96th Congress
1st Session

COMMITTEE PRINT

CP 96-15

MTN STUDIES

5

An Economic Analysis of the Effects of the Tokyo Round of Multilateral Trade Negotiations on the United States and the Other Major Industrialized Countries

COMMITTEE ON FINANCE

UNITED STATES SENATE

RUSSELL B. LONG, *Chairman*

A Report Prepared at the Request of the

SUBCOMMITTEE ON INTERNATIONAL TRADE

ABRAHAM RIBICOFF, *Chairman*

JUNE 1979

Printed for the use of the Committee on Finance

U.S. GOVERNMENT PRINTING OFFICE
WASHINGTON 1979

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402

Best Available Copy

S362-35

COMMITTEE ON FINANCE

RUSSELL B. LONG, Louisiana, *Chairman*

HERMAN E. TALMADGE, Georgia
ABRAHAM RIBICOFF, Connecticut
HARRY F. BYRD, Jr., Virginia
GAYLORD NELSON, Wisconsin
MIKE GRAVEL, Alaska
LLOYD BENTSEN, Texas
SPARK M. MATSUNAGA, Hawaii
DANIEL PATRICK MOYNIHAN, New York
MAX BAUCUS, Montana
DAVID L. BOREN, Oklahoma
BILL BRADLEY, New Jersey

ROBERT DOLE, Kansas
BOB PACKWOOD, Oregon
WILLIAM V. ROTH, Jr., Delaware
JOHN C. DANFORTH, Missouri
JOHN H. CHAFEE, Rhode Island
JOHN HEINZ, Pennsylvania
MALCOLM WALLOP, Wyoming
DAVID DURENBERGER, Minnesota

MICHAEL STERN, *Staff Director*
ROBERT E. LIGHTHIZER, *Chief Minority Counsel*

SUBCOMMITTEE ON INTERNATIONAL TRADE

ABRAHAM RIBICOFF, Connecticut, *Chairman*

HERMAN E. TALMADGE, Georgia
HARRY F. BYRD, Jr., Virginia
MIKE GRAVEL, Alaska
DANIEL PATRICK MOYNIHAN, New York
MAX BAUCUS, Montana
BILL BRADLEY, New Jersey

WILLIAM V. ROTH, Jr., Delaware
JOHN C. DANFORTH, Missouri
JOHN HEINZ, Pennsylvania
ROBERT DOLE, Kansas
JOHN H. CHAFEE, Rhode Island

Prepared for the
Committee on Finance
United States Senate
June 12, 1979

(Executive Summary)

AN ECONOMIC ANALYSIS OF THE EFFECTS OF THE TOKYO ROUND OF MULTILATERAL TRADE NEGOTIATIONS ON THE UNITED STATES AND THE OTHER MAJOR INDUSTRIALIZED COUNTRIES

by

Alan V. Deardorff and Robert M. Stern
University of Michigan, Ann Arbor

The Tokyo Round of Multilateral Trade Negotiations (MTN) has resulted in agreements to reduce tariffs significantly, to eliminate or reduce the scope of a number of nontariff barriers, and to alter or formalize certain codes of international economic behavior in ways that should help to liberalize trade even further in the future. In our report we have tried, as far as possible, to quantify all but the last of these aspects of the negotiations. In particular, we have estimated the effects on employment, exchange rates, prices, and economic welfare, both of the negotiated tariff reductions and of those changes in nontariff barriers (NTB's) that we were able to quantify. The results, which are summarized in Table 1, agree, by and large, with earlier studies that have found the effects of trade liberalization to be beneficial but rather small. In particular, it is unlikely that implementation of the negotiated changes will cause significant dislocation in labor markets, especially in the U.S.

As shown in the table, we expect the main results of the MTN to be as follows:

(1) Employment will increase by a small amount in all countries except Japan and Switzerland. The increase for the United States is about 15 thousand workers. In percentage terms, these changes are no more than a few tenths of one per cent of the labor force in any country and still less in the U.S.

(2) Exchange rates will change to a small extent. The U.S. dollar will depreciate very slightly (two tenths of one per cent), as will such currencies as the French franc and the British pound. The deutsche mark and the yen will appreciate very slightly.

(3) Import and therefore consumer prices will fall to a limited extent in all countries. For the U.S., the decline is less than one-tenth of one per cent.

(4) Economic welfare will be increased in all countries except Switzerland. The welfare gain for the U.S. is estimated at between $1 and $1.5 billion dollars, which is less than one tenth of one per cent of U.S. gross domestic product.

All of these changes, small as they are, assume that the changes in tariffs and NTB's that have been negotiated are to be implemented all at once. In fact, they will be phased in over a number of years, so that the effects that will occur in any one year will be even smaller than noted.

The country results in Table 1 mask much industry detail. Such detail would be too cumbersome to report in this summary, but it is an important part of our report. The increase in U.S. employment, for example, is not shared by all industries. However, the employment declines even at the industry level are never more than one per cent of industry employment.

TABLE 1

SUMMARY OF EFFECTS OF REDUCTIONS IN TARIFFS AND CERTAIN NONTARIFF BARRIERS
IN THE MTN UNDER CONDITIONS OF FLEXIBLE EXCHANGE RATES

COUNTRY	CHANGE IN EMPL 000 OF WORKERS	% CHANGE IN EMPLOYMENT	% CHANGE IN EFFECT EXCHG RATE*	% CHANGE IN PRICE INDEX+	CHANGE IN ECON WELFARE AS % OF GDP
AUSTRALIA	0.6	0.01	0.06	-0.07	0.01
AUSTRIA	6.7	0.21	0.14	-0.74	0.14
CANADA	2.2	0.02	0.04	-0.28	0.17
EUROPEAN COMMUNITY	116.1	0.12		-0.39	0.13
BELGIUM-LUXEMBOURG	15.4	0.40	0.51	-0.99	0.27
DENMARK	5.9	0.24	0.07	-0.57	0.07
FRANCE	25.2	0.12	-0.19	-0.30	0.10
GERMANY	22.0	0.09	0.07	-0.53	0.02
IRELAND	4.0	0.39	0.26	-0.53	0.53
ITALY	12.9	0.07	-0.05	-0.25	0.12
NETHERLANDS	8.5	0.19	0.29	-0.71	0.32
UNITED KINGDOM	22.5	0.09	-0.13	-0.22	0.27
FINLAND	5.5	0.26	-0.26	-0.23	0.16
JAPAN	-11.6	-0.02	0.20	-0.08	0.03
NEW ZEALAND	2.0	0.17	-0.01	-0.14	0.19
NORWAY	1.5	0.05	-0.55	-0.10	0.13
SWEDEN	5.4	0.13	-0.22	-0.33	0.11
SWITZERLAND	-9.8	-0.35	-0.08	-0.37	-0.00
UNITED STATES	15.0	0.02	-0.20	-0.07	0.06
ALL COUNTRIES	133.7	0.05		-0.20	0.08

*POSITIVE SIGN MEANS APPRECIATION; NEGATIVE SIGN MEANS DEPRECIATION.
+REFERS TO AN INDEX OF IMPORT AND HOME PRICES.

All of these results derive from a large computational model of world production and trade that we have developed in recent years at the University of Michigan. The model includes explicit markets for 22 tradable and 7 non-tradable industries, which together provide exhaustive coverage of world production. These markets are cleared both nationally, for each of the 18 major industrialized countries, and internationally, to capture trade among these countries and between them and the rest of the world. Exchange rates are also included in the model and may be either held fixed or allowed to vary to clear markets for foreign exchange. Once a given set of changes in, say, tariffs or NTB's is introduced into the model, it can be solved for the resulting changes in output, prices, trade, and employment for each of the 29 industries and 18 countries as well as for changes in exchange rates for each country. We also calculate separately a measure of the change in economic welfare in each country.

We applied the model first to the tariff changes that have been negotiated in the MTN. These changes, which were made available to us by the Office of the U.S. Special Trade Representative, show an average depth of cut of about 26 per cent. Most of the countries participating in the MTN agreed to use some variant of the Swiss Formula as the starting point for negotiating. In the end, the tariff cuts offered by the United States show a depth of cut that is fairly close to what would have been obtained under the Swiss Formula. All other countries, however, offered noticeably smaller average cuts than they would have using the formula. As a result, the negotiated tariff cuts are somewhat larger for the U.S. than for such important trading entities as the European Community and Japan.

We used our model to estimate the effects of these tariff changes alone. The results, assuming flexible exchange rates, were very similar to those in Table 1. We also ran the model under the assumption that exchange rates were fixed, although these results are less relevant to today's international environment than those which assume exchange-rate flexibility.

Nontariff barriers are in general much more difficult to quantify than are tariffs. Based on complaints filed with STR, we constructed an inventory of such barriers as faced by American exporters, but this inventory could not be used to make numerical estimates of their sizes or effects. Therefore, in our estimates, we have focused on two specific NTB's for which numerical information was available. The first pertains to trade in agricultural commodities, for which the U.S. has obtained concessions from most of its trading partners in the form of increased import quotas and has made some concessions of its own pertaining to imports of cheese. The second NTB for which quantitative information was available pertained to government-procurement regulations. Here we were given estimates of the total amount of government expenditure in each country that was subject to such regulation and would be liberalized as a result of the negotiations.

We used our model, then, to analyze the effects of both the agricultural concessions and the procurement liberalization. The results were mostly similar to those of the tariff changes discussed above, though even smaller in magnitude.

The combined effects of both tariffs and these NTB's were also estimated, giving the results reported in Table 1 which we have already noted. Our general conclusion, then, is as follows. Those aspects of the MTN which we have been able to quantify -- including both tariff changes and liberalization of certain NTB's -- appear to be beneficial for almost all of the countries involved, including the U.S. Adjustment problems in labor markets appear to be either nonexistent or negligible at the country level. And even at the more disaggregated industry level, where employment changes occasionally amount to several per cent of an industry's labor force in some of the smaller countries, these adjustment problems should be slight, given that the changes are to be phased in over a period of up to a decade.

AN ECONOMIC ANALYSIS OF THE EFFECTS OF THE TOKYO ROUND OF MULTILATERAL TRADE NEGOTIATIONS ON THE UNITED STATES AND THE OTHER MAJOR INDUSTRIALIZED COUNTRIES

by

Alan V. Deardorff and Robert M. Stern
University of Michigan, Ann Arbor

A Report for the Committee on Finance
United States Senate

June 12, 1979

Acknowledgements

The research in this report was carried out under the auspices of the Committee on Finance of the U.S. Senate. We are indebted especially to William Finan for his assistance throughout and for comments on a preliminary version of our results. Much of the data underlying the research was obtained in computer-readable form from the Office of the Special Trade Representative in Washington. We would like particularly to thank Geza Feketekuty, Barry Goldberg, Jerome La Pittus, and other members of STR for furnishing and helping us to interpret the data and the preliminary results. Robert Sarsfield of the U.S. Department of State was instrumental in our obtaining the United Nations trade tapes that were used in the study.

We want to give special thanks to Werner Riedl, whose programming and data-management skills were crucial in the organization and implementation of the research. Jerry Tempalski and Prachaya Jumpasut are also to be thanked for their assistance in gathering and processing the data on production and employment used in the research. We owe a special debt to Mrs. Francisca Patton for her highly proficient and unerring typing and her spirit of cooperation in getting everything done. Amy Copperman also lent an able hand in the final stages of typing.

TABLE OF CONTENTS

Appendix

LIST OF TABLES

LIST OF FIGURES

I. Introduction

The conclusion of the Tokyo Round of Multilateral Trade Negotiations (MTN) in 1979 is another important milestone in international commercial diplomacy. It marks the seventh round of multilateral reductions in international trade barriers that have been negotiated under the auspices of the General Agreement on Tariffs and Trade (GATT) since the end of World War II. Tariffs on industrial products were last reduced on a major scale in the Kennedy Round, which was concluded in 1967 with the reductions being phased in over the following five years. Tariffs will be reduced even further as a result of the MTN, and this time the reductions will be phased in over a period of up to eight years. But what is perhaps an equally noteworthy accomplishment of the MTN is the negotiation of a series of codes covering nontariff barriers. Depending upon how these codes will be interpreted and adhered to by the major industrialized countries, they could result in some significant reductions in nontariff barriers as well as a clarification and harmonization of the rules and practices that governments will follow in their policies involving international trade.

The purpose of our study is to provide an analysis of the economic effects on the United States and the other major industrialized countries of the reductions in tariffs and nontariff barriers that have been negotiated in the MTN. Our analysis will be based primarily on a disaggregated model of world production and trade that we have developed in recent years at the University of Michigan. We will have occasion below to present and discuss in detail our model and the results of our analysis. But before doing so, it will be useful to review briefly some of the salient characteristics of U.S. foreign trade and to discuss the costs and benefits of trade restrictions and liberalization. We hope thereby to provide some perspective for viewing our analytical results concerning the MTN.

Salient Characteristics of United States Foreign Trade

It may be appropriate first to consider how important foreign trade is in the U.S. economy. A common measure is the ratio of trade to gross national product. Thus, for example, as noted in Table 1, U.S. merchandise exports and imports were equal, respectively, to 6.8 and 8.2 per cent of GNP in 1978. Considering both merchandise and services, the percentages were 8.4 for exports and 9.8 for imports. While these percentages are relatively small, it is evident from Table 1 that they have risen very substantially in the past two decades.

An alternative measure of the importance of trade would be to express exports and imports as a percentage of expenditures on tradable goods. If the relevant data were available, the percentages would certainly be larger than those shown in Table 1. There would also be sizable differences in the importance of trade for individual sectors and industries. It should be noted in addition that the importance of trade will vary from country to country. This is evident from the data recorded in Table 2 for the U.S. and some of the other major industrialized countries.

The data in Table 1 further reflect the shift in the U.S. balance of trade and balance on goods and services that has taken place in the past two decades. A surplus was recorded in 1960, there was balance in 1970, and a substantial deficit in 1978. This deficit was $28.6 billion on trade and $31.1 billion on goods and services.

The composition of U.S. merchandise trade by major commodity groups for 1972 and 1977 is indicated in Table 3.

Table 1

Exports and Imports as a Percentage of GNP in the United States, 1960, 1970, and 1978

	1960	1970	1978
Merchandise only (fob)[a]			
Exports	3.9%	4.3%	6.8%
Imports	3.0	4.1	8.2
Goods and Services[b]			
Exports	4.8	5.5	8.4
Imports	4.4	5.5	9.8

[a]Measured on a transactions basis.

[b]Measured on a national accounts basis.

Source: Adapted from International Monetary Fund, International Financial Statistics.

Table 2

Exports and Imports as a Percentage of GNP in the United States and Other Major Industrialized Countries

		Merchandise Only[a]		Goods and Services[b]	
County	Year	Exports	Imports	Exports	Imports
United States	1978	6.8%	8.2%	8.4%	9.8%
Canada	1978	23.6	22.1	25.8	25.7
Japan	1977	11.6	9.1	13.7	12.1
West Germany	1978	22.1	18.3	27.1	24.3
France	1976	16.3	17.5	19.1	20.3
Italy	1977	23.2	23.1	26.2	26.9
United Kingdom	1977	23.6	24.7	30.9	30.1

[a]Measured on a transactions basis.

[b]Measured on a national accounts basis.

Source: International Monetary Fund, International Financial Statistics.

Table 3

Commodity Composition of United States Merchandise Trade, 1972 and 1977

	1972		1977	
	Exports	Imports	Exports	Imports
Food, raw materials, ores & other minerals	25.1%	20.5%	26.2%	15.1%
Fuels	3.3	8.6	3.7	29.9
Metals, chemicals, & other semimanufactures	16.1	19.1	16.2	15.4
Engineering products	47.9	36.0	47.4	28.6
Textiles, clothing, & other consumer goods	5.2	12.9	5.2	9.3
Unspecified	2.4	2.9	1.3	1.7
Total	100.0%	100.0%	100.0%	100.0%

Source: Adapted from GATT, International Trade 1976/77 and 1977/78, Table A.

It is evident that exports of food, raw materials, ores and other minerals accounted for one-fourth of total exports, metals, chemicals, and other semimanufactures for one-sixth, engineering products just under one-half, and textiles, clothing, and other consumer goods one-twentieth of total exports in 1972 and 1977. On the import side, the relative importance of fuels increased more than three-fold, from 8.6 in 1972 to 29.9 per cent in 1977. Imports of food, raw materials, ores and other minerals were about 15 per cent of total imports in 1977, as were imports of metals, chemicals, and other semimanufactures. Engineering products accounted for somewhat less than 30 per cent of total imports in 1977, and textiles, clothing, and other consumer goods for around 10 per cent.

U.S. exports, imports, and trade balances for the major commodity subgroups are indicated for 1972 and 1977 in Table 4. Thus, in 1977, it can be seen that trade surpluses were recorded (in billions of dollars) for: food ($7.4), raw materials ($1.1), chemicals ($5.9), machinery ($9.4), office and telecommunications equipment ($2.4), other machinery and transportation equipment ($9.7), and textiles ($0.2). Trade deficits in 1977 were recorded (in billions of dollars) for: ores and other minerals (-$0.7), fuels (-$40.0), nonferrous metals (-$2.8), iron and steel (-$4.3), other semimanufactures (-$2.9), road motor vehicles (-$5.9), household appliances (-$3.5), clothing (-$3.5), and other consumer goods (-$4.4).

These trade-balance data are significant in drawing attention to the factors that determine the comparative advantage of the U.S. in international trade. Thus, our net exports of food and raw materials reflect to a large extent our relative abundance of land, other natural resources, and the associated efficient investments in physical capital while our net imports of

Table 4

United States Total Merchandise Exports, Imports, and Trade Balances by Commodity Groups, 1972 and 1977
(Billions of Dollars, fob)

Commodity Group	Year	Exports	Imports	Balance
1. Food	1972	8.7	7.6	1.1
	1977	22.1	14.7	7.4
2. Raw materials	1972	2.5	2.5	-
	1977	6.0	4.9	1.1
3. Ores & other minerals	1972	0.8	1.3	- 0.5
	1977	2.0	2.7	- 0.7
4. Fuels	1972	1.6	4.8	- 3.2
	1977	4.2	44.2	-40.0
Total primary products	1972	13.7	16.2	- 2.5
	1977	34.3	66.5	-32.2
5. Nonferrous metals	1972	0.7	1.9	- 1.2
	1977	1.2	4.0	- 2.8
6. Iron and steel	1972	0.8	2.9	- 2.1
	1977	1.7	6.0	- 4.3
7. Chemicals	1972	4.5	2.2	2.3
	1977	11.7	5.8	5.9
8. Other semimanufactures	1972	1.7	3.6	- 1.9
	1977	4.0	6.9	- 2.9
Total semimanufactures	1972	7.7	10.6	- 2.9
	1977	18.6	22.7	- 4.1
9. Machinery	1972	6.1	2.4	3.7
	1977	14.9	5.5	9.4
10. Office & telecom. equipment	1972	2.9	1.6	1.3
	1977	7.3	4.9	2.4
11. Road motor vehicles	1972	4.7	8.8	- 4.1
	1977	11.6	17.5	- 5.9
12. Other mach. & transp. equip.	1972	8.4	4.4	4.0
	1977	18.7	9.0	9.7
13. Household appliances	1972	0.8	2.7	- 1.9
	1977	1.9	5.4	- 3.5
Total engineering products	1972	22.9	20.0	2.9
	1977	54.4	42.3	12.1
14. Textiles	1972	0.8	1.5	- 0.7
	1977	2.0	1.8	0.2
15. Clothing	1972	0.2	1.9	- 1.7
	1977	0.6	4.1	- 3.5
16. Other consumer goods	1972	1.5	3.8	- 2.3
	1977	3.4	7.8	- 4.4
Total consumer goods	1972	2.5	7.2	- 4.7
	1977	6.0	13.7	- 7.7
Total manufactures	1972	33.2	37.8	- 4.6
	1977	78.9	78.6	0.3
Total trade[a]	1972	47.8	55.6	- 7.8
	1977	114.8	147.8	-33.0

[a]Including unspecified commodities.
Note: Totals may not agree due to rounding.

Source: Adapted from GATT, International Trade 1976/77 and 1977/78, Table A.

fuels, ores, metals, and other semimanufactures reflect our relative scarcity of the associated factors. U.S. net exports of chemicals, machinery, and equipment reflect our comparative advantage in advanced-technology industries. These industries combine especially the services of the most highly educated, technically trained, and experienced members of the work force and business management with the services of the physical plant and equipment that embody the most dynamically efficient technology. Finally, our net imports of automotive vehicles, household appliances, clothing, and other consumer goods are indicative of a shift in comparative advantage that has taken place over the years from the U.S. to other producing countries. Because most of these goods can now be produced with relatively standardized production methods, it has become cheaper to produce them in countries with lower wage costs.

