11,618	13,726	20,544	14,520
Metals	43,453	41,219	22,511	21,850	17,260	23,744	12,230	10,429
Non-electrical machinery	42,775	37,781	20,011	15,335	13,745	15,571	8,458	10,529
Electrical machinery	38,905	30,769	17,943	24,630	16,030	12,736	10,690	12,071
Transportation equipment	59,518	53,821	22,258	23,745	16,771	21,158	15,377	14,222
Textiles and apparel	23,134	20,364	14,501	10,745	10,896	11,060	7,723	6,312
Lumber, wood, and furniture	26.224	23,584	19,043	13,172	11,278	10,619	4,395	5,465
Printing and publishing	39,317	30,886	14,710	17,705	16,621	13,462	10,165	7,271
Stone, clay, and glass	35,596	33,776	18,424	15,410	13,985	12,531	7,964	6,081
Instruments	44,848	30,855	12,864	17,333	12,951	16,700	-	-
Other	34,549	24,290	22,615	13,229	12,116	20,242	28,052	9,000

Source: Tables A-1 through A-16.

Table A-64.—Sales per man (for all employees) of U.S.-based MNC's 1966 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing	27,845	26,583	11,223	15,297	18,927	16,674	10,250	14,925
Food products	46,684	34,083	23,868	29,000	31,333	27,563	13,200	17,500
Paper and allied products	28,764	24,000	24,750	18,000	3/ 16,733	12,400	12,000	20,333
Chemicals	33,065	29,877	17,597	26,625	27,824	19,435	4/ 13,926	17,000
Rubber	2/ 27,500	21,130	26,800	28,000	24,500	16,000	16,500	18,750
Primary and fabricated metals	27,258	29,688	13,220	15,250	13,154	16,385	10,000	10,500
Nonelectrical machinery	23,570	25,914	13,824	15,778	19,756	17,706	8,769	13,750
Electrical machinery	20,315	18,436	7,940	9,167	13,773	8,870	4/ 10,087	12,250
Transportation equipment	28,592	33,376	14,078	12,667	16,088	22,500	13,571	20,455
Textiles and apparel	19,643	14,923	14,000	12,000	12,500	7,333	4/ 9,053	8,000
Lumber, wood, and furniture	25,262	18,923	5,000	0	16,000	NA	4/ 5,000	3,000
Printing and publishing	2/ 15,000	24,000	13,000	3,000	28,000	3,500	4/ 11,500	0
Stone, clay, and glass	23,240	20,250	12,667	14,000	3/ 13,211	11,727	6,500	8,250
Instruments	27,653	23,133	10,675	3/ 13,806	14,308	13,286	8,800	10,000
Other manufacturing	48,360	20,688	9,933	3/ 10,000	11,000	7,600	4/ 14,571	10,500

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.

2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.

3/ E.C. average. Individual country data not available.

4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-65.—Estimated sales per man (for all employees) of U.S.-based MNC's, 1970 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing	32,798	37,405	19,930	19,539	25,219	22,054	13,648	16,261
Food products	54,929	37,929	23,465	23,667	33,286	32,526	16,000	23,000
Paper and allied products	31,643	32,205	23,500	17,200	16,875	13,600	12,750	23,600
Chemicals	38,728	41,078	24,391	44,615	35,870	36,240	16,353	25,120
Rubber	2/ 32,500	33,762	10,429	17,800	25,000	18,000	22,875	19,250
Primary and fabricated metals	31,319	36,154	13,915	21,667	15,923	20,351	13,500	12,167
Nonelectrical machinery	27,613	33,308	16,110	17,077	29,810	25,574	14,095	12,923
Electrical machinery	25,065	26,319	10,419	11,571	15,933	15,092	4/ 11,433	11,048
Transportation equipment	35,180	59,882	18,221	3/ 19,729	23,714	22,200	14,512	23,231
Textiles and apparel	24,671	22,905	16,400	13,857	26,000	8,167	4/ 11,846	12,800
Lumber, wood, and furniture	31,269	22,200	9,000	0	N.A.	N.A.	4/ 4,667	11,000
Printing and publishing	N.A.	26,333	10,000	2,200	9,400	4,200	4/ 11,000	0
Stone, clay, and glass	26,464	29,357	12,909	3/ 16,759	22,000	17,385	9,875	8,400
Instruments	31,466	33,050	17,429	3/ 24,220	39,778	17,955	18,400	4/ 10,595
Other manufacturing	51,687	35,789	60,037	3/ 32,720	42,000	45,600	11,000	15,808

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.

2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.

3/ E.C. average. Individual country data not available.

4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table [illegible]-60.--All [illegible]facturing: Sales per man, all employees; [illegible]-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	28,551	1/ 27,845	98	100
1970	33,138	1/ 32,798	99	100
Canada:				
1966	20,206	26,583	132	95
1970	26,630	37,405	140	114
United Kingdom:				
1966	9,960	11,223	113	40
1970	10,954	19,930	182	61
Belgium-Luxembourg:				
1966	9,350	15,297	164	55
1970	14,841	19,539	132	60
France:				
1966	12,122	18,927	156	68
1970	17,146	25,219	147	77
West Germany:				
1966	11,509	16,674	145	60
1970	16,460	22,054	134	67
Brazil:				
1966	7,154	10,250	143	37
1970	9,135	13,648	149	42
Mexico:				
1966	7,935	14,925	188	54
1970	10,280	16,261	158	50

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 through A-65 for MNC figures.

Table A-67.-- Food products: Sales per man, all employees: comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	48,566	1/ 46,684	96	100
1970	59,570	1/ 54,929	92	100
Canada:				
1966	28,677	34,083	119	73
1970	38,054	37,929	100	69
United Kingdom:				
1966	11,633	23,868	205	51
1970	11,928	23,465	197	43
Belgium-Luxembourg:				
1966	16,631	29,000	174	62
1970	24,148	23,667	98	43
France:				
1966	27,500	31,333	114	67
1970	37,417	33,286	89	61
West Germany:				
1966	24,287	27,563	113	59
1970	32,263	32,526	101	59
Brazil:				
1966	10,450	13,200	126	28
1970	13,517	16,000	118	29
Mexico:				
1966	8,322	17,500	210	37
1970	10,913	23,000	211	42

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 through A-65 for MNC figures.

Table A-68.--Paper and allied products: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	32,203	1/ 28,764	89	100
1970	37,555	1/ 31,643	84	100
Canada:				
1966	25,000	24,000	96	83
1970	31,612	32,205	102	102
United Kingdom:				
1966	10,627	24,750	233	86
1970	11,658	23,500	202	74
Belgium-Luxembourg:				
1966	12,182	18,000	148	63
1970	17,703	17,200	97	54
France:				
1966	13,400	16,733	125	58
1970	16,248	16,875	104	53
West Germany:				
1966	11,830	12,400	105	43
1970	16,310	13,600	83	43
Brazil:				
1966	7,354	12,000	163	42
1970	9,000	12,750	142	40
Mexico:				
1966	11,167	20,333	182	71
1970	14,202	23,600	166	75

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 through A-65 for MNC figures.

Table A-69.--Chemicals: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	49,587	1/ 33,065	67	100
1970	56,097	1/ 38,728	69	100
Canada:				
1966	27,932	29,877	107	90
1970	34,244	41,078	120	106
United Kingdom:				
1966	18,174	17,597	97	53
1970	19,371	24,391	126	63
Belgium-Luxembourg:				
1966	13,251	26,625	201	81
1970	21,894	44,615	204	115
France:				
1966	19,692	27,824	141	84
1970	23,808	35,870	151	93
West Germany:				
1966	17,006	19,435	114	59
1970	23,147	36,240	157	94
Brazil:				
1966	14,374	13,926	97	42
1970	17,408	16,353	94	42
Mexico:				
1966	11,608	17,000	146	51
1970	17,202	25,120	146	65

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-70.--[illegible]: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	24,351	1/ 27,500	113	100
1970	28,100	1/ 32,500	116	100
Canada:				
1966	17,927	21,130	118	77
1970	26,152	33,762	129	104
United Kingdom:				
1966	8,000	26,800	335	97
1970	8,910	10,429	117	32
Belgium-Luxembourg:				
1966	8,488	28,000	330	102
1970	10,676	17,800	167	55
France:				
1966	12,217	24,500	201	89
1970	19,516	25,000	128	77
West Germany:				
1966	11,303	16,000	142	58
1970	14,086	18,000	128	55
Brazil:				
1966	10,680	16,500	154	60
1970	12,517	22,875	183	70
Mexico:				
1966	11,117	18,750	169	68
1970	16,692	19,250	115	59

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-71.--Primary and fabricated metals: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	30,554	1/ 27,258	89	100
1970	34,143	1/ 31,319	92	100
Canada:				
1966	20,715	29,688	143	109
1970	30,935	36,154	117	115
United Kingdom:				
1966	11,667	13,220	113	48
1970	13,088	13,915	106	44
Belgium-Luxembourg:				
1966	13,897	15,250	110	56
1970	19,748	21,667	110	69
France:				
1966	9,802	13,154	134	48
1970	16,316	15,923	98	51
West Germany:				
1966	11,407	16,385	148	60
1970	17,703	20,351	115	65
Brazil:				
1966	6,986	10,000	143	37
1970	8,836	13,500	153	43
Mexico:				
1966	8,347	10,500	126	39
1970	9,906	12,167	123	39

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-72 Nonelectrical machinery: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	25,848	1/ 23,570	91	100
1970	29,557	1/ 27,613	93	100
Canada:				
1966	17,906	25,914	145	110
1970	21,950	33,308	121	121
United Kingdom:				
1966	8,155	13,824	170	59
1970	9,304	16,110	173	58
Belgium-Luxembourg:				
1966	7,800	15,778	202	67
1970	11,509	17,077	148	62
France:				
1966	10,328	19,756	191	84
1970	14,819	29,810	201	108
West Germany:				
1966	9,294	17,706	191	75
1970	13,774	25,574	186	93
Brazil:				
1966	5,449	8,769	161	37
1970	8,364	14,095	169	51
Mexico:				
1966	6,027	13,750	228	58
1970	6,597	12,923	211	47

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-73.--Electrical machinery: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	22,553	1/ 20,315	90	100
1970	26,156	1/ 25,065	96	100
Canada:				
1966	14,756	18,436	125	91
1970	18,737	26,319	140	105
United Kingdom:				
1966	9,556	7,940	83	39
1970	10,384	10,419	100	42
Belgium-Luxembourg:				
1966	6,246	9,167	147	45
1970	9,198	11,571	126	46
France:				
1966	11,104	13,773	124	68
1970	15,536	15,933	103	64
West Germany:				
1966	8,497	8,870	104	44
1970	12,683	15,052	119	60
Brazil:				
1966	7,663	10,087	132	50
1970	9,477	11,433	121	121
Mexico:				
1966	7,553	12,250	162	60
1970	8,358	11,048	132	46

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-74.--Transportation Equipment: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	37,876	1/ 28,592	75	100
1970	42,395	1/ 35,180	83	100
Canada:				
1966	26,616	33,376	125	117
1970	39,126	59,882	153	170
United Kingdom:				
1966	10,886	14,078	129	49
1970	11,896	18,221	153	52
Belgium-Luxembourg:				
1966	12,212	12,667	104	44
1970	17,117	19,720	115	56
France:				
1966	15,419	16,088	104	56
1970	21,353	23,714	111	67
West Germany:				
1966	12,695	22,500	177	79
1970	17,714	22,200	125	63
Brazil:				
1966	9,478	13,571	143	47
1970	11,561	14,512	126	41
Mexico:				
1966	9,766	20,455	209	72
1970	11,463	23,231	203	66

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-75.--Textiles and apparel: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	17,302	1/ 19,643	114	100
1970	20,350	1/ 24,671	121	100
Canada:				
1966	12,975	14,923	115	76
1970	17,098	22,905	134	93
United Kingdom:				
1966	7,519	14,000	186	71
1970	9,029	16,400	182	66
Belgium-Luxembourg:				
1966	6,881	12,000	174	61
1970	9,718	13,857	143	56
France:				
1966	8,641	12,500	145	64
1970	9,856	26,000	264	105
West Germany:				
1966	8,890	7,333	82	37
1970	11,898	8,167	69	33
Brazil:				
1966	10,245	9,053	88	46
1970	5,699	11,846	208	48
Mexico:				
1966	5,328			
1970	6,609	8,000	150	41
		12,800	194	52

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-76.--Lumber, wood, and furniture: Sales per man, all employees; comparison of all-firm and MNC data 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	18,250	1/ 25,262	138	100
1970	22,434	1/ 31,269	139	100
Canada:				
1966	14,972	18,923	126	75
1970	19,930	22,200	111	71
United Kingdom:				
1966	7,953	5,000	63	20
1970	9,000	9,000	100	29
Belgium-Luxembourg:				
1966	6,406	0	-	-
1970	9,369	0	-	-
France:				
1966	6,711	16,000	238	63
1970	11,000	N.A.	-	-
West Germany:				
1966	10,414	N.A.	-	-
1970	15,273	N.A.	-	-
Brazil:				
1966	3,545	5,000	141	20
1970	4,638	6,000	129	19
Mexico:				
1966	2,959	3,000	101	12
1970	4,057	4,667	115	15

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-77.--Printing and publishing: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	19,852	1/ 15,000	76	100
1970	23,810	1/ N.A.	-	100
Canada:				
1966	13,556	24,000	177	160
1970	17,672	26,333	149	-
United Kingdom:				
1966	11,228	13,000	116	87
1970	11,744	10,000	85	-
Belgium-Luxembourg:				
1966	7,480	3,000	40	20
1970	9,522	2,200	23	-
France:				
1966	12,572	28,000	223	187
1970	14,795	9,400	64	-
West Germany:				
1966	7,952	3,500	44	23
1970	11,558	4,200	36	-
Brazil:				
1966	3,433	11,500	335	77
1970	5,296	11,000	208	-
Mexico:				
1966	6,309	0	-	-
1970	7,480	0	-	-

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

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Table A-78.--Stone, clay, and glass: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	23,749	1/ 23,240	98	100
1970	28,343	1/ 26,464	93	100
Canada:				
1966	19,454	20,250	104	87
1970	24,707	29,357	119	111
United Kingdom:				
1966	9,596	12,667	132	55
1970	10,940	12,909	118	49
Belgium-Luxembourg:				
1966	7,810	14,000	179	60
1970	10,533	16,759	159	63
France:				
1966	9,654	13,211	137	57
1970	13,168	22,000	167	83
West Germany:				
1966	10,106	11,727	116	50
1970	14,884	17,385	117	66
Brazil:				
1966	3,971	6,500	164	28
1970	5,229	9,875	189	37
Mexico:				
1966	5,114	8,250	161	35
1970	6,773	8,400	124	32

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-79.--Instruments: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	24,400	1/ 27,653	113	100
1970	28,996	1/ 31,466	109	100
Canada:				
1966	13,807	23,133	168	84
1970	18,383	33,050	180	105
United Kingdom:				
1966	8,113	10,675	132	39
1970	8,414	17,429	207	55
Belgium-Luxembourg:				
1966	6,527	13,806	212	50
1970	11,133	24,220	218	77
France:				
1966	11,917	14,308	120	52
1970	15,935	39,778	250	126
West Germany:				
1966	6,688	13,286	199	48
1970	9,515	17,955	189	57
Brazil:				
1966	NA	8,800	-	32
1970	NA	18,400	-	58
Mexico:				
1966	NA	10,000	-	36
1970	NA	10,595	-	34

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-80.--Other manufacturing: Sales per man, all employees; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	21,513	1/ 48,360	225	100
1970	25,759	1/ 51,687	201	100
Canada:				
1966	15,190	20,688	136	43
1970	19,207	35,789	186	69
United Kingdom:				
1966	9,180	9,933	108	21
1970	9,479	60,037	633	116
Belgium-Luxembourg:				
1966	11,047	10,000	91	21
1970	17,630	32,720	186	63
France:				
1966	9,491	11,000	116	23
1970	11,150	42,000	377	81
West Germany:				
1966	13,261	7,600	57	16
1970	18,160	45,600	251	88
Brazil:				
1966	4,539	14,571	321	30
1970	7,590	11,000	145	21
Mexico:				
1966	12,454	10,500	84	22
1970	18,976	15,808	83	31

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-64 and A-65 for MNC figures.

Table A-81.--Sales per production worker in U.S.-based MNC's, 1966 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing-----	40,463	40,019	16,760	20,214	31,673	24,253	17,493	24,719
Food products---------------	70,337	49,576	34,885	58,000	40,286	49,000	22,000	26,250
Paper and allied products---	34,094	32,000	19,800	18,000	17,667	20,667	4/ 23,700	20,333
Chemicals-------------------	52,336	54,935	30,231	53,250	59,125	44,700	24,455	37,091
Rubber----------------------	2/ 39,290	32,400	53,600	11,200	19,600	16,000	26,400	25,000
Primary and fabricated metals--------------------	36,935	43,182	19,024	20,333	19,000	23,667	18,333	15,750
Nonelectrical machinery-----	44,769	46,969	21,956	28,400	38,571	32,250	19,000	22,000
Electrical machinery--------	27,132	29,347	11,702	11,000	23,308	11,333	10,769	21,000
Transportation equipment----	40,739	45,554	21,773	19,000	36,467	24,000	21,111	4/ 36,393
Textiles and apparel--------	25,762	19,400	19,600	12,000	12,500	13,200	4/ 11,467	10,667
Lumber, wood, and furniture---------------------	30,981	24,600	5,000	-	16,000	11,000	NA	-
Printing and publishing-----	NA	48,000	30,333	-	14,000	10,500	-	-
Stone, clay, and glass------	32,947	32,400	15,200	3/ 17,929	22,500	32,250	8,667	11,000
Instruments-----------------	44,530	38,556	15,815	3/ 20,708	37,200	23,250	4/ 5,200	6,667
Other manufacturing---------	70,021	27,583	16,556	-	7,333	12,667	4/ 20,400	4/ 20,400

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.
2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.
3/ E.C. average. Individual country data not available.
4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-82.--Estimated sales per production worker in U.S.-based MNC's, 1970 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing	49,768	55,107	28,218	34,438	37,165	32,737	20,185	[illegible]
Food products	79,732	54,462	32,548	35,500	46,600	51,500	28,000	39,727
Paper and allied products	43,686	40,486	28,200	28,667	27,000	3/27,625	4/ 24,733	4/ 24,733
Chemicals	64,726	63,485	46,750	3/ 63,380	63,462	69,692	25,273	44,857
Rubber	2/ 46,430	54,538	24,333	17,800	20,000	3/23,333	36,600	4/ 25,556
Primary and fabricated metals	43,116	64,828	24,222	26,000	23,000	28,293	18,000	16,846
Nonelectrical machinery	53,121	58,514	23,781	27,750	54,435	47,000	29,600	18,667
Electrical machinery	36,722	39,478	14,933	27,000	20,783	21,293	4/ 15,953	15,467
Transportation equipment	51,273	85,677	21,136	3/ 26,068	23,714	27,750	20,129	4/ 30,509
Textiles and apparel	33,092	26,722	27,333	16,167	26,000	9,800	4/ 14,000	4/ 14,000
Lumber, wood, and furniture	38,714	27,750	9,000	0	3/ 22,000	3/22,000	NA	11,000
Printing and publishing	NA	79,000	24,000	11,000	3/ 28,500	21,000	NA	0
Stone, clay, and glass	37,532	41,100	28,400	3/ 23,143	3/ 23,143	22,600	13,167	4/ 13,684
Instruments	51,658	38,882	20,914	3/ 31,103	3/ 31,031	19,750	4/ 13,088	4/ 13,088
Other manufacturing	78,009	45,333	67,542	3/ 38,952	3/ 38,952	3/38,952	27,500	4/ 18,882

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.

2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.

3/ E.C. average. Individual country data not available.

4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-83.--All manufacturing: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	37,571	1/ 40,463	108	100
1970	44,764	1/ 49,768	111	100
Canada:				
1966	28,276	40,019	142	99
1970	37,593	55,107	147	111
United Kingdom:				
1966	13,157	16,760	127	41
1970	14,945	28,218	189	57
Belgium-Luxembourg:				
1966	11,509	20,214	176	50
1970	18,523	34,438	189	69
France:				
1966	14,450	31,673	219	78
1970	20,567	37,165	181	75
West Germany:				
1966	15,036	24,253	161	60
1970	21,951	32,737	149	66
Brazil:				
1966	8,804	17,493	199	43
1970	11,148	20,185	181	41
Mexico:				
1966	9,896	24,719	250	61
1970	12,932	30,222	234	61

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-84.--Food products: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	72,633	1/ 70,337	97	100
1970	87,123	1/ 79,732	92	100
Canada:				
1966	46,304	49,576	107	70
1970	60,803	54,462	90	68
United Kingdom:				
1966	14,721	34,885	237	50
1970	15,503	32,548	210	41
Belgium-Luxembourg:				
1966	20,935	58,000	277	82
1970	31,361	35,500	113	45
France:				
1966	30,556	40,286	132	57
1970	41,595	46,600	112	58
West Germany:				
1966	33,682	49,000	145	70
1970	46,240	51,500	111	65
Brazil:				
1966	13,644	22,000	161	31
1970	18,023	28,000	155	35
Mexico:				
1966	10,032	26,250	262	37
1970	13,301	39,727	299	50

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-85.--Paper and allied products: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	40,568	1/ 34,094	84	100
1970	47,558	1/ 43,686	92	100
Canada:				
1966	33,037	32,000	97	94
1970	42,104	40,486	96	93
United Kingdom:				
1966	14,388	19,800	138	58
1970	16,545	28,200	170	65
Belgium-Luxembourg:				
1966	14,951	18,000	120	53
1970	22,531	28,667	127	66
France:				
1966	16,590	17,667	106	52
1970	20,196	27,000	134	62
West Germany:				
1966	14,506	20,667	142	61
1970	20,435	27,625	135	63
Brazil:				
1966	9,289	23,700	255	70
1970	10,957	24,733	226	57
Mexico:				
1966	14,062	20,333	145	60
1970	18,119	24,733	137	57

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-86.--Chemicals: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	77,163	1/ 52,336	68	100
1970	88,840	1/ 64,726	73	100
Canada:				
1966	57,004	54,935	96	105
1970	71,128	63,485	89	98
United Kingdom:				
1966	28,897	30,231	105	58
1970	32,151	46,750	145	72
Belgium-Luxembourg:				
1966	20,362	53,250	262	102
1970	35,732	63,380	177	98
France:				
1966	35,470	59,125	167	113
1970	44,032	63,462	144	98
West Germany:				
1966	26,140	44,700	171	85
1970	37,739	69,692	185	108
Brazil:				
1966	21,376	24,455	114	47
1970	24,449	25,273	103	39
Mexico:				
1966	18,572	37,091	200	71
1970	26,998	44,857	166	69

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-87.--Rubber: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	30,661	1/ 39,290	128	100
1970	35,869	1/ 46,430	129	100
Canada:				
1966	25,473	32,400	127	82
1970	39,124	54,538	139	117
United Kingdom:				
1966	10,340	53,600	518	136
1970	11,618	24,333	209	52
Belgium-Luxembourg:				
1966	11,317	11,200	99	29
1970	13,726	17,800	130	38
France:				
1966	16,355	19,600	120	50
1970	26,486	20,000	76	43
West Germany:				
1966	12,571	16,000	127	41
1970	14,927	23,333	156	50
Brazil:				
1966	12,714	26,400	208	67
1970	14,520	36,600	252	79
Mexico:				
1966	14,822	25,000	169	64
1970	20,544	25,556	124	55

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-88.--Primary and fabricated metals: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	38,004	1/ 36,935	97	100
1970	43,453	1/ 43,116	99	100
Canada:				
1966	27,206	43,182	159	117
1970	41,219	64,828	157	150
United Kingdom:				
1966	14,892	19,024	128	52
1970	17,260	24,222	140	56
Belgium-Luxembourg:				
1966	16,659	20,333	122	55
1970	23,744	26,000	110	60
France:				
1966	13,141	19,000	145	51
1970	21,850	23,000	105	53
West Germany:				
1966	14,361	23,667	165	64
1970	22,511	28,293	126	66
Brazil:				
1966	8,335	18,333	220	50
1970	10,429	18,000	173	42
Mexico:				
1966	10,029	15,750	157	43
1970	12,230	16,846	138	39

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-89.--Nonelectrical machinery: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	35,592	1/ 44,769	126	100
1970	42,775	1/ 53,121	124	100
Canada:				
1966	28,844	46,969	163	105
1970	37,781	58,514	155	110
United Kingdom:				
1966	11,820	21,956	186	49
1970	13,745	23,781	173	45
Belgium-Luxembourg:				
1966	10,238	28,400	277	63
1970	15,571	27,750	178	52
France:				
1966	10,679	38,571	361	86
1970	15,335	54,435	355	102
West Germany:				
1966	13,089	32,250	246	72
1970	20,011	47,000	235	88
Brazil:				
1966	6,929	19,000	274	42
1970	10,529	29,600	281	56
Mexico:				
1966	7,813	22,000	282	49
1970	8,458	18,667	221	35