Some further perspective on U.S. trade is given in Table 5, which breaks down the trade balances by commodity subgroups for 1972 and 1977 according to the major areas of the world. Thus, it can be seen that, in 1977, the U.S. had a trade surplus in food with the European Community (EC), Japan, the Socialist Countries, OPEC, and a deficit with the Non-Oil LDC's. Canada was a major source of U.S. imports of primary products (including fuels) and metals. The bulk of net U.S. imports of fuels came from the OPEC countries and from LDC's that were not members of OPEC. Net U.S. imports of iron and steel came from the other major industrialized countries, especially the EC and Japan. The U.S. trade surplus in chemicals was divided between the industrial countries and the LDC's. The U.S. was a net exporter of machinery, office and telecommunications equipment, and other machinery and transportation equipment to all the areas listed, except Japan. The U.S.

had sizable net imports of road motor vehicles from the EC and Japan. Net imports of household appliances came mainly from Japan and the Non-Oil LDC's. The LDC's also accounted for a substantial share of U.S. net imports of clothing and other consumer goods. The data in Table 5 on the geographical breakdown of U.S. trade balances by commodity groups thus reinforce our earlier discussion of the determinants of U.S. comparative advantage vis-a-vis our trading partners.

Costs and Benefits of Trade Restriction and Liberalization

Our brief review of the commodity composition and geographic distribution of U.S. trade has drawn attention to the sectors in the U.S. economy that compete effectively in world export markets and those that may be vulnerable to competition from imports. If trade were assumed to be freed completely, we would presumably witness an expansion of the export and a contraction of the import-competing industries. This would be beneficial to the U.S. in the long run because labor, capital, and other resources would then be allocated to their most efficient uses in production and the nation's income would be permanently higher. Consumers would also benefit in terms of allocating their income among the different goods in their consumption bundle so as to maximize their satisfaction, given their preferences and the relative prices that they would encounter in the market.

If once we were in a position of free trade and import restrictions were then imposed, the process described above would work in reverse. That is, resources would be attracted from the export industries to less efficient utilization in production in the import-competing industries, and the nation's

Table 5

United States Trade Balances by Area and Commodity Groups, 1972 and 1977
(Billions of Dollars, fob)

Commodity Group	Year	World	Industrial Countries: Total[a]	European Community	Japan	Canada	Socialist Countries	OPEC	Non-Oil LDC's
1. Food	1972	1.1	2.0	1.5	1.0	-	0.5	0.2	- 1.6
	1977	7.4	8.6	4.8	3.4	0.2	1.3	1.0	- 3.5
2. Raw materials	1972	-	- 0.1	0.4	0.8	- 1.4	0.1	-	0.1
	1977	1.0	0.2	1.0	1.6	- 2.6	0.1	- 0.2	0.9
3. Ores & other minerals	1972	- 0.5	- 0.1	0.2	0.2	- 0.4	-	- 0.1	- 0.3
	1977	- 0.7	- 0.1	0.6	0.3	- 0.8	-	- 0.1	- 0.5
4. Fuels	1972	- 3.2	- 0.5	0.2	0.4	- 1.2	-	- 2.1	- 0.6
	1977	-40.0	- 2.7	- 0.7	1.1	- 3.1	- 0.1	-31.4	- 5.9
<u>Total primary products</u>	1972	- 2.6	1.4	2.4	2.3	- 3.0	0.6	- 2.0	- 2.4
	1977	-32.3	6.0	6.0	6.3	- 6.4	1.3	-30.7	- 9.0
5. Nonferrous metals	1972	- 1.3	- 0.9	-	-	- 0.7	-	-	- 0.3
	1977	- 2.8	- 1.7	- 0.1	-	- 1.1	- 0.1	-	- 1.1
6. Iron and steel	1972	- 2.1	- 2.2	- 1.0	- 1.1	0.1	-	0.1	-
	1977	- 4.3	- 6.8	- 1.7	- 2.4	-	-	0.3	-
7. Chemicals	1972	2.3	1.0	0.5	0.1	0.3	-	0.2	1.1
	1977	5.9	2.3	0.8	0.5	0.3	-	0.7	2.9
8. Other semimanufactures	1972	- 1.9	- 1.6	- 0.4	- 0.2	- 0.9	-	0.1	- 0.3
	1977	- 2.9	- 2.7	- 0.6	- 0.1	- 1.7	-	0.4	- 0.6
<u>Total semimanufactures</u>	1972	- 3.0	- 3.7	- 0.9	- 1.2	- 1.2	-	0.4	0.5
	1977	- 4.1	- 8.9	- 1.6	- 2.0	- 2.5	-	1.4	1.2
9. Machinery	1972	3.7	1.4	-	- 0.1	1.1	0.1	0.6	1.6
	1977	9.4	2.5	0.1	- 0.7	2.1	0.3	3.1	3.5

10. Office & telecom. equip.	1972	1.3	1.1	0.8	- 0.2	0.2	-	0.1	0.2
	1977	2.4	1.8	1.9	- 1.4	0.6	-	0.5	-
11. Road motor vehicles	1972	- 4.1	- 4.9	- 1.9	- 2.0	- 1.0	-	0.2	0.6
	1977	- 5.9	- 8.7	- 2.7	- 5.3	- 0.9	0.1	1.4	1.3
12. Other mach. & transp. equip.	1972	4.0	2.0	0.7	- 0.3	0.6	-	0.5	1.4
	1977	9.8	3.0	1.4	- 1.3	1.4	0.2	3.3	3.3
13. Household appliances	1972	- 2.0	- 1.7	- 0.2	- 1.6	0.2	-	-	- 0.3
	1977	- 3.5	- 2.5	-	- 2.7	0.4	-	0.2	- 1.2
Total engineering products	1972	3.0	- 2.2	- 0.6	- 4.2	1.2	0.1	1.5	3.5
	1977	12.2	- 3.9	0.7	-11.4	3.5	0.6	8.5	7.0
14. Textiles	1972	- 0.8	- 0.4	- 0.3	- 0.3	0.2	-	-	- 0.3
	1977	0.2	0.4	0.1	- 0.3	0.5	-	0.1	- 0.3
15. Clothing	1972	- 1.6	- 0.6	- 0.2	- 0.3	-	-	-	- 1.1
	1977	- 3.5	- 0.4	- 0.2	- 0.2	-	- 0.1	-	- 3.0
16. Other consumer goods	1972	- 2.2	- 1.5	- 1.0	- 0.4	0.2	-	-	- 0.7
	1977	- 4.4	- 2.0	- 1.3	- 0.7	0.5	- 0.1	0.3	- 2.6
Total consumer goods	1972	- 4.6	- 2.5	- 1.5	- 1.0	0.4	-	-	- 0.7
	1977	- 7.7	- 2.0	- 1.4	- 1.2	1.0	- 0.2	0.4	- 5.9
Total manufactures	1972	- 4.6	- 8.4	- 3.1	- 6.4	0.4	-	1.9	1.8
	1977	0.3	-12.5	- 2.4	-14.7	2.0	0.3	10.4	2.2
Total trade[b]	1972	- 7.8	- 7.6	- 1.0	- 4.2	- 2.8	0.5	- 0.1	- 0.6
	1977	-33.1	- 7.5	3.2	- 8.5	- 4.8	1.6	-20.2	- 7.0

[a] Includes other western Europe, Australia, New Zealand, and South Africa.

[b] Including unspecified commodities.

Note: Totals may not agree due to rounding.

Source: Adapted from GATT, International Trade 1976/77 and 1977/78, Table A.

income would be lower. Consumer satisfaction would be diminished by the need to purchase a more costly bundle of goods than before.

So far, our discussion has assumed that all members of society gain or lose equally from a change in trade policy. This simplification should be removed by recognizing that, while some members of the society may gain, others will lose whenever a policy is changed. Thus, for example, if trade were assumed to become completely free, workers in the export industries would be benefited and those in the import-competing industries possibly harmed. We could say that the nation as a whole would be better off only if the gainers could potentially compensate the losers and still have the gainers be better off. And, by the same token, the losers should not be able to compensate the gainers to prevent the movement to free trade, without the losers becoming even worse off than they would otherwise be.

If trade were restricted, the considerations just mentioned would apply but not necessarily symmetrically. That is, some groups in the society will benefit from the restrictions on trade, but in general the nation as a whole would be worse off. Why then would restrictions ever be chosen over free trade? The answer clearly lies in the political process in the sense that the mechanisms for redistribution from gainers to losers may not in fact work effectively. Also, the groups that benefit from existing or newly imposed trade restrictions may be better organized and more powerful politically than those who are harmed.

Essentially then, the assessment of the benefits and costs of trade liberalization or trade restriction involves the determination of: what groups gain, what groups lose, and whether the nation as a whole gains or loses from the change in trade policy. It is interesting in this connection that during the very time period when the Multilateral Trade Negotiations have been taking place, there has been a marked increase in trade restrictions of various kinds in the U.S. and the other major industrialized countries. We thus have a somewhat anomalous situation in which some sectors will be liberalized more than others as a result of the MTN, and there may be sectors that will maintain the status quo of existing restrictions or perhaps be subjected to even greater restrictions as a result of actions taken outside the context of the MTN.

It would take us too far afield to document and analyze in detail the recent decisions implemented in the U.S. and elsewhere for the purpose of restricting or slowing down the rate of increase in imports. Some of the most prominent examples of U.S. actions include restrictions imposed to limit the imports of stainless and alloy tool steel, fasteners, color television receivers, and footwear. Also, a system of trigger prices on steel imports has been introduced ostensibly to forestall dumping by foreign producers in the U.S. market. It has further been proposed to tighten the administration of the Multifiber Arrangement in order to limit imports of wearing apparel into the U.S. Numerous restrictive actions in many of these same sectors have also been taken by the European Community and other countries such as Canada.[1]

Certain of these restrictive measures can perhaps be justified as a temporary stopgap to permit the domestic industries to adjust to the changes in their competitive position and to ease the transition of workers in seeking alternative employment. These measures can presumably be phased out once the adjustment has been more or less completed. The difficulty, however, is that if adjustment does not take place or is delayed, pressures may be exerted to continue the restrictions. The Multifiber Arrangement and its predecessors going back to the early 1960's are a case in point of restrictions that have apparently become permanent.

If restrictions are continued, they will result in costs being imposed on the society that will almost certainly be greater than the benefits that accrue to the protected industries and workers. These costs will be manifested in terms of keeping labor and capital employed in relatively less efficient uses, thus limiting their earnings opportunities in the more highly productive sectors elsewhere in the economy. Consumers will also be forced to pay relatively higher prices for the protected goods than they would otherwise. This is bound to increase the domestic price level, the extent of the increase depending of course upon the importance of the protected goods in the consumption bundle. The increase in prices may also have a differential effect upon consumers, depending upon their income bracket and the proportions of their expenditures on domestically produced and imported goods. Restrictions thus deprive the nation of efficiency gains in more highly productive uses of resources and of consumption gains via lower prices. Trade liberalization offers a way to remove these costs in return for greater benefits that will accrue to producers and consumers in the society.

Plan of Analysis

We shall now proceed with our analysis. We begin in Section II with a statement and description of our model of world production and trade that will be used to analyze the economic effects of the MTN. The main features of the model will be presented in nontechnical terms. For those readers interested in the technical details of the model, a formal presentation is provided in Appendix A below. In Section III, we present our analysis of the effects of the multilateral tariff reductions that will be carried out as a result of the MTN. We first examine the post-Kennedy Round tariff levels by country and sector for the 18 major industrialized countries covered by our model. We then discuss the tariff-cutting procedure adopted in the MTN. This is followed by a presentation and discussion of post-MTN tariff levels and an analysis of the depth of the MTN tariff cuts by country and sector. Thereafter, we present the results of our analysis of the tariff reductions based upon our model. The focus here will be the effects on employment by country and sector and the effects on prices, exchange rates, and economic welfare by country.

Section IV is devoted to an analysis of the effects of changes in nontariff barriers (NTB's). We begin with a discussion of the most important NTB's and the codes that have been negotiated in the MTN. We then present some evidence on the frequency of complaints filed by U.S. exporters with the Office of the Special Trade Representative (STR) concerning particular foreign NTB's. Because of the difficulty in obtaining quantitative information on the impact of NTB's, we confine our analysis to the effects of the liberalization of agricultural trade and government procurement that has been accomplished in the MTN. Some possible effects of changes in other NTB's will also be discussed.

In Section V, we present the results based upon our model of the combined effects of the reductions in tariffs and the liberalization of agricultural trade and government procurement. As before, we shall focus on the effects on employment by sector and country and the effects on prices, exchange rates, and economic welfare. The results in this section will be our overall assessment of the effects of the MTN on the basis of what we have been able to quantify. We shall also present some evidence of how sensitive our results may be to changes in particular parameters in our model.

In Section VI, we consider the effects of the MTN on the rest of the world. As will be noted below, we do not model the rest of world in detail. Our analysis will thus focus on the rest of world as a residual category in the model. A summary and conclusion are presented in Section VII. Finally, we present in separate appendices a formal statement of our model, the data for 1976 that we have used for purposes of calculating the effects of the MTN, and some results that are too detailed for inclusion in the text of the study but that may be of interest to particular readers.

Footnotes

1. For an analysis and documentation of recent trade restrictions imposed in the major industrialized countries, see, for example, Blackhurst et al. (1977), Balassa (1978), Baldwin (1979), and Nowzad (1978).

II. The Model

Most of the estimates to be presented later in this report are based upon a model of world trade, production, and employment that we have been developing and using at the University of Michigan over the last several years. The model incorporates supply and demand functions for each of 22 tradable and 7 nontradable industries and for each of the 18 major industrialized countries plus an aggregated sector representing the rest of the world. These supply and demand functions interact with one another on both national and world markets to determine equilibrium values of prices and quantities traded and produced. The demand functions also determine amounts of labor demanded, and thus employment, in each industry and country.

The model contains a variety of exogenous variables where effects can be analyzed. For the current purpose, the most important of these exogenous variables are those representing tariffs and several forms of quantitative restriction on trade. However, we have also used the model elsewhere to analyze exogenous changes in exchange rates, money wages, and aggregate expenditure. A number of other capabilities are also built into the model but have not yet been used.

The formal statement of the model, in equation form, is presented in Appendix A to this report. In the following sections, we first provide a less formal discussion of how the model works, in terms of a pair of flow charts that show a sampling of the economic interactions included in the model. We then discuss more carefully the ways that tariffs and nontariff barriers (NTB's) enter the model. Thereafter, we highlight several characteristics of the model that are important for interpreting our results. Finally, we describe how the model has been made operational for the particular purpose of analyzing the outcome of the MTN.

The Structure of the Model

The model is best thought of as composed of two parts. The first, which is depicted in Figure 1, contains separate blocks of equations for each country. The second part, sketched in Figure 2, contains a single set of equations for the world as a whole. The country blocks are used first to determine each country's supplies and demands of goods and currencies on world markets, as functions of exogenous variables and of world prices and exchange rates which are as yet unknown. These functions for each country are then combined to provide the input to the world equations of Figure 2 which actually determine world prices and exchange rates. These variables are finally plugged back into the separate country blocks to get values for other country-specific variables.

The most complicated economic interactions that are incorporated in the model are contained in the country blocks sketched in Figure 1. The figure is divided into a number of parts, both horizontally and vertically. The horizontal divisions separate industries, with those variables which pertain to the country as a whole being listed across the top. Each country has 29 industries, but since they are identical in structure, we have included only two in the figure, with complete labels and arrows only in the first. The reader should imagine the figures extending a considerable distance beyond the bottom of the page, with additional horizontal blocks for each of the remaining 27 industries.

The vertical divisions in the figure separate exogenous variables on the right, country-specific endogenous variables in the middle, and variables to be determined in the world on the left. To conserve space we include in the right-hand column only two exogenous variables: the country's tariff in each industry and its money wage, common to all industries. Other exo-

COUNTRY SYSTEM

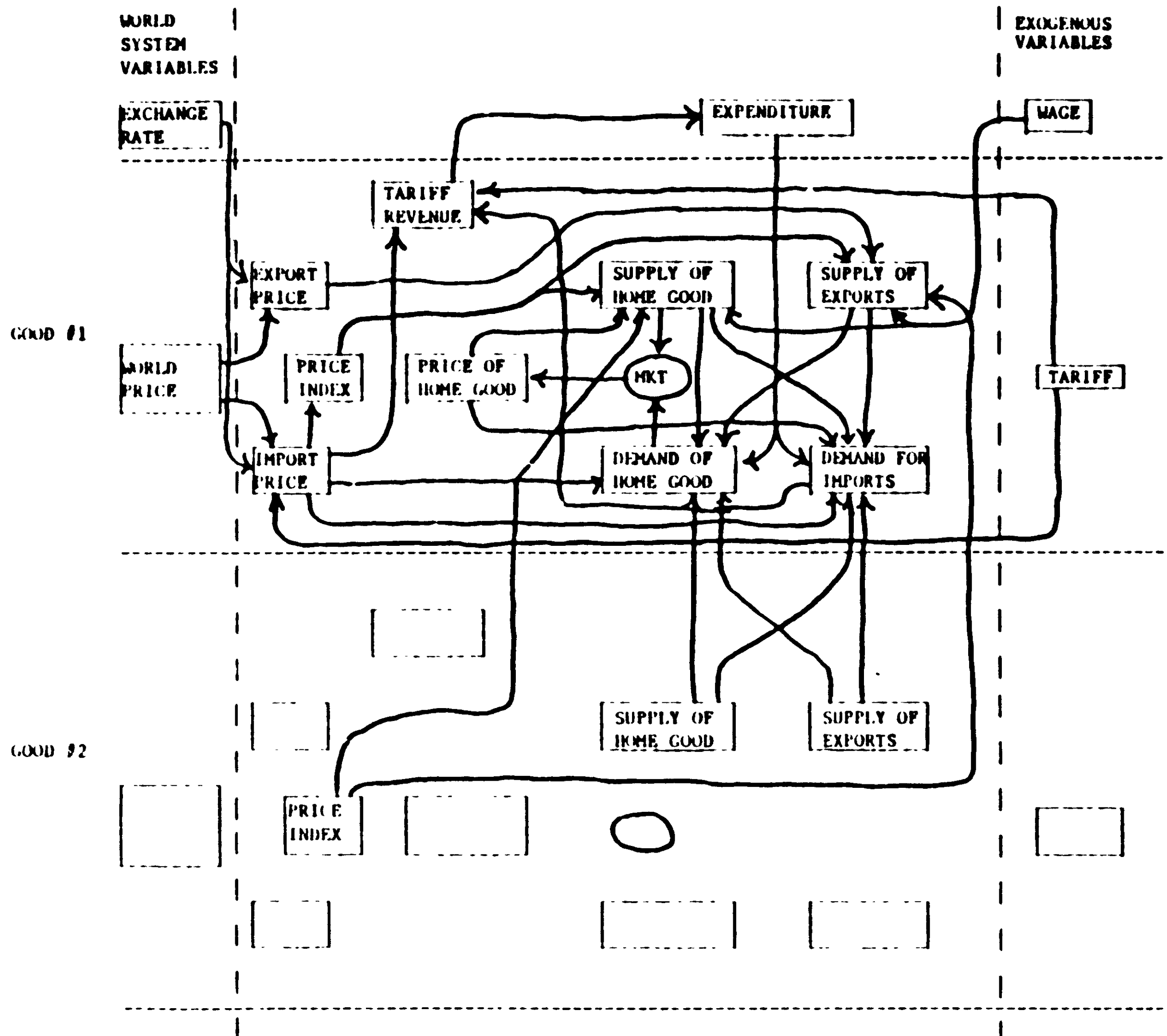

Figure 1

WORLD SYSTEM

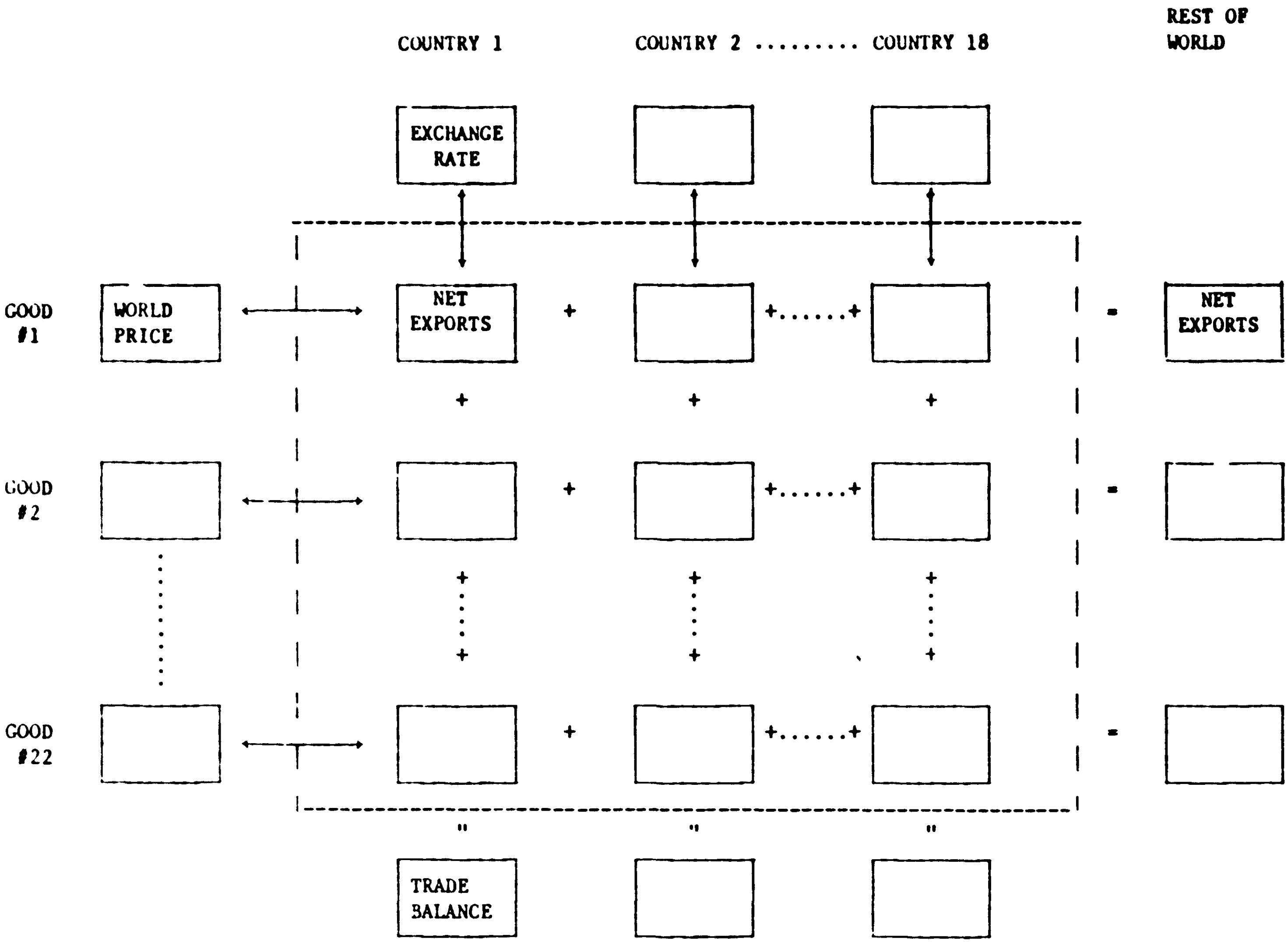

Figure 2

gencus variables are included in the model and will be discussed later in the report. The left-hand column contains the country's exchange rate and the world price for each industry. The variables in the center column are to be determined within the country block as follows.

For each industry, the price of exports is simply the world price expressed in domestic currency via the exchange rate. The price of imports is obtained in the same way except that the tariff is added on. These two prices do not immediately determine the prices of domestically produced goods, however, for we assume that both producers and consumers differentiate between home-produced and traded goods of a particular industry. Thus within an industry, there are separate demand functions for home goods and imports, both of which depend on the prices of the respective goods. Likewise there are separate supply functions for home goods and exports, also depending on their respective prices. Thus, while export and import prices can be computed directly from world prices, exchange rates and tariffs, the prices of home goods in each industry must be determined so as to equate the domestic supplies and demands of home goods.

Additional determinants of supplies and demands result from inter-industry interactions of producers. An input-output technology is assumed, with each industry drawing inputs from all others. As a result, demands for both home goods and imports of a particular industry depend upon supplies in all others. And supplies in each industry depend on prices in all others.

Demands depend, finally, on the level of aggregate final expenditure in the country. We have not tried to be very sophisticated in our modeling of aggregate expenditure, since to do so would involve us in the complexities and uncertainties of macroeconomic modeling and policy forecasting. Rather, we have tried to abstract from such macroeconomic complications by making the following relatively neutral assumption: expenditure is held constant except when tariff revenue changes, in which case the change in tariff revenue is added to expenditure. This assumption is neutral in the sense that it holds approximately constant the total revenue of producers and thus imparts neither an upward nor a downward bias to the value of world output.

Before leaving the country equations depicted in Figure 1, we should mention one further distinction that is not made in the figure. Of the 29 industries included in the model, only 22 are tradable. The remaining 7 are nontradable and thus have neither export supplies nor import demands. They consist exclusively of home-good markets. But they nonetheless are influenced by the prices and exchange rates that pertain to trade, as well as by tariffs in the tradable industries, both because of their input-output interactions with those industries and because they must compete with them for a share of aggregate expenditure.

Turning now to the world equations of Figure 2, the picture is much simpler. We start with the export-supply and import-demand functions that were determined in the country equations as depending on world prices and exchange rates. To get world prices we simply add these supplies and demands for all countries and set the difference equal to net demand from the rest of the world. Our assumptions regarding the latter will be explained below.

This is the end of the story when we solve the model under the assumption of fixed exchange rates. An alternative solution is possible, however, incorporating flexible exchange rates. For this we use the same export and import supply and demand functions to calculate the trade balance of each country. We then require that exchange rates adjust to hold these trade balances constant.

Schematically, in Figure 2 we have arrayed the net supplies to world markets of each industry and country in a matrix. Each row corresponds to a tradable industry, each column to a country. These net supplies depend, from the country equations, on the world prices at the left and on the exchange rates across the top. To determine exchange rates (if they are assumed to be flexible), we add the net supplies vertically and equate them to the initial balances of trade across the bottom.

As must already be apparent, the rest of the world is modeled quite differently from the 18 countries that are included explicitly in the model. Lacking accessible data on production, trade, and employment for the other countries of the world, we have had to make do with a few rather <u>ad hoc</u> assumptions about their behavior on world markets.

For a world of flexible exchange rates, we postulated a rest-of-world excess demand function for each tradable industry, depending on the world price in that industry and a rest-of-world exchange rate. The latter was then assumed to adjust to hold the rest-of-world trade balance constant.

For a world of fixed exchange rates, two alternative assumptions were used. Under the first alternative, the same rest-of-world excess demand functions were used, but without the exchange-rate adjustment. As the trade balance therefore changes, it must be financed by capital flows between the rest-of-world and one or more of the 18 countries. Unfortunately the results of the model under this assumption turn out to be rather sensitive to the choice country with which the rest-of-world trade balance is to be financed. The second alternative for modeling fixed exchange rates is therefore preferred. Here we assume that rest-of-world exports respond normally to world prices, but rest-of-world imports do not. Instead, imports are subject to rigid restriction in the form of import licenses, which are adjusted in proportion to initial imports so as just to exhaust available foreign exchange.

Using our preferred assumptions about rest-of-world behavior, the rest-of-world trade balance is held constant under both fixed and flexible exchange-rate regimes. This means that the rest-of-world's net contribution to all world markets together is held constant and the influence of the rest-of-world on the aggregate performance of the 18 countries is negligible. However, at the level of an individual industry, the presence of the rest-of-world on world markets can be quite significant. For the constancy of its aggregate trade balance does not prevent it from, say, expanding exports substantially in one industry while contracting in another.

Modeling Tariffs, NTB's and Economic Welfare

We turn now to more detailed consideration of how tariffs and various NTB's are treated in the model and how changes in economic welfare are to be measured.

Tariffs: The model includes *ad valorem* tariffs for each of the 18 countries and 22 tradable industries. As already indicated, the tariffs enter the model in two ways. First, they cause the price paid by an importer to exceed the price received by an exporter by the per cent of the tariff. Second, they generate tariff revenue, equal to that percentage of import value, and that revenue is assumed to be redistributed to consumers and spent on final goods. Of these two effects, the first is by far the most important, especially for individual tariff reductions. When a particular tariff is reduced, it causes the corresponding import price to fall. Demanders of the good then substitute away from home goods in that industry and towards imports. The increased demand on the world market causes the world price to rise and production and employment in the export sectors of that industry to rise as well in all countries. More noticeably, however, in the country whose tariff was reduced, the decline in demand for the home good causes price, output and employment in the home sector to fall, and this is likely to be the most obvious effect of a single tariff reduction.

When tariffs are reduced in many countries and industries simultaneously, on the other hand, the effects on world markets become more significant. So, too, do other secondary effects that need not be detailed here. It is for this reason that a large computational model such as ours is needed in order to assess the effects of multilateral trade liberalization.

Quotas: The model also includes quantitative restrictions on imports in a number of industries and countries. While the reduction or elimination of quotas are not being dealt with systematically in the MTN, their presence in certain industries may be expected to alter the response of trade in those industries to changes in tariffs elsewhere, and so they must be taken into account.

The presence of a quota typically causes the domestic price of imports to exceed the world price plus tariff. Indeed, if the quota were to apply to all imports of an industry, the import price would have to adjust as necessary to keep imports from changing, and would be completely independent of the world price and tariff. In practice, our rather aggregated industries never have absolutely all of their imports subject to quota. Instead we use the fraction of an industry's trade that is subject to quantitative restrictions to construct its import price as a weighted average of the world price plus tariff on the one hand and of the price that would have held imports constant on the other. The result is to make trade in quota-protected industries less responsive to changes in tariffs and other variables than would have been the case if quotas had not been considered.

In addition to incorporating existing quotas in the manner just indicated, the model also includes a facility for analyzing the effects of changing the quantity of imports let in under a quota. A variable representing the quota enters into the determination of the import price in such a way that when the quota goes up, the price goes down and imports expand accordingly.

Government Procurement: Other NTB's can often be analyzed as equivalent either to a tariff or to a quota, assuming that data on their tariff- or quota-equivalents can be obtained. Regulations concerning government procurement (GP), however, have no such obvious equivalence. Yet the operation of GP is sufficiently straightforward that we have chosen to model it explicitly as follows. Some amount of final demand in each industry is assumed to be subject to a requirement that it be spent exclusively on home-produced goods. The remaining demand is assumed to be allocated competitively between imports and home produced goods. Thus the demand functions for home goods and imports are augmented and diminished, respectively, by a fraction of the demand that is subject to such regulation. This fraction is the same fraction that would have been spent on imports had it not been so regulated.

The basic effect of releasing a certain amount of demand from the procurement regulation is therefore quite simple. As a first approximation, demand for imports rises and demand for home goods falls by the same fraction of the newly unregulated expenditure as that currently being spent on imports by the rest of the population. This is only a first approximation, however, since the relative price of home and imported goods will certainly change as a result, and other prices as well as the exchange rate may change too. Thus, we need the complete model to determine what the outcome will finally be.

Economic Welfare: Our model was not intended originally to estimate effects on economic welfare, but, for the purpose of this report, we have added a facility to compute the change in national welfare arising from the reduction in tariffs and NTB's. Theoretical problems of dealing with both tariffs and NTB's have led us to construct two different welfare measures. These are discussed in detail in Appendix B. Briefly, the first measure is valid if tariff changes are the only cause of changes in trade. It relies on the partial equilibrium analysis of a tariff change and uses the results of the model to calculate economic welfare as the sum of the changes in consumer and producer surplus and tariff revenues.

The second method posits a shift in the supply or demand function for exports or imports and is based on a measure of the implicit changes in consumer and producer surplus. Its implementation relies on crude estimates of certain unobservable price changes, based on supply and demand elasticities and changes in trade. This second method is used explicitly to analyze changes in government procurement, and it is less suitable therefore to deal with the welfare effects of tariff changes when supply or demand functions are given rather than being shifted.

Special Characteristics and Caveats

Several features of the model should be emphasized, since they bear on the proper interpretation of the results obtained.

Comparative Statics vs Dynamics: First, the model is a comparative-static equilibrium model and does not contain any explicit dynamic content. This means that we have specified equilibrium conditions in a number of markets and that we perturb the system by introducing changes in tariffs or other exogenous shocks. The model is then used to calculate how various variables change from one equilibrium to another in response to the shocks. Since we do not model the dynamic process of getting from one equilibrium to another, we cannot state explicitly the time required for these changes to take place. We can only state that these changes are what would be observed after enough time has elapsed for the assumed equilibria to be restored. This interpretation in turn requires an understanding of which markets are, and which markets are not, assumed to clear in the model. This is the subject of the next two points.

Labor Market Disequilibrium: While we do assume equilibrium in all goods markets (and in the market for foreign exchange when exchange rates are assumed flexible), we do not assume equilibrium in the markets for the primary factors of production, labor and capital. Instead, in the labor market, we take the money wage as given in each country and assume the presence of sufficient unemployed labor to meet any increases in labor demand that may be forthcoming. Thus, employment in our model is entirely demand determined. This assumption accords well with the observation that wages are considerably slower to respond to changing market conditions than are prices, and of course this is the same assumption that has long been common in Keynesian macroeconomic analysis. Its use here is further motivated by the need to say something about unemployment, which would be impossible if the labor market were assumed to clear. It does mean, however, that the employment changes we calculate should be regarded as temporary, since in the longer run wages will adjust.

Fixed Capital Stocks: The other primary factor, capital, is also assumed to be in disequilibrium. The reason, however, is not that the price of capital is fixed, but rather that capital itself, as embodied in plant and equipment, cannot readily move from industry to industry. Indeed we take this assumption one step further by assuming that capital cannot move between the export and home-goods sectors of a given industry. While this assumption is more stringent than might be desired, it should not make too much difference so long as, in our results, we aggregate the home and export production sectors together. But it should be understood that, in the longer run, both the expansions and contractions of various industries in a given country are likely to become more pronounced as capital moves from industries with low returns to ones with high returns.

Macroeconomic Content: Finally, we should reiterate that our model does not capture in any but the crudest way the process of macroeconomic income determination. The model was designed to permit comparisons among industries at the microeconomic level, rather than to predict accurately the effects on aggregate income, prices, or employment. The latter are very sensitive to how aggregate monetary and fiscal policies are conducted and there exist numerous macro models which capture this process much more accurately than we could here.

Implementation of the Model

The current version of the model covers the 18 industrialized countries, plus an aggregated sector for the rest of the world as described above. The 18 countries are listed below together with the abbreviations that will be used to refer to them in subsequent sections. The choice of countries was dictated by the availability of detailed trade and tariff information at the line-item level.

Countries

ALA - Australia	IT - Italy
ATA - Austria	JPN - Japan
BLX - Belgium-Luxembourg	NL - Netherlands
CND - Canada	NZ - New Zealand
DEN - Denmark	NOR - Norway
FIN - Finland	SWD - Sweden
FR - France	SWZ - Switzerland
GFR - West Germany	UK - United Kingdom
IRE - Ireland	US - United States

World industry was categorized into 29 classifications, of which 22 are tradable. They are identified by numbers adapted from the International Standard Industrial Classification (ISIC) and are described below:

Nontradables

ISIC Group	Description
2	Mining and quarrying
4	Electricity, gas, and water
5	Construction
6	Wholesale & retail trade, restaurants & hotels
7	Transport, storage & communication
8	Finance, insurance, real estate, etc.
9	Community, social & personal services

Tradables

ISIC Group	Description
1	Agriculture, hunting, forestry & fishing
310	Food, beverages & tobacco
321	Textiles
322	Wearing apparel, exc. footwear
323	Leather & leather & fur products
324	Footwear
331	Wood products, exc. furniture

332	Furniture & fixtures, exc. metal
341	Paper & paper products
342	Printing & publishing
35A	Industrial chemicals (351); Other chemical products (352)
35B	Petroleum refineries (353); Misc. products of petroleum & coal (354)
355	Rubber products
36A	Pottery, china & earthenware (361); Other nonmetallic mineral products (369)
362	Glass & glass products
371	Iron & steel basic industries
372	Non-ferrous metal basic industries
381	Metal products, exc. machinery, etc.
382	Machinery, exc. electrical
383	Electrical machinery, apparatus, etc.
384	Transport equipment
38A	Plastic products, n.e.c. (356) Professional, photographic goods, etc. (385); Other manufacturing industries (390)

In order to specify the supply and demand functions of the model, we needed data on trade, tariffs, production, and employment for each of these industries and countries. The sources for these data are listed in Appendix C. In addition, we needed estimates of import-demand elasticities and of elasticities of substitution between capital and labor in each industry. These were based on published estimates that have been obtained by other researchers.

Finally, to implement the model we needed input-output tables for each of the 18 countries. Limitations of time and of funds have so far prevented us from collecting such tables for all countries, and we therefore have used only the 1967 input-output table for the U.S. economy and have applied it to describe technology in all 18 countries. This undoubtedly introduces some errors into our analysis, the size and importance of which cannot be assessed until the tables for other countries are available for comparison. However, we see no reason to expect that these errors would be systematic or that they would bias our conclusions in any significant way. And of course, our results for the United States should be quite accurate in any case.

III. Effects of Multilateral Tariff Reductions

Before considering the effects of the MTN tariff reductions, it may be useful first to present some summary information pertaining to the U.S. and the other major industrialized countries for 1976, which is the reference year for all of our calculations concerning the MTN. We shall concentrate particularly on the tariff levels by sector as they existed at the end of the Kennedy Round (1972) and prior to the reductions negotiated in the MTN. We shall then discuss briefly the Swiss formula, which was agreed upon by the major negotiating countries as the basis for the across-the-board tariff reductions to be carried out in the MTN. We shall subsequently focus especially on the depth of cuts that have actually been negotiated in the MTN by sector and country. This examination will include comparisons of the actual cuts with those that would have been made if the Swiss formula had been applied uniformly across sectors. We will also consider what the new tariff levels will be as a result of the MTN. Our final and most important task will be to present the results of our analysis of the economic effects of the MTN tariff reductions based upon our model.

The Pattern of Employment, Trade, and Protection in 1976

To give some idea of how the U.S. and the other industrialized countries interact with each other in the 22 tradable industries, we present a summary of some basic data in Table 6. For each tradable industry, the first column gives 1976 total U.S. employment in thousands of man years. U.S. net exports for 1976 are shown in the second column. In the next two

Table 6

The Pattern of U.S. Employment, Trade, and Protection in 1976

ISIC Tradable Industry	Employment (000)	Net Exports (mill. $)	Average U.S. Tariff Weighted by U.S. Imports %	Average U.S. Tariff Weighted by World Imports %	Index of U.S. Non-Tariff Restrictions %
1	3,297.1	9,714.1	2.2	4.4	1.4
310	1,743.9	-25.7	6.3	6.4	45.4
321	1,174.6	2,086.3	14.4	14.8	41.3
322	1,163.6	-2,811.1	27.8	26.9	66.1
323	89.9	187.1	5.6	4.1	0
324	174.9	-1,716.2	8.8	8.8	51.2
331	531.4	233.9	3.6	2.5	0
332	402.0	276.3	8.1	7.4	0
341	665.1	-702.1	0.5	1.7	0
342	1,070.9	470.4	1.1	0.9	60.6
35A	1,085.6	8,043.3	3.8	7.5	0
35B	176.3	-31,275.8	1.4	1.2	56.2
355	261.4	-733.7	3.6	4.5	0
36A	438.8	-134.0	9.1	7.1	0
362	177.4	261.7	10.7	11.8	0
371	780.5	-387.7	4.7	5.6	10.0
372	305.5	-3,506.4	1.2	1.6	0
381	1,530.1	845.9	7.5	8.3	0
382	2,271.4	15,137.2	5.0	5.4	0
383	1,834.5	1,204.5	6.6	6.9	8.3
384	1,791.3	7,499.2	3.3	3.6	1.8
38A	1,287.1	-8,957.3	7.8	8.2	0.5
All	22,253.2	-4,290.1	6.5	6.7	21.4

Note: The employment data refer only to tradable industries and are from United Nations (1978) and OECD (1978). Trade data are from UN trade tapes; both imports and exports have been valued on a cif basis. Tariffs are post-Kennedy Round, ad-valorem tariffs based upon data supplied by STR. The tariffs have been weighted, respectively, by total (dutiable + nondutiable) U.S. imports and by total (dutiable + nondutiable) imports of the 18 industrialized countries ("world" imports). The overall weighted average tariffs in the last line of the table are for industrial products only (i.e., ISIC 1,310, and 35B are excluded). Details ou the index of quantitative restrictions are given in Appendix C.

columns, we report nominal post-Kennedy Round tariff averages by industry for the U.S., using as weights the value of total (dutiable + nondutiable) 1976 imports for the U.S. and for all 18 countries combined. In these cases, the bottom entries in the table are the import-weighted averages for industrial products only, that is, exclusive of agricultural products (ISIC 1), food and kindred products (ISIC 310), and products of petroleum and coal (ISIC 35B). Finally, in the last column, we report an index that we have constructed to indicate the importance of U.S. nontariff restrictions. This index is intended to represent the percentage of trade in each industry that is subject to some type of nontariff restriction. The bottom entry is the weighted-average index for all sectors.

Among the U.S. industries, post-Kennedy Round tariff rates were the highest for textiles and wearing apparel (ISIC 321 and 322), footwear (ISIC 324), nonmetallic mineral products (ISIC 36A and 362), fabricated metal products (ISIC 38A), and miscellaneous manufactures (ISIC 38A). The fraction of trade subject to nontariff restrictions is seen to be substantial in food, beverages, and tobacco (ISIC 310), textiles and wearing apparel (ISIC 321 and 322), footwear (ISIC 324), iron and steel (ISIC 371), and electrical machinery (ISIC 383). In the industries that are covered by nontariff restrictions, it should be noted that the tariffs involved do not affect prices, but serve only as a tax on the profits of those who control the limited allocation of imports permitted by the nontariff restrictions.

Comparing U.S. tariffs by sector based on the two systems of weighting in Table 6, except for chemicals (ISIC 35A), there do not appear to be substantial differences in the rates when U.S. imports of industrial products rather than world imports are used for weighting.