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-90.--Electrical machinery: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	30,977	1/ 27,132	88	100
1970	38,905	1/ 36,722	94	100
Canada:				
1966	23,876	29,347	123	108
1970	30,769	39,478	128	108
United Kingdom:				
1966	13,861	11,702	84	43
1970	16,030	14,933	93	41
Belgium-Luxembourg:				
1966	8,577	11,000	128	41
1970	12,736	27,000	212	74
France:				
1966	17,622	23,308	132	86
1970	24,630	20,783	84	57
West Germany:				
1966	12,094	11,333	94	42
1970	17,943	21,293	119	58
Brazil:				
1966	9,973	10,769	108	40
1970	12,071	15,953	132	43
Mexico:				
1966	9,567	21,000	220	77
1970	10,690	15,467	145	42

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-91.--Transportation equipment: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	50,909	1/ 40,739	80	100
1970	59,518	1/ 51,273	86	100
Canada:				
1966	36,056	45,554	126	112
1970	53,821	85,677	159	167
United Kingdom:				
1966	15,031	21,773	145	53
1970	16,771	21,136	126	41
Belgium-Luxembourg:				
1966	15,816	19,000	120	47
1970	21,158	26,068	123	51
France:				
1966	17,121	36,467	213	90
1970	23,745	23,714	100	46
West Germany:				
1966	15,869	24,000	151	59
1970	22,258	27,750	125	54
Brazil:				
1966	11,869	21,111	178	52
1970	14,222	20,129	142	39
Mexico:				
1966	13,347	36,393	273	89
1970	15,377	30,509	198	60

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-92.--Textiles and apparel: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	19,491	1/ 25,762	132	100
1970	23,134	1/ 33,092	143	100
Canada:				
1966	15,620	19,400	124	75
1970	20,364	26,772	131	81
United Kingdom:				
1966	9,233	19,600	212	76
1970	10,896	27,333	251	83
Belgium-Luxembourg:				
1966	7,775	12,000	154	47
1970	11,060	16,167	146	49
France:				
1966	9,426	12,500	133	49
1970	10,745	26,000	242	79
West Germany:				
1966	10,677	13,200	124	51
1970	14,501	9,800	68	30
Brazil:				
1966	11,497	11,467	100	45
1970	6,312	14,000	222	42
Mexico:				
1966	6,149	10,667	173	41
1970	7,723	14,000	181	42

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-93.--Lumber, wood, and furniture: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	21,058	1/ 30,981	147	100
1970	26,224	1/ 38,714	148	100
Canada:				
1966	17,651	24,600	139	79
1970	23,584	27,750	118	72
United Kingdom:				
1966	9,775	5,000	51	16
1970	11,278	9,000	80	23
Belgium-Luxembourg:				
1966	7,134	0	-	-
1970	10,619	0	-	-
France:				
1966	8,037	16,000	199	52
1970	13,172	22,000	167	57
West Germany:				
1966	12,694	11,000	87	36
1970	19,043	22,000	116	57
Brazil:				
1966	4,179	N.A.	-	-
1970	5,465	N.A.	-	-
Mexico:				
1966	3,174	0	-	-
1970	4,395	11,000	250	28

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-94.--Printing and publishing: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	32,630	1/ N.A.	-	100
1970	39,317	1/ N.A.	-	100
Canada:				
1966	23,732	48,000	202	-
1970	30,886	79,000	256	-
United Kingdom:				
1966	15,253	30,333	199	-
1970	16,621	24,000	144	-
Belgium-Luxembourg:				
1966	10,250	0	-	-
1970	13,462	11,000	82	-
France:				
1966	13,800	14,000	101	-
1970	17,705	28,500	161	-
West Germany:				
1966	9,994	10,500	105	-
1970	14,710	21,000	143	-
Brazil:				
1966	4,600	0	-	-
1970	7,271	N.A.	-	-
Mexico:				
1966	8,472	0	-	-
1970	10,165	0	-	-

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-95.--Stone, clay, and glass: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	29,978	1/ 32,947	110	100
1970	35,596	1/ 37,532	105	100
Canada:				
1966	26,155	32,400	124	98
1970	33,776	41,100	122	110
United Kingdom:				
1966	11,963	15,200	127	46
1970	13,985	28,400	203	76
Belgium-Luxembourg:				
1966	9,205	17,929	195	54
1970	12,531	23,143	185	62
France:				
1966	11,345	22,500	198	68
1970	15,410	23,143	150	62
West Germany:				
1966	12,183	32,250	265	98
1970	18,424	22,600	123	60
Brazil:				
1966	4,644	8,667	187	26
1970	6,081	13,167	217	35
Mexico:				
1966	5,945	11,000	185	33
1970	7,964	13,684	172	36

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-96.--Instruments: Sales per production worker; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	35,501	1/ 44,530	125	100
1970	44,848	1/ 51,658	115	100
Canada:				
1966	22,892	38,556	168	87
1970	30,855	38,882	126	75
United Kingdom:				
1966	11,779	15,815	134	36
1970	12,951	20,914	161	40
Belgium-Luxembourg:				
1966	9,790	20,708	212	47
1970	16,700	31,031	186	60
France:				
1966	12,991	37,200	286	84
1970	17,333	31,031	179	60
West Germany:				
1966	8,803	23,250	264	52
1970	12,864	19,750	154	38
Brazil:				
1966	N.A.	5,200	-	12
1970	N.A.	13,088	-	25
Mexico:				
1966	N.A.	6,667	-	15
1970	N.A.	13,088	-	25

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-81 through A-82 for MNC figures.

Table A-97.--Other manufacturing: Sales per production workers; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	28,042	1/ 70,021	250	100
1970	34,549	1/ 78,009	226	100
Canada:				
1966	19,008	27,583	145	39
1970	24,290	45,333	187	58
United Kingdom:				
1966	11,215	16,556	148	24
1970	12,116	67,542	557	87
Belgium-Luxembourg:				
1966	12,715	0	-	-
1970	20,242	38,952	192	50
France:				
1966	11,256	7,333	65	10
1970	13,229	38,952	294	50
West Germany:				
1966	16,254	12,667	78	18
1970	22,615	38,952	172	50
Brazil:				
1966	5,384	20,400	379	29
1970	9,000	27,500	306	35
Mexico:				
1966	16,606	20,400	123	29
1970	28,052	18,882	67	24

1/ U.S. figures for MNC's are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-81 and A-82 for MNC figures.

Table A-98.--Estimated average unit labor costs 1/, all employees, selected industries and countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	0.12	0.16	0.13	0.13	0.35	0.24	0.12	0.08
Paper	.21	.24	.27	.28	.40	.30	.16	.11
Chemicals	.15	.22	.25	.25	.25	.38	.16	.09
Rubber	.26	.30	.31	.35	.45	.46	.18	.10
Metals	.23	.28	.34	.42	.32	.28	.19	.15
Non-electrical machinery	.29	.33	.39	.43	.47	.51	.24	.20
Electrical machinery	.29	.36	.42	.40	.40	.69	.17	.15
Transportation equipment	.22	.24	.32	.28	.34	.35	.17	.15
Textiles and apparel	.24	.40	.28	.35	.53	.38	.21	.06
Lumber, wood, and furniture	.27	.30	.29	.50	.49	.51	.24	.18
Printing and publishing	.33	.40	.46	.39	.38	.50	.22	.30
Stone, clay, and glass	.26	.28	.45	.41	.40	.48	.25	.17
Instruments	.28	.38	.53	.37	.49	.63	NA	NA
Other	.27	.27	.23	.43	.34	.26	.12	.15

1/ Equals wage cost per dollar of sales.

Source: Tables A-1 through A-16

Table A-99.--Estimated average unit labor costs 1/, all employees, selected industries and countries, 1970

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	0.12	0.17	0.14	0.13	0.38	0.22	0.12	0.07
Paper	.22	.27	.30	.33	.39	.28	.22	.12
Chemicals	.16	.25	.28	.29	.26	.30	.15	.09
Rubber	.26	.32	.34	.30	.49	.51	.18	.09
Metals	.25	.27	.34	.34	.31	.27	.20	.14
Non-electrical machinery	.30	.41	.42	.52	.46	.48	.26	.18
Electrical machinery	.31	.40	.43	.58	.42	.62	.17	.15
Transportation equipment	.22	.23	.37	.28	.38	.34	.18	.16
Textiles and apparel	.25	.29	.32	.42	.47	.36	.22	.13
Lumber, wood, and furniture	.27	.31	.30	.41	.46	.47	.23	.15
Printing and publishing	.34	.44	.50	.46	.39	.57	.21	.26
Stone, clay, and glass	.27	.33	.46	.41	.38	.46	.25	.16
Instruments	.29	.41	.55	.48	.53	.50	NA	NA
Other	.27	.31	.25	.50	.44	.21	.11	.12

1/ Equals wage cost per dollar of sales.

Source: Tables A-1 through A-16

Table A-100.--Estimated average unit labor costs 1/ of production workers in selected industries and countries, 1966

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	0.07	0.08	0.08	0.09	0.19	0.16	0.06	0.04
Paper	.15	.17	.20	.18	.23	.22	.07	.08
Chemicals	.08	.09	.13	.10	.10	.21	.04	.05
Rubber	.18	.20	.23	.19	.28	.31	.08	.07
Metals	.17	.21	.25	.26	.20	.21	.10	.11
Non-electrical machinery	.19	.19	.25	.33	.25	.35	.12	.14
Electrical machinery	.18	.20	.25	.19	.21	.41	.08	.10
Transportation equipment	.14	.16	.24	.21	.21	.24	.06	.10
Textiles and apparel	.19	.20	.21	.25	.30	.30	.13	.05
Lumber, wood, and furniture	.21	.23	.23	.35	.28	.43	.16	.13
Printing and publishing	.19	.22	.34	.29	.22	.34	.12	.20
Stone, clay, and glass	.19	.20	.35	.29	.25	.38	.13	.13
Instruments	.16	.18	.34	.27	.25	.37	NA	NA
Other	.16	.20	.17	.27	.21	.20	.05	.11

1/ Equals wage cost per dollar of sales.

Sources: Tables A-1 through A-16

Table A-101.—Estimated average unit labor costs 1/ of production workers, in selected industries and countries, 1970

(In U.S. dollars)

Industry	United States	Canada	West Germany	France	United Kingdom	Belgium-Luxembourg	Mexico	Brazil
Food	0.07	0.10	0.09	0.09	0.22	0.15	0.06	0.04
Paper	.15	.19	.22	.21	.25	.19	.09	.08
Chemicals	.09	.10	.15	.11	.11	.15	.04	.05
Rubber	.18	.20	.25	.16	.30	.35	.10	.07
Metals	.18	.20	.25	.21	.21	.20	.10	.10
Non-electrical machinery	.18	.22	.26	.41	.25	.32	.14	.11
Electrical machinery	.17	.21	.26	.27	.21	.36	.09	.09
Transportation equipment	.14	.16	.27	.20	.23	.25	.07	.11
Textiles and apparel	.19	.21	.23	.30	.28	.29	.14	.10
Lumber, wood, and furniture	.20	.24	.23	.29	.28	.39	.17	.11
Printing and publishing	.19	.24	.37	.32	.25	.37	.12	.17
Stone, clay, and glass	.20	.22	.35	.29	.25	.36	.13	.11
Instruments	.15	.20	.35	.36	.25	.29	NA	NA
Other	.16	.23	.18	.32	.28	.16	.04	.08

1/ Equals wage cost per dollar of sales.

Source: Tables A-1 through A-16.

Table A-102.--Unit labor costs in U.S.-based MNCs 1966 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing	0.30	0.21	0.28	0.21	0.21	0.21	0.19	0.16
Food products	.14	.15	.14	.09	.12	.12	.11	.10
Paper and allied products	.28	.26	.17	.22	.25	.24	.22	
Chemicals	.25	.20	.18	.15	.14	.16		
Rubber	2/ .27	.27	.18	.29	.18	.19	.11	
Primary and fabricated metals	.31	.22	.22	.21	.28	.22	.18	.21
Nonelectrical machinery	.39	.22	.22	.15	.21	.21	.28	.19
Electrical machinery	.38	.28	.35	3/ .33	.28	.35	.23	.18
Transportation equipment	.31	.19	.27	3/ .27	.23	.18	.18	.16
Textiles and apparel	.27	.25	.16	.25	.20	.32	.31	.19
Lumber, wood, and furniture	.30	.20	.20	0	.31	.27	4/ .33	.33
Printing and publishing	2/ .23	.20	.20	.17	.21	.24	.40	0
Stone, clay, and glass	.37	.26	.25	.25	.17	.29	.21	.21
Instruments	.33	.24	N.A.	3/ .25	.28	.24	.18	.20
Other manufacturing	.12	.20	.29	.50	.23	.39	.20	.24

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.

2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.

3/ E.C. average. Individual country data not available.

4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-103.—Unit labor costs in U.S.-based MNCs, 1970 1/ (manufacturing)

(In dollars)

Industry	United States	Canada	United Kingdom	Belgium-Luxembourg	France	West Germany	Brazil	Mexico
All manufacturing	0.31	0.21	0.18	0.17	0.19	0.24	0.21	0.18
Food products	.15	.17	.14	.14	.11	.13	.13	.13
Paper and allied products	.27	.30	.16	.17	.22	.22	.18	.15
Chemicals	.27	.20	.14	.13	.14	.14	.20	.16
Rubber	2/ .35	.26	.19	.25	.16	.17	.08	.21
Primary and fabricated metals	.33	.23	.17	.18	.22	.25	.18	.20
Nonelectrical machinery	.41	.25	.24	.20	.23	.26	.29	.26
Electrical machinery	.41	.28	.32	.28	.24	.37	.29	.22
Transportation equipment	.31	.15	.26	3/ .25	.22	.25	.21	.17
Textiles and apparel	.25	.20	.18	.20	.15	.68	.29	.19
Lumber, wood, and furniture	.29	.18	.33	0	.20	.22	.83	.82
Printing and publishing	3/ .32	.27	.26	.45	.15	.24	4/ .58	0
Stone, clay, and glass	.37	.24	.24	.22	.32	.30	.20	.19
Instruments	.36	.20	.19	3/ .19	.12	.30	.16	.94
Other manufacturing	.15	.18	N.A.	.50	N.A.	.07	.09	.11

1/ Figures for the United States are based on the sample of firms which reported as parents in 1970. Other figures refer to all majority-owned affiliates.
2/ This figure was suppressed by the source agency for reasons of confidentiality. The number shown is a Tariff Commission estimate.
3/ E.C. average. Individual country data not available.
4/ Latin America average. Individual country data not available.

Source: International Investment Division, Bureau of Economic Analysis, U.S. Department of Commerce.

Table A-104.--All manufacturing: Average unit labor costs; comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs	MNCs as percent of all firms	MNCs as percent of U.S. MNC value
	Dollars	Dollars		
United States:				
1966	0.22	1/ 0.30	136	100
1970	.23	1/ .31	135	100
Canada:				
1966	.25	.21	84	70
1970	.29	.21	72	68
United Kingdom:				
1966	.38	.28	74	93
1970	.40	.18	45	58
Belgium-Luxembourg:				
1966	.36	.21	58	70
1970	.33	.17	52	55
France:				
1966	.33	.21	64	70
1970	.34	.19	56	61
West Germany:				
1966	.31	.21	68	70
1970	.33	.24	73	77
Brazil:				
1966	.13	.19	146	63
1970	.12	.21	175	68
Mexico:				
1966	.16	.16	100	53
1970	.17	.18	106	58

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Source: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-105.--Food products: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.12	1/ 0.14
1970	.12	1/ .15
Canada:		
1966	.16	.15
1970	.17	.17
United Kingdom:		
1966	.35	.14
1970	.38	.14
Belgium-Luxembourg:		
1966	.24	.09
1970	.22	.14
France:		
1966	.13	.12
1970	.13	.11
West Germany:		
1966	.13	.12
1970	.14	.13
Brazil:		
1966	.06	.11
1970	.07	.13
Mexico:		
1966	.12	.10
1970	.12	.13

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-106.--Paper and allied products: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.21	1/ 0.28
1970	.22	1/ .27
Canada:		
1966	.24	.26
1970	.27	.30
United Kingdom:		
1966	.40	.17
1970	.39	.16
Belgium-Luxembourg:		
1966	.30	.22
1970	.28	.17
France:		
1966	.28	.25
1970	.33	.22
West Germany:		
1966	.27	.24
1970	.30	.22
Brazil:		
1966	.11	.22
1970	.12	.18
Mexico:		
1966	.16	.15
1970	.22	.15

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-107.--Chemicals and allied products: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.15	1/ 0.25
1970	.16	1/ .27
Canada:		
1966	.22	.20
1970	.25	.20
United Kingdom:		
1966	.25	.18
1970	.26	.14
Belgium-Luxembourg:		
1966	.38	.15
1970	.30	.13
France:		
1966	.25	.14
1970	.29	.14
West Germany:		
1966	.25	.16
1970	.28	.14
Brazil:		
1966	.09	.19
1970	.09	.20
Mexico:		
1966	.16	.16
1970	.15	.16

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-108.--Rubber: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.26	1/ 0.27
1970	.26	1/ .35
Canada:		
1966	.30	.27
1970	.32	.26
United Kingdom:		
1966	.45	.18
1970	.49	.19
Belgium-Luxembourg:		
1966	.46	.29
1970	.51	.25
France:		
1966	.35	.18
1970	.30	.16
West Germany:		
1966	.31	.19
1970	.34	.17
Brazil:		
1966	.10	.11
1970	.09	.08
Mexico:		
1966	.18	.16
1970	.18	.21

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-109.—Primary and fabricated metals: Average unit labor costs—comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.23	1/ 0.31
1970	.25	1/ .33
Canada:		
1966	.28	.22
1970	.27	.23
United Kingdom:		
1966	.32	.22
1970	.31	.17
Belgium-Luxembourg:		
1966	.28	.21
1970	.27	.18
France:		
1966	.42	.28
1970	.34	.22
West Germany:		
1966	.34	.22
1970	.34	.25
Brazil:		
1966	.15	.18
1970	.14	.18
Mexico:		
1966	.19	.21
1970	.20	.20

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

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Table A-110.—Machinery, except electrical: Average unit labor costs—comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.29	1/ 0.39
1970	.30	1/ .41
Canada:		
1966	.33	.22
1970	.41	.25
United Kingdom:		
1966	.47	.22
1970	.46	.24
Belgium-Luxembourg:		
1966	.51	.15
1970	.48	.20
France:		
1966	.43	.21
1970	.52	.23
West Germany:		
1966	.39	.21
1970	.42	.26
Brazil:		
1966	.20	.28
1970	.18	.29
Mexico:		
1966	.24	.19
1970	.26	.26

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-111.--Electrical machinery: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.29	1/ 0.38
1970	.31	1/ .41
Canada:		
1966	.36	.28
1970	.40	.28
United Kingdom:		
1966	.40	.35
1970	.42	.32
Belgium-Luxembourg:		
1966	.69	.33
1970	.62	.28
France:		
1966	.40	.28
1970	.58	.24
West Germany:		
1966	.42	.35
1970	.43	.37
Brazil:		
1966	.15	.23
1970	.15	.29
Mexico:		
1966	.17	.18
1970	.17	.22

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-112.--Transportation equipment: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.22	1/ 0.31
1970	.22	1/ .31
Canada:		
1966	.24	.19
1970	.23	.15
United Kingdom:		
1966	.34	.27
1970	.38	.26
Belgium-Luxembourg:		
1966	.35	.27
1970	.34	.25
France:		
1966	.28	.23
1970	.28	.22
West Germany:		
1966	.32	.18
1970	.37	.25
Brazil:		
1966	.15	.18
1970	.16	.21
Mexico:		
1966	.17	.16
1970	.18	.17

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-113.--Textiles and apparel: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.24	1/ 0.27
1970	.25	1/ .25
Canada:		
1966	.40	.25
1970	.29	.20
United Kingdom:		
1966	.53	.16
1970	.47	.18
Belgium-Luxembourg:		
1966	.38	.25
1970	.36	.20
France:		
1966	.35	.20
1970	.42	.15
West Germany:		
1966	.28	.32
1970	.32	.68
Brazil:		
1966	.06	.31
1970	.13	.29
Mexico:		
1966	.21	.19
1970	.22	.19

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-114.--Lumber, wood, and furniture: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0 .27	1/ 0 .30
1970	.27	1/ .29
Canada:		
1966	.30	.20
1970	.31	.18
United Kingdom:		
1966	.49	.20
1970	.46	.33
Belgium-Luxembourg:		
1966	.51	--
1970	.47	--
France:		
1966	.50	.31
1970	.41	.20
West Germany:		
1966	.29	.27
1970	.30	.22
Brazil:		
1966	.18	.33
1970	.15	.83
Mexico:		
1966	.24	.33
1970	.23	.82

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-115.--Printing and publishing: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.33	1/ 0.23
1970	.34	1/ .32
Canada:		
1966	.40	.20
1970	.44	.27
United Kingdom:		
1966	.38	.20
1970	.39	.26
Belgium-Luxembourg:		
1966	.50	.17
1970	.57	.45
France:		
1966	.39	.21
1970	.46	.15
West Germany:		
1966	.46	.24
1970	.50	.24
Brazil:		
1966	.30	.40
1970	.26	.58
Mexico:		
1966	.22	--
1970	.21	--

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-116.--Stone, clay, and glass products: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.26	1/ 0.37
1970	.27	1/ .37
Canada:		
1966	.28	.26
1970	.33	.24
United Kingdom:		
1966	.40	.25
1970	.38	.24
Belgium-Luxembourg:		
1966	.48	.25
1970	.46	.22
France:		
1966	.41	.17
1970	.41	.32
West Germany:		
1966	.45	.29
1970	.46	.30
Brazil:		
1966	.17	.21
1970	.16	.20
Mexico:		
1966	.25	.21
1970	.25	.19

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-117.--**Instruments: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970**

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0 .28	1/ 0 .33
1970	.29	1/ .36
Canada:		
1966	.38	.24
1970	.41	.20
United Kingdom:		
1966	.49	NA
1970	.53	.19
Belgium-Luxembourg:		
1966	.63	.25
1970	.50	.19
France:		
1966	.37	.28
1970	.48	.12
West Germany:		
1966	.53	.24
1970	.55	.30
Brazil:		
1966	NA	.18
1970	NA	.16
Mexico:		
1966	NA	.20
1970	NA	.94

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970.

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Table A-118.--Other-manufacturing: Average unit labor costs--comparison of all-firm and MNC data, 1966 and 1970

Country and year	Value for all firms	Value for MNCs
	Dollars	Dollars
United States:		
1966	0.27	1/ 0.12
1970	.27	1/ .15
Canada:		
1966	.27	.20
1970	.31	.18
United Kingdom:		
1966	.34	.29
1970	.44	NA
Belgium-Luxembourg:		
1966	.26	.50
1970	.21	.50
France:		
1966	.43	.23
1970	.50	NA
West Germany:		
1966	.23	.39
1970	.25	.07
Brazil:		
1966	.15	.20
1970	.12	.09
Mexico:		
1966	.12	.24
1970	.11	.11

1/ U.S. figures for MNCs are based on the sample of firms which reported as parents in 1970

Sources: Tables A-1 through A-16 for national all-firm figures; tables A-102 through A-103 for MNC figures.

Appendix B. Methodological Notes for Part C

The methods of calculation and sampling used to obtain the estimates of employment impact are outlined briefly in this appendix. The general methodology--with a complete discussion of assumptions--is contained in the text, so individual items will be covered in order of their appearance.

Potential gross job loss (Case 1)

Total affiliates' sales abroad (local sales, exports to third countries, and exports to the U.S.) are expected to be replaced by goods of U.S. origin. The value of affiliates' sales was first adjusted for tariff, transportation, and insurance charges, such that the same value of export sales would clear the markets. The purpose of this adjustment was to recognize that goods once sold from foreign production by affiliates would encounter such charges if exported from the U.S. In order for those goods to sell (as exports) at identical foreign prices, a tariff/transport differential would have to be a part of the hypothetical new export sales figure. This differential creates no jobs and therefore it must be subtracted. Average tariff rates were obtained from information available within the Commission. Estimates of freight and insurance by schedules and subparts of the Tariff Schedules of the United States were obtained from highlights of the U.S. Export and Import Trade. 1/

1/ This material was prepared jointly by the Bureau of Customs and the Bureau of Census and published by the Bureau of Census in Highlights, January, 1972, FT990-72-1.

The value of adjusted sales was then converted into employment equivalents. The technique used was simply to divide adjusted aggregate sales by the sales-per-employee figures for each domestic industry, developed in the U.S. country table (Table A-1) appearing in Appendix A to this chapter. Since the analysis contemplates the wholesale transfer of production, sales per employee figures were considered more appropriate than sales per production worker, because all the employment necessary to supply the foreign market has to be considered.

MNC headquarters employment

It was necessary to isolate and measure that employment located in the U.S. which depends entirely on the presence of production facilities abroad for its existence. This employment does not depend on the export production of U.S. MNC reporters but is of a managerial, financial, and technical nature. There was no way to develop this information from available data as headquarters employment is not a stable function of any available series such as affiliate sales, employment abroad, and so forth. It will vary according to the industry involved and according to the particular organization of the companies concerned.

The Tariff Commission conducted a survey in which over 150 of the largest U.S. MNCs were contacted. Personnel involved in servicing and support of affiliates operations are occasionally separated in an international division but more often they are integrated in the overhead supervisory staff of the parent organization. A few of the larger

MNCs were unable to provide an accurate estimate as it would have involved contacting several hundred suboffices. The companies sampled went to considerable effort to supply an accurate count of their service personnel and it is believed that the final estimate is a good approximation of the actual employment.