Some further perspective on how U.S. tariffs compare on average to the other industrialized countries is given in Table 7. Based on own-country-import weights, the countries with the highest average tariffs were Australia, Austria, Finland, and New Zealand. The average tariffs for members of the European Community ranged from 7.3 per cent for Italy to 9.4 per cent for Ireland. Japan's average tariff was 3.9 per cent. The average tariff for the U.S. of 6.5 per cent was thus somewhat lower as compared to the EC combined and somewhat higher than for Japan. Comparisons could also be made for the index of nontariff restrictions, which are indicated by sector and country in Appendix Table C.7 below. But such comparisons would be indicative only of the coverage of trade rather than the degree to which trade may be restricted by the various measures.

Tariff Offers in the MTN

The preceding discussion was designed to give some indication of the levels of tariffs as they existed at the end of the Kennedy Round in 1972 and prior to the reductions that have been negotiated in the MTN. Until the Kennedy Round, tariff reductions were negotiated mainly on an item-by-item basis. One of the accomplishments of the Kennedy Round was to replace this rather cumbersome process with across-the-board reductions based upon some formula agreed to by the major negotiating countries, but with exceptions allowed for industries that were supposed to

TABLE 7

AVERAGE POST-KENNEDY ROUND TARIFF RATES ON INDUSTRIAL PRODUCTS IN THE INDUSTRIALIZED COUNTRIES

COUNTRY	WEIGHTED BY 1976 OWN-COUNTRY IMPORTS	WORLD IMPORTS
AUSTRALIA	17.0%	15.3%
AUSTRIA	15.4	13.3
CANADA	7.3	8.9
EUROPEAN COMMUNITY		
BELGIUM-LUXEMBOURG	8.2	8.2
DENMARK	9.0	8.2
FRANCE	8.3	8.2
GERMANY	8.7	8.2
IRELAND	9.4	8.2
ITALY	7.3	8.2
NETHERLANDS	9.2	8.2
UNITED KINGDOM	7.3	8.2
FINLAND	9.6	8.5
JAPAN	3.9	6.7
NEW ZEALAND	18.9	21.9
NORWAY	6.9	7.3
SWEDEN	6.4	5.7
SWITZERLAND	3.9	3.8
UNITED STATES	6.5	6.7
ALL COUNTRIES	7.8	9.1

NOTE: THE WEIGHTS REFER TO TOTAL (DUTIABLE + NON-DUTIABLE) IMPORTS; ISIC 1, 310 AND 35B ARE EXCLUDED. FOR ADDITIONAL RESULTS, SEE TABLES 6 AND 8.

be particularly vulnerable to competition from imports or that were covered by nontariff measures.

A great deal of attention was devoted in the Kennedy Round to the issue of tariff disparities between the U.S. and European Community. These disparities existed because of some relatively very high tariffs in the U.S. on particular items in comparison to the European Community where tariffs tended to be more uniform and thus exhibited less dispersion. It was in this light that the EC promoted the principle of tariff harmonization as the basis for reducing tariffs in the Kennedy Round. Harmonization would have resulted in the U.S. reducing its highest tariffs the most, thereby bringing the tariff schedules of the two regions closer together. The issue of disparities was never formally settled in the Kennedy Round, perhaps because the EC could not demonstrate readily that disparities really mattered very much in terms of their trade impact in the various sectors involved. In any event, pressures for tariff harmonization emerged once again in the MTN. This time, rather than engaging in a lengthy dispute as in the Kennedy Round, agreement was reached on a harmonization formula proposed by the Swiss.

According to the Swiss formula, tariffs on industrial products were to be cut as follows: $z = (ax)/(a + x)$, where z is the new tariff rate and x is the base or GATT (post-Kennedy Round) rate, both in percentage terms, and a is a parameter that was set at 14 in the original proposal. To illustrate the Swiss formula, suppose that we had base rates of 10 and 30 per cent and a was equal to 14. The new rates would then be:

$$z_1 = \frac{(14 \times 10)}{(14 + 10)} = 5.5\%$$

$$z_2 = \frac{(14 \times 30)}{(14 + 30)} = 11.8\%$$

The 10 per cent rate would thus be reduced by 45 per cent to a new level of 5.5 per cent. The 30 per cent rate would be reduced by 61 per cent to a new level of 11.8 per cent. The higher rate would thus be cut more than the lower rate, and there would now be much less disparity between the rates than before. While most, but not all, of the major countries agreed to use the Swiss formula, they reserved the right to set the value of the parameter a in the formula and to make less-than or greater-than formula cuts in particular tariff rates.

We present in Tables 8 and 9 the base and MTN offer rates on industrial products by sector for the 18 countries. These rates are weighted by total (dutiable + nondutiable) 1976 own-country imports. The corresponding rates weighted by 1976 world (18-country) imports are recorded in Appendix Tables C.5 and C.6. The differences between the base and MTN offer rates are shown in terms of the percentage depths of cut in Table 10. For greater ease of reference, we present in Table 11 the overall total-import weighted averages by country in terms of the base (post-Kennedy Round) rate, MTN offer rate, and percentage depth of cut.

It is evident from these tables that the U.S. has offered in the MTN to reduce its industrial tariffs overall by approximately one-third, to a level of 5.8 per cent. The European Community reductions are approximately 27 per cent, with new levels ranging from 5.2 per cent for the U.K. to 6.9 per cent for Ireland. As noted in the tables, Australia, Canada, and

TABLE 8

POST-KENNEDY ROUND BASE RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	21.5	18.7	9.5	18.9	12.1	24.1	9.8	10.3	10.7	7.5	3.3	11.8	14.2	16.2	10.9	8.2	9.2	14.4	10.7
322	61.8	36.3	16.7	25.4	16.4	37.2	16.7	16.8	16.4	16.6	13.8	16.8	58.7	22.8	14.4	15.5	16.9	27.8	20.7
323	25.7	9.1	4.1	8.2	3.6	12.6	3.3	5.1	5.4	1.7	3.0	5.2	15.3	6.6	4.8	2.8	2.8	5.6	4.5
324	33.8	24.1	11.4	24.5	11.5	17.5	11.5	11.7	11.9	10.8	16.4	11.2	44.1	24.6	13.8	12.4	12.5	8.8	12.4
331	13.6	4.8	3.2	5.8	4.4	0.5	3.3	3.9	3.2	1.0	0.3	3.6	11.7	2.0	0.9	5.0	4.0	3.6	2.7
332	40.0	23.0	8.5	19.4	8.4	8.7*	8.5	8.5	8.5	8.5	7.8	8.5	40.3	7.6	5.4	13.2	8.5	8.1*	10.3
341	7.1	15.9	9.3	11.8	10.8	8.0	7.6	7.1	10.9	3.7	2.1	8.4	20.9	2.9	3.0	6.6	6.6	0.5	5.8
342	1.8	2.4	2.4	5.7	4.4	1.8	3.4	3.3	2.4	2.7	0.2	3.5	1.1	4.3	0.2	0.9	3.3	1.1	2.9
35A	5.8	8.1	11.6	7.9	11.9	3.1	10.9	11.6	10.7	11.8	6.2	11.9	10.0	8.1	6.3	1.1	11.4	3.8	9.4
355	13.8	14.6	6.2	12.2	6.7	13.9	5.2	5.7	5.6	4.0	1.5	6.1	9.5	7.3	6.5	2.0	4.0	3.6	5.8
36A	11.6	8.9	5.2	9.5	6.7	3 8	7.0	5.4	6.0	3.3	0.6	4.4	13.8	2.8	3.1	3.5	3.2	9.1	5.8
362	15.2	17.5	9.9	11.3	9.7	25.4	9.8	10.2	9.5	9.6	7.5	9.3	15.4	10.5	9.3	4.5	10.4	10.7	10.5
371	10.6	6.2	6.1	6.7	7.2	5.7	6.6	6.3	7.5	4.7	3.3	7.1	6.0	2.2	4.7	2.1	6.3	4.7	5.8
372	5.3	4.5	1.9	2.0	8.1	1.2	3.1	2.3	8.0	2.2	1.1	4.3	9.3	1.1	0.9	4.3	2.0	1.2	2.0
381	24.1	19.3	7.7	14.1	7.9	9.6	7.8	8.0	7.7	8.0	6.9	7.8	29.7	6.3	5.3	3.8	8.0	7.5	9.0
382	14.2	10.8	6.4	6.1	6.4	8.7	6.4	6.6	6.1	6.5	9.1	6.4	28.1	8.8	4.9	1.5	6.4	5.0	6.7
383	21.6	18.7	9.6	12.9	9.3	11.0*	9.8	10.2	9.5	9.9	7.4	10.0	21.0	8.6	7.0	2.0	10.0	6.6	9.6
384	22.1	24.5	11.1	2.4	8.5	6.0*	10.3	9.9	12.0	10.7	6.0	10.9	27.6	3.5	8.2	6.7	9.3	3.3	7.7
38A	13.0	13.7	5.2	8.8	10.0	18.1	9.6	9.1	11.2	9.4	6.0	8.7	20.5	8.9	6.1	1.5	4.9	7.8	7.8
ALL	17.0	15.4	8.2	7.3	9.0	9.6	8.3	8.7	9.4	7.3	3.9	9.2	18.9	6.9	6.4	3.9	7.3	6.5	7.8

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE 9

MIN OFFER RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	21.2	15.9	7.2	16.7	8.7	22.5	7.3	7.4	7.8	5.6	3.3	8.5	12.3	13.3	10.3	6.6	6.7	9.2	8.5
322	61.8	36.2	13.4	24.2	13.2	35.5	13.2	13.4	13.2	13.2	13.8	13.5	58.5	21.7	14.2	12.4	13.3	22.7	17.5
323	20.3	7.7	2.5	6.3	1.8	9.3	1.6	3.2	1.8	0.7	3.0	3.0	15.3	5.8	4.0	2.1	1.2	4.2	3.0
324	33.8	23.4	11.4	21.9	11.5	17.4	11.3	11.7	11.9	10.4	15.7	11.2	40.7	21.7	13.7	9.0	12.5	8.8	12.1
331	12.5	3.7	2.4	3.2	3.4	0.4	2.4	2.9	2.5	0.8	0.3	2.8	11.4	1.6	0.7	3.2	3.1	1.7	1.9
332	31.2	22.1	5.6	14.3	5.5	5.5*	5.6	5.6	5.7	5.6	5.1	5.6	38.3	5.1	4.0	9.2	5.6	4.1*	7.3
341	7.1	12.3	6.9	6.7	7.9	4.5	5.5	5.2	8.0	2.6	2.1	6.2	20.5	1.9	2.4	4.3	4.9	0.2	4.2
342	1.8	1.5	1.5	1.0	2.8	1.1	2.2	2.1	1.5	1.8	0.1	2.2	1.1	4.3	0.2	0.7	2.1	0.7	1.5
35A	5.4	4.7	8.0	7.5	8.5	1.8	7.6	8.0	7.6	8.1	4.8	8.1	8.1	6.2	4.8	0.9	7.9	2.4	6.7
355	11.2	9.9	4.2	6.7	4.4	13.5	3.5	3.8	3.7	2.7	1.1	4.1	9.5	6.6	6.1	1.7	2.7	2.5	4.1
36A	11.5	5.9	3.7	6.4	5.0	2.9	4.7	3.6	4.5	2.8	0.5	3.3	12.7	2.4	2.8	2.5	2.4	5.3	4.0
362	15.2	12.9	8.0	7.2	7.5	22.3	7.4	7.9	7.3	7.6	5.1	7.5	13.5	8.0	7.1	3.1	7.9	6.2	7.9
371	10.8	5.8	4.6	5.4	5.5	4.2	4.9	4.7	5.9	3.5	2.8	5.6	5.2	1.7	3.7	1.7	4.7	3.6	4.4
372	4.2	3.3	1.6	2.0	6.6	0.8	2.6	1.9	6.5	1.8	1.1	3.6	4.1	0.9	0.7	2.4	1.7	0.7	1.6
381	23.7	10.4	5.4	8.5	5.5	7.7	5.4	5.5	5.4	5.5	5.2	5.4	26.5	4.4	4.0	2.8	5.6	4.8	6.3
382	13.9	6.4	4.3	4.5	4.4	6.1	4.4	4.5	4.3	4.5	4.4	4.3	22.1	5.2	3.5	1.2	4.2	3.3	4.7
383	21.6	14.7	7.4	5.8	7.1	6.0*	7.7	8.3	7.2	8.0	4.3	7.8	19.6	6.9	4.5	1.6	8.1	4.4	7.1
384	21.2	22.1	7.9	1.6	7.2	3.8*	7.9	7.7	10.2	8.8	1.5	9.0	26.8	2.2	5.1	6.1	7.2	2.5	6.0
38A	12.8	8.7	3.0	5.4	6.1	12.6	5.8	5.6	6.5	5.8	4.6	5.2	18.2	7.4	4.6	1.1	3.0	4.2	4.7
ALL	16.5	12.1	5.9	5.2	6.6	7.1	6.0	6.3	6.9	5.4	2.9	6.8	16.7	5.2	5.0	3.1	5.2	4.3	5.8

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE 10

PERCENTAGE TARIFF REDUCTIONS ON INDUSTRIAL PRODUCTS OFFERED BY THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN, AS OF APRIL 15, 1979 (WEIGHTED BY OWN-COUNTRY IMPORTS, EXCLUDING PETROLEUM)

	AUS+	AUT	BLX	CND+	DEN	FIN	FR	GER	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	1.4	15.0	24.2	11.6	28.1	6.6	25.5	28.2	27.1	25.3	0.0	28.0	13.4	17.9	5.5	19.5	27.2	36.1	21.2
322	0.0	0.3	19.8	4.7	19.5	4.6	21.0	20.2	19.5	20.5	0.0	19.6	0.3	4.8	1.4	20.0	21.3	18.3	15.4
323	21.0	15.4	39.0	23.2	50.0	26.2	51.5	37.3	66.7	58.8	0.0	42.3	0.0	12.1	16.7	25.0	57.1	25.0	32.8
324	0.0	2.9	0.0	10.6	0.0	0.6	1.7	0.0	0.0	3.7	4.3	0.0	7.7	11.8	0.7	27.4	0.0	0.0	2.7
331	8.1	22.9	25.0	44.8	22.7	20.0	27.3	25.6	21.9	20.0	0.0	22.2	2.6	20.0	22.2	36.0	22.5	52.8	29.4
332	22.0	3.9	34.1	26.3	34.5	36.8*	34.1	34.1	32.9	34.1	34.6	34.1	5.0	32.9	25.9	30.3	34.1	49.4*	28.9
341	0.0	22.6	25.8	43.2	26.9	43.8	27.6	26.8	26.6	29.7	0.0	26.2	1.9	34.5	20.0	34.8	25.8	60.0	27.2
342	0.0	37.5	[illegible]	82.5	36.4	38.9	35.3	36.4	37.5	33.3	50.0	37.1	0.0	0.0	0.0	22.2	36.4	36.4	48.1
35A	6.9	42.0	31.0	5.1	28.6	41.9	30.3	31.0	29.0	31.4	22.6	31.9	19.0	23.5	23.8	18.2	30.7	36.8	28.9
355	18.8	32.2	32.3	45.1	34.3	2.9	32.7	33.3	33.9	32.5	26.7	32.8	0.0	9.6	6.2	15.0	32.5	30.6	30.2
36A	0.9	33.7	28.8	32.6	25.4	23.7	32.9	33.3	25.0	15.2	16.7	25.0	8.0	14.3	9.7	28.6	25.0	41.8	30.2
362	0.0	26.3	19.2	36.3	22.7	12.2	24.5	22.5	23.2	20.8	32.0	19.4	12.3	23.8	23.7	31.1	24.0	42.1	24.1
371	0.0	6.5	24.6	19.4	23.6	26.3	25.8	25.4	21.3	25.5	15.2	21.1	13.3	22.7	21.3	19.0	25.4	23.4	23.3
372	20.8	26.7	15.8	0.0	18.5	33.3	16.1	17.4	18.8	18.2	0.0	16.3	55.9	18.2	22.2	44.2	15.0	41.7	18.6
381	1.7	46.1	29.9	39.7	30.4	19.8	30.8	31.3	29.9	31.3	24.6	30.8	10.8	30.2	24.5	26.3	30.0	36.0	30.6
382	2.1	40.7	32.8	26.2	31.3	29.9	31.3	31.8	29.5	30.8	51.6	32.8	21.4	40.9	28.6	20.0	34.4	34.0	30.6
383	0.0	21.4	22.9	55.0	23.7	45.5*	21.4	18.6	24.2	19.2	41.9	22.0	6.7	19.8	35.7	20.0	19.0	33.3	25.9
384	4.1	9.8	28.8	33.3	15.3	36.7*	23.3	22.2	15.0	17.8	75.0	17.4	2.9	37.1	37.8	9.0	22.6	24.2	21.4
38A	1.5	36.5	42.3	38.6	39.0	30.4	39.6	38.5	42.0	38.3	23.3	40.2	11.2	16.9	24.6	26.7	38.8	46.2	39.4
ALL	2.8	21.5	28.3	29.1	25.8	25.2	27.8	27.1	26.7	27.0	25.3	26.7	11.8	24.8	23.0	21.2	27.7	34.1	26.4

*ESTIMATED FROM INCOMPLETE DATA.
+USING PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE 11

AVERAGE POST-KENNEDY ROUND BASE RATE TARIFFS ON INDUSTRIAL PRODUCTS, MTN OFFER RATE TARIFFS, AND PERCENTAGE DEPTH OF CUT FOR THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN
(WEIGHTED BY OWN-COUNTRY TOTAL IMPORTS)

COUNTRY	AVERAGE POST-KENNEDY ROUND BASE RATE	MTN OFFER RATE	AVERAGE PERCENTAGE CUT
AUSTRALIA*	17.0%	16.5%	2.8%
AUSTRIA	15.4	12.1	21.5
CANADA*	7.3	5.2	29.1
EUROPEAN COMMUNITY			
BELGIUM-LUXEMBOURG	8.2	5.9	28.3
DENMARK	9.0	6.6	25.8
FRANCE	8.3	6.0	27.8
GERMANY	8.7	6.3	27.1
IRELAND	9.4	6.9	26.7
ITALY	7.3	5.4	27.0
NETHERLANDS	9.2	6.8	26.7
UNITED KINGDOM	7.3	5.2	27.7
FINLAND	9.6	7.1	25.2
JAPAN*	3.9	2.9	25.3
NEW ZEALAND	18.9	16.7	11.8
NORWAY	6.9	5.2	24.8
SWEDEN	6.4	5.0	23.0
SWITZERLAND	3.9	3.1	21.2
UNITED STATES	6.5	4.3	34.1
ALL COUNTRIES	7.8	5.8	26.4

*BASED ON PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN THE POST-KENNEDY ROUND TARIFFS.
SOURCE: BASED ON DATA SUPPLIED BY STR.

Japan had previously reduced their post-Kennedy Round tariffs unilaterally. The depth of cut has thus been calculated on the prevailing rates for these countries. Australia evidently offered only a small further reduction, whereas the depths of cut for Canada and Japan were about 29 and 25 per cent, respectively. The average depth of cut for all 18 countries included in Table 11 was about 26 per cent.

We have already mentioned that the MTN offers were reportedly based upon some version of the Swiss formula, subject to exceptions at the discretion of each country. In order to investigate this further, we asked STR for information on each country's choice of formula. This information is summarized in Table 12. It can be seen that the major differences among countries were in the choice of the value of the parameter a in the formula and in the maximum extent of cuts. Australia and New Zealand decided not to use the formula.

Given the principle of across-the-board cuts based on the Swiss formula, it is of interest to determine the extent to which the major countries adhered to the formula in arriving at their tariff offers. Presumably, if particular offers were less than the formula cuts, this would be indicative of industries that were judged to be especially vulnerable to competition from imports. With this in mind, we proceeded to calculate the percentage tariff reductions that would have been made if each country had applied its version of the Swiss formula noted in Table 12. The results are given in Table 13. By comparing these reductions with the actual reductions in Table 10, we can determine whether the actual reductions were less than, equal to, or greater than formula. The results are summarized for the overall depths of cut in Table 14.

Table 12

Versions of the Swiss Formula Used in the MTN by the Major Negotiating Countries

Country	Version of Formula
Australia	Not a formula country
Austria	$z = (16x)/(16 + x)$, with a 40% maximum depth of cut
Canada	$z = x[1 - 0.7 (\frac{x}{x + 12})]$
European Community	$z = (16x)/(16 + x)$
Finland	$z = (16x)/(16 + x)$
Japan	$z = (14x)/(14 + x)$
New Zealand	Not a formula country
Norway	$z = (16x)/(16 + x)$
Sweden	$z = (16x)/(16 + x)$
Switzerland	$z = (14x)/(14 + x)$
United States	$z = (14x)/(14 + x)$, with maximum of 60% cut to be applied for rates over 21%

Source: Based upon information provided by STR.

TABLE 13

PERCENTAGE TARIFF REDUCTIONS ON INDUSTRIAL PRODUCTS BASED ON THE SWISS FORMULA
(WEIGHTED BY OWN-COUNTRY IMPORTS, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	1.4	58.3	43.2	44.4	45.5	68.0	45.9	45.6	45.8	42.7	42.4	45.8	13.4	58.0	43.1	48.8	45.7	39.6	43.0
322	0.0	59.8	51.5	47.6	51.2	70.2	51.5	51.2	50.6	51.2	50.0	51.2	0.3	59.2	47.9	54.2	51.5	39.9	45.8
323	21.0	44.0	34.1	36.6	33.3	50.8	30.3	33.3	33.3	29.4	46.7	34.6	0.0	37.9	31.3	25.0	32.1	33.9	34.4
324	0.0	58.9	44.7	46.9	45.2	53.1	45.2	45.3	45.4	43.5	56.7	43.8	7.7	61.8	46.4	48.4	46.4	37.5	42.9
331	8.1	43.8	37.5	36.2	38.6	20.0	39.4	38.5	40.6	40.0	33.3	41.7	2.6	35.0	22.2	36.0	42.5	38.9	36.5
332	22.0	57.4	34.1	43.3	34.5	36.8*	34.1	34.1	34.1	34.1	34.6	34.1	5.0	32.9	25.9	51.5	34.1	37.0*	37.7
341	0.0	52.2	41.9	35.6	41.7	38.7	42.1	40.8	43.1	40.5	38.1	41.7	1.9	34.5	16.7	36.4	40.9	20.0	38.9
342	0.0	41.7	37.5	29.8	36.4	38.9	35.3	36.4	37.5	33.3	50.0	37.1	0.0	32.6	0.0	22.2	36.4	27.3	32.2
35A	6.9	50.6	44.8	10.1	44.5	41.9	44.0	44.8	43.9	44.9	38.7	44.5	19.0	53.1	39.7	9.1	43.9	34.2	41.4
355	18.8	56.2	33.9	41.0	32.8	55.4	34.6	35.1	33.9	35.0	33.3	32.8	0.0	37.0	33.8	15.0	35.0	27.8	34.6
36A	0.9	47.2	38.5	36.8	40.3	47.4	42.9	38.9	36.7	36.4	33.3	36.4	8.0	46.4	32.3	28.6	34.4	39.6	37.0
362	0.0	54.9	39.4	36.3	39.2	70.1	39.8	40.2	38.9	39.6	36.0	37.6	12.3	46.7	37.6	31.1	41.3	38.3	38.5
371	0.0	33.9	29.5	22.4	30.6	38.6	30.3	30.2	32.0	29.8	33.3	32.4	13.3	36.4	27.7	23.8	30.2	31.9	29.5
372	20.8	44.4	36.8	15.0	38.3	25.0	35.5	34.8	36.2	31.8	36.4	34.9	55.9	27.3	22.2	44.2	35.0	16.7	32.9
381	1.7	54.9	32.5	39.0	34.2	41.7	33.3	33.7	33.8	33.7	33.3	33.3	10.8	34.9	24.5	26.3	33.7	37.3	33.2
382	2.1	45.4	29.7	23.0	29.7	37.9	29.7	30.3	27.9	29.2	42.9	29.7	21.4	38.6	24.5	13.3	29.7	30.0	28.4
383	0.0	56.1	39.6	38.8	38.7	45.5*	39.8	41.2	38.9	40.4	35.1	41.0	6.7	44.2	32.9	15.0	40.0	31.8	35.9
384	4.1	58.4	42.3	29.2	43.5	40.0*	42.7	41.4	45.0	43.0	40.0	43.1	2.9	37.1	37.8	35.8	41.9	21.2	36.2
38A	1.5	51.1	44.2	34.1	42.0	58.0	42.7	41.8	43.8	41.5	38.3	42.5	11.2	44.9	32.8	26.7	40.8	37.2	38.3
ALL	2.8	54.4	41.1	33.1	40.7	51.1	40.2	41.5	41.2	39.9	40.7	41.5	11.8	45.7	35.5	38.3	40.3	34.9	37.6

*ESTIMATED FROM INCOMPLETE DATA.
+USING PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE 14

AVERAGE PERCENTAGE DEPTH OF CUT IN TARIFFS ON INDUSTRIAL PRODUCTS BY THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN BASED ON ACTUAL OFFERS AND USE OF SWISS FORMULA

COUNTRY	PERCENTAGE DEPTH OF CUT ACTUAL OFFER	SWISS FORMULA
AUSTRALIA*	2.8%	+
AUSTRIA	21.5	54.4 %
CANADA*	29.1	33.1
EUROPEAN COMMUNITY		
BELGIUM-LUXEMBOURG	28.3	41.1
DENMARK	25.8	40.7
FRANCE	27.8	40.2
GERMANY	27.1	41.5
IRELAND	26.7	41.2
ITALY	27.0	39.9
NETHERLANDS	26.7	41.5
UNITED KINGDOM	27.7	40.3
FINLAND	25.2	51.1
JAPAN*	25.3	40.7
NEW ZEALAND	11.8	+
NORWAY	24.8	45.7
SWEDEN	23.0	35.5
SWITZERLAND	21.2	38.3
UNITED STATES	34.1	34.9
ALL COUNTRIES	26.4	37.6

+NOT A FORMULA COUNTRY

*BASED ON PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN THE POST-KENNEDY ROUND TARIFFS.

SOURCE: BASED ON DATA SUPPLIED BY STR.

It is evident from Table 14 that the overall actual depth of cut for the U.S. was close to the Swiss-formula depth of cut. For the European Community, the actual overall depth of cut was substantially below the Swiss formula cut. It thus appears that the EC did not adhere strictly to its version of the Swiss formula noted in Table 12. The actual depths of cut for the other countries were also less than formula. The conclusion that can be drawn therefore is that aside from the U.S., most countries paid lip service to the Swiss formula but departed from it in major ways in determining their tariff offers in the MTN.

If we compare the actual cuts with the Swiss formula cuts for the U.S. in Table 10 and 13, less-than-formula cuts were made in the following sectors: wearing apparel (ISIC 322), leather and footwear (ISIC 323-324), and iron and steel (ISIC 371). Greater-than-formula cuts of varying magnitudes were made in all the remaining sectors. The sectors in which less-than-formula cuts were offered certainly represent some of the important industries that have apparently been vulnerable to competition from imports in recent years.

Economic Effects of the MTN Tariff Reductions

We have concentrated thus far on the pre-MTN tariff levels, MTN offers, and depth of cut. While these matters are interesting in themselves, it is not clear how important they are in economic terms. To determine this, we must consider how the MTN offers will affect equilibrium prices, trade, and in turn production and consumption in particular sectors and countries. It is here that our model comes into use.

It will be recalled from Figure 1 that tariffs constitute an exogenous variable in our model. In this sense, the MTN tariff reductions can be entered into our model as a change in this exogenous variable and the model then solved for the resulting changes in all of the variables that are determined endogenously within the system. To obtain the tariff reductions for use in the model, we began by calculating the tariff changes at the BTN line-item level. These were aggregated, using own-country total imports as weights, for each of the 22 ISIC tradable industries in the individual countries. The tariff reductions were then expressed in terms of the change in price for each sector, taken initially as one plus the pre-MTN ad valorem tariff. The resulting changes in price, $\Delta t/(1 + t)$, were thus entered into the model as an exogenous change. The model was then solved by computer and results obtained for percentage changes in the endogenous variables in the model. Absolute changes in variables were determined by multiplying the percentage changes times the initial 1976 levels taken as the reference point for all calculations.

The solution procedure first yields results under conditions of fixed exchange rates. The model then permits exchange rates to change in order to restore the initial trade-balance condition and, in the process, generates further changes in the endogenous variables. Since there are no time lags in the model, all the changes are to be interpreted as occurring instantaneously. In other words, we have assumed that the MTN tariff reductions are to be made all at once and that our model will indicate what the short-run economic effects may be. We have noted already that most of the tariff reductions will in fact be phased in over a period of up to a decade beginning in 1980. We shall have occasion below to interpret our results in the light of this timetable.

As just noted, our solution procedure permits us to calculate the effects of the tariff reductions on employment by sector in individual countries under conditions of both fixed and flexible exchange rates. While both sets of results are of interest, our preference is for the flexible-rate results. Our emphasis on these results reflects our view that a regime of flexible exchange rates is a closer approximation to present-day reality than fixed rates. Since the advent of floating in 1973, there has of course been considerable intervention in the foreign exchange markets by central banks. But this intervention has been designed primarily to moderate short-term fluctuations in rates. To the best of our knowledge, there is no evidence that countries have intervened systematically to alter the direction of movement of rates, that is, to cause rates to depreciate when they should appreciate or vice versa. Since, in our view, it is extremely difficult to model short-run intervention by central banks, we believe that it is justified to focus attention on the effects of tariff changes under conditions where the exchange rate can change to correct the initial imbalance of trade that will occur when rates are assumed to be fixed.

To clarify this issue further, suppose that tariffs are in fact reduced multilaterally. This will result in changes in a country's balance of trade as exports and imports respond to the tariff changes. There will be corresponding changes in production and employment in the individual tradable and nontradable sectors in each country. Holding other things constant, the change in the trade balance will lead to a change in the exchange rate. In our model, we determine what this change would be in order to restore the trade balance to its original position, with the level of capital movements assumed to be given. This is of course an important simplification, and it would require a much more elaborate model than ours to capture all of the microeconomic and macroeconomic forces at work in the world economy and in individual countries. To our knowledge, nobody has successfully developed such a model that can cope with all of these complexities. Our model thus seeks to provide details of changes in employment at the microeconomic level, without tracing through all of the dynamic forces at work in the adjustment process and without considering relevant macroeconomic and monetary phenomena.

Keeping the foregoing points in mind, let us turn now to our analysis of the MTN tariff reductions. Considering briefly the results under conditions of fixed exchange rates, it can be seen in Appendix Tables D.1-D.3 that the tariff reductions will result in a deterioration of the U.S. balance of trade and an overall decline in employment of 47.1 thousand workers. A deterioration in the trade balance is also experienced by Canada, Finland, France, Italy, New Zealand, Norway, and the United Kingdom. The remaining countries all experience an improvement in their balance of trade. It is noteworthy that all of the countries except the U.S. and U.K. experience an overall increase in employment. This increase amounted to 164.5 thousand workers for the combined EC, 7.4 thousand workers for Japan, and 3.6 thousand workers for Canada. It can be seen in Appendix Table D.4 that except for some of the smaller countries, the total employment changes were all significantly less than one per cent of the 1976 level of employment. Thus, for the U.S., the decline in employment was equal to .05 per cent of total employment. Appendix Tables D.1 - D.4 contain the relevant details on the changes in trade and employment under fixed rates by sector in each country for the benefit of the interested reader.

Let us consider now the results of the MTN tariff reductions under conditions of flexible exchange rates. The absolute and relative employment effects by sector and country are indicated in Tables 15 and 16. The effects on the U.S. can be seen to be very small across sectors. There is an increase in employment overall of about 2,300 workers, which is a tiny fraction (.003 per cent) of total 1976 employment. The largest increases, in thousands of workers, are recorded for agriculture (13.0), chemicals (3.5), iron and steel (1.2), nonelectrical machinery (6.4), electrical machinery (3.2), and transport equipment (3.8). Negative employment effects are recorded for textiles and wearing apparel (-6.0), nonmetallic mineral products (-1.4), miscellaneous manufactures (5.7), and for all the nontradable industries except mining and quarrying and construction.

TABLE 15

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.900	0.284	-0.341	0.064	0.277	0.118	-0.150	-0.217	-0.008	0.046	0.117	-0.170	-0.533	0.077	0.015
ATA	0.658	-0.071	2.714	1.815	0.161	0.659	0.312	0.292	0.638	0.049	-0.065	-0.039	-0.155	-0.051	0.036
CND	2.600	0.265	-0.308	0.663	0.276	0.360	0.930	-0.399	2.128	-1.594	0.439	0.232	-1.363	0.254	-0.138
EC	1.397	10.960	36.199	22.334	2.686	3.663	-0.267	4.181	-0.393	1.355	10.541	-0.417	5.000	1.793	1.721
BLX	0.557	0.723	7.190	3.630	0.161	0.070	0.197	0.091	0.597	-0.023	4.747	-0.887	0.324	-0.312	0.380
DEN	1.727	1.089	1.124	1.350	0.142	0.148	0.033	0.593	0.002	0.007	0.276	-0.005	0.004	-0.040	0.029
FR	6.515	1.354	4.674	3.224	0.639	0.784	-0.160	-0.338	-0.163	0.206	0.418	0.338	1.730	-0.255	0.327
GER	-6.300	3.541	8.409	2.119	0.457	0.573	-0.089	1.220	-0.225	0.323	5.756	-0.098	0.784	-0.515	0.395
IRE	2.155	0.447	0.839	0.366	0.058	0.066	-0.001	0.011	-0.011	0.037	0.128	-0.011	0.047	0.085	0.025
IT	-4.544	1.017	6.732	7.362	0.589	1.434	0.242	2.329	-0.102	0.206	-3.343	0.093	1.017	1.902	0.259
NL	2.144	1.243	3.752	2.128	0.147	0.155	-0.129	0.128	0.130	0.009	2.253	-0.120	0.252	-0.009	0.051
UK	-0.559	1.546	3.478	1.956	0.454	0.433	-0.359	0.148	-0.600	0.590	0.307	0.274	0.841	0.936	0.254
FIN	0.009	-0.067	0.584	1.132	0.185	0.276	0.262	0.191	0.463	0.023	0.069	0.008	0.068	0.007	0.048
JPN	3.358	-1.118	-4.072	0.019	-0.373	-0.180	0.134	-0.064	-0.127	0.033	-0.203	-0.200	0.510	0.945	0.062
NZ	0.348	0.145	0.435	0.140	0.029	-0.013	0.053	0.016	0.043	0.030	-0.108	0.004	0.061	-0.004	-0.002
NOR	0.573	-0.07?	0.267	0.243	0.041	0.016	0.047	-0.008	0.206	0.031	0.199	0.018	0.063	0.096	-0.015
SWD	0.121	-0.210	0.064	0.141	0.012	-0.009	0.057	0.311	-0.360	0.031	0.117	-0.023	0.204	0.088	0.007
SWZ	-0.394	-0.174	0.385	-0.054	-0.066	-0.273	-0.203	-0.199	-0.164	0.132	0.977	-0.043	0.028	-0.075	0.001
US	12.965	-0.826	-1.284	-4.73?	0.573	0.255	-0.447	0.724	0.710	0.422	3.479	0.920	-0.197	-1.353	0.106
TOTAL	23.935	9.113	34.144	21.412	3.651	4.971	0.728	4.927	3.135	0.558	15.561	0.289	3.615	1.778	1.840

TABLE 15 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.001	0.452	0.136	-0.042	0.167	-0.277	0.321	0.039	-0.000	0.086	-0.153	0.006	0.010	-0.301	0.874
ATA	1.206	0.153	-2.546	2.143	0.707	0.326	2.559	0.015	-0.153	0.206	-1.728	-0.294	-0.383	-2.554	6.611
CNL	-0.049	0.622	-2.635	1.713	-1.400	1.749	4.394	1.044	-0.216	0.914	-1.386	-0.120	0.022	-3.698	5.296
EC	5.776	1.507	10.517	19.527	14.975	14.591	32.787	2.464	-1.591	-4.737	-24.628	-2.701	-5.172	-43.124	121.436
BLX	1.052	-0.087	1.166	1.017	1.069	2.656	0.956	-0.520	-0.124	-0.305	-3.247	-0.412	-0.628	-5.083	14.986
DEN	0.040	0.033	0.195	1.105	0.473	0.209	1.613	-0.001	-0.073	-0.092	-1.131	-0.254	-0.362	-2.675	5.611
FR	1.555	0.328	1.225	5.350	2.705	3.078	3.641	0.479	-0.255	-0.420	-4.246	-0.359	-0.820	-7.043	24.499
GFR	1.083	0.309	3.858	5.608	5.609	4.638	11.941	-0.223	-0.704	-1.850	-8.351	-1.745	-2.297	-12.370	22.154
IRE	0.021	0.089	0.245	0.125	0.130	0.026	0.384	0.022	0.006	0.036	-0.206	0.075	0.024	-0.643	4.772
IT	1.001	0.248	2.244	1.720	1.295	2.114	2.895	0.861	-0.251	-1.342	-2.726	-0.137	-1.053	-3.336	18.726
NL	-0.126	0.058	-0.079	0.906	0.533	0.796	2.245	-0.070	-0.072	-0.059	-1.946	-0.181	-0.228	-4.075	9.856
UK	1.090	0.500	1.661	3.697	3.142	1.065	9.111	1.918	-0.117	-0.704	-2.773	0.312	0.192	-7.899	20.831
FIN	0.101	0.053	0.130	0.520	0.032	0.311	0.245	0.028	-0.037	-0.049	-0.487	-0.011	-0.096	-1.083	2.825
JPN	-0.235	0.133	2.602	-1.424	3.925	1.315	3.767	-0.177	-0.104	-0.713	-3.193	-0.436	-0.348	-3.028	0.956
NZ	-0.009	0.200	-0.107	-0.037	0.011	0.053	0.283	0.024	0.004	0.075	-0.067	0.052	0.020	-0.315	1.962
NOR	0.320	0.221	0.028	0.213	0.139	0.652	0.617	0.108	-0.024	-0.106	-0.552	-0.029	-0.083	-1.175	2.040
SWD	0.719	0.081	0.846	1.438	1.033	1.402	0.894	-0.002	-0.061	-0.157	-0.943	-0.143	-0.256	-2.363	3.039
SWZ	-0.043	0.019	0.711	-0.327	0.786	0.017	1.276	-0.310	-0.140	-0.011	-0.640	-0.364	-0.489	-0.923	-0.565
US	1.166	0.397	0.557	6.412	3.198	3.778	-5.738	2.528	-0.487	0.234	-8.166	-0.617	-1.913	-10.170	2.291
TOTAL	8.903	3.637	10.442	30.240	23.573	23.905	41.405	5.763	-2.811	-4.298	-41.943	-4.657	-8.688	-68.734	146.765

TABLE 16

PERCENTAGE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.241	0.139	-0.563	0.103	4.491	1.045	-0.278	-0.809	-0.026	0.062	0.201	-2.825	-3.065	0.173	0.185
ATA	0.131	-0.085	3.559	4.021	2.612	3.346	2.811	0.975	2.015	0.178	-0.124	-0.650	-1.218	-0.116	0.291
CND	0.459	0.100	-0.287	0.568	2.844	1.784	0.763	-0.723	1.468	-1.554	0.462	1.159	-4.505	0.543	-0.973
EC	0.022	0.391	1.723	1.572	1.367	0.913	-0.039	0.782	-0.052	0.124	0.480	-0.151	1.014	0.158	0.448
BLX	0.407	0.673	6.879	6.397	2.418	0.589	0.777	0.597	1.925	-0.052	5.511	-6.651	3.969	-0.573	1.191
DEN	0.775	1.144	4.565	6.427	5.754	4.189	0.213	2.959	0.016	0.020	0.947	-0.150	0.093	-0.141	0.767
FR	0.236	0.219	1.278	1.203	1.379	0.961	-0.093	-0.328	-0.146	0.093	0.106	0.239	1.949	-0.129	0.440
GFR	-0.344	0.638	2.045	0.638	1.018	0.889	-0.045	1.039	-0.115	0.149	0.850	-0.273	0.590	-0.181	0.383
IRE	0.887	0.824	3.999	4.200	2.638	1.810	-0.036	0.263	-0.182	0.349	1.273	-0.595	2.257	0.939	0.727
IT	-0.155	0.244	1.115	2.044	1.201	0.986	0.242	1.718	-0.077	0.135	-0.695	0.276	0.851	0.612	0.283
NL	0.727	0.691	7.729	6.798	5.066	2.744	-0.353	0.654	0.443	0.012	2.961	-1.205	1.373	-0.027	0.504
UK	-0.136	0.199	0.667	0.578	1.177	0.510	-0.282	0.123	-0.265	0.176	0.070	0.734	0.707	0.424	0.387
FIN	0.003	-0.094	1.397	3.392	5.562	4.541	0.676	1.836	0.834	0.071	0.280	0.241	1.205	0.035	1.092
JPN	0.052	-0.073	-0.344	0.003	-0.679	-0.454	0.021	-0.029	-0.033	0.005	-0.034	-0.367	0.330	0.178	0.072
NZ	0.667	0.198	2.332	0.683	0.899	-0.224	0.299	0.263	0.413	0.157	-0.765	0.417	1.066	-0.053	-0.099
NOR	0.341	-0.135	1.696	2.141	2.719	0.777	0.193	-0.083	0.769	0.075	0.964	0.641	1.787	0.780	-0.609
SWD	0.048	-0.236	0.225	0.522	0.384	-0.210	0.080	1.570	-0.526	0.061	0.253	-0.736	1.260	0.268	0.101
SWZ	-0.039	-0.254	0.132	-0.182	-1.967	-2.372	-0.852	-1.548	-0.735	0.244	1.085	-3.622	0.457	-0.368	0.032
US	0.393	-0.047	-0.109	-0.467	0.415	0.146	-0.084	0.180	0.107	0.039	0.321	0.522	-0.076	-0.308	0.060
TOTAL	0.116	0.130	0.703	0.621	0.953	0.699	0.033	0.364	0.142	0.018	0.364	0.052	0.361	0.076	0.262