The better-than-ninety-percent response obtained amounted to almost one third of the final estimate. The BEA geneology of firms permitted a grouping of the sample responses by industry, but some indirect method of blowing up these divisions was necessary. Sales for the companies were available in the BEA 1970 sample. The ratio of total sales by industry in the BEA sample to the sales associated with the companies in the T.C. sample permitted an estimate of headquarters employees for the entire BEA sample. Then, by employing the ratio of universe sales to sample sales by industry, the headquarters employment figure was further blown-up to estimate headquarters employment for the 1970 manufacturing universe.

U.S. exports to affiliates

U.S. merchandise exports charged on reporter's books and shipped to majority owned affiliates, plus exports of other U.S. suppliers charged and shipped to majority-owned affiliates, capture most MNC-generated exports. The data could not be adjusted to represent all affiliates but was left as is. The U.S. employment figures were generated in the same way as the gross loss estimates--i.e. sales-per-employee data were used to convert the export figures directly

to employment equivalents.

Income effect on U.S. employment

The assumptions of the model are that U.S. direct investment in the respective countries does not discourage any local investment. If the investment did not occur there would be a fall in the level of investment of the host country. The amount of direct investment could be considered an exogeneous change in total investment and be treated with standard multiplier analysis as if a continuous stream of investment was injected into the country's aggregate demand.

A simple check to see whether the estimate was worth making was to add plant and equipment expenditures and the wage bill of affiliates. This income attributable to direct investment represented quasi-purchasing power generated in the foreign country. Certain proportions of this income would be spent on local products and imports. U.S. exports of all types could result from their share in these imports. These U.S. exports would ultimately depend on the original injection of direct investment, and the employment associated with the exports is also dependent on this direct investment.

The purchasing power approach indicated that although the number would not be large it could not be ignored, so the multiplier approach was carried out. Plant and equipment expenditures are treated as the antonomous change in investment. If the change occurred only in one period the income effect would peter out and the original pre-investment income level would be reestablished. But if the investment

injection continues in each period, then a new, higher level of aggregate income will be maintained. This is the case in foreign direct investment plant and equipment expenditures. The average plant and equipment expenditure over several periods for each of the seven principal countries and the rest of the world is the continuous injection of investment, which would not have existed without U.S. direct investment according to the assumptions of the model. Estimates of the multiplier in each of the seven countries and an average for the rest of the world were developed for a similar period. The income figures were obtained from various U.S. Statistical Yearbooks covering the period. With these multipliers and plant and equipment expenditures, estimates were made of the changes in equilibrium income for the respective countries. These income changes are the result of U.S. foreign direct investment under the assumptions of the model.

The aggregate income changes in the respective countries were spent both on domestic products and on imports. A certain amount of these imports would come from the U.S. and, therefore, would support U.S. domestic employment. Estimates of the U.S. exports to the respective countries were made using export income elasticities developed through regression equations by Houthakker and Magee. 1/ These export estimates represent all exports in all industrial classes to each of the seven countries and the rest of the world. The next

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1/ "Income and Price Elasticities in World Trade", H.S. Houthakker and Stephen P. Magee, Review of Economics and Statistics, vol. 51(2), May, 1969, pp. 116-117.

step was to ascertain from U.S. export patterns with the respective countries how each of the thirty maunfacturing subsectors shared in this total. A weighting scheme was worked out to accomplish this on an individual country basis. The results were summed to get each sector's share in total U.S. manufacturing exports. Employment estimates then were obtained in the usual way by applying sales-per-employee figures for the U.S. as a whole.

U.S. employment of foreign-owned MNCs

Published directories list a total of about 1,600 foreign manufacturing corporations with operations of some kind in the United States--either in non-production activities, such as sales offices or holding companies for multi-company enterprises, or actual, full-blown manufacturing operations. Working with a list of such firms published by the Office of Foreign Direct Investment (OFDI) of the Department of Commerce, plus a Directory of Foreign Firms Operating in the United States, (Encyclopedia of International Information, volume 4, Simon & Schuster, Inc., 1971), and using the directories and computer files of Dun & Bradstreet, Inc., employment data (plus fragmentary sales data) were obtained for a total of 594 companies which, for all manufacturing, provided 519,500 jobs in the United States--an average of 875 jobs per firm. Generally, these are 1970 figures.

From the published lists, an additional 834 firms could be identified by industry in sufficient detail to fit the breakdowns used in

this study, but it was necessary to estimate the number of jobs accounted for by these firms. Published information on them is not available, and a direct survey of them obtain employment data would have involved a major operation that could not be compassed within the scope of resources and time available to the staff assigned to the study.

The estimates were obtained as follows: After the firms in question were assigned to the industry categories used in the study, the records on those companies for which employment data were available were examined in order to ascertain the proportion in each group that fell into each of the following employment ranges:

0 - 100 jobs
101 - 300 jobs
301 - 500 jobs
more than 500 jobs.

The results are shown in the following tabulation, for all manufacturing:

Employment	No. of firms	Proportion of firms
0 - 100	316	0.53
101 - 300	113	0.19
301 - 500	44	0.07
over 500	121	0.21

The next step was to use these statistics in modified form to develop and allocate estimates of employment for the 834 firms on which information was not available. The first--and most important--

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modification was to throw out the "over 500" class entirely, on the grounds that firms of this size were highly likely to have found their way into files of employment information, and thus to have been included in the original 594 firms on which data were available. Next, it was necessary to make the assumption that the distribution of employment among the 834 companies in question is approximately the same as for the "500 or under" group whose employment was known--to assume, in other words, that most of the companies in question are relatively small.

A total of 473 firms thus remained in the "known" group, after exclusion of the "over-500" class. Some 65 percent of these employed 100 or fewer persons, 22 percent employed 101-300 people, and 13 percent employed 301-500, for manufacturing as a whole. The actual estimates were made on the basis of the proportions in each of these three employment classes, in each industry, the total for manufacturing being essentially a weighted average. The estimates also were derived from the mid-point employment in each class, i.e. 50 , 200, and 400 people, respectively. Thus, if a given industry contained 100 "unknown" firms, with 75 percent of employment in the "known" group appearing in the first class (0 - 100 persons), 25 percent in class 2, and zero in the third class, the estimate was:

0.75 x 100 = 75 firms in class 1; and 75 x 50 persons per firm = 3,750 persons; plus

0.25 x 100 = 25 firms in class 2; and 25 x 200 = 5,000 persons, for a total of 8,750 people.

Summed across all industrial branches, the final estimate of the employment of the 834 "unknowns" was 101,450, or an average of about 120 per firm. The final figure shown in the table--620,950--is the sum of these estimates and the original data obtained for the 594 "known" firms.

Loss by export shares

The export shares approach required U.S. and foreign shares of world exports. It was felt that for manufactures, OECD exports to the world plus Japanese exports to the world would provide an adequate approximation to world exports of manufactured goods. Standard OECD, U.N., Japanese, and U.S. publications of trade data were used to develop figures on total OECD trade and U.S. trade in 1960, 1961, and 1970. The average U.S. share of the total for each industrial subgroup for 1960 and 1961 was then used as the "norm" against which the estimates for case 3 were made. The share was supplied to total affiliates' sales of U.S. MNCs to reflect the expected value of trade by U.S. exports. The employment associated with this trade could be considered the job loss offset by U.S. direct investment effects. Sales-per-employee data were used to convert the trade numbers to labor equivalents.

For adjustment of the U.S. employment figures of foreign-owned MNCs, the approach used was slightly different, although it has the same "normative" flavor as that used in the U.S.-exports case. It is fully described in the text, p. 669.

CHAPTER VIII

LEGAL PROBLEMS

Foreword

Almost every activity of the multinational corporation touches on some area dealing with legal analysis, because all governments influence and regulate corporate practices through the use of their legal systems. A consideration of all of the legal implications of the multinational corporation would be a truly vast study--one which could occupy the full time of many legal scholars over several years.

The present section seeks only to examine some of the more salient legal problems surrounding the growth and development of the multinational corporation. There is a paucity of relevant international law governing the operations of multinational firms. Of primary interest are the national laws of the countries in which the firms are established. Thus, the greater part of the section deals with United States laws, as the greater percentage of multinational corporations are American based. Comparisons of United States legal approaches to given problems with approaches taken by other countries are made where available information has permitted in the time allotted, and conclusions are drawn where it is possible to do so.

National legal systems affecting corporate behavior always are founded on explicit or implied policy considerations. Hence, any modification of existing United States laws perforce would have greater or lesser policy effects--either to encourage or to discourage multinational corporate growth. What policy will be depends, of course,

on whether studies such as this one reveal that the multinational corporation has had a beneficial or detrimental effect on the United States.

Chapter IX deals with several areas of legal regulation of MNC operations which have recently generated comment and interest among students of this business phenomenon. United States, Common Market, and selected other of the United States' trading partners approaches to antitrust are considered. United States tax treatment of foreign source income, jurisdiction of international tribunals in international investment disputes, and U.S. export controls are among the topics to be found in this chapter.

The chapter summary in Vol. I (pp.58 - 75) briefly highlights the contents of the body of the text. References to other works will be found in the chapter text in the form of footnotes.

U.S. and Foreign Antitrust Regulations

Introduction

The growth of the multinational enterprise has stimulated a corresponding desire on the part of host and source governments to obtain (or maintain) a degree of control over such firms' activities. The United States, unlike some of its major trading partners, traditionally has attempted to foster domestic competition through regulation of combinations and monopolies which would unreasonably shackle competition.

This section examines the antitrust-type regulations of the United States, the European Communities, Canada, Great Britain, and Japan with a view toward pointing up differences in philosophy and enforcement policy. The discussion of United States antitrust laws will focus on their effects in stimulating or impeding offshore operations of American-based corporations and any barriers which they place in the way of foreign direct investment in the United States. In scrutinizing the antitrust regulations of other major industrial nations, the emphasis will be placed on the manner in which the regulation of monopolies and cartels differs from U.S. treatment and what effect this difference may have on competition in international trade.

U.S. antitrust policy

In general, four statutes govern the United States' approach to antitrust regulation in the international arena. The Sherman Antitrust Act, the Webb-Pomerene Act, and the Federal Trade Commission Act. Of these statutes, Sherman and Clayton have generated by far the greatest amounts of both litigation and controversy, and accordingly, only their case law development will be examined in detail.

The Sherman Act

The Sherman Antitrust Act 1/ of 1890 was passed by Congress as a reaction against the growing economic concentration in the hands of the trusts and the corresponding dwindling freedom of opportunity on the part of the small businessman. Much of the Sherman language and principles were taken from the common-law rules governing restraint of trade and monopolies. 2/ The tradition at common law had been to promote free and open competition while encouraging freedom of opportunity. The English and American courts had a history of holding unlawful many types of combinations, monopolies, and contracts which unreasonably restrained trade. This common law practice was adopted by the Congress in its struggle against the unreasonable power of the trusts as they existed in 1890.

The Sherman Act aims primarily at maintaining and promoting interstate and foreign trade or commerce [emphasis supplied]. 3/ Sherman was never intended to reach all contracts and combinations in restraint of trade or all monopolies. Rather, only, " . . . . the unlawful combination, tested by the rule of common law and human experience, that is aimed at by this bill, and not the lawful and useful combination." 4/

Congress accordingly enacted the Sherman Act pursuant to its authority under the commerce clause of the Constitution, Article I,

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1/ 15 U.S.C. § 1.
2/ Julian Von Kalinowski, Business Organizations, Antitrust Laws and Trade Regulation, vol. 16 § 302[1] (1970).
3/ Northern Pacific Ry. v. U.S., 356 U.S. 1, 4, 78 S. Ct. 514.
4/ 21 Cong. Rec. 2457 (1890).

Section 8. Section 1 of Sherman provides--

> Every contract, combination in the form of trust or otherwise, or conspiracy in restraint of trade or commerce among the several States, or with foreign nations, is hereby declared to be illegal. . . . 1/

Section 2 makes it a crime to--

> monopolize, or attempt to monopolize, or combine or conspire with any other person or persons, to monopolize any part of the trade or commerce among the several States, or with foreign nations 2/

The Clayton Act

The Clayton Act 3/ was passed, along with the Federal Trade Commission Act, on October 15, 1914. Its passage was a result of popular feeling that Sherman needed supplemental legislation if the trusts were to be effectively controlled. Section 1 of the Clayton Act defines "commerce" in general as including trade or commerce among the several states and with foreign nations. 4/ Section 2 of Clayton was amended by the Robinson-Patman Act of 1936 which generally condemns price discrimination within the United States. 5/ Section 3 generally makes it unlawful to sell or lease patented or nonpatented items, for use or resale within the United States where the effect may be to substantially lessen competition or tend to create a monopoly. 6/

Section 7--the merger provisions--represents the most important area of Clayton to be examined in this study. It deals with commercial corporate mergers--

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1/ 15 U.S.C. § 1.
2/ Id. § 2.
3/ 15 U.S.C. § 12-27.
4/ Id. § 12.
5/ Id. § 13(a).
6/ Id. § 14.

> where in any line of commerce in any section of the country, the effect may be substantially to lessen competition, or tend to create a monopoly. 1/

The Federal Trade Commission Act

The Federal Trade Commission Act was enacted on the same date as was Clayton above. The Federal Trade Commission is given power to prevent "unfair methods of competition in commerce and unfair or deceptive acts or practices in commerce." The Federal Trade Commission has, along with other powers, concurrent jurisdiction in dealing with acts which are illegal under other antitrust laws, as the prohibited "unfair acts of competition" within the meaning of the Federal Trade Commission act have been interpreted as including acts violative of Sherman and other antitrust laws. 2/

The Webb-Pomerene Act, discussed below, provides that the Federal Trade Commission Act--

> shall be construed as extending to unfair methods of competition used in export trade against competitors engaged in export trade, even if the acts constituting such unfair methods are done without the territorial jurisdiction of the United States. 3/

The Webb-Pomerene Act

Section 2 of the Webb-Pomerene Act of 1918, 15 U.S.C. 61-65, states that nothing in the Sherman Act--

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1/ Id. § 18.
2/ Federal Trade Commission v. Cement Institute, 333 U.S. 683, 68 Sup. Ct. 793 (1948).
3/ 15 U.S.C. § 64.

> shall be construed as declaring to be illegal an association entered for the sole purpose of engaging in export trade, and actually engaged in such export trade, or an agreement made or act done in the course of export trade by such association, provided such association, agreement or act is not in restraint of trade within the United States, and is not in restraint of the export trade of any domestic competitor of such association.

Thus, the Act provides a "carefully guarded exemption" to large and small firms from the antitrust laws for cooperative participation in export associations. These export associations must be limited to American members and there is no application to joint foreign investment.

The policy underlying Webb-Pomerene stemmed from a desire to insure free access to foreign markets for domestic exporters on a competitive basis. The Act was intended to achieve equality or opportunity especially for smaller businesses in competition with foreign cartels. The Act does not authorize any activities by merger or joint venture between American and foreign corporations which could restrain domestic export commerce. 1/

Section 3 provides an exemption from the merger provisions (Section 7) of the Clayton Act with respect to a member company buying stock in an export association. Section 4 expands the jurisdiction of the Federal Trade Commission Act to include acts outside of the United States, and Section 5 provides for registration of such export associations with the Federal Trade Commission. The Federal Trade Commission

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1/ Scott and Yablonski, Transnational Mergers and Joint Ventures Affecting American Exports, 14 Antitrust Bull. 1 (. 9), at 5 n. 7.

may also investigate any activities which violate Section 2, above, of the Act and may make recommendations to the export associations (which can be enforced by the Attorney General) for business adjustment.

Although at first glance it would seem that Webb-Pomerene represents a relaxation of domestic antitrust enforcement with its exemption from the Sherman Act for export associations, such may not be the case. One expert in the field has stated,

> These are the provisions of an anomalous statute which exempts export associations from the Sherman Act upon such strict conditions that the Sherman Act appears to be actually reinforced with additional prohibitions against acts in foreign trade which substantially lessen competition in the United States or restrain trade therein. Further, the Federal Trade Commission Act is specifically declared to be applicable to unfair methods of competition "without the territorial jurisdiction of the United States." Under Section 5, the Commission is enjoined to watch such associations closely for violations of the strict conditions imposed upon them by the act. 1/

Import-related antitrust statutes

Section 73 of the Wilson Tariff Act contains antitrust provisions concerning foreign commerce. The section states that every combination, conspiracy, trust, agreement, or contract made by or between two or more persons, either of whom is engaged in importing any article from a foreign country into the United States is illegal and "void" when intended to operate in restraint of lawful trade or to increase the market price of any imported articles in any part of the United States, "or any manufacture into which such imported article enters or is intended to enter." 2/

1/ Fugate, Foreign Commerce and the Antitrust Laws (1958), at p. 163.
2/ 15 U.S.C. §§ 61 et seq.

Section 337 of the Tariff Act of 1930 1/ prohibits unfair practices in import trade. The Tariff Commission investigates unfair methods of competition or unfair acts in the importation of articles into the United States or in their sale in the United States, the effect of which is to destroy or substantially injure an industry efficiently and economically operated in the United States, or to restrain or monopolize trade and commerce in the United States. Tariff Commission findings are transmitted to the President who, when the existence of such unfair methods and acts are established to his satisfaction, excludes the subject imported goods from entry into the United States.

Although the bulk of Tariff Commission investigations under section 337 have involved infringement of domestically held patents by foreign manufacturers, great potential exists for the use of this statute to curb antitrust-related unfair trade practices. Although section 337 gives the Commission broad discretion over unfair acts which restrain or monopolize trade, only a few complaints have involved alleged acts causing restraints of trade or monopolies.

Recognition of the potential of section 337 has been voiced often, including in a report to the President submitted by the Special Representative for Trade Negotiations of January 14, 1969, entitled Future United States Foreign Trade Policy. This report notes at pp. 26-7 that domestic industries have doubtless been damaged by foreign restrictive business practices such as export cartels formed for the purpose either of increasing the ability of a foreign industry to penetrate the U.S. market or of

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1/ 19 U.S.C. 1337.

reducing competition among exporters to this market so as to increase profits. Section 337 is viewed as an effective means of protecting the domestic market against such restrictive practices.

Development and present status of the extraterritorial application of the Sherman Act

The eighty years of the existence of the Sherman Act have witnessed a growth in the reach of the Act through judicial interpretation to cover parties and acts outside the confines of the United States. This development has permitted domestic courts to exercise jurisdiction over foreign nationals and corporations and over domestic corporations domiciled overseas. The discussion below will briefly outline Sherman's judicial metamorphoses and examine its present status.

In determining whether combinations or conspiracies in restraint of trade exist within the meaning of Section 1 of Sherman, courts have applied two tests: The "Rule of Reason", and the "Per Se" illegality. The early cases under Sherman had interpreted the Section 1 language literally, that every contract, combination, or conspiracy in restraint of trade is illegal. 1/ In the Standard Oil case of 1911, 2/ the Supreme Court applied the "Rule of Reason" test to find that only unreasonable or undue restraints of trade were illegal. In the American Tobacco case, 3/ the court held that Sherman applied only to common law restraints including contracts or combinations which operated to the prejudice of the public by unduly restricting competition "or

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1/ Fugate, supra, n. 1s at 11.

2/ Standard Oil Co. (New Jersey) v. United States, 221 U.S. 1, 31 Sup. Ct. 502 (1911).

3/ U.S. v. American Tobacco Co., 221 U.S. 106, 31 Sup. Ct. 632 (1911).

which, either because of their interest nature or effect, or because of the evident purpose of the acts" injuriously restrained trade. 1/

Some types of agreements are taken as having a per se unreasonable restraint of trade. In the Trenton Potteries 2/ case, the court found that an agreement among competitors was illegal regardless of the reasonable prices charged. In Socony Vacuum, 3/ it was stated that, "any combination formed for the purpose and with the effect of raising, depressing, fixing, pegging, or stabilizing the price of a commodity in interstate or foreign commerce is illegal, per se." Per se violations have included group boycotts, divisions of market territories (including quota allocations), agreements to limit production or control supply, allocation of customers, division of fields of production, and the use of patent-tying clauses to obtain an additional monopoly not within the terms of the patent grant. 4/

American courts have generally considered the extraterritorial reach of the Sherman Act in terms of "market power", "effect", and "intent". 5/ Two questions arise when domestic courts deal with international antitrust problems: (1) does the court have jurisdiction?; and (2) did Congress intend an extraterritorial application of the statute in this instance? Jurisdiction does not present great problems today as courts have little difficulty in establishing personal jurisdiction over foreign corporations. A corporation is a "person" for

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1/ Id. 634.
2/ U.S. v. Trenton Potteries Co., 273 U.S. 392, 47 Sup. Ct. 377 (1927).
3/ U.S. v. Socony Vacuum Oil Co., 310 U.S. 150, 60 Sup. Ct. 811 (1940).
4/ Fugate, supra, n. 15 at 13.
5/ Reynolds, Extraterritorial Application of Federal Antitrust Laws, 20 Vand. L.R., 1030 (1967).

purposes of Sherman jurisdiction, and Section 8 of the Act states that "person" includes corporations established under foreign law. The traditional test for determining personal jurisdiction is followed in the case of foreign corporations, so that a federal court can exercise jurisdiction over such foreign entity if the corporation has such "minimum contacts" within the forum that the maintenance of the suit does not offend traditional conceptions of fair play and substantial justice. 1/ The "minimum contacts" test has been liberally interpreted in domestic law so that today a one-shot entry into the forum jurisdiction may suffice for purposes of obtaining jurisdiction over the foreign "person".

After the foreign corporation has been validly served and is before the court, the court must consider the extraterritorial application of the substantive law of Sherman. The discussion below will demonstrate how the courts have extended the reach of Sherman beyond the territorial limitations of the United States.

The Banana case was the first foreign commerce case considered by the United States Supreme Court. 2/ There, the majority based its decision upon a strict territorial principle of construction. In finding that the acts committed by the defendant were not violative of Sherman, the court stated at 356,

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1/ International Shoe Co. v. Washington, 326 U.S. 310, 316 (1945).
2/ American Banana Company v. United Fruit Company, 213 U.S. 347 (1909).

> But the general and almost universal rule is that the character of an act as lawful or unlawful must be determined wholly by the law of the country where the act is done. . .

American Tobacco 1/ found the Supreme Court concerned over agreements between British and American firms to divide world markets and found without discussion that the lower court had erred in dismissing the foreign defendants. These two early cases reflect the dichotomy with which the court wrestled--that of respecting the international principle of sovereign territoriality, while at the same time attempting to prevent the unreasonable cartelization of American commerce.

In United States v. Pacific and Arctic Railway and Navigation Company, 2/ the Court held that a combination to control transportation within the United States was within the jurisdiction of the United States in spite of the fact that part of the transportation route was outside the United States. The court stated at 106:

> . . . we may certainly control such [foreign] citizens and corporations operating in our territory, as we undoubtedly may control our own citizens and our own corporations.

In the later case of United States v. Sisal Sales Corporation, 3/ the court declared a conspiracy to monopolize United States foreign commerce in sisal to be illegal. Here, the justices emphasized the aspect of unlawful results within the United States, and still required some "act" within the United States by a foreigner or pursuant to an agreement with a domestic party. 4/

1/ United States v. American Tobacco Company, 221 U.S. 106 (19[illegible]).
2/ 228 U.S. 87 (1913).
3/ 247 U.S. 268 (1927).
4/ Reynolds, supra, n. 25 at 1037.

After the second World War, the United States emerged as the world's economic colossus, and the attitudes of American jurists shifted from requiring "acts" to have occurred within the United States, to examining the extent to which restraints affected domestic commerce. In United States v. National Lead Company, 1/ American and foreign companies were found to have participated in an international restraint of commerce in titanium pigments. The majority held that the Sherman Act could reach the foreign corporations as the object deemed unlawful was a conspiracy in the United States affecting American commerce. Effects on United States commerce, rather than acts found to be within the physical confines of the U.S. borders came to be the test of Sherman applicability.

In United States v. Timken Roller Bearing Company, 2/ the majority held that restrictive agreements made in foreign countries by Timken with two of its independent subsidiaries were violative of Sherman. The Court stated at 309:

> . . . the fact that the cartel arrangements were made on foreign soil does not relieve defendant from responsibility. . . . they had a direct influencing effect on trade in tapered bearings between the United States and foreign countries. (Emphasis supplied.)

Through its reliance on the "effects" test, the Supreme Court has authorized an almost unlimited extraterritorial application of the Sherman Act. Almost any commercial enterprise occurring anywhere on the globe could conceivably have some "effect" on domestic commerce. A recognition of this fact by an American court is found in United

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1/ 63 F. Supp. 513, aff'd, 332 U.S. 319 (1947).
2/ 83 F. Supp. 288, modified on appeal, 341 U.S. 593 (1951).

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States v. Aluminium Company of America. 1/ In finding a violation of Sherman, the court noted that a State could impose its laws upon persons not within its boundaries for conduct outside its borders which has consequences within those borders. Thus, at present, proven effects on American commerce may bring totally foreign conduct within the scope of the Sherman Act.

Section 7 of the Clayton Act is the antitrust sanction most frequently applied against mergers. Section 7 concerns the acquisition by one corporation "engaged in commerce" of "another corporation engaged also in commerce", if the acquisition may substantially lessen competition "in any line of commerce in any section of the country." 2/ Section 1 of the Clayton Act defines "commerce" as including "trade or commerce with foreign nations". 3/ Section 7 controls acquisitions of foreign firms only if the foreign firms are actually "engaged" in the foreign commerce of the United States and if the acquisition may lessen competition "in any line of commerce in any section of the country."