TABLE 16 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.002	1.719	0.122	-0.038	0.203	-0.192	0.555	0.050	-0.000	0.017	-0.011	0.001	0.002	-0.024	0.015
ATA	1.434	1.069	-2.848	3.237	0.810	0.900	7.050	0.067	-0.462	0.082	-0.358	-0.149	-0.282	-0.437	0.224
CND	-0.357	1.123	-1.739	1.542	-1.023	0.936	5.519	0.715	-0.193	0.142	-0.084	-0.017	0.004	-0.113	0.055
EC	0.316	0.351	0.458	0.567	0.451	0.437	2.034	0.194	-0.143	-0.058	-0.155	-0.044	-0.085	-0.191	0.121
BLX	0.980	-0.313	1.022	1.540	1.091	3.502	2.626	-1.376	-0.347	-0.096	-0.454	-0.148	-0.260	-0.521	0.388
DEN	1.395	0.936	0.477	1.551	1.231	0.455	5.493	-0.040	-0.487	-0.047	-0.320	-0.153	-0.243	-0.356	0.234
FR	0.677	0.531	0.245	1.118	0.482	0.443	1.169	0.282	-0.140	-0.023	-0.121	-0.030	-0.065	-0.150	0.117
GFR	0.178	0.273	0.626	0.421	0.469	0.544	2.650	-0.060	-0.306	-0.096	-0.235	-0.117	-0.171	-0.231	0.090
IRE	0.352	4.930	3.097	2.583	1.089	0.193	3.088	0.220	0.042	0.047	-0.122	0.117	0.086	-0.302	0.467
IT	0.237	0.255	0.601	0.326	0.216	0.313	0.905	0.264	-0.102	-0.076	-0.103	-0.012	-0.077	-0.138	0.099
NL	-0.244	0.574	-0.117	0.900	0.590	0.987	3.806	-0.881	-0.160	-0.014	-0.239	-0.058	-0.075	-0.317	0.217
UK	0.278	0.461	0.289	0.428	0.435	0.118	2.319	0.558	-0.034	-0.042	-0.068	0.020	0.014	-0.115	0.085
FIN	0.583	0.845	0.422	0.937	0.056	0.791	1.553	0.311	-0.132	-0.056	-0.153	-0.007	-0.082	-0.214	0.132
JPN	-0.044	0.072	0.274	-0.105	0.265	0.108	0.430	-0.099	-0.032	-0.014	-0.028	-0.013	-0.020	-0.028	0.002
NZ	-0.236	6.123	-0.426	-0.317	0.063	0.271	2.452	0.484	0.026	0.081	-0.035	0.046	0.025	-0.117	0.163
NOR	1.929	1.818	0.095	0.673	0.543	1.138	3.928	0.986	-0.127	-0.072	-0.186	-0.018	-0.101	-0.240	0.114
SWD	0.966	0.505	0.614	0.905	1.069	0.941	2.600	-0.009	-0.186	-0.054	-0.159	-0.052	-0.106	-0.185	0.074
SWZ	-0.255	0.112	0.977	-0.249	0.661	0.127	1.101	-0.521	-0.232	-0.006	-0.187	-0.145	-0.177	-0.189	-0.020
US	0.149	0.130	0.036	0.282	0.174	0.211	-0.446	0.323	-0.066	0.006	-0.039	-0.017	-0.025	-0.036	0.003
TOTAL	0.246	0.358	0.191	0.383	0.326	0.342	1.000	0.223	-0.110	-0.023	-0.079	-0.030	-0.050	-0.099	0.054

The tendency for the nontradable industries (ISIC 2-9) to lose employment when tariffs on tradables are reduced multilaterally is evident across countries. The reason is that tariffs constitute a tax on tradable goods. Thus, when this tax is reduced, both supplies and demands of tradables will expand at the expense of nontradable industries.

The effects on the tradable industries in the other countries can be read in the body of Tables 15 and 16. For example, Japan records employment increases, in thousands of workers, in such sectors as agriculture (3.4), nonmetallic mineral products (0.9), metal products (2.8), electrical machinery (3.9), transport equipment (1.3), and miscellaneous manufactures (3.8), and declines in food, beverages, and tobacco (-1.1), textiles (-4.1), and nonelectrical machinery (-1.4). West Germany records employment increases in food, beverages, and tobacco (3.5), textiles (8.4), wearing apparel (2.1), furniture (1.2), chemicals (5.8), and durable goods generally (31.7), and declines especially in agriculture (-6.0). Canada has employment increases in agriculture (2.6), wood products (0.9), paper and paper products (2.1), nonelectrical machinery (1.7), transport equipment (1.7), and miscellaneous manufactures (4.4), and a decline in printing and publishing (-1.6), rubber products (-1.4), fabricated metal products (-2.6), and electrical machinery (-1.4).

Individual countries will thus vary in terms of the particular tradable industries that will experience employment increases or declines as the result of the MTN tariff reductions. In general, however, the nontradable industries will be adversely affected for the reason mentioned earlier. But what is especially noteworthy is that the absolute employment effects in particular are all comparatively small. In most cases in the U.S., the changes are a small fraction of 1 per cent, as is evident from Table 16. The same is generally true for Japan. On the other hand, in several countries, particularly in some of the smaller ones, the implied percentage changes in some sectors are substantially in excess of 1 per cent.

In terms of the labor-market adjustments that might be required, the results thus suggest that large countries like the U.S. and Japan would not experience any unusual difficulties. But some of the smaller countries especially might experience adjustment problems between sectors that would expand or contract in response to the tariff reductions. We have already mentioned that our results are based upon the assumption that the MTN tariff reductions will be made all at once. In fact, most of the reductions will be phased in over a period up to a decade beginning in 1980. It would thus appear that any adjustment problems that do occur should be relatively minor.

Let us consider next the effects on prices. The model generates a series of price changes by sector in each country, and these prices can be averaged across sectors for individual countries. The detailed results by sector are recorded in Appendix Tables E.1 - E.4 for changes in export prices, import prices, home prices, and an index of import and home prices. The overall effects by country are summarized in Table 17.

The various price changes will occur in the following manner. The reductions in tariffs in the MTN will lead to increases in the world prices

TABLE 17

PERCENTAGE PRICE AND EXCHANGE-RATE EFFECTS UNDER FLEXIBLE EXCHANGE RATES IN THE MAJOR INDUSTRIALIZED COUNTRIES DUE TO TARIFF REDUCTIONS IN THE MTN

COUNTRY	EXPORT PRICES*	IMPORT PRICES*	HOME PRICES*	INDEX OF IMPORT AND HOME PRICES*	EFFECTIVE EXCHANGE RATE+
AUSTRALIA	0.18	-0.78	-0.05	-0.07	0.05
AUSTRIA	0.07	-2.05	-0.50	-0.73	0.00
CANADA	0.23	-1.67	-0.20	-0.29	0.12
EUROPEAN COMMUNITY	0.12	-1.63	-0.24	-0.37	
BELGIUM-LUXEMBOURG	-0.50	-2.48	-0.65	-0.98	0.57
DENMARK	-0.02	-1.99	-0.42	-0.62	0.17
FRANCE	0.22	-1.47	-0.20	0.30	-0.19
GERMANY	-0.00	-1.87	-0.33	-0.50	0.00
IRELAND	-0.05	-2.14	-0.34	-0.52	0.22
ITALY	0.24	-1.35	-0.16	-0.25	-0.11
NETHERLANDS	-0.25	-1.97	-0.46	-0.69	0.26
UNITED KINGDOM	0.27	-1.48	-0.13	-0.20	-0.23
FINLAND	0.24	-1.17	-0.20	-0.31	-0.09
JAPAN	0.14	-1.07	-0.03	-0.05	0.12
NEW ZEALAND	0.29	-0.64	-0.10	-0.15	-0.05
NORWAY	0.28	-0.60	-0.14	-0.22	-0.14
SWEDEN	0.06	-0.88	-0.21	-0.32	0.06
SWITZERLAND	-0.07	-0.65	-0.18	-0.27	0.16
UNITED STATES	0.37	-0.87	-0.04	-0.06	-0.25
ALL COUNTRIES	0.23	-1.21	-0.12	-0.18	

*AVERAGE FOR ALL ISIC SECTORS, WEIGHTED BY VALUE OF PRODUCTION.
+POSITIVE SIGN MEANS APPRECIATION; NEGATIVE SIGN MEANS DEPRECIATION.

of tradable goods and thus to increases in export prices. There will be further changes in export prices, both positive and negative, when the exchange rate responds to the initial trade-balance impact of the tariff changes. The overall percentage changes in export prices by country as a result of the MTN tariff reductions are indicated in the first column in Table 17, and they are all less than one per cent. Import prices will be reduced when tariffs are lowered, and here the relative effects are larger, as is evident in the second column of Table 17. Home prices will also be lowered particularly as producers substitute towards cheaper intermediate inputs, although the relative effects noted in the third column are small because of the greater size of the home as compared to the foreign sector in each country. The next column, which is an index of the preceding two columns, indicates that domestic prices will tend to fall as the result of the tariff reductions. The decline in the index is an estimated .06 per cent for the U.S. The declines for most other countries are larger than for the U.S., though none exceed one per cent.

Finally, it is of interest to consider the percentage exchange-rate effects of the MTN tariff reductions. These are summarized in the last column of Table 17. It will be recalled that these exchange-rate changes are what the model estimates would be required to restore the initial trade balance position for each country following the tariff reductions. The detailed changes in exports and imports by ISIC sector and country are recorded in Appendix Tables E.5 and E.6.

The percentage exchange-rate changes in Table 17 are measured as changes in effective exchange rates, based upon 1976 trade for individual countries vis-a-vis the other countries and the rest of world. All changes are shown to be a fraction of one per cent. The effective exchange rate of the U.S. records a depreciation of one quarter of one per cent. Depreciations are also noted for France, Italy, United Kingdom, Finland, New Zealand, and Norway. The remaining countries show small appreciations.

The general conclusion that emerges from our analysis is that the MTN tariff reductions will have absolutely and relatively very small effects on employment in the U.S. across sectors and overall. There may be some very slight reduction in the average of U.S. import and home prices as the result of the tariff reductions, and the U.S. effective exchange rate may depreciate marginally. Similar conclusions apply to the other major industrialized countries, although some of the smaller countries might experience adjustment problems as employment expanded or contracted in response to the tariff changes. Employment in the nontradable industries generally is most frequently adversely affected by the tariff changes because of the substitutions that will occur in favor of tradable goods that become relatively cheaper.

It is particularly noteworthy that the results of our analysis are broadly consistent with those obtained in our earlier studies in which we had occasion to analyze the economic effects of alternative formulae for tariff cutting in the MTN. See, in this regard, Deardorff et al. (1977, 1979), which follow essentially the same model as is currently in use but with 1970 as the reference year. The results noted above are consistent also with those obtained by other investigators, such as Baldwin et al. (1978), Brown and Whalley (1978), and Cline et al. (1978).

While our model provides information on changes in prices and changes in production, consumption, and trade, it does not lend itself on conceptual grounds to analysis of the changes in economic welfare that would result from tariff reductions. We decided nonetheless to develop some ad hoc procedures for welfare calculations. These procedures were mentioned earlier and are discussed in greater detail in Appendix B below. The one that we have used for tariff reductions is depicted in Figure B.1, and it is essentially similar to the static, partial-equilibrium measures commonly used in the literature to calculate changes in consumer and producer surplus.

The results of our calculations of the changes in economic welfare are presented in Table 18. It can be seen that the absolute welfare gain for the U.S. is $710 million. In relative terms, as a percentage of U.S. gross domestic product in 1976, the welfare gain is four one-hundredths of one per cent (.04 per cent). The absolute welfare gain for the European Community is $1.4 billion, which is equal to one tenth of one per cent (.10 per cent) of combined GDP. Canada's gain is $294 million, which is .17 per cent of GDP. Japan's gain of $47 million, which is very small, may reflect our use of prevailing rates which already include the unilateral reductions in tariffs that were made prior to conclusion of the MTN. The same is true for Australia. Of the 18 countries shown in the table, only Germany and Switzerland experience negative welfare changes and these are both small. The total static welfare gain for all 18 countries combined is $2.6 billion, which is .06 per cent of combined GDP.

It thus appears that tariff reductions will be beneficial to econo-

TABLE 18

CHANGES IN ECONOMIC WELFARE IN THE MAJOR INDUSTRIALIZED COUNTRIES DUE TO TARIFF REDUCTIONS IN THE MTN

COUNTRY	CHANGE IN ECONOMIC WELFARE (MILL. $)	% OF GROSS DOMESTIC PRODUCT
AUSTRALIA	22.5	0.03
AUSTRIA	52.2	0.14
CANADA	293.7	0.17
EUROPEAN COMMUNITY	1360.5	0.10
BELGIUM-LUXEMBOURG	153.8	0.23
DENMARK	29.7	0.08
FRANCE	279.5	0.09
GERMANY	-57.6	-.01
IRELAND	44.4	0.56
ITALY	177.6	0.11
NETHERLANDS	256.9	0.31
UNITED KINGDOM	476.2	0.24
FINLAND	31.6	0.12
JAPAN	47.3	0.01
NEW ZEALAND	24.6	0.21
NORWAY	52.0	0.18
SWEDEN	33.2	0.05
SWITZERLAND	-35.7	-.06
UNITED STATES	709.8	0.04
ALL COUNTRIES	2591.8	0.06

NOTE: CALCULATED BASED ON THE METHOD DEPICTED IN APPENDIX FIGURE B.1.

mic welfare in the U.S. and most of the other major industrialized countries. While these gains are small, it should be emphasized that they are permanent. That is, consumers will benefit permanently from their increased consumption of lower-priced goods and producers will benefit permanently from more efficient resource use in production. The nation as a whole will therefore be better off as a consequence of the tariff reductions in the MTN.

It is worth noting once again that our results are broadly consistent with those obtained by other investigators. For example, Baldwin et al. (1978, p. 21) estimated that an across-the-board 50 per cent multilateral tariff reduction (with agriculture, food, textiles, wearing apparel, and petroleum exempted) in the MTN would yield a net stream of future welfare gains to the U.S. in the amount of $1.1 billion (based on 1971 prices and using a discount rate of 10 per cent). Cline at al. (1978, p. 99) estimated a static improvement in welfare for the U.S. of $947 million (in 1974 prices), based upon a tariff formula that was very close to the Swiss formula that we discussed. Cline et al. also estimated welfare improvement for the following countries: Canada, $227 million; Japan, $283 million; and the European Community, $460 million. Our welfare estimates (based on 1976) are evidently greater than those of Cline et al. for Canada and the EC and lower for Japan. Finally, we may note that Brown and Whalley (1978, p. 31) have estimated static welfare gains (based on 1973), using the Swiss formula, as follows: U.S., $810 million; European Community, $1.5 billion; and Japan, $450 million.

It would take us too far afield to account for the differences in the welfare estimates noted. Our model differs conceptually in certain respects from the others, and we have used a somewhat different system of data classification. In any event, the important point is that the various studies are in agreement that there are positive but small gains in economic welfare to be obtained by the U.S. and the other major industrialized countries as a consequence of tariff reductions in the MTN.

We had occasion earlier in our introductory remarks to note that not everyone in the society will benefit from tariff reductions. It is possible that workers will be displaced because of competition from increased imports and there may be an idling of physical capital in individual industries. These costs of adjustment must be taken into account. The only study that has considered these adjustment costs is Baldwin et al. They estimated the adjustment costs of labor for the U.S. at $37 million and of physical capital at $5 million, so that the net improvement in economic welfare for the U.S. is still (in present-value terms) in excess of $1 billion, although small in relation to GDP. Comparable estimates of the adjustment costs of tariff reductions are unfortunately not available for other countries. But if the estimates for the U.S. are any guide, these costs should not be of great importance elsewhere.

The foregoing remarks are not meant to imply that there will be no industries adversely affected by the tariff reductions. A glance at Tables 15 and 16 above and Appendix Tables D.3 and D.4 will reveal that there are particular industries in the U.S. and other countries that may experience employment declines as a result of the MTN. The studies by Baldwin et al. and Cline et al. also contain disaggregated information on the sectors in the U.S. that may lose employment. Unfortunately, our results for individual sectors cannot be compared directly with these other studies because our model is more complex in terms of making explicit allowance for general-equilibrium interactions and also our system of data classification is somewhat different.

Thus, in terms of sector or industry detail, it might be difficult to identify unambiguously the particular industries in the U.S. and elsewhere that would be most vulnerable to competition from imports because of the MTN tariff reductions. For example, Baldwin et al. (1978, pp. 23-24) have identified 31 industries in the U.S. that might experience reduced labor requirements in excess of one per cent due to tariff reductions in the MTN. Our results, which are much more aggregative and based upon a more elaborate model than the one used by Baldwin et al., suggest that unemployment within broader manufacturing sectors would be relatively small and that most of the employment declines would occur in the nontradable sectors. Therefore, if one wanted for policy purposes to identify displaced workers that might be eligible for adjustment assistance, it would clearly be difficult to select them from the nontradable industries. In any event, because of the small numbers of workers involved and the fact that most of the tariff reductions will be phased in over a period of years, problems of particular industries can be best dealt with by normal market growth and by existing programs designed to handle unemployment, welfare, and worker retraining and retirement.

IV. Effects of Changes in Nontariff Barriers

A great deal of attention has been devoted in the MTN to the discussion and formulation of codes and agreements concerning nontariff measures. The codes deal with: safeguards; customs valuation; standards and technical regulations; government procurement; subsidies and countervailing duties; and commercial counterfeiting. Commodity agreements have been discussed for: dairy products; meat; coarse grains; wheat; and the use of the wine-gallon method of tax and duty assessment.

While nontariff barriers may have important restrictive effects upon trade, it is unfortunately difficult to measure these effects because of the lack of information. In order to fill this gap in information, one approach adopted has been to compile data on the frequency of use of nontariff measures by industry and sector, as, for example, in Murray and Walter (1978). A similar approach is to determine the number and type of complaints filed by a country's exporters. This latter type of information was made available to us by STR and will be presented below.

The difficulty nevertheless remains of determining what the trade and employment impact may be if particular nontariff barriers are liberalized. To shed at least some partial light on this, we have used our model to analyze the effects of the concessions on agricultural products negotiated in the MTN between the U.S. and the other major countries. In addition, we have analyzed the effects of the multilateral liberalization of government procurement that may occur if the procurement code comes into effect. Acceptance of the code on customs valuation may also have an impact on trade. We had hoped to analyze this impact as well but unfortunately the sample of data that we obtained was fairly small and not sufficiently representative.

Frequency Distribution of Complaints Filed with STR

In the course of the negotiations, STR invited U.S. exporters to call to their attention any foreign nontariff measures that affected U.S. exports adversely. During the period, 1975-78, STR received complaints involving: (1) government procurement; (2) customs valuation; (3) industrial standards; (4) health and safety standards; (5) product and content standards; and (6) marking, labelling, and packaging requirements. These data are summarized by type of measure and region in Table 19.

Of the 340 complaints filed, health and safety standards accounted for 41.8 per cent, government procurement, 18.8 per cent, industrial standards 18.5 per cent, and customs valuation, 11.8 per cent. In terms of regions, more than half of the complaints concerning government procurement were directed to the European Community and Japan. These two regions also accounted for 50 per cent of the complaints concerning customs valuation, more than 75 per cent of the complaints involving industrial standards, and 40-50 per cent of the complaints for the other measures.

The complaints have been classified by sector and region in Table 20. It is evident from the totals that about half of the total complaints were connected with agricultural products (ISIC 1 and 310). Complaints about government procurement were concentrated in electrical machinery (ISIC 383), transport equipment (ISIC 384), and other manufactures (ISIC

Table 19

Total Number of Complaints Concerning Nontariff
Measures Filed with STR by U.S. Exporters, 1975-78:
Classified by Type of Measure and Region

Type of Measure	Canada	EEC	Japan	Other Industrial Countries	Rest of World	Total	%
1. Government procurement	1	22	11	6	24	64	18.8%
%	(1.6%)	(34.4%)	(17.2%)	(9.4%)	(37.5%)	(100.0%)	
2. Customs valuation	4	16	4	-	16	40	11.8%
%	(10.0%)	(40.0%)	(10.0%)		(40.0%)	(100.0%)	
3. Industrial standards	-	22	19	2	10	53	18.5%
%		(41.5%)	(35.8%)	(3.8%)	(18.9%)	(100.0%)	
4. Health and safety standards	4	31	27	22	58	142	41.8%
%	(2.8%)	(21.8%)	(19.0%)	(15.5%)	(40.8%)	(100.0%)	
5. Product content standards	2	7	-	-	5	14	4.1%
%	(14.3%)	(50.0%)			(35.7%)	(100.0%)	
6. Marking, labelling, and packaging requirements	2	6	5	-	14	27	7.9%
%	(7.4%)	(22.2%)	(18.5%)		(51.9%)	(100.0%)	
Total	13	104	66	30	127	340	100.0%
%	(3.8%)	(30.6%)	(19.4%)	(8.8%)	(37.4%)	(100.0%)	

Source: Based upon complaints received by STR from U.S. exporters during 1975-78.

Number of Complaints Concerning Nontariff Measures Filed with TPSC by U.S. Exporters 19[illegible], Classified by Type of Measure, Industry, and Region

Industry	Canada (1)	(2)	(3)	(4)	(5)	(6)	(7)	EC (1)	(2)	(3)	(4)	(5)	(6)	(7)
Agri., forestry & fishing				[illegible]	[illegible]				2	1	4	4	1	2
Food, beverages & tobacco				1	[illegible]	1	[illegible]			[illegible]	8	1	2	14
Textiles														2
Wearing apparel														
Leather & leather & fur prod.														
Footwear		1					1							
Wood products	1						[illegible]							
Furniture & fixtures														
Paper & paper products														
Printing & publishing														
Industrial chemicals									4					
Petroleum & coal prod.														
Rubber products														
Pottery, china, etc.											[illegible]			
Glass and glass prod.														
Iron & steel basic ind.							1							
Nonferrous metal basic ind.														
Metal products							1		1		[illegible]		[illegible]	
Nonelectrical machinery								[illegible]			[illegible]		[illegible]	[illegible]
Electrical machinery								16	[illegible]	[illegible]				2
Transport equipment								[illegible]	[illegible]					4
Other manufactures[d]		[illegible]		[illegible]		[illegible]	[illegible]		4	4	4			[illegible]
Total	[illegible]	4		4	2	2	[illegible]	22	16	12	31	[illegible]	6	4

Industry	Japan (1)	(2)	(3)	(4)	(5)	(6)	(7)	Other industrial countries[b] (1)	(2)	(3)	(4)	(5)	(6)	(7)
Agri., forestry & fishing	[illegible]		11	15		[illegible]	[illegible]			[illegible]	11			12
Food, beverages & tobacco		[illegible]	1	[illegible]		[illegible]					1			6
Textiles											6			6
Wearing apparel														
Leather & leather & fur prod.														
Footwear														
Wood products			[illegible]											
Furniture & fixtures														
Paper & paper products														
Printing & publishing														
Industrial chemicals														
Petroleum & coal prod.														
Rubber products														
Pottery, china, etc.											1			1
Glass and glass prod.														
Iron & steel basic ind.														
Nonferrous metal basic ind.														
Metal products											[illegible]			1
Nonelectrical machinery			[illegible]											
Electrical machinery					[illegible]		[illegible]	4						4
Transport equipment							[illegible]	2			1			1
Other manufactures[d]	1		[illegible]				[illegible]				[illegible]			1
Total	11	4	19	7		5	44	6		2	12			30

Industry	Rest of World including unspecified[c] (1)	(2)	(3)	(4)	(5)	(6)	(7)	Total (1)	(2)	(3)	(4)	(5)	(6)	(7)
Agri., forestry & fishing		2	4	22		2	30	1	4	30	5	5	5	132
Food, beverages & tobacco	2	2		26	5		33	2	4		46	[illegible]	5	71
Textiles				[illegible]			1				8			8
Wearing apparel														
Leather & leather & fur prod.														
Footwear									1					1
Wood products			1				1	1		[illegible]				1
Furniture & fixtures														
Paper & paper products														
Printing & publishing														
Industrial chemicals		4					4		10		1		1	7
Petroleum & coal prod.														
Rubber products														
Pottery, china, etc.				4			4				8			8
Glass and glass prod.	2		2			2	6	2		[illegible]			2	6
Iron & steel basic ind.									1					1
Nonferrous metal basic ind.														
Metal products	2						3		[illegible]		[illegible]		1	5
Nonelectrical machinery		1		2			3	[illegible]	3	[illegible]		2	2	1
Electrical machinery	5	1					8	27	[illegible]		8			61
Transport equipment	13	5	3	3		10	34	10	4		[illegible]			16
Other manufactures[d]								14	4	4	4		11	67
Total	26	16	10	48	5	14	12[illegible]	64	40	[illegible]	142	16	27	560

Notes: (1) government procurement, (2) customs valuation, (3) industrial standards, (4) health and safety standards, (5) product content standards, (6) marking, labeling, and packaging requirements, and (T) total.

[a] Includes Belgium-Luxembourg, Denmark, France, Germany, Ireland, Italy, Netherlands, and United Kingdom.

[b] Includes Australia, Austria, Finland, New Zealand, Norway, Sweden, and Switzerland.

[c] Includes developing countries, socialist countries, and unspecified countries.

[d] Includes plastic products, professional, photographic, and scientific products.

Source: Based upon complaints received by STR from U.S. exporters during 19[illegible].

38A). Complaints about customs valuation were concentrated in chemicals (ISIC 35A) and in durable manufactures (ISIC 381-38A). Tables 19 and 20 thus provide some perspective on the regional and sectoral distribution of complaints that U.S. exporters have filed concerning foreign nontariff measures.

Presumably, exporters in foreign countries have been adversely affected by U.S. nontariff measures. But such complaints have apparently not been collected systematically by foreign governments. While the complaint data reveal that there may be genuine and perhaps serious impediments to trade, there is unfortunately no way in which these data can be utilized directly in our model to obtain estimates of the effects of changes in nontariff measures.

Some information is available, however, on the agricultural concessions negotiated between the U.S. and the other major industrialized countries in the MTN. Also, we have some information on the total amounts of government procurement that countries have stated that they will liberalize in order to permit foreign exporters greater access to their markets. We shall analyze each of these matters in turn, using our model.

Agriculture

Agriculture has proven to be a stumbling block in previous rounds of multilateral trade negotiations. This appears to be the case as well for the present MTN. Countries protect their domestic agriculture for a variety of reasons, including especially a desire to promote self sufficiency, to prevent income disparities vis-a-vis other sectors of the economy, and to ease the process of adjustment within agriculture and between agriculture and other sectors. Trade liberalization may therefore require changes in domestic agricultural policies that many countries are reluctant to undertake.

In both the Kennedy Round and the MTN, the U.S. tried to link the liberalization of trade in industrial and agricultural products. As noted above, the U.S. is a major net exporter of food and food products and would thus stand to benefit by reductions in foreign import barriers. The same is true for such other important agricultural exporting countries as Australia, Canada, and New Zealand. The focus of the agricultural discussions in the MTN has been on the restrictive policies followed by the European Community, with its Common Agricultural Policy, and by Japan with regard especially to imports of beef and citrus fruits. Efforts were also made in the MTN to negotiate international commodity agreements covering beef, dairy products, and wheat. Finally, the codes on subsidies and countervailing duties, safeguards, and standards are all relevant to agricultural trade.

It is beyond the scope of this report to review the agricultural negotiations in detail. It appears, however, based upon studies by Schnittker Associates (1979) and Houck (1979), that only very modest gains have been made in the liberalization of agricultural trade.

According to Schnittker Associates, the U.S. obtained concessions in the MTN on the following commodity groups: almonds, beef, canned peaches and fruit cocktail, citrus, poulty, rice, soybeans and products, tobacco, vegetable protein concentrates and isolates, and wine. In 1976, exports of these products totaled $6.9 billion in comparison to total U.S. agricultural exports of $23.0 billion. The value of exports to countries from whom trade concessions were obtained was $1.9 billion, which represented about 8 per cent of the total just mentioned.

Schnittker Associates calculated the increase in trade that would take place for each commodity group from 1980 to the end of the transition period for the MTN in 1987, as the result both of reductions in foreign tariffs and quantitative restrictions. Since, in our model, we have already made allowance for the tariff concessions on agricultural products and foodstuffs, we shall concentrate here only on the effects of reductions in foreign NTB's. The results obtained by Schnittker Associates are summarized by commodity group and country in Table 21. The estimated total increase in U.S. agricultural exports was $305.7 million. It is evident that the increase was concentrated mainly in beef, citrus, poultry, and soybeans and products. Japan accounted for about half of the total estimated increase and the European Community for about one-fourth. It should be noted that the U.S. made a number of other requests for concessions, besides those listed in Table 20, from Japan, the EC, and other countries, but these requests were denied.

Other countries asked the U.S. in turn for some concessions on agricultural products. Several were granted, the most important one being a change in the U.S. import quota on cheese. Schnittker Associates estimated that this would result in an increase in cheese imports of 50,000 metric tons. Estimating very roughly that cheese sells for about $2,000 per metric ton, we calculated that U.S. cheese imports would rise by $100 million as a result of this concession. The net increase in U.S. agricultural exports as a result of the MTN concessions was thus an estimated $205.7 million.

We presume that other agricultural concessions were granted by individual countries in the MTN. But at the time of writing, we could not ascertain what these concessions were. We cannot as a consequence determine what the economic effects might be of multilateral trade liberalization in agricultural products. We set ourselves accordingly the more limited task of assessing the bilateral concessions involving the U.S. that have been noted above.

We proceeded by treating the value of the bilateral concessions listed in Table 21 as a relaxation of import quotas in the agricultural sector (ISIC 1) for each of the countries involved and accordingly increased U.S. agricultural exports by the entire amount. The U.S. concessions on cheese were treated as a relaxation of import quotas in the food, beverages, and tobacco sector (ISIC 310), and the total was allocated to the exports of other countries on the basis of their shares in the total value of U.S. cheese imports in 1976. The model was then solved under conditions of fixed and flexible exchange rates and calculations made of the changes in the endogenous variables. For this purpose, tariffs were assumed to be unchanged at their post-Kennedy Round levels.

The detailed employment effects by ISIC sector and country are recorded in Appendix Tables D.5 and E.7 for fixed and flexible exchange rates, respectively. These effects as well as the changes in welfare

Table 21

Estimated Increases in U.S. Agricultural Exports by Commodity and Country as a Result of NTB Reductions in the MTN (Millions of Dollars)

Country	Almonds	Beef	Canned Peaches & Fruit Cocktail	Citrus	Poultry	Rice	Soybeans & Products	Tobacco	Total
Australia								1.7	1.7
Austria		3.0							3.0
Canada									
European Community[a]		58.0			20.0	3.1			81.1
Belgium-Luxembourg		11.8			0.4	0.2			12.4
Denmark		0.3			0.1	-			0.4
France		24.3			0.2	0.1			24.6
Germany		0.9			12.2	1.1			14.2
Ireland		-			-	-			-
Italy		0.6			2.4	0.5			3.5
Netherlands		10.2			0.5	0.8			11.5
United Kingdom		9.9			4.2	0.4			14.5
Finland									
Japan		112.9		36.0					148.9
New Zealand					0.2				0.2
Norway					0.1				0.1
Sweden									
Switzerland		12.6				0.1			12.7
Rest of World	2.5		0.4	0.1			55.0		58.0
Total	2.5	186.5	0.4	36.1	20.3	3.2	55.0	1.7	305.7

[a]Total allocated to EC member countries on the basis of 1976 U.S. exports.
Source: Adapted from Schnittker Associates (1979).

are summarized in Table 22. The agricultural concessions are seen to result in a 42,000 worker increase in U.S. agriculture (ISIC 1) and 11,000 workers overall under conditions of flexible exchange rates. The reason for this difference is that workers will be attracted to agriculture and away from other sectors. Our estimated employment increase in agriculture, it may be noted, is in excess of the 26,000 workers increase estimated by Houck (1979, p. 64) in response to both the non-tariff and tariff concessions.

It is also evident from Table 22 that Canada experiences a negligible decline in employment in agriculture and overall. In the EC and Japan, employment in agriculture declines by 15,000 and 18,000 workers, respectively, and 8,500 and 14,500 workers overall under conditions of flexible exchange rates.

The change in economic welfare noted in Table 22 has been calculated according to the method depicted in Appendix Figure B.1. The agricultural concessions will result in an estimated $231 million increase in economic welfare in the U.S. under conditions of flexible exchange rates. The gains for the European Community are $73 million and for Japan, $31 million, while Canada experiences a small decline in welfare.

As should be clear from our analysis of the effects of the MTN tariff reductions, the model provides information on changes in many other endogenous variables such as export, import, and home prices by sector and effective exchange rates. These detailed results are not reproduced for the agricultural concessions in the report but are available from the authors upon request.

Table 22

Changes in Employment and Economic Welfare in the U.S. and Other Major Industrialized Countries Due to Agricultural Concessions in the MTN

Country	Fixed Exchange Rates	Flexible Exchange Rates
Change in agricultural employment (000 workers)		
Canada	-1.2	-1.1
European Community	-15.6	-14.9
Japan	-18.0	-17.6
U.S.	42.1	41.7
Total change in employment (000 workers)		
Canada	-1.2	-0.4
European Community	-13.2	-8.5
Japan	-18.1	-14.5
U.S.	16.4	11.0
Change in economic welfare ($ mill.)		
Canada	-$6.1	-$6.5
European Community	59.5	73.3
Japan	22.1	30.9
U.S.	222.3	231.4
Other countries	2.8	4.9
Total	300.6	334.0

Source: Employment effects, Tables D.5 and E.7.

Even though the agricultural concessions obtained and granted by the U.S. in the MTN appear modest, they nonetheless will result in an improvement in the nation's welfare. As in the case of tariffs, this constitutes a permanent improvement. It is also evident that other countries will gain as well, although they may experience some adjustment costs in terms of declining employment in agriculture. We mentioned above the lack of information concerning other agricultural concessions negotiated in the MTN. Presumably these concessions will result in still additional (though small) benefits to the countries involved. Finally, we should mention the possible indirect benefits that may be derived particularly from the various codes on nontariff barriers in the MTN that are relevant to trade in agricultural products.

In conducting our analysis of the effects of the agricultural concessions, we have assumed that tariffs remain at their post-Kennedy Round levels. This has enabled us to focus attention only on the agricultural concessions themselves. More realistically, allowance should be made for the changes in tariffs on agricultural products and also for those involving industrial products, which will be introduced during the time that the quantitative restrictions on agricultural products are being relaxed. In Section V below, we shall therefore present the results, based on our model, of the combined effects of the tariff changes and the liberalization of agricultural import restrictions. This subsequent analysis will also incorporate the liberalization of government procurement, to which we will now turn.

47-084 O - 79 - 7

Government Procurement

Government-procurement regulations embrace a variety of considerations involving the terms of soliciting bids, the requirements placed on bidders, the criteria for selecting bids and awarding contracts, and the extent to which contract terms are publicized. These matters are discussed in detail in Baldwin (1970, Ch. 3) and lie outside our present concern. The question is how one can measure the impact of changes in government procurement.

A possible procedure that has been followed by Baldwin (1970) and subsequently by Lowinger (1976) and Cline et al. (1978) is to calculate the difference between actual government imports and hypothetical government imports. The latter are estimated by applying nongovernment import propensities by sector to total government expenditures. The difference by sector between actual and hypothetical government imports is interpreted as a measure of government discrimination in favor of domestic producers. Summation across sectors then provides an indication of the overall discriminatory impact of government procurement.

Our concern was not to measure the overall impact of discrimination in government procurement, but rather what the impact would be of changes in existing levels of procurement discrimination. For this purpose, we relied on some informal and sketchy information on government procurement that the major negotiating countries in the MTN had made available to STR. This information was in the form of the total amount of nondefense procurement that countries had tentatively agreed to open to foreign suppliers for the purposes of bidding. The amounts are indicated in Table 23. While some detail was available by sector, it was unfortunately

Table 23

Estimated Amount of Liberalization of Non-Defense Government Procurement by the Major Industrialized Countries in the MTN
(Billions of Dollars)

Country	Amount
Australia	$ -
Austria	-
Canada	1.0
European Community[a]	10.0
Belgium-Luxembourg	0.5
Denmark	0.3
France	2.4
Germany	3.4
Ireland	-
Italy	1.3
Netherlands	0.6
United Kingdom	1.5
Finland[b]	0.6
Japan[c]	7.0
New Zealand	-
Norway[b]	0.7
Sweden[b]	1.7
Switzerland	1.0
United States	11.0
Total	$33.0

[a]Total allocated to member countries based on 1976 GDP.

[b]Total for Nordic countries allocated based on 1976 GDP.

[c]Estimated based on news reports.

Source: Based on data supplied by STR.

insufficient for our purposes. Although there has been some dispute between the U.S. and Japan concerning the adequacy of Japan's offer, we have assumed that this dispute will be settled in due course and all the procurement offers will therefore be made multilaterally.

As the first step in our analysis, we sought to obtain any readily available data on Government expenditures by sector from national input-output tables. We were able in this regard to obtain 1967 data for the U.S., 1970 data for France, Germany, Italy, Netherlands, and the United Kingdom, 1971 data for Canada, and 1970 data for Japan. Each country's input-output sectors were concorded with the ISIC breakdown used in our model, and the relative proportions of government expenditures were calculated by sector and country. For those countries where input-output data were not readily accessible, we applied the average proportions for the eight countries noted. We assumed that the amount that each country had earmarked for procurement liberalization would be spent according to the expenditure proportions calculated, except for government purchases of agricultural food, and petroleum products which we assumed would not be affected.

The amounts of government imports by sector were determined on the basis of the nongovernmental import propensities calculated by our model. This assumes that government imports were zero initially. To the extent that this was in fact not the case, our procedure will overstate the effects of procurement liberalization. In any event, we then proceeded to solve the model on the basis of these estimated changes in government imports under conditions of fixed and flexible exchange rates, thus determining all of the changes in the endogenous variables and thereafter calculating the changes in economic welfare. We assumed throughout that tariffs remained at their post-Kennedy Round levels and that no agricultural concessions had been made. This assumption will be relaxed later when we analyze the entire MTN package.

The detailed employment effects of the procurement liberalization by ISIC sector and country are recorded in Tables D.6 and E.8 for fixed and flexible exchange rates, respectively. These effects together with changes in economic welfare are summarized in Table 24. It is evident that, under flexible exchange rates, the employment effects are negligible overall, whereas, under fixed rates, the European Community has an overall increase of 23,000 workers and Japan an overall increase of 24,000 workers. These changes in employment are concentrated in the durable goods industries (ISIC 371 - 38A).

The change in economic welfare noted at the bottom of Table 24 has been calculated based upon the method depicted in Appendix Figure B.2. Under flexible exchange rates, the U.S. experiences an estimated \$616 million increase in economic welfare, Canada, \$359 million, Japan, \$286 million, and the EC member countries combined, \$1.9 billion. Germany's welfare improvement alone was an estimated \$697 million. The total for all 18 countries was \$4.4 billion.

We mentioned above that our estimated effects of government-procurement liberalization are overstated in so far as we have assumed that government imports were zero initially. Unfortunately, we lacked systematic data on government imports so that we were not able to determine how important this overstatement was. But assuming that it was not too

Table 24

Changes in Employment and Economic Welfare in the U.S. and Other Major Industrialized Countries Due to Liberalization of Government Procurement in the MTN

Country	Fixed Exchange Rates	Flexible Exchange Rates
Change in employment in durable goods sectors (ISIC 371-38A) (000 workers)		
Canada	-5.5	-5.0
European Community	26.2	13.4
Japan	11.5	-1.1
U.S.	-3.4	-4.5
Total change in employment in all sectors (000 workers)		
Canada	-4.2	-2.7
European Community	23.2	3.2
Japan	24.3	1.9
U.S.	2.6	1.6
Change in economic welfare ($ mill.)		
Canada	$357.8	$359.3
European Community	1,953.3	1,917.5
Japan	328.7	286.4
Norway	200.9	215.4
Sweden	470.0	508.9
Switzerland	387.6	411.3
U.S.	634.8	616.3
Other countries	119.7	125.2
Total	$4,452.8	$4,440.3

Source: Employment effects, Tables D.6 and E.8

large, our results suggest that multilateral procurement liberalization is likely to have comparatively small effects on employment in individual sectors and overall and significantly positive effects on economic welfare. As stressed already in connection with tariffs and agricultural concessions, the gains in welfare would be permanent.

It bears repeating that, in our analysis of procurement liberalization, we have assumed that tariffs remained at their post-Kennedy Round levels and that agricultural concessions had not been made in the MTN. We shall have occasion in Section V below to analyze the combined effects of the MTN reductions in tariffs, agricultural concessions, and procurement liberalization.

Customs Valuation

In cases where it is difficult to determine the actual price or the transaction value of imported goods, it becomes necessary to estimate such price or value for purposes of levying import duties. This may in practice give considerable discretion to customs officials and, depending upon how their discretion is exercised, it could result in substantial increases in the base on which tariff rates are levied.

The issue of customs valuation has been troublesome both in the U.S. and in other countries. Foreign exporters to the U.S. have singled out in particular the so-called American Selling Price (ASP) method of valuation, which has required since 1922 that the tariff on benzenoid chemicals, rubber-soled footwear, canned clams, and certain knit gloves be levied on the value of similar products produced in the U.S. rather than on the price in the exporting country. If the proposed code on customs valuation is approved by Congress, the ASP system will be abolished. It is our understanding that the removal of ASP and thus the reduction of the implicit tariffs on the aforementioned goods were taken into account in determining the balance of concessions made by the U.S. and the other major countries as a result of the MTN. We have not attempted therefore to determine separately what the economic effects of ASP elimination would be. Rather, these effects will presumably have been captured already by our analysis of the tariff reductions that have been negotiated.