The Clayton Act requires only that anticompetitive effects be felt within "a section of the country"; but the transaction causing the prohibited effect does not need to occur within the geographical confines of the United States. Since an acquisition in a foreign country by a domestic firm could grant that firm a dominant position in the foreign market and therefore impede or prevent American exports to that market, Section 7 may apply to all transactions affecting United States exports. 4/

1/ 148 F. 2d 416 (2d Cir. 1945).
2/ 15 U.S.C. 18.
3/ 15 U.S.C. 12.
4/ Scott and Yablonski, Transnational Mergers and Joint Ventures Affecting American Exports. 14 Antitrust Bull. 1 at 12 (1969).

The language in Section 7 which restricts its application to combinations of "corporation[s] engaged in commerce" does not exclude foreign mergers. Even potential competition of an American firm may be "engaged in commerce" within the meaning of Clayton. 1/

Some commentators note that Section 7 cannot be applied to govern business practices in foreign jurisdictions:

> It thus appears . . . that Section 7 cannot be extended extraterritorially into foreign markets to regulate competition in those markets under the guise of regulating the production of goods in this country. 2/

The contrary argument--and one which would seem to accord with the trend in antitrust enforcement--would find that Congress intended in Clayton to stem the tide of concentration and oligopoly; Therefore, Clayton could be applied to enforce a United States public policy of promoting greater competition in a foreign market if the proscribed activities were found to produce anticompetitive effects within the United States.

Section 5 of the Federal Trade Commission act supplements the power of Section 7 of Clayton. Section 4 of the Webb-Pomerene Act applies the provisions of section 5 to "unfair methods of competition used in export trade against competitors engaged in export trade even though the acts . . . are done without the territorial jurisdiction of the United States." 3/ The Supreme Court has granted the Federal Trade Commission broad discretion in the application of Section 5, 4/ and it

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1/ Id. at 13.

2/ Donovan, The Legality of Acquisitions and Mergers Involving American and Foreign Corporations Under the United States Antitrust Laws, 40 So. Calif. L. Rev. 38, 111 (1967).

3/ 15 U.S.C. 64.

4/ Atlantic Refining Co. v. F.T.C., 381 U.S. 357 (1965); FTC v. Colgate-Palmolive Co., 380 U.S. 374 (1965).

can thus be invoked in the case of an acquisition which would eliminate only potential competition.

Recent developments in U.S. antitrust regulation

Although foreign businessmen considering investments in the United States have in the past expressed fear about the risk that, if they do enter the American marketplace, they may expose their entire worldwide operations to the jurisdiction of American courts--that fear may prove to be unreasonable.

The Supreme Court has repeatedly stated that only those activities abroad which directly and substantially affect U.S. foreign commerce come within U.S. courts' jurisdiction under the antitrust laws. 1/ Mere "presence" of the foreign corporation inside the United States will not subject its overseas operations to U.S. regulation in the absence of this effect on U.S. commerce.

A former Assistant Attorney General and head of the Antitrust Division has sought to reassure foreign firms contemplating U.S. investments with the following language:

> Doing business in the United States does, of course, contemplate acceptance by foreign firms of our basic national policy of competition, and of the scheme of antitrust enforcement which is designed to translate that policy into reality in the marketplace. This fact, however, should not trouble the foreign businessman who is thinking about entering, or investing in, the United States market. He can hardly expect better treatment than domestic firms; Antitrust promises that he will receive no worse. Exclusionary or discriminatory business practices directed against foreign firms will be given no better treatment at the Antitrust Division or the Federal Trade Commission than when a United States firm is the victim.

1/ Fugate, Antitrust Aspects of Transatlantic Investment. Law and Contemporary Problems, vol. XXXIV, no. 1 at 143 (1969).

> By the same token, the American economy realizes substantial benefits--in the way of vigorous new competition, new products, new technology--which foreign and multinational firms are thereby enabled to offer. If we are honest with ourselves, we must admit the need therefor--in a number of sectors of the economy. 1/

International interest in coordinating the anticompetitive regulations of different nations has existed since the 1930's. Conferences and proposals have resulted from this common interest in preventing conflicts of national laws in the antitrust arena such as occurred in the celebrated ICI-BNS cases 2/ in the early 1950's.

In ICI, the United States Federal Court, in the Southern District of New York, ordered Imperial Chemical to re-transfer British patents to DuPont for licensing. The British Court refused to carry out this order. Thus, an American court ordered an act on British soil which conflicted with British law, and the British accordingly refused to extend comity to part of the American decree.

International efforts to prevent future conflicts have resulted in several significant procedures. The Organization for Economic Cooperation and Development (OECD) is a treaty organization made up of 19 European countries, Canada, Japan, and the United States. In 1967, the OECD council recommended areas for international cooperation in antitrust problems. 3/ This OECD recommendation focused on three areas:

(1) Advance notification of actions to be taken by one country under its antitrust laws which could affect the interests of another country,

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1/ Address by Richard W. McLaren Before the National Industrial Conference Board, Inc., March 5, 1970.

2/ U.S. v. Imperial Chemical Industries, Ltd., 100 F. Supp. 504 (S.D.N.Y. 1951), 105 F. Supp. 215 (S.D.N.Y. 1951); British Nylon Spinners, Ltd. v. Imperial Chemical Industries, Ltd., 2 All E.R. 780, (1952), final judgment, 3 All E.R. 88 (1954).

3/ OECD Doc. c (67) 53 final of October 10, 1967.

(2) coordination of enforcement policies of national states, and (3) exchange of information on restrictive business practices to the extent permissible under national law. These recommendations are a first step toward a comprehensive system of international cooperation.

The OECD also maintains a restrictive Business Practices Committee which operates as an arena for antitrust discussion and consultation among the officials of member countries. The committee meets biannually with more frequent subcommittee meetings. It is generally made up of national government officials in the field of restrictive business practices. American representatives have included officials of the Departments of Justice, State, and Commerce, and the Federal Trade Commission.

The United States has attempted to ameliorate potential conflicts of sovereignty resulting from the extraterritorial application of its antitrust laws in a number of bilateral agreements. Since 1950, the United States has negotiated a number of treaties of Friendship, Commerce and Navigation which contain a restrictive business practices clause. These treaties are presently in force with Denmark, France, Germany, Greece, Ireland, Israel, Italy, Japan, Korea, Nicaragua, and Pakistan. Wording of these clauses follows this general scheme:

> The two High Contracting Parties agree that business practices which restrain competition, limit access to markets or foster monopolistic control, and which are engaged in or made effective by one or more private or public commercial enterprises or by combination, agreement or other agreement among public or private commercial enterprises may have harmful effects upon the commerce between their respective territories. Accordingly, each High Contracting Party agrees upon the request of the other High Contracting Party to consult with respect to any such practices and to

take such measures as it deems appropriate with a view to eliminating such harmful effects. 1/

The United States has had a consultation procedure with the Canadian government since the early 1960's. This "Antitrust Notification and Consultation Procedure" is an informal arrangement which resulted from discussions between then Attorney General Rogers and Canadian Minister of Justice Fulton, and which was brought up to date by a 1969 meeting between then Attorney General Mitchell and Canadian Minister of Consumer and Corporate Affairs Basford. 2/ This agreement provides that each country, in enforcing its own antitrust (U.S.) or anticombines (Canada) laws, will consult the other when interests of the other country will be potentially affected by such enforcement. These consultations explore means of avoiding situations which could precipitate misunderstanding or objections in the other country. It is the opinion of antitrust experts that this procedure has worked very well. 3/

The Departments of Justice and State have an informal interagency consultation procedure in which officials of the two agencies discuss proposed antitrust action among themselves and often with foreign country representatives. U.S. government representatives maintain contacts with officials of the Commission of the European Communities through visits between Brussels and Washington.

The antitrust policies of the United States are the widest-ranging, most comprehensive, and date from an earlier time than do the policies

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1/ Treaty with Italy, Feb. 2, 1948, Art XVIII, par. 3, 63 Stat. 2255, T.I.A.S. No. 1965 (effective July 26, 1949).

2/ Department of Justice Press Release of November 3, 1969.

3/ Fugate, Panel Discussion on Recent Antitrust Developments and Their Impact on International Trade, 93rd Annual Meeting of the American Bar Association, St. Louis, Missouri, August 10, 1970.

of any of the other industrialized nations. In considering the U.S. scheme of regulating restrictive business practices in the context of the multinational corporation, a Briton has commented:

> The U.S. has the most effective anti-trust record in the world. A similarly militant body would benefit many countries. But for firms actually entering the U.S. market, what matters is how liberally the U.S. authorities interpret the doctrine of "potential competition" and how generously they allow such firms to get a foothold in a market before applying the full weight of the anti-trust provisions. Otherwise, the main problem is still going to revolve around "extra-territoriality". Increasingly, governments will not accept the right of another nation's anti-trust authorities who, in this case, are the only people likely to make the sort of tough decisions that matter. All one can hope is that any move toward an international anti-trust authority will be heavily influenced by the U.S. ethos. 1/

Restrictive business practices policy in the European Communities

The European Economic Community was born out of the Treaty of Rome in 1957. 2/ From its early stages as a loose coalition of national sovereignties it has expanded (now merged with the ECSC and Euratom in the combined European Communities (EC)) and grown more cohesive so that today the EC represents an economic superpower. If present trends continue as expected, the EC is certain to grow more united economically and politically. Accordingly, community laws regulating business practices may rapidly gain preeminence over national laws as businesses transcend national boundaries and the wholly European conglomerate develops. This section will examine the restrictive business practices regulations of the EC, and will touch on their conflict with the regulations of the member states.

1/ L. Turner, Invisible Empires: Multinational Companies and the Modern World, 1970.

2/ 298 U.N.T.S. 14, CCH Comm. Mkt. Rep. Par. 114.

At present, a dual system of national and community antitrust law exists. Each member nation maintains its own set of interior regulations, while anticompetitive acts between member states are, at least in theory, governed by provisions of the Treaty of Rome.

An important predecessor of the Treaty of Rome is the European Coal and Steel Community (ECSC) Treaty which was signed in 1952. 1/ The Rome Treaty drafters desired to preserve the ECSC and accordingly provided that the new EEC would not infringe the jurisdiction of the ECSC. 2/ As is evident by its title, the ECSC Treaty purports to regulate only the relatively narrow field of coal and steel production within the European Community.

Article 4 of the ECSC Treaty contains a general prohibition on discriminatory practices, import and export duties, and state aids. Articles 60 and 65 contain the provisions regulating competition and competitive practices.

Article 60 is similar to antitrust provisions of United States law. It prohibits: (1) price reductions for temporary periods or within local areas when the purpose of such practices is to gain a monopoly within the common market and, (2) the application of unequal terms of sale in comparable transactions. All settlers of coal and steel are required to publish current price lists. Basing points selection is permitted so long as the selection does not result in unrealistic and distorted pricing practices.

1/ 261 U.N.T.S. 140.
2/ Art. 232, Treaty of Rome.

Article 65(1) prohibits all agreements and concerted practices which tend, either directly or indirectly, to prevent, restrict or distort the normal operation of competition within the Common Market.

Far more important than the ECSC provisions, are the restrictive business practices regulations embodied in Articles 85 and 86 of the Rome Treaty. Like the U.S. antitrust laws, these articles apply to the areas of restrictive practices, discrimination, and market domination.

Article 85(1) prohibits restrictive agreements, decisions, and concerted practices. Article 85(2) declares that restrictive agreements are automatically null and void. Under Article 85, three requirements must be satisfied before a seller's actions are considered illegal: 1/

1. there must be an agreement between enterprises on concerted practices, and
2. the agreement or practice must be likely to affect trade between the member states, and
3. the agreement or practice must have as its object the prevention, restriction or distortion of trade within the Common Market.

Article 86 prohibits the exploitation of a dominant position within the Common Market or a substantial part thereof. Actions by an enterprise in an attempt "to take improper advantage of a dominant position within the Common Market or within a substantial part of it shall be deemed to be incompatible with the Common Market and shall hereby be prohibited." 2/ It is noteworthy that under Article 86, no agreement or conspiracy between the dominant firm and another firm is necessary. An individual enterprise may be subject to Article 86 sanctions if its actions violate the Treaty.

1/ Bagnell, International Incompatibility, 29 U. of Pitt. Law Review 599, at 600. (1968).

2/ Art. 86, Treaty of Rome.

The EC Commission is the antitrust governing body of the Common Market and its powers are enumerated in the Treaties and in regulations issued by the Council and the Commission. 1/ The Council and the Commission are composed of representatives of member states, as is an advisory committee of experts dealing with antitrust matters. Judicial review of the treaties, regulations, and powers of the council and commission is provided by the Court of Justice of the European Community.

Firms which plan to enter into agreements must notify the Commission in advance. The Commission has power to amend, approve, or nullify such proposed agreements. Restrictive agreements may be exempted from antitrust regulations if there is a commission finding pursuant to Article 85(3) that such agreements contribute to improving production or distribution of goods or to promoting technical or economic progress. 2/

The antitrust laws of the European Community are designed to regulate restrictive practices which may affect trade between member states. Each member national state also has its own antitrust laws which protect the national economy and the public interest of the state. Generally, the member states incorporate Community antitrust law in their national statutes. The Commission retains plenary power, however, to exempt restrictive practices under Article 85(3) and to impose penalties and fines for violation of Community law.

A succinct sketch of this two-tiered antitrust system has been given by a recent article:

1/ Arts. 87 and 89, ICCH Comm. Mkt. Rep. Par. 2201 and 2301.
2/ Regulation 17/62, ICCH Comm. Mkt. Rep. Par. 2461 *et seq*. (1967).

> Community antitrust law is distinct from the antitrust laws of the member states not only because the sovereignty of each member state is only to a small extent merged into the economic community, but because the interest protected is different. The protection of national trade necessarily gives rise to a distinct group of antitrust violations and penalties, and requires that exemptions therefrom be granted or denied according to the national interest. On the other hand, the protection of community trade dictates separate violations and penalties directed at arrangements that affect or are likely to affect trade between member states. The discretion to punish or exempt business conduct under these laws must therefore respond to the somewhat broader interests of the entire Community. It is conceivable that a particular export arrangement would be exempted from the antitrust provisions of a member state but fall within the antitrust proscriptions of the Community. 1/

As has been noted above, the Commission has exclusive jurisdiction to impose fines and penalties for violations of Community antitrust law. The Commission and national courts have concurrent jurisdiction to nullify or approve restrictive agreements. Decisions are reached at the national or Community level by interpreting Article 85 which is a part of both Community and national law. It is also possible that parallel jurisdiction of the national and Community authorities may exist so that the same restrictive practice may be punished on both levels.

It has been held by the Court of Justice that (1) in cases of conflict between Community and national rules on competition, the Community rules prevail, and (2) in case of conflict between national decisions and a Commission decision concerning a restrictive practice, national authorities must respect the decision of the Commission. 2/

1/ Zaphirou, Rule of Reason and Double Jeopardy in European Antitrust Law, 6 Texas International Law Forum 1, at 3. (1970).

2/ Wilhelm v. Bundeskartellamt, Recueil de la Jurisprudence de la Cour 1, 2 CCH Comm. Mkt. Rep. Par. 8056 (1969).

The issue of jurisdictional conflicts between EC and member states in the antitrust field is of critical importance due to the differences in philosophies and enforcement. Of the original six members, the French and German antitrust laws are the most similar to the EC rules. They employ the same basic approach of prohibition of restrictive agreements with exemptions in particular cases and of supervision of abuses of market dominating enterprises. German antitrust law is most similar to that of the United States and German antitrust authorities are especially vigilant and well-staffed. This situation is of course due to post-war anti-cartel policy fostered by the allied occupation out of a desire to prevent the types of abuses inherent in an over-centralized economy which had produced such notorious cartels as the Krupp and I.G. Farben empires.

Even with France and Germany, there are differences between national antitrust laws and those of the EC. These lie primarily in the areas of interpretation of general legal terms, appreciation of economic situations and extent of enforcement. Belguim and the Netherlands, on the other hand, generally do not prohibit restrictive agreements, but merely subject them to control of abuses. Thus, an agreement is valid until the antitrust authorities take action. Italy has practically no national antitrust law, and the antitrust rules of Luxemburg are limited to prohibition of resale price maintenance and of refusals to sell and discriminatory practices engaged in for the purpose of avoiding this prohibition. 1/

1/ Markert, The Dyestuff Case: A Contribution to the Relationship Between the Antitrust Laws of the European Economic Community and its Member States, 14 Antitrust Bulletin 869 at 870-71. (1969).

Significant Commission decisions under article 85 include the Dyestuff Case of 1968. 1/ There, the European Court of Justice was referred the case from the Berlin Court of Appeals after the German Federal Cartel Office had fired four German dyestuff manufacturers (Badische Anilin, Farben Fabriken Bayer, Farbwerke Hoechst, and Casella Farbwerke Mainkur) for illegal price fixing under Section 1 and 38 of the German antitrust statute. The Court approved the theory that a restrictive business practice could properly be the subject of proceedings both at the national and community levels. It noted that,

> . . . the same cartel may, in principle, be the subject of two parallel proceedings, one before the Community authorities under Article 85 of the EEC Treaty, and the other before the national authorities under internal law. 2/

Consten and Grundig v. Commission of the European Economic Community 3/ in 1966 concerned agreements between suppliers and their outlets. In Grundig, a German TV and radio manufacturer had granted an exclusive distributorship to Consten, and French distributors were thereby precluded from imported Grundig equipment from other Common Market countries. The Commission held that the agreement was unlawful under 85(1) and was not subject to exemption under 85(3). The Court of Justice affirmed. Grundig has been interpreted as standing for the proposition that provisions in distribution agreements which prohibit parallel imports are unlawful per se under Article 85(1) if they are intended to maintain separate national markets within the Community for a widely distributed brand of products. 4/

1/ CCH Comm. Mkt. Rep. § 8056.
2/ Id. at p. 7866.
3/ CCH Comm. Mkt. Rep. § 2473, § 8046.
4/ Kelleher, The Common Market Antitrust Laws: The First Ten Years, 12 Antitrust Bulletin 1219 (1967).

Perhaps the ost significant development in recent years the emergence of Article 86 as the vehicle by which mergers and acquisitions are to be controlled. In 1966, the Commission issued a momorandum which stated that increased combinations of European firms in the Common Market was a desirable objective in order to permit European business to meet the competition of large third-country enterprises such as the American and Japanese multinational firms. 1/ Article 86 was accordingly promoted as the most effective means of permitting combinations to achieve "dominant positions" by European firms while curbing mergers which had a flagrantly anti-competitive effect. The Commission memorandum notes that:

> the closer an enterprise occupying a dominant position comes to creating a monopoly through mergers with or absorption of other enterprises, and the more it thus jeopardizes the purchasers', suppliers' and ultimate consumers' freedom of choice, the more likely it is that it thereby enters the sphere of improper exploitation. 2/

Article 86 has recently been applied by the Commission in the Continental Can case of December, 1971. 3/ In its decision, the Commission found that Continental Can Company of New York had abused a dominant market position (in food packaging products) by its acquisition through its subsidiary Europemballage Corporation of controlling interest in the Dutch firm of Thomassen Drijver-Verblifa, NV, of Deventer, Holland (TDV).

1/ Id. at p. 1251.
2/ CCH Comm. Mkt. Rep., No. 26, March 17, 1966 at Par. 66.
3/ Continental Can Co., IV/612/71-E, December 9, 1971. (unofficial English Translation

Continental is the sole shareholder of Europemballage Corporation, which in turn holds 85 percent of the share capital of Schmalbach-Lubeca-Werke AG (SLW). Continental holds through SLW a dominant position in the German market in light containers for tinned meat products, light containers for canned seafood, and metal closures for the food packing industry. As the German market constitutes a substantial part of the Common Market, the Commission concluded that Continental holds a dominant position in a substantial part of the Common Market.

The Commission noted at p. 30 that:

> . . . it is imcompatible with Article 86 of the Treaty for an enterprise in a dominant position to reinforce that position by combining with another enterprise, and so virtually eliminating in respect of the products concerned the competition which would otherwise have been present, potentially or actually, and despite the initial dominant position, throughout a substantial part of the common market; . . . the acquisition by Continental of the competing enterprise, TDV, which itself holds a strong position in a market adjoining the German market, is an industrial operation leading to an irreversible change in the supply structure in a substantial part of the common market.

The Commission decision stated that Continental shall terminate the infringement of Article 86 and Continental was accordingly required to sumit proposals to the Commission before July 1, 1972.

The ramifications of this decision are difficult to assess at this point. With <u>Continental Can</u> as precedent, it is possible that Article 86 will now be frequently employed to prevent corporate concentration through mergers and acquisitions in the same manner in which Section 7 of the Clayton Act is applied in the United States. On the other hand, Query, What would have been the Commission decision had Continental Can been a European enterprise given the

aforementioned Commission encouragement of combinations of European firms?

The difference between the philosophies of competition in the EC and in the United States can be illustrated by the procedural differences in determining the illegality of business practices. In the United States, if an act falls within one of the prohibitions of one of the antitrust laws, it is voided. The Common Market, however, utilizes a two step approach. First, the act or agreement is examined to determine if it violates the provisions of the Treaty of Rome or the ECSC Treaty. If a violation is found, the act is then examined to see if it qualifies for an exemption under one of the treaties. Thus, even though a restrictive business practice may violate treaty provisions, it may still be permitted if it can be seen to stimulate the general economy and strengthen the competitive position of the member states.

While increased efficiency is not a defense to an agreement or merger violative of United States antitrust laws, Article 85(3) of the Rome Treaty does provide such a defense. It has been stated that, "The main part of the exemptions is, of course, the basic provision that the agreement or practice must improve the production or distribution or promote technical or economic progress." 1/

This difference in competitive philosophy between the United States and the EC can be explained by examining the two industrial systems. The United States antitrust philosophy stems from the

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1/ Mussard, The Regulation of Restrictive Business Practices under the Common Market Treaty, Int'l Comp. L.Q., Supp. Publication #4 (1962), p. 21.

late nineteenth century when "big business" was denounced as detrimental to a laissezfaire economy. The American approach to antitrust has been to view "business" with a jaundiced eye in an effort to preserve the ever dwindling numbers of small enterprises, United States antitrust laws have been said to owe their origin,

> largely to political pressures of an agrarian and radical flavour: and there is little doubt that in more recent times antitrust has been an outlet for powerful currents of "anti-big business" radicalism growing out of the years of depression. 1/

In contrast, the EC remains today a relatively loose coalition of national states whose economies are sought to be integrated as rapidly as possible. In order to encourage rapid integration while preventing harmful abuses, a dual system has been developed. Thus, restrictive practices which harmfully affect the market are prohibited while those which benefit the economy are permitted and encouraged. 2/

The European businessman has an apparent advantage over his American counterpart in choosing his methods of sale and distribution as long as he can show that the restrictive practices engaged in will have the effects of increased efficiency and benefit to the economy. Decisions permitting certain restrictive practices to exist may be a political rather than a strictly judicial nature. 3/ The European approach remains one of encouraging the growth of European industry to creat rivals for the third-country industrial might of the United States and Japan.

1/ Neale, The Antitrust Laws of the U.S.A., (1962), at 1.
2/ Riske, Antitrust Philosophy of the Common Market - Restraint or Prohibition, 17 De Paul Law Review 144, (1967), at 149.
3/ Note 4, supra, at 612.

Japanese antimonopoly legislation

In order to appreciate the present Japanese approach to antitrust regulation, it is necessary to examine pre-World War II cartel growth and post-war regulations.

Capitalism in Japan can be traced from the Meiji Restoration of 1868 which replaced the government of the feudal Tokugawa Shogunate. About 1880 the first cartels began to develop with the Spinning and Paper Manufacturing federations. This same period witnessed the growth of the Zaibatsu (large conglomerate combines controlled by families). After World War I, the Japanese government enacted legislation to encourage the growth of monopolies in order to utilize them for the control and regulation of industrial development. During World War II cartels in both large and small enterprises were transformed into controlled governmental organizations established by the Important Industries Organization Ordinance of 1941.

The large Zaibatsu family organizations date back to the Seventeenth and Eighteenth centuries. In the typical Zaibatsu, a holding company controlled its diversified subsidiaries through means of property rights, the right to appoint directors, interlocking directorates, contracts, and credits. Zaibatsu controlled banks controlled finance through the Banking acts of 1922 and 1927 which concentrated finance through restricting the minimum capital of banks.

The 1930's witnessed the decline of small enterprises through Zaibatsu acquisition, and the development of cartels in the industries of pig iron, steel products, coal, copper, paper, cement, and flour.

Zaibatsu growth, favored by government control, continued unchecked through World War II. The following statistics illustrate the extreme concentration of Japanese industry at the end of World War II: The ratio of the aggregate paid-in capital of only four cartels (Mitsue, Mitsubshi, Sumitomo, and Yasuda) to that of all companies in Japan was 24.5 percent in all industries, 49.7 percent in finance, 32.4 percent in heavy industries, 10.7 percent in light industry, and 60,8 percent in the marine transportation industry. Further, these four Zaibatsu controlled 80 percent of total Japanese private investment abroad. 1/

The allied occupation of Japan after World War II marks the beginning of the present period of Japanese anti-monopoly legislation. The President of the United States in a directive of September 6, 1945, declared it national policy to favor a program of dissolution of the industrial and banking cartels which had dominated Japanese trade and industry. A special mission of 1946 recognized that government-backed Zaibatsu had been responsible for organized support of military aggression and accordingly recommended destruction of Zaibatsu organizations and diffusion of economic control. 2/

In 1945, an allied order concerning "Dissolution of Holding Companies" was promulgated. This directive required the enactment of

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1/ Edwards, The Dissolution of Zaibatsu Continues, Pacific Affairs, Vol. 19, No. 3, Sept. 1946.

2/ Fair Trade Commission Annual Report for 1947, p. 2.

such laws as would eliminate and prevent monopoly and restraint of trade, unreasonable interlocking directorates, and undesirable intercorporate security ownership; assure the segregation of banking from commerce, industry and agriculture; and provide equal opportunity to firms and individuals to compete in industry, commerce, finance, and agriculture and a democratic basis. 3/

Pursuant to this directive, the Japanese Ministry of International Trade and Industry (MITI) drafted a bill which was eventually promulgated on April 12, 1947, as "Act Concerning Prohibition of Private Monopoly and Maintenance of Fair Trade". This Act, as amended, is the present Japanese anti-monopoly legislation.

The Act attempts to maintain a free market economy through the following provisions:

1.--Prohibition of Private Monopolies (Section 3), 2.--Prohibition of unreasonable restraint of trade (Section 3), 3.--Prohibition of unfair methods of competition, 4.--Prohibition of concerted activities influencing competition (Section 4), 5.--Prohibition of formation of private control organizations (Section 5), 6.--Prior approval system and Restriction on international agreements (Section 6), 7.--Restriction on undue substantial disparity in economic power that cannot be justified for technical reasons (Section 8), 8.--Prohibition of formation of stockholding companies (Section 9), 9.--General prohibition of intercorporate stockholding by non-financial companies

3/ Supreme Commander Allied Powers, Directive No. 244, Nov. 6, 1945.

Various other laws exempting certain industries from the impact of the Anti-monopoly Act were enacted after 1951. Generally these exemption laws permitted three types of cartels: 1.--cartels to prevent excessive competition among smaller enterprises, 2.--cartels for export and import industries, and 3.--cartels for special rationalization. 5/

The number of cartels exempted from the regulation of the Anti-monopoly Act has grown rapidly since 1952. As of the end of March 1968, there were 1,010 exempted cartels. The rate of cartelization is highest in the area of textile products (78.1%). Next follows the apparel industry (64.8%), metal products excluding iron and steel (50.8%), publishing and printing (47%), ceramics (41.2%), and iron and steel (34.5%). 6/

From 1952 to 1962 anti-monopoly restrictions were relaxed and enforcement activities were correspondingly curtailed so that in 1960 only one case was reported to the Fair Trade Commission. Cases were reported in the cartel area in the fields of soy sauce, automobile tires, synthetic fibers, yeast, petroleum, methanol, formalin, soda ash, household electrical appliances, board paper, and cameras.

Since 1962, government policy increasingly has stressed consumer protection and aimed at curbing inflation. This policy has resulted in a growing number of anticartel cases. In 1962 actions were brought against price cartels in the fields of rubber slippers, vinyl chloride,

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5/ Note 4, supra, at p. 17.
6/ Note 4, supra, at p. 133.

(Section 10), 10.--General restriction on holding stocks by financial companies in excess of 5 percent of other company's stock (Section 11), 11.--Restriction on debenture holding by companies in excess of 25 percent of other company's stock (Section 12), 12.--Prohibitions on interlocking directorates among companies in competitive relation, and holding position of directors in five or more companies (Section 13), 13.--Prior approval system and restrictions on merger or transfer of business (Section 15 and 16). 4/

The Act provided administrative measures and penalties in order to eliminate unlawful activities. No penalties, however, were provided for unfair business practices. The Fair Trade Commission (FTC) was established as the body competent to enforce the Act. It is a quasi-judicial agency which exercises its powers independently from the Cabinet.

Although the original Anti-monopoly Act embodies a comprehensive policy of cartel control, its standards soon began to be relaxed by various exemptions. A 1949 amendment was permitted in order to facilitate easier introduction of foreign capital into Japan to aid in economic reconstruction; it lessened the severity of the prohibitions against holding companies and interlocking directorates.

After the conclusion of the Peace Treaty in 1951, a 1953 a endment was passed which substantially eroded the standards of the Anti-monopoly Act. This amendment relaxed the prohibitions and restrictions, and authorized the formation of depression and rationalization cartels.

4/ H. Iyori, Anti-monopoly Legislation in Japan, 1969) at pp. 14-15.

corrugated plates, and laundry; in 1963 against cartels in calendars, board paper, sodium cyanide, aluminum wares, corrugated cardboard and corrugated slate plate. Since 1966, cases have arisen concerning resale price maintenance on powdered milk, microscopes, household electrical appliances, and soft drinks.

FTC decisions are appealed to the Tokyo High Court and then to the Japanese Supreme Court. The Tokyo High Court had decided eight major cases as of 1968 of which two were further appealed to the Supreme Court and dismissed. 7/

In assessing the successes or failures of the Japanese system of regulation of restrictive business practices it is necessary to point out that the Japanese have no tradition of prohibition of monopolies as has the United States. One Japanese expert has noted:

> The Anti-monopoly Act of Japan was modeled after the U.S. antitrust laws which belong to Anglo-American jurisprudence developed from common law. Therefore, because of the mixture of the above two jurisprudences, it was difficult for the Japanese to comprehend the law of common law background with the civil law concept of Japan. The terms in the Act such as 'public interest', 'substantial', 'competition', for example, are brand new legal terms which cannot be found in any Japanese legislation before World War II. 8/

Divergent views exist as to the effectiveness of the Japanese approach. One school of thought would find that the present law

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7/ Toko Co. v. FTC (1951, Osaka General Foods v. FTC (1951), Asahi Newspaper Co. v. FTC(1953), Japan Publication Association v. FTC (1953), Toko Co. and another v. FTC (1953), Hokkaido Newspaper v. FTC (1954), Nippon Oil Co. v. FTC (1957), Noda Soy Sauce Co. v. FTC (1957).

8/ Michiko Ariga, Commissioner of Japanese Fair Trade Commission, in a Foreword to Iyori, Anti-monopoly Legislation in Japan (1969), at p. vi.

restricts economic growth excessively with the result of intensifying competition and of preventing Japanese industry from developing effective international competition. A second school of thought holds that the amendments and exemptions to the Anti-monopoly Act have subverted the Act's original purposes and have encouraged cartel growth. This latter approach would seem to best accord with the facts of the phenomenal growth of post-war Japanese industry and its rapid expansion into third-country markets.

Dr. Corwin Edwards, who led the State Department Zaibatsu group in Japan in 1946, has stated:

> The Anti-monopoly Act as it was initially enacted was maybe too idealistic and tended to be too strict for the Japanese people who were not accustomed to this kind of legislation. The relaxation of the Act was considered necessary to some extend in this sense, but the relaxation of the Act went too far. Those who insist on the relaxation point out the existence of the excessive competition as a reason to justify the relaxation, but so far as has been judged from any indication, the competition in Japan is almost the same as it is in the United States, and no particular excessive competition is considered to be in existence. 9/

Similarly, the U.S. Senate has heard testimony stating that:

> The remarkable economic development in Japan after the War tells the fact that the anti-monopoly policy served a great deal for the development of the Japanese economy. The anti-monopoly policy has come to be well recognized and well supported in general, but it is noted that the government still plays a leading role in developing combination and cartelization and thus leading Japan backward to return to the pattern of the past, not in the direction that other advanced nations head to. 10/

9/ Edwards,"Protection for the Anti-monopoly Policy," Sekai, October 1959 issue.

10/ E.M. Hadley, Testimony before the U.S. Senate Antitrust Subcommittee, U.S. Senate, Foreign Trade and Antitrust Laws, Hearing Part 1, 1964, pp. 147-161.

It would accordingly appear that although Japan has certainly not returned to a pre-war Zaibatsu-dominated economy, the present anti-monopoly legislation does permit cartelization development to a far greater extent than is permitted under U.S. antitrust laws.

Restrictive business practices control in Great Britain

The first important British regulation of restrictive business practices was the establishment of Monopolies Commission in 1948. The Commission was empowered to make investigations and reports to the Board of Trade in both the domestic and export trade fields. The Commission's function concerned investigations into activities or agreements of domestic firms which controlled one third or more of the supply of certain kinds of products. Commission recommendations often resulted in Board of Trade orders which prohibited refusals to sell, tying arrangements, or discrimination in supplies, orders, or services.

In 1956, a new statute evolved--The Restrictive Trade Practices Act of 1956. The 1948 law was retained to cover export practices and to monitor the activities of large firms.

The 1956 Act is a comprehensive approach to the regulation of monopolies and restrictive business practices. It is divided into three parts:

Part I provides for the registration and judicial investigation of industrial agreements. The Act created an Office of the Registrar of Restrictive Trading Agreements, and established a Restrictive Practices Court consisting of judges and individuals with a background in industry, commerce, or public affairs.

Part II of the Act concerns Resales Price Maintenance. This part of the Act was intended to do away with collective boycotts through prohibition of the collective enforcement of resale prices. The power of an individual supplier to maintain the resale prices of his products, however, was extended.

Part III amended the constitution and functions of the Monopolies Commission. The Commission now deals with situations in which one firm or group of firms controls one third or more of a market, and with restrictive agreements relating exclusively to exports. These export agreements are registerable with the Board of Trade and can then be referred to the Commission for investigation. 1/

The 1956 Act provides for public registration of domestic restrictive agreements cocerning goods. This registration system has no application to patent and trade-work agreements, exchanges of unpatented technical developments, legally approved nationalization schemes, some types of buyer-seller vertical agreements, or export or overseas trade agreements. As noted above, export agreements are reported to the Board of Trade and may be the subject of investigation by the Monopolies Commission to determine if the agreement is contrary to the public interest.

1/ Heathcote-Williams, The Law of Restrictive Trade Practices and Monopolies (1956), at p. vii.

Once a restrictive agreement is registered, a rebuttable presumption arises that it is contrary to the public interest. These agreements may be challenged by the Registrar before a special court. In order to rebut the presumption, the agreeing parties must demonstrate that the agreements are reasonably necessary to furnish benefits specified in the law, and that the benefits outweigh the possible harmful effects flowing from the restrictive practice. These benefits are: 1.--Protection of persons or property against physical injury, 2.--Specific and substantial benefits to users, 3.--That the restrictive agreement has for its purpose to counter a restrictive agreement used by others, 4.--That the restrictive agreement is to aid in negotiation of fair terms with a monopoly or dominant combination, 5.--Prevention of serious and persistent adverse effects on industrial employment levels, 6.--Prevention of a substantial reduction in the trades export business, and 7.--Supplementation of a restriction that is not contrary to the public interest.

When an agreement is found to be contrary to the public interest, the court may hold it invalid. The general practice has been to accept a type of consent decree whereby the parties agree to cease the restrictive arrangement. If such agreement to cease is not honored, the court may impose fines for contempt. In one such case, galvanized tank manufacturers were fined more than 100,000 pounds. 1/

1/ London Times, June 22, 1965.

By the middle of 1965, the Court had made decisions in thirty-two cases of restrictions. In twenty-one of the cases, all restrictions were invalidated, in seven of the cases, the court approved the restrictive agreements, and the court accepted some parts of the restrictive agreements in the balance of the cases. Reasons for approval of restrictive agreements varied from the fact that the Court felt the restrictions aided in controlling cost and price inflation in some cases, to a feeling that export trade was facilitated in others.

The success of the 1956 Act can be measured by the fact that at the end of 1964, 1,635 restrictive agreements had either been terminated by the parties or had been modified to eliminate the restrictions.

In 1964 a new law was enacted pursuant to a Board of Trade Study which made resale price maintenance illegal and provided for public and private civil actions against violators. Again, the Court was permitted to exempt certain resale price maintenance schemes where the benefit of the scheme outweighs the detriments. Factors to be considered concerning benefits are the need to preserve quality, to protect health, preserve necessary services, preserve retail establishments needed by consumers, or to avert price increases. Many resale price maintenance programs are able to remain temporarily valid because the prohibition against them is not applicable pending an application for an exemption.

A 1965 law was designed to prevent monopolies through regulation of mergers between large enterprises. The Board of Trade may now refer to the Monopolies Commission for investigation of any merger or acquisition which exceeds five million pounds in value of firms or which results in the control of more than thirty percent of the supply of any particular kind of goods. Mergers can be held in abeyance pending completion of the Commission report. If such mergers are found to be contrary to the public interest, they may be forbidden.

The 1965 Act also extended the coverage of the Monopolies Act to the services area. The Monopolies Commission may now issue orders preventing price discrimination, requiring publication of price lists, and preventing deviation from published prices, and orders which require divestiture or dissolution. 1/

British antitrust law is today a comprehesive program of corporate regulation and consumer protection. The registration system demonstrates that some restrictive business practices may be tolerated where a furtherance of the public interest can be found. Upon full membership in the European Communities, Great Britain will of course be bound by the Treaty of Rome and its antitrust provisions as found in Articles 85 and 86. The date for adoption of the Rome Treaty hinges on the date for Britain's full membership in the EC and is not yet certain.

1/ Above summary from Edwards, Control of Cartels and Monopolies (1967), at pp. 365-368

Canadian antitrust law

The first Canadian statute dealing with restrictive business practices and monopolies was passed by Parliament in 1889. The present Canadian antitrust legislation is the Combines Investigation Act, Chapter 314, Revised Statutes of Canada, 1952, as amended, Antitrust in Canada also was originally regulated under criminal provisions found in sections 409 through 412 of the Criminal Code of Canada, Statutes of Canada, Chapter 51.

Under the 1952 Act, a Director of Investigation and Research makes investigations which are included in a "statement of evidence". A Restrictive Trade Practices Commission then holds hearing on this evidence and reports to the Minister of Justice The investigations concern alleged conspiracies between combines and general inquiries into conditions or practices related to monopolistic situations or restaints of trade.

Until 1960, the offenses of conspiracy and price discrimination were found in Sections 411 and 412 of the Criminal Code. In 1960, Sections 411, 412, and 416 of the Criminal Code were transferred to the Combines Investigation Act. The Attorney General of Canada now may institute and conduet prosecutions under th Combines Investigation Act. The 1960 statute placed authority and responsibility for inquiries and reports by the Director of Investigation and the Restrictive Trade Practices Commission on the Minister of Consumer and Corporate Affairs. The Attorney General then controls evidence and prosecutions and has sole responsibility for enforcement by proceedings before the Exchequer Court.

Under the Combines Investigation Act, the Director of Investigation and Research begins the inquiry upon receipt of an informal complaint. If the investigation results in a finding of a violation, the findings are embodied in a statement of evidence which is presented before a hearing of the Restrictive Trade Practices Commission. The Commission then writes a report on the restrictive practices, examines their effect on the public interest, and recommends remedies. If the Attorney General decides to proceed with the matter, he may institute criminal proceedings.

The offenses of conspiracy, monopoly, and specified distribution practices are classified as criminal under Part V of the Combines Investigation Act. The basic test of criminal behavior under the Act is the vague standard of "undue" restraint of competition.

As yet, there does not exist a well-defined private civil damages remedy for violation of the Anti-Combines Act. Sections 7 and 8 of the Act provide that if six resident Canadian citizens apply to the Director of Investigation with evidence, he must conduct such an investigation "as he considers necessary". Section 35 of the Act indirectly concerns itself with private civil damages actions in stating that, "nothing in this Part shall be construed to deprive any person of any civil right of action."

Section 31 of the Act permits a court to dissolve a corporation or to force divestiture with the language that it may require a person "to do such acts or things as may be necessary to dissolve the merger or monopoly in such manner as the court directs." It is certain that a court could require dissolution or divestiture of a

federally incorporated concern, but it is questionable whether the Act permits a court to take the same action against a firm wholly incorporated within one of the Canadian provinces.

The Canadian Anti Combines Law has been widely criticized as ineffective due to lack of adequate sanctions. The most widely employed remedy for violations has been the criminal fine which until 1966 had never exceeded twenty five thousand dollars for any one company. The benefit to be gained by a restrictive business practice could in many cases outweigh the penalties imposed by fines. Canadian anti-combines enforcement authorities have traditionally been wary of such remedies as negative advance clearances, cease and desist orders, consent decrees, and negotiated settlements. Severe fines and jail sentences have rarely been meted out by the courts. 1/

Other commentators have termed the Canadian Anti-Combines policy "weak", and have advocated revision of the legislation so as to permit mergers which would enable the emergence of large Canadian-controlled firms. These Canadian conglomerates, it is felt, would then possess the organizational management and technical expertise to compete effectively with the American multinational firms which presently dominate the Canadian industrial scene.2/ The present criticism surrounding Canadian Anti-Combines legislation would seem to indicate that some sort of strengthening of the Act will come about in the relatively near future.

1/ McDonald,"Constitutional Aspects of Canadian Anti-Combines Law Enforcement," 41 Canadian Bar Review 161, (1969), at pp. 162-164.

1/ Watkins, " The Canadian Experience with Foreign Direct Investment," Law and Contemporary Problems, vol. XXXIV, no. 1 (1969), at p. 129.

Conclusions

Antitrust experts have noted that all national policies toward restrictive business practices are similar. They attempt to: 1.--Keep prices low and supplies of goods adequate for the needs of consumers, and promote improvements in technology and business organization that contribute to these results, and 2.--Prevent private action that impairs business opportunity or access to markets,1/ Although these goals are like those sought in the United States, the means of achieving them in other countries are different.

The United States antitrust laws are based on the philosophical premise that a freely competitive economic system is the most efficient and most desirable form of society. This view is not necessarily shared by America's trading partners and competitors. Their view is that restrictive business practices are not undersirable per se, and may in many instances be beneficial to the economic growth and development of the region.

Concepts of fairness in the application of sanctions prohibiting restrictive business practices are viewed differently in the United States and abroad. The American approach has been to prohibit unfair practices on the theory that increased competition results which in turn assures the growth of independent firms. The foreign approach is, in a sense, the more pragmatic one of examining the actual result

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1/ Edwards, Control of Cartels and Monopolies (1967), at p. 197.

of the restrictive business practice to determine what benefits it may produce. Thus, restrictive practices which result in higher consumer prices may be prohibited, where the same practice which results in lower prices may be permitted, if not, encouraged.

The American concept of progress and change as inevitable and desirable economic events is present but weaker in foreign business thinking. Stability is viewed as a desirable end, and restrictive practices which encourage a stable market or which discourage "excessive" competition may be actively promoted. 1/

American efforts to regulate the conduct of multinational firms through application of antitrust laws internally and extraterritorially have in the past engendered both conflict with the laws of other national states and criticism by foreign and domestic experts. This situation is likely to arise again in the future in spite of the increased awareness of potential problems.

Foreign nations are correctly concerned with what they view as inroads into their regulatory jurisdiction by the laws of the United States. A Canadian task force, for example, has recommended legislation which would prohibit Canadian compliance with foreign antitrust orders, decrees, or judgments, on the presumption that American parent corporations would then be relieved by American courts from obeying decrees which would place their Canadian subsidiaries in violation of Canadian law. 2/

1/ Id. at pp. 198-199.
2/ Watkins, The Canadian Experience with Foreign Direct Investment, Law and Contemporary Problems, Vol. XXXIV, No. 1 (1969), at p. 132.

The present American system of consultation as in the State-Justice Department procedures and the Mitchell-Basford agreement is not sufficient to prevent future conflicts, as the United States antitrust authorities still maintain the right to act unilaterally even after consultation.

The European, Canadian, and Japanese approaches favor combination and cartelization of dometic enterprises in order to compete effectively with the powerful United States-based multinationals. Government support for this kind of concentration shows no apparent signs of diminishing in the near future. On the contrary, it seems probable that United States-based firms will face increasingly stiff competition from European and Japanese cartels. If the continued growth of the American-based multinational company is found to be in the best interests of the United States, some consideration might be given to new domestic legal approaches to advance this goal.

Alleviation of conflicts with the various antitrust laws of other national states can best be brought about by increased international cooperation and discussion, perhaps following the lines of the OECD recommendations. As the multinational corporations may tend to form international cartels, the domestic laws of the national states will become increasingly incompetent to control them. Some sort of international antitrust convention leading perhaps to an eventual treaty or new international regulatory agency would seem to be the most efficient (if not the only) method of eliminating national frictions while formulating comprehensive programs of controlling international restrictive business practices.

It has been recommended that any international efforts to increase antitrust cooperation involve the following considerations: 4/

1.--Countries which provide for cartel registration should demand that registered cartels detail their activities in other countries; 2.--Governments should attempt to agree on methods to cooperate in obtaining information on the operations of international cartels; 3.--Agreements by governments to readily release information on dangerous cartels should be sought; 4.--Repatriation of cartel documents to the investigating country should be encouraged; 5.--Countries should consult as to uniform remedies; and 6.--Countries should agree to recognize judicially the decisions of other countries regulating cartel activities if they are not in conflict with the public policy of the host country.

No evidence has as yet been presented that the vigorous application of American antitrust laws has caused significantly increased foreign direct investment by American firms. In spite of the foreign criticism of the U.S. antitrust approach, it has yet to be determined that American antitrust laws actually form a barrier to foreign direct investment by overseas firms in the United States. Increased cooperation in and discussion of antitrust problems on the international level would provide a much needed first step toward the elimination of presently existing conflicts.

4/ Cartelization in Western Europe, Bureau of Intelligence and Research, Department of State (1964). Hearings on Foreign Trade and the Antitrust Laws, Senate Committee on the Judiciary, 88th Cong., 1st Sess., Vol. 1, pp. 578-579.

Tax Issues and the Multinational Corporation

Introduction

This section will outline some of the most prominent problems and issues surrounding taxation of the multinational corporation. As the great majority of multinational corporations are based in the United States, U.S. tax treatment of foreign source income constitutes the area of greatest importance to domestic legislators. The examination of the history and current American tax approach toward foreign income will be followed by a discussion of tax treaties and their effects on the multinational corporation. The final portion of the report will present conclusions concerning present tax treatment and will discuss future tax prospects as they may affect the multinational corporation. (Note: Citations concern the Internal Revenue Code of 1954, as amended. (IRC)).

Historical development of U.S. tax policy

When the first comprehensive scheme of income taxation was developed in 1913, Congress was concerned primarily with a system which would ensure equitable treatment of domestic taxpayers. Accordingly, little attention was paid to the problems of taxation of foreign source income and of foreign taxpayers. From the outset, the underlying premise of U.S. tax policy has been that all citizens and corporations are taxed on income from whatever source derived.

From 1913 until the enactment of the Internal Revenue Code of 1954, domestic tax policy remained static. The Revenue Act of 1921 contained provisions aimed at preventing tax avoidance by U.S. taxpayers who were utilizing foreign "base companies" incorporated in low tax areas to manipulate the assets of their parents. The 1921 Act gave power to the Internal Revenue Commissioner to consolidate the accounts of related businesses for the purpose of correctly allocating taxable income items.

In 1921, a tax preference also was enacted which was designed to further American investment in the U.S. possessions through exempting income of certain corporations doing business in the possessions. In 1942, a second tax preference evolved which had for its purpose the encouragement of investment in the Western Hemisphere. This preference gave domestic corporations operating or selling to other countries in the Western Hemisphere through "Western Hemisphere Trade Corporations" a reduction in tax rates of 14 percent.

Until the end of the Second World War, the United States concentrated its investments largely in the expanding domestic economy. The two World Wars, with their limitations on export of capital, had caused many American investors to feel insecure about foreign ventures. With the termination of World War II, this situation began to change rapidly. The United States Government desired the speedy rebuilding of the shattered European economies and accordingly encouraged investment in Europe following the Marshall Plan. Investment in less developed countries also emerged as an American political goal.

The late 1950's witnessed another change in the U.S. position. By then, the European economies had been largely reconstructed; and the United States began to experience increasing balance of payments deficits, caused partly by heavy overseas military and foreign aid expenditures. The need for increased revenues to support the ever-expanding American global role occurred at this same time. 1/ The U.S. government found itself in the position of attempting to balance the conflicting demands of a policy of encouraging the free movement of capital with a need for revenue and balance of payments equilibrium.

The period from 1960 to the present demonstrates Congressional wrestling with these inconsistent goals of tax policy. This period also shows the only significant development of the expansion of the U.S. taxing jurisdiction in the entire history of the U.S. tax law. 2/ The Foreign Investors Tax Act of 1966 increased the U.S. tax jurisdiction by including in gross income some foreign source income and of foreign persons.

Current U.S. taxation of foreign source income and of foreign persons

The United States taxes its citizens and corporations currently on all income from foreign sources but allows a credit against the U.S. tax for foreign taxes paid where the income is earned. 3/ A

1/ Polk, U.S. Production Abroad and the Balance of Payments, 30-33, (1966).

2/ Choate, Hanok, Klein, Federal Tax Policy for Foreign Income and Foreign Taxpayers, 44 Temple L.Q. 441, at 486. (1971).

3/ Internal Revenue Code of 1954, SS 61, 901-904.

tax credit permits a dollar-for-dollar offset against the U.S. tax. It is distinguished from a deduction from income in computing taxable income which leads to a net tax saving equal to the deduction times the applicable tax rate. 4/ All income from investment and all capital gains are currently taxed regardless of their source or the place of residence of the taxpayer. One exception to this general rule permits an exemption of a restricted amount of income earned abroad by individual citizens who are residents or are traveling in foreign countries. 5/

A U.S.-based corporation is taxed currently on the basis of its world-wide income regardless of the country of the income source. If the corporation operates abroad through subsidiaries incorporated in foreign countries, taxation occurs only as the income is received from the subsidiaries as dividends, interest, service charges, or in any other form. Tax regulations do not permit the use of consolidated financial statments which would permit the parent corporation to offset losses of foreign subsidiaries against domestic income. The income from foreign subsidiaries which are incorporated in "tax havens" is attributed to the parent U.S. corporation regardless of whether the income is actually repatriated. 6/

The tax credit operates so that when the foreign tax where the income is earned is lower than the U.S. tax, the U.S. collects the difference. If the foreign tax is higher than the U.S. tax, there

4/ Smith, Tax Policy and Foreign Investment, Law and Contemporary Problems, vol. xxxiv, at 146, (1969).
5/ Internal Revenue Code of 1954, § 911.
6/ Smith, Note 4, supra, at 147.

results an excess tax credit which exceeds the amount of U.S. tax and therefore cannot be utilized. In this case, income from foreign investment is placed under a greater tax burden than is similar domestic investment income.

The traditional goal of U.S. tax policy has been to maintain neutrality in taxing income--whether derived from domestic or foreign sources. The American tax approach toward foreign investment income assures that such income will be taxed (either domestically or by the foreign host country) at a rate at least as high as the prevailing U.S. tax rate. U.S. tax law thus is supposed neither to penalize nor to encourage foreign direct investment. The tax credit device also makes certain that the foreign country which hosts and provides the services for the business entity will have the first opportunity to tax income derived from activities conducted within its borders.

The following discussion elaborates on the general U.S. taxation scheme in considering specific provisions of the tax laws which concern foreign investment and foreign taxpayers.

<u>Jurisdiction to impose taxes</u>

Article I of the Constitution grants broad powers of taxation to the Congress. The Sixteenth Amendment grants to the Congress the power, "to lay and collect taxes on incomes, from whatever source derived, without apportionment among the several States, and without regard to any census or enumeration." This broad power to tax all income has been consistently upheld by the courts.

The power of the Federal Government to tax income is limited only by conflicts with international law and with the Constitution. 7/ The international law limitations concern the practical problems of enforcement of domestic decrees extraterritorially and of potential objections on the part of foreign governments. Constitutional limitations might involve taxation which has for its purpose penalties rather than collection of revenue. One court has stated in this context,

> if a case was presented where the abuse of the taxing power was so extreme as to be beyond the principles which we have previously stated, and where it was plain to the judicial mind that the power had been called into play not for revenue but solely for the purpose of destroying rights which could not be rightfully destroyed consistently with the principles of freedom and justice upon which the Constitution rests, then it would be the duty of the courts to say that such an arbitrary act was not merely an abuse of a delegated power, but was the exercise of an authority not conferred. 8/

The United States presently has jurisdiction to impose taxes on U.S. citizens, resident aliens, and domestic corporations based on their world-wide income. Foreign corporations and nonresident aliens are generally (except for provisions in the 1966 Revenue Act, infra) taxed only on income derived from sources within the United States.

7/ Choate, supra, note 2, at 444-446.
8/ McCray v. United States, 195 U.S. 27, at 64 (1904).

The foreign tax credit

The credit against U.S. taxes for foreign taxes paid in the source country where income is earned developed out of a Congressional recognition of the unfairness and discrimination involved in double taxation of income. Rather than exempting all foreign source income from U.S. taxation, Congress elected to employ the tax credit mechanism in order to soften the blow where the same income is subject to taxation by two jurisdictions.

The Revenue Act of 1918 9/ provided for a credit against U.S. taxes in the case of any "income, war profits and excess profits taxes." The 1921 Revenue Act 10/ narrowed the scope of the tax credit by providing that the tax credit allowed could not exceed the total U.S. tax on all of the taxpayer's foreign income. This 1921 limitation meant that a taxpayer could not use his foreign tax credits to offset income derived from U.S. operations. In 1932, 11/ the above limitation was tightened to provide that the amount allowed as a credit for taxes paid to any one country could not exceed the U.S. tax on income derived from that country.

In 1958, it was recognized that the per-country limitation could lead to double taxation. Accordingly, there was established a two-year carryback and a five-year carryover of foreign taxes which cannot be used as a credit in a particular year. 12/ In 1962, 13/

9/ Revenue Act of 1918, 40 Stat. 1057, ch. 18, § 222, and § 238.
10/ Revenue Act of 1921, 43 Stat. 227, ch. 136, § 222(a)(5) and § 228 (a).
11/ Revenue Act of 1932, 47 Stat. 169, ch. 209, § 131(b)(1).
12/ Internal Revenue Code of 1954, § 904(e).
13/ Revenue Act of 1962, 76 Stat. 960, amending Internal Revenue Code of 1958, §§ 78, 902.

Congress restricted the tax credit out of concern for the worsening balance-of-payments situation. The 1962 Act provided that a domestic parent corporation must "gross up"--include in its income--the foreign tax paid by the subsidiary with respect to dividends repatriated, as well as the amount of the dividend itself. This has the effect of increasing the amount of income taxed and was directed at reducing foreign direct investment.

Elimination of tax avoidance

Section 482.--Soon after enactment of the first tax credit, Congress became aware that domestic taxpayers were successfully avoiding taxation by using foreign "base companies" which were incorporated in countries with low tax rates. In 1921, the first regulations directed at eliminating advantages gained through use of "tax havens" were promulgated. The 1921 Act provided,

> That in any case of two or more related trades or businesses (whether unincorporated or incorporated and whether organized in the United States or not) owned or controlled directly or indirectly by the same interests, the Commissioner may consolidate the accounts of such related trades and businesses, in any proper case, for the purpose of making an accurate distribution or apportionment of gains, profits, income, deductions, or capital between or among such related trades or businesses. 14/

This section of the 1921 Act is the predecessor of the present Section 482 of the 1954 Code. By granting power to the Commissioner to consolidate accounts of related corporations, the Act attempted to curtail tax avoidance through shifting around profits among related companies.

14/ Revenue Act of 1921, 42 Stat. 227, ch. 136 § 240(d).

The present section 482 derives much of its language from the 1928 Revenue Act which was designed to increase the powers of the Commissioner. The Commissioner currently,

> is authorized to distribute, apportion, or allocate gross income or deductions between or among such trades or businesses, if he determines that such distribution, apportionment or allocation is necessary in order to prevent evasion of taxes or clearly to reflect the income of any such trades or businesses [or other organizations] 15/

Section 482 began to see a great deal of use with the rapid growth of American business abroad, beginning about 1960. The Treasury issued new regulations in 1968 which were designed to clarify the "arm's length" standard of Section 482. The "arm's length" standard provides that in considering the controlled foreign corporate activity, the controlled corporation is to be viewed as if it were an uncontrolled corporation dealing with another uncontrolled corporation at arm's length. The 1968 regulations describe the arm's length standard in five types of transactions: 16/ (1) loans or advances; (2) performance of services for another; (3) use of tangible property; (4) transfer or use of intangible property; and (5) sales of tangible property. Three pricing methods are established in the area of sales of tangible property in order to determine what would be a fair price in an arm's length sale transaction. 17/

15/ Revenue Act of 1928, 45 Stat. 791, ch. 852, § 45.
16/ Treasury Regulation § 1.482-2 (1968).
17/ Treasury Regulation § 1.482-2(e) (1968).

Subpart F.--In general, the United States taxes profits of controlled foreign subsidiaries only as those profits are repatriated. If a domestic corporation operates abroad through subsidiaries incorporated abroad, taxation occurs only as income is received from the subsidiary which is usually in the form of a dividend. 18/ If profits are not repatriated, indefinite tax deferral results.

An exception to this general scheme occurs in the case of what is termed "Subpart F income" (IRC Sec. 952, hereinafter termed Subpart F)--income from controlled foreign corporations which are set up for the purpose of securing tax deferral on dividends and royalties not resulting from the active donduct of a trade or business. Subpart F came into the tax laws in the Revenue Act of 1962 as a result of Congressional concern with balance-of-payments problems. It was felt that indefinite tax deferral through the use of "tax havens" such as Switzerland created a situation in which U.S. firms were encouraged to invest abroad for tax reasons. This investment and lack of repatriation of profits were seen as contributing factors to the adverse balance-of-payments situation. 19/

The 1962 Act concentrated on attempting to eliminate tax avoidance through the use of foreign base companies in low-tax or "tax haven" countries. The Act defines a "controlled foreign corporation" 20/ as a corporation incorporated abroad which is at

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18/ Smith, Note 4, supra, at 147.
19/ Tax Message of President Kennedy, April 20, 1961, H.R. Doc. No. 180, 87th Cong., 1st Sess. 8-9 (1961).
20/ Int. Rev. Code of 1954, Section 957.

least fifty percent owned by a small group of U.S. shareholders. If the controlled foreign corporation has certain types of "tainted" income, the U.S. shareholders are taxed currently on that income regardless of repatriation. 21/ Three groups of "tainted" income are established: 22/

1.--Income from the sale of goods which are either purchased from or sold to a related party; 2.--Income from services performed by the foreign corporation for or on behalf of a related party; and 3.--"Foreign personal holding company income"--income from the sale or exchange of stock or securities, or income from dividends, interest, rents or royalties.

If the contolled foreign corporation is found to have generated any of this "tainted" income and if such income represents at least 30 percent of its total annual gross income, the U.S. shareholders are taxed on the income on a pro rata basis even though the income is not distributed to them.

Exceptions to the harsh Subpart F treatment occur in the cases of certain corporations in less developed countries, 23/ corporations involved in exporting, 24/ and in situations where the controlled foreign corporation has agreed to make certain annual distributions to its shareholders. 25/ If the foreign corporation does not meet the "controlled" criteria of Section 957, or if it is actively

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21/ Int. Rev. Code of 1954, Section 951.
22/ Int. Rev. Code of 1958, Section 954(c), (d), (e).
23/ Int. Rev. Code of 1954, Section 954(b)(1).
24/ Int. Rev. Code of 1954, Sections 970-72.
25/ Int. Rev. Code of 1954, Section 963.

engaged in the conduct of a trade or business (and thus is not incorporated abroad for tax avoidance purposes), then deferral of U.S. tax still occurs as long as income is not repatriated.

Section 1248.--Section 1248 was another new development of the 1962 Revenue Act. Prior to 1962, earnings of foreign corporations repatriated pursuant to a taxable liquidation or sale or exchange were taxable only at capital gains rates. Section 1248 treats such repatriations as dividends and subjects them to the higher rates for ordinary income.

Section 1248 concerns controlled foreign corporations and provides that gain recognized on the sale or exchange of stock in such corporation must be included as a dividend to the extent of the earnings and profits of the corporation accumulated after 1962. This dividend treatment occurs only in the case of a U.S. taxpayer owing 10 percent or more of the stock in the controlled foreign corporation.

Under Section 1248, taxation is delayed until gain is recognized by the taxpayer. The tax burden potentially involved in such a transaction is great due to the fact that once gain recognition occurs, all of the foreign corporations post-1962 earnings and profits are taxed at ordinary rates in contrast to the treatment under Subpart F which taxes currently only profits from "tax haven" operations.

Section 1249.--Section 1249 was also enacted in 1962 and is similarly designed to prevent capital gains treatment for certain transactions. Prior to 1962, it was possible to receive capital

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gains treatments for certain exchanges with a foreign corporation of a patent or like property described in Sections 351 and 361.

Section 1249 now provides that when a patent or invention is transferred to a foreign corporation by a United States person controlling such corporation and if gain is recognized, that gain will receive ordinary income rather than capital gains treatment.

Section 367.--Section 367 permits tax-free transfers of property (including technological property) from a U.S. parent to a foreign subsidiary corporation in certain situations. Section 351 of the Code permits a tax-free transfer of property from one corporation to another provided that the transferor owns at least 80 perent of the voting stock of the transferee. Only when the transferee is a foreign entity does Section 367 come into play.

Section 367 requires that in the case of any proposed tax-free transfer, an advance ruling must be obtained from the Treasury. The tax-free transfer from domestic parent to foreign subsidiary will be generally approved where there is no primary purpose of tax avoidance and when the property transferred is to be used in the active conduct of a trade or business in the foreign country. If the advance ruling is not obtained and the transaction fails to qualify for tax-free treatment, then proceeds from the sale or exchange are taxed at ordinary income rates under Section 1249 above.

Interest equalization tax

The Interest Equalization Tax Act of 1963 (IET) 26/ (see IRC Secs. 4911-4931) was designed to curtail American foreign portfolio investment and thereby to reduce the amount of investment capital leaving the country. The IET is a tax ranging from 0 percent to a maximum of 22.5 percent payable on the acquisition of foreign stock or debt obligations by U.S. citizens or corporations. The IET operates to reduce the rate of return from foreign portfolio investments and thereby to reduce foreign portfolio investment (and presumably) encourage domestic investment.

The IET applies only to portfolio investment and does not concern direct investment (which has been defined as an equity interest of 10 percent or more). 27/ The tax exempts many favored areas of portfolio investment such as Canadian securities, less developed country corporation securities, and debt obligations of foreigners arising out of export sales made to obtain raw materials. 28/ The Interest Equalization Act is important in any consideration of U.S. foreign direct investment only as it may tend to increase direct investment by making it less profitable for U.S. taxpayers to invest in foreign securities or debt obligations. These same investments may now more readily find their way into an equity interest in a foreign corporation than was the case prior to 1963.

26/ Public Law No. 88-563, 78 Stat. 809 (1964).
27/ Int. Rev. Code of 1954, Section 4915.
28/ Int. Rev. Code of 1954, Sections 4914-17.

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Less developed countries and Western Hemisphere Trade Corporations

Recent Congressional policy has favored direct investment in less developed countries (LDCs) due to a finding that such investment has a more favorable impact on American exports than does investment in the developed countries. Some observers have noted that investment in an LDC results in a more favorable dollar return to the United States than does similar investment in a developed country. 29/ Investment in LDCs is viewed as an integral part of foreign aid.

LDCs are designated by Executive Orders and the Congress has excluded the Sino-Soviet Bloc countries together with certain enumerated countries such as Great Britain and France. Four types of tax incentives presently exist favoring investments in LDCs. Generally, they are the following:

(1) More favorable method of calculating the foreign tax credit.

The Revenue Act of 1962 which reduced the amount available for use as a credit against domestic taxes was specifically made inapplicable to less developed country corporations. LDC corporations are defined in Section 955(c)(1) of the Code as foreign corporations engaged in the active conduct of a trade or business, deriving at least 80 percent of their gross income from sources within the LDCs, and having at least 80 percent of their assets located in LDCs.

29/ Hearings on H.R. 10650 before the Senate Committee on Finance, 87th Cong., 2d Sess. 99-100 (1962).

has for its purpose encouragement of the export of private capital to stimulate economic development within LDCs.

Tax incentives designed to promote investment in the U.S. possessions were first enacted in 1921. 32/

Section 931 of the Code defines a Possessions Corporation as any domestic corporation which has 80 percent or more of its gross income from sources within a U.S. possession and 50 percent or more of its gross income from the active conduct of a trade or business within the possession. A qualifying Possessions Corporation is subject to domestic taxation only on income derived from within the United States. This then, is a tax preference enacted to encourage U.S. private investment in the possessions.

Tax preferences for Western Hemisphere trade corporations (WHTCs) were enacted in 1942. 33/ Sections 921 and 922 of the Code provide for a reduction from U.S. taxes of fourteen percent in the case of a WHTC. A qualifying WHTC is a domestic corporation which does all of its business within the Western Hemisphere, derives 95 percent or more of its income from foreign sources, and derives 90 percent or more of its income from the active conduct of a trade or business. This WHTC tax preference was originally designed to benefit corporations engaged in manufacturing or other industrial activities in Latin America. American exporters who have separate manufacturing operations in Latin America have been able to take advantage of this tax preference to increase the profits on their export operations. 34/

32/ Revenue Act of 1921, 42 Stat. 227, ch. 136, Section 262.
33/ Revenue Act of 1942, 56 Stat. 798, ch. 619, Section 141.
34/ Surrey, Current Issues in the Taxation of Corporate Investment, 56 Column L. Rev. 815, 832 (1956).

(2) Relief from Subpart F. (See discussion p. , *supra*.)

Section 954(b)(1) of the Code permits a controlled foreign corporation to exclude income dividends and interest from Subpart F to the extent that the corporations increase their LDC investments. This exception permits LDC corporations to transfer profits among themselves without U.S. tax liability.

(3) Relief from Section 1248.

Section 1248 prohibits capital gains treatment for income derived from the sale or exchange of controlled foreign corporations. For an LDC corporation in which the seller has owned the stock for a period of ten years prior to its sale, Section 1248 does not apply. 30/ The idea behind this exemption is to encourage the retention of earnings and profits of an LDC corporation within the host country and so benefit that country's economy.

(4) Relief from the Interest Equalization Tax.

The Interest Equalization Tax is designed to discourage U.S. investment in securities and debt obligations of foreign corporations. Where stock or debt obligations are issued by corporations within an LDC pursuant to an acquisition required by the host country government, the Interest Equalization Tax does not apply to such stock or obligations in the hands of U.S. taxpayers. 31/ This exception

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30/ Int. Rev. Code of 1954, Section 1248(d)(3).
31/ Int. Rev. Code of 1954, Section 4916.

Taxation of U.S. citizens' income earned overseas

Section 911 of the IRC provides an annual exclusion from U.S. taxation of up to $20,000 for income earned outside the United States by U.S. employees who are physically present in a foreign country seventeen out of eighteen months. A U.S. citizen who is a bona fide resident of a foreign country may qualify for an annual exception of up to $25,000. These exclusions permit qualifying American citizens to live abroad and to escape double taxation by paying all of their taxes in the host country.

Taxation of foreigners

In general, the United States taxes income of nonresident alien individuals and foreign corporations only as that income is earned from sources within the United States. What constitutes a "source within the United States" has traditionally posed problems when certain transactions are examined. In cases of sales of property, the courts have employed a "passage of title test" to determine in which country the sale took place. If title to goods passes within the United States, all income from that sale is treated as having its source within the United States. 35/

Before 1966, income from nonresident foreigners or foreign corporations was taxed at regular rates or at a flat 30 percent rate. This latter flat rate concerned foreigners or foreign corporations not engaged in a trade or business within the United States. The foreign

35/ Dailey, The Concept of the Source of Income, 15 Tax L. Rev. 415, 447 (1960).

Investors Tax Act of 1966 36/ changed the situation. The Act applied normal rates of taxation only to income of foreigners and foreign corporations which are "effectively connected with the conduct of a trade or business within the United States." 37/ The flat rate remains applicable to other United States source income not related to the conduct of a trade or business. The 1966 Act was designed to prevent the use of the United States as a tax haven by persons from foreign countries which do not maintain a policy of taxing world-wide income. 38/ Now the United States can tax income of foreigners and foreign corporations derived from sources outside the United States as long as that income meets the criteria of the "effectively connected" concept.

Section 864 of the IRC provides the guidelines for income considered to be "effectively connected" and therefore taxable at normal rates. This income generally must be earned by a foreigner or foreign corporation having an office or fixed place of business within the United States which office is a material factor in the production of income. Specified categories of income such as rents, royalties, dividends, and sales of personal property to be taxed at normal rates are enumerated in Section 864.

36/ Pub. L. No. 89-809, 80 Stat. 1539.
37/ Int. Rev. Code of 1954, Sections 871(b)(1) and 882(a)(1).
38/ H.R. Rep. No. 1450, 89th Cong., 2d Sess. 18 (1966).

Domestic International Sales Corporation

After failure to be enacted in the 91st Congress, Domestic International Sales Corporation (DISC) has finally won Congressional approval and is now embodied in Sections 991-996 of the Internal Revenue Code. The general policy underlying the enactment of DISC is one of promoting U.S. exports by granting tax deferral to qualifying U.S. corporations engaged in exporting.

An exporting company which qualifies as a DISC is not subject to U.S. taxation on its earnings and profits. Taxation occurs only as these profits are distributed to shareholders in the form of dividends. The shareholders are then taxed on their dividends at ordinary income rates.

If a corporation wishes to qualify as a DISC, 95 percent of its gross receipts must consist of sales of export property--property manufactured, produced, grown, or extracted within the United States. In addition, 95 percent of the assets of a DISC must be qualified export assets. These assets may consist of export property, export facilities, export receivables, necessary working capital, stock or securities of related foreign export trade corporations, deposits in the United States, obligations representing loans to a domestic producer to finance export related assets, and other assets related to exports. 39/

39/ Int. Rev. Code of 1954, Section 992(a)(1)(8).

A parent manufacturing corporation having a DISC subsidiary can borrow from the subsidiary without the loan being considered a dividend distribution. These loans are subject to limitations set out in Section 993(d)(1).

Inter-company pricing rules are designed to prevent excessive shifting of income to a DISC from a related manufacturing operation. If a related person sells export property to a DISC, the selling price is considered to be the greater of the following:

(1) Four percent of the qualified export receipts derived from the resale of the property by the DISC, plus 10 percent of the "export promotion expenses" of the DISC allocable to the receipts.

(2) Fifty percent of the combined taxable income derived by both the seller and the DISC from the sale and resale of the property which is attributable to the qualified export receipts, plus 10 percent of the export promotion expenses of the DISC allocable to the receipts. 40/

If the DISC income remains within these limits, the manufacturing parent can escape the costly income reallocation provisions of Section 482.

A typical DISC therefore is a subsidiary of a parent manufacturing corporation, which may also be an MNC operating plants abroad. The parent is able to make use of the deferral income since loans from DISC to parent are permitted. DISC shareholders are taxed on the basis of actual or constructive dividend distributions received.

40/ Int. Rev. Code of 1954, Section 994(a)(1).

Constructive distributions are generally limited to earnings and profits in one taxable year except for other distributions which may arise out of failure to qualify as a DISC. A DISC shareholder who receives an actual or constructive distribution is entitled to claim the foreign tax credit for taxes paid by the DISC to foreign countries. 41/

Although it is as yet too early to assess the impact of the DISC on U.S. exports, the balance of payments, and MNC operations abroad, it is intended that, by permitting U.S. taxpayers to defer taxes on their export operations, exports will in fact be stimulated and the balance-of-payments situation alleviated.

Tax treaties

Foreign direct investment subjects the corporate entity to taxation in the parent (home) country, and also in the host income (source) country. Without some form of relief, this potential double taxation can prove a barrier to foreign investment. Therefore, many of the developed countries such as the United States provide relief from double taxation in the form of credits against domestic taxes for foreign taxes paid. While the national tax credit mechanisms do provide much necessary relief, they may not be adequate to deal with some of the additional problems created by the multinational corporation. Tax treaties can effectively aid in the regulation and control over MNC development by concentrating on both elimination of double taxation and on other investment problem areas.

41/ CCH Standard Federal Tax Reporter, Vol. 5, par. 4399E (1972).

Double taxation issues involving the MNC concern what is known as "overlap" and "underlap". 42/ In the "overlap" situation, the MNC is taxed on the same income by more than one jurisdiction and the total tax burden is accordingly greater than if the income had been earned in a single country. "Underlap" occurs when an MNC organizes its operations in an effort to avoid taxation by any jurisdiction. This may be accomplished by the use of tax haven countries as corporate bases and inter-company profit shifting.

Additional problems are posed with the differing concepts of tax jurisdiction among national states. The developed, capital-exporting nations such as the United States, Great Britain, and Germany generally employ a "personal link" system in which a resident individual or corporate taxpayer is taxed on his world-wide income. Many capital-importing countries employ "territorial" systems under which different types of income such as dividends, wages, and services are taxed under different rules and at different rates. This type of system is in use in many Latin American countries, Italy, and other Mediterranean countries. 43/

Tax treaties have as their general objective the removal of tax barriers to the international flow of capital, the movement of people, and to the dissemination of technical knowledge. 44/ The first step

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42/ Goldbert and Kindleberger, Toward a GATT for Investment, 2 Law & Pol. Int'l Bus. 295, 298 (1970).

43/ Hadari, Tax Treaties and Their Role in the Financial Planning of the Multinational Enterprise, 20 Am. Jour. of Comp. L. 111, 115 (1972).

44/ Id. at 119.

toward the accomplishment of this objective is the avoidance of double taxation. It has been noted that, "This is a minimum objective; without relief from double taxation in this way, no treaty can be really worthwhile". 45/ In addition, tax treaties could attempt to inject certainty into tax planning for international investment so that differing tax systems will treat similar classes of investors equally. Tax treaties can also reduce the "tax annoyance" factor created by the burden of paying taxes and receiving credit for those payments in other jurisdictions. 46/

A model for international tax treaties exists in the form of the O.E.C.D. Draft which was written in 1963. 47/ This O.E.C.D. model revolves around the concept of "permanent establishment" of a business for taxation purposes. All income which is derived by the foreign enterprise through its operations abroad is taxed by the host country. All other income is taxed by the home country. The definition of what constitutes a "permanent establishment" becomes critically important, as the narrower the definition, the greater the opportunity for the home country to tax.

A general definition of "permanent establishment" is supplied in the O.E.C.D. draft. This definition emphasizes such concepts as "situs" and "fixed place of business" and contains a partial list of the types of business enterprises to be included. Section 6 of the draft notes that the mere existence of a subsidiary corporation does

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45/ Smith, The Functions of Tax Treaties, 12 Nat'l Tax J. 317 (1959).
46/ Id. at 321-23.
47/ O.E.C.D. Fiscal Committee Draft Double Taxation Convention on Income and Capital, O.E.C.D. document C(63) 87 of 1963.

not by itself constitute a "permanent establishment". The O.E.C.D. definition of "permanent establishment" has been adopted by most recent tax treaties. 48/

The O.E.C.D. draft provides for taxation of industrial and commercial profits only to the extent that they are attributable to a permanent establishment in the host country. Treaty provisions which allocate business income must provide for the following: (1) Definition of permanent establishment, (2) a definition of business profits, (3) allocation of the business profits to a permanent establishment, and (4) a determination of the amount of taxable profits (the "arm's length" concept is normally employed--treating a subsidiary as a wholly independent entity). 49/

The O.E.C.D. draft provides for relief from double taxation by two methods: exemption and foreign tax credit. Where a corporation which has its residence in one country derives income from another country, and both countries impose tax on that income, the home or residence country grants relief through the tax credit or through wholly exempting the income from taxation.

The United States currently has in effect some twenty-three tax treaties with various nations. (See attached list following p.895) Section 894 of the Internal Revenue Code permits the exclusion from gross income and exemption from tax of any income subject to exemption

48/ Slowinski, Haderlein, Meyer: International Tax Treaties, 5 Va. J. Int'l L. 133, 146 (1965).
49/ Hadari, supra, Note 43 at 131-32.

on a reduced rate of tax by any of the tax treaties to which the United States is a party. Income of any kind, to the extent required by any treaty obligation of the United States, is not included in gross income and is exempt from income tax.

The Foreign Investors Tax Act of 1966, discussed supra, restructured the taxing provisions governing nonresident alien individuals and foreign corporations. The Act added paragraph (b) to Section 894 to grant treaty benefits of tax reductions and exemptions to nonresident aliens and foreign corporations that are residents of treaty countries on certain types of income which are not "effectively connected" with permanent establishments in the United States even though the treaty in force would deny the benefits because of the U.S. permanent establishment. Any benefit conferred by any provision of the 1966 Act is not to be considered contrary to any treaty obligation. Thus, even though a nonresident alien or foreign corporation has a permanent establishment in the United States, income which is not effectively connected with this business is to be taxed at the applicable treaty rate rather than at the regular individual or corporate rate. 50/

Tax treaties generally attempt to achieve the twin goals of neutrality of tax treatment and tax equity. Neutrality assumes that investment policies are determined without considering tax

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50/ CCH Standard Federal Tax Reporter, Vol. 5, R4206 (1971).

consequences, while tax equity seeks equal taxation of taxpayers who are in similar situations within the same jurisdiction. A principal area of disagreement which has yet to be resolved is whether tax equality should apply to investors in the home or in the host country, and whether multinational investors should be treated as a separate group. 51/

Currently, the MNC must consider tax factors in determining the most favorable countries for investment, in shifting profits from subsidiaries to parents, and in decisions to liquidate portions of its operations. The MNC must also attempt to allocate its resources in the manner most probably calculated to reduce the onerous burden of double taxation.

Tax treaties permit the MNC to develop investment decisions and long range planning independent of considerations of tax avoidance. If the MNC is assured of uniform and equal taxation, it can then base corporate investments solely on market and estimated profit margin factors.

An effective tax treaty assuring tax neutrality and tax equity would need to contain provisions covering the following areas: 52/

1) A determination of the categories of income to which the treaty applies;

2) Common rules of accounting relating to the calculation of income, since relief from double taxation is not meaningful if the applicable base is not the same;

51/ See Krause and Dam, Federal Tax Treatment of Foreign Income (Washington, D.C.: The Brookings Institution), (1964) 44-56.

52/ Hadari, *supra*, note 43 at 120.

3) Determination of the taxes to which the treaty applies;

4) Common rules determining the source of income, in order to allow a consistent treatment of income which is subject either to exemption in the source country or to tax credit in the home country;

5) Common rules for allocating income, so as to enable countries to determine what portion of income is attributable to each when the source rules by themselves would not be sufficient, especially regarding the reallocation of transactions between related enterprises in order to achieve arm's length treatment;

6) Exact definitions of all technical terms used in the treaty, e.g., "resident corporation", "business income", "interest", and "royalties".

Aside from the elimination of double taxation, tax treaties adjust withholding rates in the host country to reduce burdensome tax accounting procedures. They also provide a useful means of discussion and consultation among national tax authorities in their common search to prevent international friction. The tax treaty approach provides a more efficient and comprehensive approach to the taxation of the MNC than do the tax laws enacted by individual national states.

Table 1.-- A list of tax treaties in effect between the United States and other countries.

Australia.--Effective January 1, 1953
T.D. 6108, 1954-2 CB 614--Withholding
Austria.--Effective January 1, 1957
T.D. 6322, 1958-2 CB 1038--Withholding
Belgium.--Effective January 1, 1953. Protocol effective August 29, 1966
T.D. 6056, 1954-1 CB 132--Withholding
T.D. 6160, 1956-1 CB 815
T.D. 6438, 1960-1 CB 739--Withholding; extension of treaty provisions to Belgian Congo and Ruanda-Urundi
T.D. 6469, 1960-1 CB 752
Canada.-- Effective January 1, 1941. Supplemental treaties effective January 1, 1951, January 1, 1957 and December 20, 1967
T.D. 5206, 1943 CB 526
T.D. 6047, 1953-2 CB 59--Withholding
T.D. 6576, 1961-2 CB 289
Denmark.--Effective January 1, 1948
T.D. 5692, 1949-1 CB 104--Withholding
T.D. 5777, 1950-1 CB 76
Finland.--Effective February 28, 1971
T.D. 6030, 1953-2 CB 185-- Withholding
T.D. 6202, 1956-2 CB 1067
France.---Effective January 1, 1945. Supplemental protocol and convention effective January 1, 1950. Supplemental convention effective June 13, 1957. New treaty effective as to withholding August 11, 1968. All other provisions effective January 1, 1967
T.D. 5499, 1946-1 CB 134
T.D. 6273, 1957-2 CB 1020--Withholding
T.D. 6986, 1969-1 CB 66-- Withholding
Germany.--Effective January 1, 1954. Protocol effective January 1, 1965.
T.D. 6122, 1955-1 CB 641-- Withholding
Greece.---Effective January 1, 1953
T.D. 6109, 1954-2 CB 638--Withholding
Honduras.--Effective January 1, 1957 (terminated)
T.D. 6264, 1957-2 CB 1040--Withholding
Ireland.--Effective January 1, 1951
T.D. 5897, 1952-1 CB 89--Withholding
Italy.----Effective January 1, 1956
T.D. 6215, 1956-2 CB 1105--Withholding
Japan.----Effective January 1, 1955. Protocols effective January 1, 1964, and January 1, 1966
T.D. 6130, 1955-1 CB 665--Withholding
Luxembourg.--Effective January 1, 1964

Table 1.-- A list of tax treaties in effect between the United States and other countries (cont.)

Netherlands.--Effective January 1, 1947. Supplemental treaty (Netherlands Antilles) effective January 1, 1955 and protocol effective January 1, 1965. Protocol effective July 8, 1966
T.D. 5690, 1949-1 CB 92--Withholding
T.D. 5778, 1950-1 CB 92
T.D. 6153, 1955-2 CB 777--Withholding (Netherlands Antilles)

New Zealand.--Effective January 1, 1951
T.D. 5957, 1953-1 CB 238--Withholding

Norway.---Effective January 1, 1951
T.D. 6489, 1960-2 CB 630--Withholding
T.D. 6150, 1955-2 CB 793

Pakistan.--Effective January 1, 1959
T.D. 6431, 1960-1 CB 755

Sweden.-- Effective January 1, 1940. Supplementary convention effective January 1, 1965
T.D. 4975, 1940-2 CB 43

Switzerland.--Effective January 1, 1951
T.D. 5867, 1951-2 CB 75--Withholding
T.D. 6149, 1955-2 CB 814

Trinidad and Tobago.--Effective January 1, 1970

Union of South Africa.--Effective July 1, 1946. Protocol effective July 1, 1948. 1954-2 CB 651, 655

United Kingdom.--Effective January 1, 1945. Supplemental protocol effective January 19, 1955. Supplemental royalty protocol effective January 1, 1956. Protocol effective January 1, 1966.
T.D. 5532, 1946-2 CB 73
T.D. 5580, 1947-2 CB 88 Withholding
T.D. 6898, 1966-2 CB 567
T.D. 6437, 1960-1 CB 767
T.D. 5569, 1947-2 CB 100

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Table 2.-- Rates of U.S. tax to be withheld at the source for nonresident aliens and foreign corporations according to existing income tax conventions

Country	Dividends	Interest 1/	Copyright royal-ties	Indus-trial royalties	Real estate rentals and natural resource royalties	Applicable Treasury Decisions or Revenue Procedures
Australia------------:	15% 2/5/	NE	E 2/3/	NE	NE 4/	6108,CB 1954-2, 614
Austria--------------:	15% 2/5% 6/	E 2/7/8/	E 2/9/ 10% 2/10/	E 2/9/	NE 4/	6322,CB 1958-2, 1038
Belgium 11/----------:	15% 2/	15% 2/	E 2/	E 2/	NE 4/	6056,CB 1954-1, 132 18/ 6438,CB 1960-1, 739
Canada---------------:	15% 2/6/	15% 2/	E 2/3/	15% 2/	15% 2/4/	6047,CB 1953-2, 59 18/ 6576,CB 1961-2, 289
Denmark--------------:	15% 2/6/	E 2/	E 2/	E 2/	NE 4/	5692,CB 1949-1, 104
Finland--------------:	15% 2/5% 6/	E 2/	E 2/	E	NE 4/	6030,CB 1953-2, 185
France---------------:	15% 2/5% 6/	10% 8/12/	E 3/9/12/	5% 9/12/	NE 4/	6986,CB 1969-1, 365
Germany, Federal Republic of-------:	15% 12/13/	E 8/ 12/	E 9/12/	E 9/12/	NE 4/	6122,CB 1955-1, 641 18/ Rev. Proc. 67-24, CB 1967-1, 625
Greece---------------:	NE	E 2/ 14/	E 2/	E 2/	NE 4/	6109,CB 1954-2, 638
Ireland--------------:	15% 2/5/ 5% 5/6/	E 2/5/14/	E 2/5/	E 2/ 5/	15% 2/4/5/	5897,CB 1952-1, 89
Italy----------------:	15% 2/5% 6/	NE	E 2/	E 2/	NE 4/	6215,CB 1956-2, 1105
Japan----------------:	15% 2/ 10% 6/2/	10% 2/	10% 2/	10% 2/	NE 4/	6130,CB 1955-1, 665 18/
Luxembourg 19/-------:	15% 2/5% 6/	E 2/ 7/	E 2/	E 2/	NE 4/	None issued
Netherlands----------:	15% 12/5% 6/ 12/	E 8/12/	E 9/12/	E 9/ 12/	NE 4/	5690,CB 1949-1, 92 18/
Netherlands Antilles: 16/	15% 2/5% 6/	E 2/7/14/	E 2/	E 2/	FE 4/	6153,CB 1955-2, 777 18/ Rev. Proc. 66-40, CB 1966-2, 1245
New Zealand----------:	15% 2/5% 6/	NE	NE 4/E 2/15/	NE 4/	NE 4/	5957,CB 1953-1, 238
Norway---------------:	15% 2/5% 6/	E 2/	E 2/9/	E 2/9/	NE 4/	6489,CB 1960-2, 630
Pakistan-------------:	NE,15% 6/	NE	E 2/3/9/	E 2/9/	NE	6431,CB 1960-1, 755

Table 2.-- Rates of U.S. tax to be withheld at the source for nonresident aliens and foreign corporations according to existing income tax conventions (cont.).

Country	Dividends	Interest 1/	Copyright royal-ties	Indus-trial royalties	Real estate rentals and natural resource royalties	Applicable Treasury Decisions or Revenue Procedures
So. Africa, Rep.of-:	NE	NE	NE	NE	NE 4/	None issued
Sweden-------------:	15%2/5%6/	E 2/	E	E	NE	4975, CB 1940-2, 43 18/
Switzerland--------:	15%2/5%6/	5% 2/	E 2/	E 2/	NE 4/	5867, CB 1951-2, 75
Trinidad & Tobago--:	NE	NE	E	15% 2/	NE	None issued
United Kingdom 17/-:	15% 12/	E 8/ 12/	E 9/12/14/	E 9/12/14/	15% 2/4/5/	5532, CB 1946-2, 73 6898, CB 1966-2, 567 6437, CB 1960-1, 767

Definitions: E--exempt; NE--not exempt, tax to be withheld at the statutory rate prescribed by sections 1441 and 1442 of the Internal Revenue Code of 1954. References:1/ Except interest on tax-free covenant bonds issued before January 1, 1934, as to which the obligor has assumed liability for tax greater than 2% of such interest. 2/The exemption or reduction in rate does not apply if the recipient is engaged in trade or business within the United States through a permanent establishment located in the United States. If the income is not effectively connected with the conduct of a trade or business in the United States by the recipient, the recipient is considered not to have a permanent establishment in the United States under the provision of section 894(b), IRC, 1954. 3/ Motion picture and television royalties are excluded from the exemption. 4/The recipient may elect to be subject to a tax on a net basis by filing Form 1040NR (non-resident alien) or Form 1120F (foreign corporation). The same election may also be made under sections 871(d) or 882(d), IRC, in the absence of a treaty provision.5/The exemption or reduction in rate applies only if the recipient is subject to tax on this income in the State of residence. In the case of Canada, this requirement applies to intercorporate dividends only. 6/ The reduced rate applies to dividends paid by a qualified U.S. subsidiary to a qualified foreign parent corporation having the required percentage of stock ownership. 7/ The exemption does not apply to mortgage interest. 8/ The interest exempted shall not exceed fair and reasonable consideration on indebtedness. 9/ The royalties exempt shall not exceed fair and reasonable compensation for the right of use. 10/Applicable to motion picture and television royalties only. 11/The Belgian Treaty applies to the following former Belgian overseas territories that have become independent countries: Democratic Republic of the Congo (Kinshasa), Republic of Rwanda, and Republic of Burundi. 12/ Under the treaty, the exemption or reduction in rate does not apply if the recipient has a permanent establishment in the United States and the property giving rise to the income is effectively connected with that permanent establishment. Notwithstanding the treaty, if the income is not effectively connected with the conduct of a trade or business in the United States by the recipient, such recipient will be considered not to have a permanent establishment in the United States. See section 894(b), IRC 1954. 13/Dividends paid by a German subsidiary to a U.S. parent corporation are taxed at a 25% rate in Germany if the parent reinvests in the German subsidiary and the amount reinvested exceeds 7.5% of the dividends received by the

Table 2. -- Rates of U.S. tax to be withheld at the source for nonresident aliens and foreign corporations according to existing income tax conventions (cont.).

Notes (continued):

U.S. parent in the same year, the preceding year, or the following year. This provision does not apply to dividends paid by U.S. corporations. 14/ The exemption does not apply to interest paid to a controlled corporation or, in some cases, to a related corporation notwithstanding that the amount paid represents fair and reasonable consideration. The United Kingdom Treaty applies this rule to royalties. 15/ The exemption applies to motion picture and television film rentals only. 16/ The exemption or reduced rates applicable to U.S. source dividends, interest, industrial, and literary royalties do not apply when these items are paid to a Netherlands-Antilles investment or holding company entitled to special tax benefits under Netherlands-Antilles law and owned by persons or corporations not resident in the Netherlands. 17/ The United Kingdom Treaty applies to the following United Kingdom territories: Antigua, British Honduras, Dominica, Falkland Islands, Grenada, Montserrat, St. Vincent, St. Christopher, Southern Rhodesia, South Yemen, Seychelles, and Virgin Islands, Nevis, Anguilla, and St. Lucia. It also includes the following independent countries: Barbados, Gambia, Jamaica, Malawi, Nigeria, Zambia, and Sierra Leone. 18/ Existing regulations have not been amended to reflect changes that have occurred because of modifications, etc. to the tax convention. 19/ Exemption from or reduction in rate of tax not applicable in the case of income of holding companies entitled to special tax benefits under the laws of Luxembourg.

Conclusions

Varying opinions exist as to the effect of tax factors on international investment. Some experts in the taxation area feel that although tax considerations are always relevant, they are seldom dominant. It has been noted that--

> differences in taxation are frequently negligible from a pecuniary standpoint, though the prospect of having to meet the reporting requirements of two or more national tax jurisdictions may deter foreign investment by small businesses. Investment climates and exchange controls generally are more important than tax differences in investment decisions. 53/

Whatever the effect of tax considerations in investment policy, it is certain that tax considerations constitute at least one important factor in any corporate decision to allocate resources so as to achieve the highest possible return on capital.

Differing Viewpoints on Current U.S. Tax Policy

Although theorectically taxation exists to create revenue for the state, in practice U.S. tax policy has historically attempted to achieve other, non-revenue objectives. Less Developed Country and Western Hemisphere Trade corporation provisions are examples of a congressional desire to encourage or discourage certain activities or investment in certain geographic areas. Similarly, the DISC has for

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53/ Smith, supra note at 146. Professor Smith points out that in both the U.S. and in France, leading industrialists have stated that they make international investment decisions on the basis of before-tax income. This position is justified because if the investment climate in a country is good enough to justify investment, it is probable that the tax burden in it, whatever form it takes, will not be far out of line with that in other countries.

its underlying purpose increasing U.S. exports and easing the United States' balance of payments problems. Current U.S. tax policy in the area of foreign direct investment does not appear to satisfy either those who favor increased support for foreign investment or those who oppose it.

Views of Present Law from the Point of View Favoring Foreign Investment 54/

1. Proponents of more favorable treatment for foreign investment feel that the foreign tax credit should be more generous. Foreign tax credits should be extended to sales and other excise taxes which make up a much larger percentage of the total tax burden in Europe than in the United States.
2. Differences between American and foreign concepts of income result in higher effective tax burdens on foreign source income than on domestic income. Present treaty provisions are not adequate to solve this problem.
3. Section 1248 violates the principle of tax neutrality though imposing a heavier tax on gain from the sale of foreign stock than from the sale of domestic stock.

54/ The following critiques excerpted from Tax Legislation and Regulations Affecting Foreign Trade and Investment, 8 Houston L.R. 498, at pp. 503-05. (1971), by Louis Kauder, Office of Tax Legislative Counsel. U.S. Treasury Dept.

4. The complexity of the foreign tax provisions generates excessive administrative costs and a waste of executive talent. This is especially burdensome for small and medium-sized companies.
5. The United States practice of taxing foreign income on the basis of place of incorporation differs from the more liberal practice in other countries of exempting foreign source income from taxation. Exemption would be one way to avoid the arbitrary distinction between branches and subsidiaries. It would also permit easier expansion abroad from retained earnings.
6. The LDC exceptions to Subpart F are ineffective as they do not encourage the reinvestment in less developed countries of income generated by activities in developed countries.
7. Western Hemisphere Trade Corporation provisions do not constitute a meaningful incentive for manufacturing firms. They are useful only to selling and mining subsidiaries.
8. So long as deferral exists, it is inconsistent to treat portfolio investments differently from other direct investments for which a credit is allowed.

Views of Present Law from the Point of View Advocating Less Favorable Treatment for Foreign Investment

1. Some economists argue that the least justifiable aspect of United States taxation of foreign income is the exemption from taxation of foreign subsidiaries, as entities separate from their United States parents. They contend that deferral of taxation until repatriation of earnings violates the concept of neutrality because it allows expansion of foreign operations through reinvestment of untaxed earnings not allowed to domestic operations. The separate entity approach with respect to domestic subsidiaries is not analogous to the separate entity approach with respect to foreign subsidiaries. In the domestic case, the entity remains subject to United States taxation, while in the foreign case separateness removes the subsidiary from our jurisdiction.
2. If balance of payments and national efficiency rather than world efficiency were the predominant criteria, the foreign tax credit would be replaced by a deduction for foreign taxes. The deduction then would become simply another cost of doing business abroad.

3. The limited restrictions placed on deferral by the Revenue Act of 1962 have not sufficiently forestalled the outflow of capital abroad. Other techniques, including termination of deferral, should be considered. To the extent that deferral is an inducement to foreign investment, its termination might contemporaneously justify a loosening of other foreign direct investment limitations.

Possible Alternatives to the Present Approach

A. Recommendations of the President's Task Force.--In September of 1970, the President's Task Force on Business made several recommendations in the field of taxation of foreign source income. One of these proposals (the DISC) has already been adopted, and, in addition, the following proposals have been made:

1. Revision of Subpart F.--Subpart F was enacted as a revenue measure and as a means of preventing tax avoidance. Unfortunately, it has been observed that Subpart F has not generated any significant revenue and that its complex provisions have produced a fruitless expenditure of business and accounting time. 55/ Accordingly, the Task Force recommended eliminating the complexities of Subpart F, and substituting an accumulated earnings tax in its place.

2. Amendment of Section 482.--Section 482 has been widely criticized as being overly complex and unduly burdensome on the taxpayer.

55/ Choate, Hurok, Klein, *supra*, note 2, at 509.

The present Section 482 regulations require long and expensive government examination of corporate accounts.

The Task Force recommends that the current Section 482 regulations be abandoned and that the burden of proof to demonstrate tax avoidance be placed on the Internal Revenue Commissioner. These proposals are aimed at easing the burden on the taxpayer and at eliminating costly Section 482 audits except in those situations where the Commissioner feels a strong case for tax avoidance can be established.

B. Additional recommendations.--Other recommendations include currently proposed legislation (S. 2592) which would eliminate deferral of taxation in the case of domestically controlled foreign corporations, and would substitute tax deductions for the foreign tax credit.

1. Elimination of deferral.--Presently, except for "Subpart F income", profits of controlled foreign subsidiaries are taxed only as those profits are repatriated. If this situation were changed so that all profits of controlled foreign corporations were currently taxed, several results could follow. First, increased repatriation of profits could result as the incentive to retain profits overseas would no longer exist. Secondly, U.S. corporations could reduce their ownership of foreign corporate subsidiaries so as to avoid classification as a "controlled" foreign corporation. Thirdly, foreign direct investment could find new outlets in the form of joint ventures with foreign enterprises.

2. Repeal of the foreign tax credit.--The foreign tax credit would be replaced by tax deductions for foreign taxes paid in the same

manner in which state and local taxes are deductible toward federal taxes. The deduction which would replace the credit would be only another cost of doing business abroad which cost would have to be made up by other possible efficiencies in the foreign operation. [56] A legislative proposal has suggested that repeal of the foreign tax credit might further the objective of national efficiency by increasing investment in the domestic economy. Such a result would obtain in those cases in which foreign and domestic investment substitute for each other; when the two types are complementary, <u>both</u> domestic and foreign investment might be reduced.

The effects of a repeal of the foreign tax credit vary, depending upon whether the repeal is coupled with an elimination of deferral of unrepatriated profits. If the tax credit were repealed but deferral of unrepatriated profits continued, any profits which were repatriated would be taxed at a higher rate than at present, as the foreign taxes paid would no longer be allowed as a credit to offset domestic taxes. It is likely that this situation would encourage the retention of all profits abroad. Dividend repatriations would be discouraged, and the U.S. balance of payments would suffer.

If repeal of the tax credit occurred along with elimination of deferral, then the U.S. tax burden on foreign direct investment would increase. The elimination of deferral would destroy any incentive to retain earnings abroad, and the repeal of the foreign tax credit would expose repatriated profits to double taxation.

56/ Kauder, *supra*, note 54 at 507.

Firms which pay foreign taxes nearly equal to U.S. taxes will be most severely penalized by tax credit repeal--i.e., those companies for which tax considerations played little or no part in the original decision to invest abroad. Firms which pay foreign taxes in excess of U.S. tax rates may be benefitted by repeal of the tax credit, as the excess tax credits which they generate (and which are presently wasted) will be allowed as deductions. It has been noted that the present system results in an overall excess foreign tax credit and that generally the only countries in which the effective tax rate is lower than that in the United States are some of the less developed countries. 57/

Any revision of current U.S. tax treatment of foreign source income should be directed toward simplification. Simplification would make tax rules more readily comprehensible to the business community and would inject increased efficiency and reduced costs into government enforcement. It has been suggested that,

> at a time when the costs of labor within the United States are at an all time high, simplification of enforcement should be one of the chief goals. * * * * * in addition to Section 482, Subpart F, the foriegn tax credit rules, the interest equalization tax, if it is to be continued, and the Foreign Investors Tax Act of 1966 with its concept of effectively connected income, could all be greatly simplified with no loss of revenue. 58/

57/ Kauder, *supra*, note 56.
58/ Choate, Hurok, Klein, *supra*, note 2 at 522.

Jurisdiction of International Tribunals in Foreign Investment Controversies

This section deals with the jurisdiction of international judicial and quasi-judicial organizations in the settlement of disputes involving foreign investment. The following discussion attempts to highlight the usefulness of the International Court of Justice (I.C.J.) of the United Nations and its predecessor, the Permanent Court of International Justice (P.C.I.J.), in resolving problems created by multinational corporate investment.

In 1921, the League of Nations adopted a statute creating the Permanent Court of International Justice to replace various ad hoc tribunals which had formerly existed. Although the United States was not a member of the League, several U.S. citizens were judges of the P.C.I.J. Between 1922 and 1939, the P.C.I.J. handled 66 cases of which 12 were eventually settled. 1/ After a dormant period during the Second World War, the P.C.I.J. was dissolved with the emergence of the United Nations.

The United Nations Charter provided for a permanent international tribunal--the International Court of Justice. Articles 2 and 3 of the I.C.J. Statute provide that judges are nominated from among the member U.N. States and their election must be confined by an absolute majority of both the General Assembly and the Security Council.

1/ Steiner and Vagts, Transnational Legal Problems, at 146. (1968)

The I.C.J. is concerned with two types of functions: advisory proceedings under which the Court gives advice to member states, and contentious proceedings which are in the nature of adversary litigation. [2] It is this latter role which is of primary significance in the settlement of international disputes.

The I.C.J. Statute recognizes international legal principles in determining the boundaries of its jurisdictional reach. Article 34 of the Statute provides that only nations may be parties to litigation before the I.C.J. Article 36 of the Statute provides that the I.C.J. can take jurisdiction of a dispute only where the adversary states consent to such exercise of jurisdiction. This idea of consent as the only legitimate basis of jurisdiction is well-founded in international law. A statment of the P.C.I.J. of 1923 expresses the concept as:

> This rule, moreover, only accepts and applies a principle which is a fundamental principle of international law, namely, the principle of the independence of States. It is well established in international law that no State can, without its consent, be compelled to submit its disputes with other states either to mediation or to arbitration, or to any other kind of pacific settlement. Such consent can be given once and for all in the form of an obligation freely undertaken, but it can, on the contrary, also be given in a special case apart from any existing obligation. [3]

Under Article 36 of the I.C.J. Statute, several methods are provided for a State's consent to submission of its international disputes

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2/ Id. at p. 147.
3/ Status of Eastern Carelia, P.C.I.J., Ser. B, No. S (1923), at p. 27.

to the I.C.J. First, the States involved in a dispute can refer the dispute to the Court by a special reference of the parties, much like referral to an arbitrator. Secondly, States may engage in bilateral treaties, pursuant to which they agree to submit their mutual disputes to I.C.J. jurisdiction. A State may also unilaterally submit a claim to the I.C.J. upon filing an agreement of submission with the Secretary General of the U.N. Multilateral treaties and conventions may contain provisions which specify that problems arising under them will be submitted to the compulsory jurisdiction of the I.C.J.

Although in theory declarations by individual States expressing their consent to be bound by I.C.J. decisions would seem to provide for broad I.C.J. jurisdiction, the facts have proved otherwise. States have had a habit of attaching qualifying clauses to their declarations of consent. These clauses have generally had the effect of reducing the scope of I.C.J. jurisdiction through such means as tailoring one State's acceptance of compulsory jurisdiction to the declaration of an adversary State which is willing to accept the same restrictions. Other restrictions are temporal in nature such as the United States' restriction that it accepts compulsory jurisdiction over disputes arising only after August 26, 1946. 4/

International Tribunals are characterized as bodies of limited or specialized power due to the fact that their jurisdiction is limited in accordance with the terms of the agreements of parties before them. In 1902, the French-Venezuelan Claims Commission expressly stated its

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4/ See Switzerland v. United States, I.C.J. Rep. 6, (1959), at p. 23.

limitations in the case of the French Company of Venezuelan Railroads:

> The limits of this honorable commission are found and only found in the instrument which created it, the Protocol of Feb. 19, 1902. An arbitral tribunal is one of large and exclusive powers within its prescribed limits, but it is as impotent as a morning mist when it is outside these limits. 5/

Jurisdictional challenges directed toward international tribunals prior to any decision on the merits have forced the tribunals to render decisions regarding jurisdictional scope before being able to proceed with the matter before them. It is universally recognized that an internationally organized judicial body does have the power to interpret its own jurisdiction. The I.C.J. succinctly expressed this view in its 1953 decision in the Nottebohm case:

> Since the Alabama case it has been generally recognized, following the earlier precedents, that in the absence of any agreement to the contrary, an international tribunal has the right to decide as to its own jurisdiction, and has the power to interpret for this purpose the instruments which govern that jurisdiction. This principle was expressly recognized in Articles 48 and 73 of the Hague Conventions of 1899 and 1907 for the Pacific Settlement of International Disputes. . . . . The principle . . . . assumes particular force when the international tribunal is no longer an arbitral tribunal constituted by virtue of a special agreement between the parties for the purpose of adjudicating on a particular dispute, but is an institution which has been pre-established by an international instrument defining its jurisdiction and regulating its operation. 6/

In general, an international tribunal cannot take jurisdiction over a matter which would prejudice third parties not before the tri-

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5/ Ralston, The Law and Procedure of International Tribunals, 73, (1936).

6/ [1953] I.C.J. 119-20.

bunal. In one case, 7/ the I.C.J. held that it was precluded from considering any matter without the consent of a state if that state's interests would be directly and vitally affected by the proceedings even though the state was not a party to the proceedings.

An exception to the above general rule exists where the tribunal can find that in spite of the fact that a state did not consent to jurisdiction, its subsequent acts demonstrate consent in later proceedings and so ratify the tribunal's assumption of jurisdiction. This is sometimes known as the doctrine of "forum prorogatum." 8/ Thus, in the Corfu Channel case, 9/ the I.C.J. took jurisdiction over a case based on the application of only one party where the defendant did not consent to the assumption of jurisdiction.

A private citizen of a State can obtain adjudication of his claim before an international tribunal if he is able to persuade the state of his nationality to take up his cause. The I.C.J. has permitted state representation of claims of private individuals only where the individual was a citizen of the representing state both at the time the dispute arose and at the time of its presentation before the Court. 10/

International tribunals may decline jurisdiction where it is found that an agent of a private corporation or of a state does not

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7/ Monetary Gold, [1954] I.C.J. 33.
8/ Ackley, Foreign Investment Disputes: Jurisdiction of International Tribunals, 7 West. Ont. L.R. 111, at 118 (1968).
9/ [1949] I.C.J. 7.
10/ Lauterpacht, The Development of International Law by the International Court, 350. (1958).

possess the requisite capacity to submit the claim to international arbitration. If, however, the State in question continues to make use of the otherwise invalid arbitration agreement, the tribunal may assume jurisdiction, finding that the State has waived its right to object. 11/

Some international investment contracts contain clauses providing for mandatory arbitration of disputes before a specialized tribunal such as the Court of Arbitration of the International Chamber of Commerce. These proceedings are rarely subject to jurisdictional challenge due to the fact that the parties have agreed to jurisdiction well in advance of any dispute. As the majority of these proceedings are held _in camera_, it is difficult to assess the scope of their jurisdiction beyond the obvious fact that it is limited by the terms of the particular contract in question. 12/

A party cannot lay its claim before an international tribunal until it has exhausted its local remedies. Only after it has been determined that national courts cannot or will not consider the matter, will international courts assume jurisdiction. In a controversy between Lithuania and Estonia, 13/ the P.C.I.J. upheld a jurisdictional challenge by Lithuania upon a finding that Estonia had not sufficiently demonstrated that its national courts lacked jurisdiction to adjudicate the controversy.

11/ Balasko, _Causes de Nullite de la Sentence Arbitrale_, 108.(1938)
12/ Ackley, _supra_, note 8, at 121.
13/ _Panevezys-Saloutiskis Railway Case_, P.C.I.J. Series A/B, No. 76, 4-59.

The I.C.J. has also had occasion to decline jurisdiction on the grounds of failure to exhaust local remedies. In the Interhandel Case, 14/ Switzerland brought a claim before the I.C.J., seeking restitution of the assets of a Swiss company doing business in the United States which had been seized by the United States. The United States challenged the U.C.J. jurisdiction, arguing that the Swiss company had not exhausted its remedies in the U.S. courts under the Trading with the Enemy Act. The I.C.J. agreed with the U.S. argument and declined to assume jurisdiction.

Practical problems involving decisions by international tribunals to assume jurisdiction in a given matter involve the diverse national makeup of judges and financial considerations. As international tribunals are generally composed of jurists from different countries having different legal systems, it is difficult for the tribunal to formulate a unified legal approach to a given problem. This lack of homogeneity often produces an atmosphere of hesitation in considering certain problems. Costs of litigation before an international tribunal such as the I.C.J. can often prove exorbitant. It has been estimated that the cost to a state of one case before the I.C.J., notwithstanding the inconvenience and frustration involved, may exceed $200,000. 15/

Once an international tribunal has made a decision, all problems are not automatically solved. The lack of judicial review of the

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14/ Switzerland v. U.S., [1958-59] I.C.J. Y.B. 92-97.
15/ Turlington, The Rule of Law Among Nations 25 (A.B.A. Special Committee on World Peace Through Law, 1959).

decisions can lead to frustration on the part of parties to the controversy. Even more troublesome is the lack of power on the part of the tribunal to enforce its decrees. As with jurisdiction, enforcement depends upon the consent of the sovereign state and is thus a matter of comity. A sufficiently strong state interest can effectively preclude enforcement of any decree.

A possible area of future consideration in formulating effective policies to deal with disputes involving multinational corporations is the establishment of an international tribunal or tribunals vested with specific compulsory jurisdiction and compulsory enforcement procedures. Although this approach would seen to represent an effective means of international dispute settlement and regulation, serious difficulties surround any efforts to bring such a body into existence.

Nation states have been traditionally reluctant to forego any of their sovereign powers of regulation of behavior of their citizens. A competent international tribunal vested with compulsory powers would of necessity require a concurrent diminution of the regulatory powers of individual nations. Enforcement procedures of such a tribunal would only be effective to the extent that individual nations are willing to back tribunal decrees with national power. The proposed creation of an effective international regulatory and adjudicatory body would present to individual states the question of whether a state is willing to enforce within its territory orders from an international organization which could well prejudice the interests of that state's citizens.

Current ideological strife between East and West would present possibly insurmountable obstacles to the development of any international body which is to have real power. In this context, it has been noted that:

> Of course, the whole trend of decision with respect to jurisdiction cannot fail to be influenced by the existing division of the world community into two power-blocs, fraught with internal and external distrust and tension. Political conditions have led to a general deterioration of the position of law in international affairs, and this has carried over into the commercial and investment sphere. International tribunals, especially if purporting to function on a world-wide basis as in the case of the case of the Court of Arbitration of the International Chamber of Commerce, or the I.C.J., are greatly influenced by this dual polarization, often to their detriment. That is why the majority of observers have cast grave doubts on the future of any organized structure of authority claiming trans-world competence, and have resorted to the interim notion of regional tribunals as being best able to fulfill community expectations relating to the settlement of private and public investment disputes. 16/

A more realistic approach towards resolution of international disputes surrounding investment and the multinational corporation might be to encourage greater utilization of existing international judicial and arbitral facilities. Parties to a dispute would naturally be inclined to favor adjudication of their claims before a neutral international body over litigation in the local courts of a foreign nation. It has been suggested 17/ that the already existing international tribunals could play a greater role in the settlement of international investment disputes by encouraging a wider use of their arbitral facilities. This

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16/ Ackley, *supra*, note 8, at 140.
17/ Id. at p. 114.

could be accomplished by proposing model arbitration clauses for investment contracts, by advertising available facilities, and by gradually establishing a record of fairness and competency in adjudication and arbitration. Once confidence in the tribunals' abilities exists on the part of the international investment community, consent to their jurisdiction over a wider range of problems can be more readily obtained. Greater willingness to participate in international adjudication will also lead to a greater willingness to accept decrees of international tribunals as binding. This trend should certainly be encouraged if international investment is ever to be effectively controlled for the benefit of the world community.

Extraterritoriality of the Securities
and Exchange Act

The Securities and Exchange Act of 1934 1/ was enacted to regulate dealings in securities within the United States. The 1934 legislation created the Securities and Exchange Commission and provides for measures to ensure the financial safety of investors in the security markets. Aside from imposing registration and reporting requirements on domestic issuers of securities, the Act also attempts to prevent market manipulation, misrepresentation, "insider" trading, and other fraudulent transactions. The SEC regulations are stringent, complex, and sometimes uncertain due to the expanding role of civil liability for fraudulent activity in security trading. The issuer of securities must concern himself with registration and reporting requirements, proxy solicitation rules, and automatic civil liability for certain types of trading by "insider" groups. 2/

The United States has traditionally exercised jurisdiction over acts of its nationals within the United States. It has also successfully regulated the activities of foreign nationals inside the United States, and the activities of U.S. citizens and corporations outside the United States. The Sherman Act has been applied extraterritorially to control activities outside the United States which have anticompetitive "effects" within the United States. The Sherman Act serves as a

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1/ 15 U.S.C. §§ 78a, et seq.
2/ Buxbaum, Securities Regulation and the Foreign Issuer Exemption, 58 Cornell L.R., 358, at 361 (1969).

model for the application of Securities and Exchange Act regulation to security transactions occurring outside of the United States.

Section 30(b) of the SEC Act provides an exemption from extraterritorial application of the Act in the case of persons conducting a business in securities outside the United States. The relevant provisions are:

> The provisions of this chapter or of any rule or regulation thereunder shall not apply to any person insofar as he transacts a business in securities without the jurisdiction of the United States, unless he transacts such business in contravention of such rules and regulations as the commission may prescribe as necessary or appropriate to prevent the evasion of this chapter. 3/

Although the above language would seem to provide a blanket exemption from extraterritorial application of the SEC act for foreign issuers, the courts have not so held. It has been held that a single, isolated sale of securities outside the United States where the seller had made use of the U.S. mails and other means of interstate commerce, does not fall within the Section 30(b) exemption for those who, "transact a business in securities outside the United States." 4/

Another case has held that where the application of the SEC Act is necessary to protect the interests of U.S. investors, the Act will be applied to foreign transactions among foreign persons involving the sale of foreign securities traded on a domestic exchange. 5/ There, the U.S. Court of Appeals for the Second Circuit had the following to

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3/ 182 F. Supp. at 390.
4/ Ferraioli v. Cantor (Rehearing), 259 F. Supp. 842 (S.D.N.Y. 1966).
5/ Schoenbaum v. Firstbrook, 405 F. 2nd 200. (1968).

say about the extraterritorial impact of the SEC Act and the Section 30(b) exemption:

> The provision contained in Section 30(b) does not alter our conclusion that the Exchange Act has extraterritorial application. In our view, while Section 30(b) was intended to exempt persons conducting a business in securities through foreign securities markets from the provisions of the Act, it does not preclude extraterritorial application of the Exchange Act to persons who engage in isolated foreign transactions.* * * * *
>
> We hold that the district court has subject matter jurisdiction over violations of the Securities Exchange Act although the transactions which are alleged to violate the Act take place outside the United States, at least when the transactions involve stock registered and listed on a national securities exchange, and are detrimental to the interests of American investors. 6/

In the case of Roth v. Fund of Funds, Ltd., 7/ it was held that a mutual investment firm, which was a Canadian corporation with its offices in Geneva, Switzerland, and which made a profit on a purchase and sale of more than ten percent of an American corporation's common stock on the New York Stock Exchange was not "transacting a business in securities without the jurisdiction of the United States" sufficient to meet the Section 30(b) exemption. Thus, the court found that the SEC Act (particularly Section 16(b)) was applicable to a transaction involving foreign nationals, whose only contact with the United States was the fact that they purchased securities on a U.S. exchange by means of telephone calls from Switzerland to New York brokers.

As a general rule, the SEC Act will apply extraterritorially where

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6/ Id., at pp. 206 and 208.
7/ 279 F. Supp. 935, aff'd. 405 F. 2d 421, (1968), cert. den. 89 S. Ct. 1469.

a prohibited transaction occurs within the United States. Where the illegal act occurs primarily outside the United States but has effects within the United States, the Act may also apply unless the activities involved can meet the criteria of the Section 30(b) exemption. Section 30(b) was intended to exempt only foreign nationals engaged in the securities business due to a Congressional realization that United States attempts to regulate foreign security dealings could have international repercussions. In this context it has been noted,

> The extraterritorial application of statutes, however, raises policy considerations which Congress may well have found to prevail, in certain circumstances, over the need to protect investors. These considerations, touching on American foreign relations and the burdens of enforcement, go far to explain the distinction drawn in Subsection 30(b) between persons who are engaged in the securities business and those who are not. For example, Congress could quite easily conclude that another country would resent United States interference concerning the way the investment business is conducted within its borders more than it would resent the application of the American rule to occasional transactions by its nationals in United States securities. This is particularly apparent if one considers the likelihood that a foreign based investment business will be subject to foreign statutory regulation. No country likes its regulatory scheme to be superseded by those of another country and, of course, the existence of foreign regulation lessens the need for interference. 8/

In 1964, Subsection 12(g) was added to the SEC Act. This amendment requires registration with the SEC of each class of equity securities held by more than five hundred holders of record issued by all (including foreign) corporations having assets of more than one million dollars who are engaged in (or in a business affecting) interstate

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8/ Note, Extraterritorial Application of the Securities Exchange Act of 1934, 69 Colum. L.R., 94, at p. 104. (1969).

commerce, or whose securities are traded by means of interstate commerce. 9/

Until May of 1967, foreign issuers were exempted from the registration requirements of Section 12(g). In May of that year, the SEC issued a regulation concerning foreign issuers. 10/ This detailed regulation requires that issuers of securities who have more than half of their outstanding voting securities held directly or indirectly by United States residents, must comply with Section 12(g) registration. Other foreign issuers are permitted to comply with more liberal registration requirements. The regulation thus permits foreign issuers who are not heavily involved in the United States securities market to furnish such information to the SEC as it would otherwise be required to make public. 11/

In conclusion, the SEC Act can apply extraterritorially to isolated acts outside the United States which have effects inside the United States. Section 30(b) provides a limited exemption in the case of a foreign national who is transacting a business in securities outside the United States. United States courts have demonstrated their willingness to exercise jurisdiction over acts of foreign issuers of securities if suitable "minimal contacts" with the United States (such as the utilization of a means of interstate commerce) can be found. The multinational corporate entity which desires to issue securities in the United States or which desires to participate in isolated transactions in United

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9/ 17 C.F.R. § 240.12g.
10/ 17 C.F.R. § 240, 12g3-2 (1968).
11/ Note *supra*, note 8, at 111.

States securities may well be faced with an extraterritorial application of the United States Securities Exchange Act.

United States Foreign Direct
Investment Controls

Executive Order 11387 of January 1, 1968, established mandatory limits on U.S. foreign direct investment. These controls are currently found in the Foreign Direct Investment Regulations issued by the Department of Commerce 1/ and they are overseen by the Commerce Department's Office of Foreign Direct Investment (OFDI). Investment controls were enacted in an effort to correct U.S. balance-of-payments problems and thereby shore up confidence in the dollar.

Summary of the controls

(1) The controls apply to U.S. persons and businesses which are classified as "direct investors"--defined as holding 10 percent or more of an equity investment outside the United States. The foreign business organizations are termed "affiliated foreign nationals" (AFN). "Direct investment" is made up of capital transfers, loans, and capital contributions, from direct investors to AFNs together with the uninvested earnings of the AFN.

(2) The controls prohibit (with the exception of Canada) direct investment in any foreign country during a calendar year except as permitted under the regulations or as permitted an individual investor by OFDI. The Regulations provide for three investment limits which are termed "allowables":

(a) a worldwide minimum investment allowable of $2,000,000.

1/ 15 C.F.R. pt. 1000, as amended.

(b) certain "earnings" allowables which vary for each of three types of groups of countries: schedule A, B, and C countries. In each schedule area, the investor is permitted annual investments in an amount equal to forty percent of the annual earnings of the direct investor's AFNs in that schedule area in the preceding year.

(c) a set of "historical" allowables which are determined separately for the three country groups based on investment during the period 1964-1966.

Unused allowables are permitted to be passed among different schedules of countries in the same year. If the historical and earnings allowables are not utilized in the calendar year, they can be carried forward to the next calendar year.

(3) In determining whether the investment allowables have been exceeded, the regulations do not count direct investment made with the proceeds of "long-term foreign borrowings" made by the direct investor. Repayments of such borrowings do count as a form of direct investment and are subject to the controls. The regulations also require that the direct investor repatriate to the United States by the end of each year all long-term foreign borrowing proceeds not physically invested at that time.

(4) The Regulations prohibit direct investors from holding end-of-month "liquid foreign balances" which exceed the average end-of-month amount of the base period of 1965-66. Liquid foreign balances are interpreted as including demand and short-term deposits in foreign banks and in foreign branches of U.S. banks, and certain other liquid foreign assets. Balances in Canada are not included.

(5) Most direct investors are subject to the requirement of filing quarterly and yearly reports demonstrating their compliance

with investment controls. If annual worldwide foreign investment (including Canada) has not exceeded $1,000,000 beginning with 1968, the quarterly reports are not required. For failure to comply with reporting requirements, the regulations contain severe criminal penalties. OFDI has, however, relied on civil remedies such as "voluntary settlements," "consent agreements," and "orders" which follow formal administrative proceedings. 2/

Criticism of the controls

The OFDI Regulations have been subject to both domestic and European criticism since their enactment. Domestically, the controls have been attacked as being inequitable and as imposing burdensome requirements on U.S. investors. In Europe, concern has arisen over potential conflicts between U.S. regulation of overseas corporations through the controls, and host country corporation laws.

In the United States, it has been pointed out that foreign direct investment may have a favorable impact on the U.S. balance of payments through prompt recoupment of dollar outflows through earnings, sales of capital equipment, and exports. In this context, one authority suggests that--

> If dollar outflows are recouped in a short time, every effort should be made by the control authorities not to reduce foreign investment but to substitute foreign borrowings for dollar outflows and to expand the return of earnings, while permitting sufficient new outflows of equity or parent funds to expand total outlays as

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2/ Summary excerpted from Ellicott, "United States Controls on Foreign Direct Investment," L. and Contemp. Prob., vol. xxxiv, no. 1, at 48-49.

> much as possible. OFDI objectives, therefore, should be not to interfere with private decisions to expand investment abroad but merely to encourage or require a substitution of foreign borrowing for dollar outflow and retained earnings. If the controls have any other effect, they are likely to affect the payments situation adversely by reducing total returns and lengthening the recoupment period. 3/

Although the regulations have been revised in an effort to make their application more equitable, some domestic critics allege that the regulations' complexity, coupled with their frequent revisions, make them incomprehensible to the business community. Finally, some commentators question the necessity of controlling retained earnings in the same manner as outflows of U.S. capital are controlled. 4/

Although the OFDI regulations were not intended to apply to single national states, Europeans have voiced concern over what some consider to be United States encroachment into other countries' power to regulate enterprises doing business within those countries' borders.

The fact that the OFDI regulations attempt to compel repatriations and prevent reinvestment in the host country can mean that the host country does not receive the benefits of additional investments of profits which have been earned within its territory. It is United States law, not the law of the host country, which determines what profits are to be repatriated.

It has been recognized in the United States that the OFDI regulations might invite retaliation by foreign governments. 5/

3/ Behrman, "Assessing the Foreign Investment Controls," _L. and Contemp. Probs._, vol. xxxiv, no. 1, at pp. 84-85 (1969).
4/ Ellicott, _supra_, note 2, at 63.
5/ 114 _Cong. Rec._ H8828, Sept. 17, 1968.

Increased repatriations of earnings by affiliated foreign nationals may also conflict with the rights of minority shareholders under European (especially French and German) corporate law. Minority shareholders on the boards of directors of affiliated foreign corporations could oppose the low reinvestment of profits in the host countries out of potential personal liability to host country shareholders. 6/

Repeal of the controls

The Nixon Administration has stated that it advocates removal of mandatory controls on foreign investment, but that it recognizes that this removal must come about gradually and must be accompanied by improvement in the fundamental economic problems which create the continuing imbalance in the U.S. balance of payments. The President's statement noted that the principal means for imporving balance of payments is stable and non-inflationary growth of the U.S. economy. 7/

Several reasons are given by advocates of the repeal of the OFDI controls. It is felt that although repeal of the controls would cause balance-of-payments risks, these risks are preferable to permitting the controls to become "too ingrained," and to allowing foreign debt to be built up to an unhealthy level. 8/

Other proponents of repeal cite perhaps the most compelling reason for removal of the controls: that substantial evidence demonstrates

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6/ Rehbinder, "A European Legal Point of View," L. and Contemp. Probs., vol. xxxiv no. 1, at 108 (1969).

7/ Statement by the President, April 4, 1969, accompanying Executive Order No. 11464, N.Y.Times, April 5, 1969, at 39, col. 4.

8/ Ellicott, supra, note 2, at 63.

that the controls are at least not improving the balance of payments deficit, and may be worsening it. 9/

In conclusion, a European expert 10/ has pointed out that the U.S. OFDI controls are only one aspect of the greater problem of the multinational enterprise. Potential conflicts among nations will continue as the multinational corporation expands unless parent country governments forbear to exercise control over activities outside their territorial boundaries. The political power of the parent country which seeks to exercise control extraterritorially over the operations of the multinational corporation is critical, as:

> The problem of the multinational enterprise has different dimensions dependent on whether the home state is powerful or not in relation to the host state. If it is not, the host state only has to cope with the private power of the multinational enterprise. In general, the state will be able to enforce its policies against the multinational enterprise to the same extent as it does against domestic enterprises. However, with a powerful home state, the private power of the enterprise and the political power of the home state must be added together. To a certain degree, such multinational enterprise is autonomous; to a certain degree, it is not more than an elongated arm of the home state.

9/ Behrmann, *supra*, note 3, at 86.
10/ Rehbinder, Prof. of Law, University of Bielefeld, Germany, *supra*, note 6, at 117.