Negotiation of the code covering customs valuation should be beneficial to U.S. exports to the extent that other countries reduce or remove discretionary uplifts that have been applied for customs purposes in levying tariffs. The issue of customs valuation has been considered important enough that a number of U.S. firms and trade associations has formed a Joint Industry Working Group on Customs Valuation, under the direction of the Manager of Customs & International Trade Affairs of The Proctor & Gamble Company. In the hope that we could quantify the economic effects of the customs-valuation code, members of the Working Group were requested on our behalf to supply whatever information they might have on the percentage uplifts applied to U.S. exports. At the time of writing, we had received responses from only six U.S. companies and one trade association, all of which were involved primarily in the export of pharmaceutical and chemical products. Since we could not determine how representative these responses were for other products, companies, sectors, and countries, we decided against using our model to calculate the possible effects of removing customs uplifts.

It may nevertheless be of interest to summarize for the benefit of interested readers what little information was provided to us by the industry representatives. This information is summarized in Table 25. It can be seen

Table A5

Selected Examples of Foreign Uplifts in Customs Valuation

Country	Product	Percentage Uplift
Industrialized Countries		
Austria	Selected pharmaceuticals	0%
Canada[a]	Selected pharmaceuticals	0
France	Selected pharmaceuticals	0
Germany	Selected pharmaceuticals	0
Italy	Selected pharmaceuticals	6.0
	Selected pharmaceuticals	5.0
	Synthetic fibers	50.0
Japan[b]	Antibiotics in bulk	5.7
	Cosmetic raw & packaging materials	1.0
	Finished cosmetic products	7.0
	Finished dermatological products	7.0
	Nutritionals	4.0
	Other pharmaceuticals	8.0
	"Practically all" pharmaceuticals, fas value	6.0
Netherlands	Selected pharmaceuticals	0
Switzerland	Selected pharmaceuticals	0
United Kingdom[c]	Most antibiotics (BTN 29.44)	17.5
	Erythromycin throcyanate (BTN 29.44)	126.0
	Erythromycin ethyl succinate (BTN 29.44)	55.0
	Anti-coagulants (BTN 39.06)	17.5
	Disposable sets (BTN 90.17)	28.7
	Selected pharmaceuticals	10.0
Rest of World		
Chile	Selected pharmaceuticals, fob value	4.5
Greece	Antibiotics	6.8
Indonesia	Many industries	d
Mexico	Selected pharmaceuticals	e
Spain[f]	All products	4.0
	Intercompany transactions	4.0
	All imports from affiliated companies	11.0

[a]Canada was alleged by one respondent to use a "fair market value" system for valuing many types of imports of manufactures, with uplifts of up to 20 per cent.

[b]According to one respondent, Japan commonly applies uplifts in many industries, the actual amount being subject to negotiations from company to company. Another respondent reported that, in pharmaceuticals where a royalty was to be paid by the importer to a licensor outside Japan, an uplift of 20-30 per cent was common. This was because Japanese law provided for a duty assessment to cover separate payment of royalties.

[c]According to one respondent, British customs authorities allegedly disregard the price shown on the invoice. They take the sales value of the goods imported and then subtract selling and administrative expenses at a percentage which is usually 17.5 per cent. This amount less the estimated duty payable constitutes the dutiable value.

[d]Uplifts are generally applied for many industries according to one respondent. They take the form of a "check price" for specific items, with duties being assessed on the check price regardless of the actual value of the product.

[e]According to one respondent, the Mexican customs authority figures the dutiable value to be the higher of either the "established minimum legal price" or the actual invoice price. Another respondent reported that official values were often determined on the basis of physical weight, which had no clear relation to variations in the degree to which the imported good had been processed.

[f]One respondent alleged that uplifts in Spain seem to be directed at drugs more than other industries, with the percentage uplift being subject to negotiation by the company. This was described as effectively taking "the form of blackmail."

Source: Based upon responses from corporate members of a Joint Industry Working Group on Customs Valuation, under the direction of the Manager of Customs & International Trade Affairs of The Proctor & Gamble Company.

that uplifts on selected pharmaceuticals ranged from zero in several Western European countries to as much as 126.0 per cent in one instance in the U.K. In order to form some idea of the increase in tariffs implied by customs uplifts and the reductions that would result from the removal of uplifts, we present some illustrative calculations in Table 26. In column (1), we have recorded some percentage uplifts that are based on the information in Table 25. Column (2) refers to the weighted average, pre-MTN tariff on selected pharmaceuticals for each country shown and synthetic fibers for Italy only. Column (3) is the implicit tariff, including the uplift, calculated on the basis of unity plus the percentage uplift times the tariff rate in column (2). Column (4) is the weighted average, post-MTN tariff on the products noted. Column (5) is the percentage depth of cut in the tariff rate only, that is, the percentage difference between columns (2) and (4). Column (6) is the percentage depth of cut, based upon the difference between the post- and pre-MTN tariff and assuming that the customs uplift is removed.

Where the percentage uplift is relatively small, that is, in the 5-10 per cent range, the implicit tariff inclusive of the uplift and the percentage depth of cut excluding the uplift are only marginally different from the calculations based on the tariff rate only. Obviously when the uplift is 50 per cent or more, the implicit tariff and the effects of removing the uplift are appreciably greater. Unfortunately, we do not have enough detailed and systematic information by product and country to determine how pervasive and important customs uplifts may be.[1] The illustrative calculations in Table 26 suggest nevertheless that there could be substantial reductions in implicit tariffs on particular products if uplifts were removed or reduced. This would certainly be beneficial to the U.S. exporters involved.

Table 26

Some Illustrative Calculations of the Implicit Tariff Effects of Customs Uplifts on Chemical Products

Country	Customs Uplift	Pre-MTN Tariff Rate	Pre-MTN Implicit Rate with Uplift[a]	Post-MTN Tariff Rate	Percentage Cut: Tariff Rate Only[b]	Percentage Cut: With Removal of Customs Uplift[c]
	(1)	(2)	(3)	(4)	(5)	(6)
Italy						
Sel. pharmaceut.	5.0%	9.0%[d]	9.4%	5.9%[d]	34.4%	37.2%
Synthetic fibers	50.0	12.4[e]	18.6	8.8[e]	29.0	52.7
Japan						
Sel. pharmaceut.	5.0%	6.5[d]	6.8	4.9[d]	24.6	27.9
Sel. pharmaceut.	10.0	6.5	7.2	4.9	24.6	31.9
United Kingdom						
Sel. pharmaceut.	20.0	9.0[d]	10.8	5.9[d]	34.4	45.4
Sel. pharmaceut.	50.0	9.0	13.5	5.9	34.4	56.3
Sel. pharmaceut.	125.0	9.0	20.2	5.9	34.4	70.8

[a]Calculated as [unity + (1)] x (2).

[b]Assumes reduction in tariff rate only: [(2) - (4)] ÷ (2).

[c]Assumes reduction in tariff rate coupled with removal of customs uplift: [(3) - (4)] ÷ (4).

[d]Weighted average nominal rate on BTN 29.44, 39.06, and 90.17.

[e]Weighted average nominal rate on BTN 5101-5104 and 5601-5607.

Other Nontariff Barriers

We mentioned earlier that several codes have been developed in the MTN to deal with a variety of nontariff barriers. Some of these codes will not have an immediate or clear impact on trade as a result of the MTN. This would appear to be the case, for example, for the codes involving safeguards and standards and technical regulations. The code involving subsidies and countervailing duties could have some impact, though how much and with respect to which countries and sectors cannot be readily determined given the present state of knowledge. In addition to the codes, a series of commodity agreements on particular agricultural products may emerge from the MTN. Without more details on what these agreements will contain in terms of their impact on prices, production, and trade, there is nothing that we can contribute to their likely effects, at least in terms of what our model can handle.

Footnote

[1] In this connection, one respondent replied:

> "While I regret that our circular did not elicit information from a greater number of companies, the responses cited... seem sufficient to show that uplifting is a common practice in many countries. My contacts with our representatives... suggest that nearly all have encountered the problem of arbitrary valuations by foreign customs officials but may have become inured to the practice. ...[L]egitimate questions may occasionally arise about the valuation of...intra-company shipments (of multinational corporations), but the regularity of upward adjustments in some countries constitutes an unjustifiable barrier to trade."

Another respondent noted: "...as you can appreciate, we are not particularly anxious to have specific examples involving our products brought to the attention of the countries in which these problems have arisen."

V. Combined Effects of Reductions in Tariffs and Nontariff Barriers

In the two preceding sections, we have analyzed separately the economic effects of MTN tariff reductions, agricultural concessions, and the liberalization of government procurement. We now propose to use our model to determine the combined effects of the foregoing changes in tariffs and nontariff barriers. The point of looking at these combined effects is that all of the changes noted will be made over the same time period, and it is important therefore to consider the interactions involved to the extent that our model permits. The results to be presented below are therefore our best estimates of the likely economic effects of the three major components of the entire MTN package. There may be additional effects from some of the other codes, commodity agreements, and aspects of the MTN that may change as time passes. But lacking any quantitative information on these matters, we cannot evaluate their economic significance at this time.

Also, in this section, we shall consider how sensitive the combined results may be to certain key parameters in the model. In this regard, we have run three separate experiments, which will be reported below. In the first experiment, we doubled all supply elasticities in order to determine how the results would be affected if production were made more responsive to price changes. The second experiment involved doubling all elasticities of substitution between imported and home goods. This will enable us to determine how the increased responsiveness of consumers and producers to relative price changes will affect the results. The final experiment involved a combination of the two preceding ones, that is, we doubled both the elasticities of supply and substitution.

Economic Effects of the Combined Reductions in MTN Tariffs and NTB's

Since we have previously discussed our model and its solution procedure, we will not repeat these details since everything stated earlier applies here. What we did essentially was to introduce as exogenous changes in the model the MTN tariff reductions, agricultural concessions, and procurement liberalization. The model was then solved for the changes in the endogenous variables, and we also calculated the changes in economic welfare. Results were obtained for both the fixed and flexible exchange-rate versions of the model.

The effects on employment by ISIC sector and country under fixed exchange rates are recorded in Appendix Tables D.7 - D.10. It can be seen from these tables that the combined effects of the MTN reductions in tariffs and NTB's will result in a deterioration of the U.S. balance of trade and an overall decline in employment of 28.1 thousand workers. Other countries that experienced a deterioration in their trade balance included: Canada, Finland, France, New Zealand, Norway, Sweden, Switzerland, and the U.K. The remaining countries experienced an improvement in their balance of trade.

All countries experienced an overall increase in employment except Canada, Norway, Sweden, Switzerland, and the U.S. For the combined EC, this increase amounted to 174.5 thousand workers and for Japan, 13.5 thousand workers. It is evident from Table D.10 that, except for the small countries, the total employment changes were all substantially less than one per cent of the 1976 level of employment. For the U.S., the decline in employment was an estimated .03 per cent of total employment. Readers interested in details on the changes in trade and employment by sector and country should consult Tables D.9 and D.10.

We turn now to the combined effects of the MTN reductions in tariffs and NTB's under conditions of flexible exchange rates. The absolute and relative employment effects by sector and country are recorded in Tables 27 and 28. The effects on the U.S. are seen once again to be very small across sectors. There is an increase in employment overall of 15.0 thousand workers, which is a very small fraction (.02 per cent) of total 1976 employment. The largest increases, in thousands of workers, are recorded for: agriculture (55.4), chemicals (3.7), iron and steel (1.1), nonelectrical machinery (7.3), and transport equipment (3.2). Negative employment effects are recorded for: food, beverages, and tobacco (-2.0), textiles (-1.3), wearing apparel (-5.2), nonmetallic minerals (-1.2), electrical machinery (-1.0), miscellaneous manufactures (-10.6), and for all the nontradable industries except mining and quarrying. These results evidently parallel closely the results noted earlier in Table 15 for tariff reductions alone.

The effects on the tradable industries in the other countries can be read from the details in Tables 27 and 28. Japan records employment increases, in thousands of workers, in: food, beverages, and tobacco (1.4), nonmetallic minerals (1.2), metal products (3.0), electrical machinery (5.8), transport equipment (3.3), and miscellaneous manufactures (1.6), and declines in agriculture (-14.9), textiles (-4.4), and nonelectrical machinery

TABLE 27

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.005	0.242	-0.301	0.057	0.339	0.114	-0.132	-0.214	0.000	0.086	0.212	-0.183	-0.554	0.101	0.015
ATA	0.798	0.357	2.511	1.641	0.149	0.523	0.299	0.302	0.535	0.102	-0.041	-0.055	-0.140	-0.029	0.006
CND	1.908	0.444	-0.560	0.772	0.229	0.424	1.420	-0.491	2.910	-1.819	0.165	0.300	-1.192	0.540	-0.129
EC	-13.256	16.686	34.843	21.251	0.463	2.453	-3.057	4.641	-6.208	1.674	9.963	-0.880	3.792	1.321	1.988
BLX	0.359	1.512	7.478	3.692	0.210	0.095	0.033	0.153	0.136	-0.102	4.550	-0.690	0.355	-0.238	0.499
DEN	2.233	1.881	1.104	1.487	0.197	0.190	-0.047	0.729	-0.288	0.032	0.148	0.014	-0.061	0.016	0.051
FR	2.366	2.298	4.950	3.448	0.669	0.890	-0.787	-0.495	-1.111	0.089	0.463	0.259	1.768	-0.124	0.375
GFR	-9.558	4.468	6.535	1.200	-1.477	0.678	-0.632	1.367	-2.319	0.392	5.230	-0.317	-0.648	-0.798	0.481
IRE	1.156	0.432	0.840	0.546	0.072	0.059	0.001	0.015	-0.012	0.058	0.154	-0.017	0.053	0.107	0.019
IT	-9.434	1.522	6.807	7.201	-0.015	-0.002	-0.389	2.710	-0.844	0.293	-3.462	-0.217	1.028	2.101	0.271
NL	1.331	2.109	3.745	2.084	0.176	0.158	-0.696	-0.036	-0.603	0.041	2.477	-0.097	0.309	-0.695	0.063
UK	-2.259	2.464	3.383	1.592	0.630	0.385	-0.541	0.198	-1.166	0.870	0.403	0.185	0.988	0.951	0.228
FIN	2.202	0.339	0.515	1.870	0.149	0.422	0.653	0.177	1.929	-0.004	-0.454	-0.042	-0.096	-0.084	0.093
JPN	-14.887	1.440	-4.441	-0.380	-0.461	-0.244	0.180	-0.082	-0.214	0.117	-0.197	-0.688	0.641	1.197	0.094
NZ	0.908	0.239	0.413	0.130	0.045	-0.016	0.052	0.017	0.036	0.043	-0.098	0.002	0.067	-0.003	-0.003
NOR	1.589	0.243	0.342	0.204	0.041	0.046	0.127	-0.035	0.717	-0.091	-0.126	0.116	-0.049	0.061	-0.002
SWD	0.763	-0.090	-0.301	0.143	-0.110	0.102	0.912	0.213	1.801	-0.071	-1.025	-0.169	0.125	0.006	0.072
SWZ	0.791	0.393	0.472	-0.010	-0.242	-0.055	-0.436	-0.355	-0.713	-0.091	1.663	-0.211	-0.272	-0.442	0.034
US	55.399	-1.991	-1.321	-5.221	0.746	0.158	-0.448	0.671	0.394	0.473	3.678	0.688	-0.154	-1.223	-0.022
TOTAL	36.192	18.501	31.871	20.457	1.347	3.927	-0.432	4.845	1.186	0.420	13.742	-1.116	2.169	1.445	2.146

TABLE 27 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.031	0.432	0.175	0.021	0.259	-0.121	0.442	0.037	0.007	0.042	-0.164	0.018	0.018	-0.358	0.596
ATA	0.980	0.126	-2.541	2.236	0.950	0.422	2.551	-0.036	-0.158	0.196	-1.749	-0.305	-0.389	-2.591	6.650
CND	-0.061	0.188	-2.557	0.926	-1.227	1.905	0.478	1.270	-0.197	0.948	-1.249	-0.028	-0.001	-3.028	2.238
EC	4.532	-1.730	10.622	22.125	20.760	19.151	38.335	-1.089	-1.482	-3.186	-22.048	-2.476	-3.589	-39.721	116.129
BLX	0.382	0.012	1.164	0.539	0.844	2.467	1.158	-0.425	-0.120	-0.226	-2.991	-0.324	-0.494	-4.810	15.379
DEN	-0.125	0.012	0.137	1.339	0.143	-0.758	1.646	0.002	-0.076	-0.103	-1.056	-0.240	-0.350	-2.539	5.778
FR	1.534	0.098	1.240	5.741	3.392	3.432	4.749	0.413	-0.216	-0.154	-3.624	-0.233	-0.450	-6.370	25.161
GFR	0.314	-0.699	4.075	6.269	9.580	8.049	13.864	-1.607	-0.652	-1.107	-7.355	-1.683	-1.643	-10.768	22.032
IRE	0.028	0.085	0.258	0.143	0.183	0.056	0.413	0.014	0.011	0.027	-0.200	0.083	0.030	-0.648	3.967
IT	0.995	-1.341	2.407	2.361	2.008	3.241	3.888	-0.779	-0.232	-1.066	-2.522	-0.224	-0.953	-3.090	12.864
NL	-0.124	0.077	-0.285	0.408	0.684	1.107	2.445	-0.064	-0.091	0.047	-1.832	-0.208	-0.132	-3.921	8.478
UK	0.929	0.226	1.626	4.565	3.525	1.555	10.172	1.358	-0.106	-0.606	-2.468	0.353	0.403	-7.575	22.470
FIN	0.004	0.084	-0.016	0.082	-0.792	-0.381	-0.160	-0.041	0.031	-0.013	-0.267	0.183	-0.029	-0.836	5.517
JPN	-0.768	0.503	2.950	-3.149	5.828	3.344	1.590	-0.656	0.017	-0.178	-1.644	-0.115	0.090	-1.520	-11.632
NZ	-0.009	0.193	-0.099	-0.037	0.028	0.080	0.301	0.023	0.004	0.066	-0.075	0.056	0.019	-0.342	2.045
NOR	0.525	0.598	-0.211	-0.441	-0.497	-0.252	0.379	0.323	-0.013	-0.126	-0.538	0.071	-0.078	-1.094	1.529
SWD	1.894	0.237	1.058	1.337	-0.109	1.016	0.037	-0.249	0.028	-0.008	-0.564	0.155	-0.100	-1.674	5.440
SWZ	-0.749	0.051	0.315	-6.195	0.373	-2.705	2.884	-1.848	-0.112	0.261	-0.604	-0.641	-0.661	-0.639	-9.755
US	1.080	0.259	0.292	7.282	-0.965	3.198	-10.617	1.847	-0.848	-0.544	-14.055	-1.508	-5.056	-17.212	14.969
TOTAL	7.511	0.941	10.186	24.194	24.608	25.655	36.221	-0.419	-2.724	-2.544	-43.026	-4.591	-9.777	-69.014	133.725

TABLE 28

PERCENTAGE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.001	0.119	-0.498	0.092	5.501	1.009	-0.245	-0.795	0.000	0.116	0.365	-3.052	-2.911	0.228	0.177
ATA	0.219	0.428	3.293	3.635	2.413	2.653	2.690	1.009	1.690	0.370	-0.077	-0.913	-1.098	-0.066	0.051
CND	0.337	0.167	-0.521	0.661	2.363	2.102	1.166	-0.889	2.007	-1.774	0.174	1.497	-3.938	1.152	-0.904
EC	-0.156	0.595	1.659	1.495	0.236	0.611	-0.452	0.868	-0.817	0.153	0.454	-0.319	0.769	0.116	0.518
BLX	0.252	1.408	7.154	6.496	3.163	0.792	0.131	1.008	0.438	-0.230	5.282	-5.174	4.344	-0.437	1.563
DEN	1.028	1.977	4.484	7.083	8.021	5.370	-0.310	3.637	-2.147	0.088	0.509	0.435	-1.384	0.059	1.354
FR	0.127	0.372	1.354	1.286	1.444	1.090	-0.458	-0.482	-0.887	0.040	0.117	0.183	1.991	-0.063	0.505
GFR	-0.549	0.805	1.589	0.362	-3.267	1.052	-0.322	1.164	-1.181	0.180	0.773	-0.886	-0.488	-0.280	0.467
IRE	0.476	0.795	4.006	4.050	3.277	1.611	0.038	0.372	-0.203	0.550	1.535	-0.898	2.558	1.193	0.562
IT	-0.322	0.365	1.128	1.999	-0.031	-0.001	-0.390	1.999	-0.641	0.193	-0.719	-0.645	0.860	0.676	0.296
NL	0.451	1.174	7.713	6.658	6.076	2.795	-1.910	-0.186	-2.062	0.052	3.277	-0.974	1.681	-2.196	0.628
UK	-0.342	0.317	0.649	0.470	1.502	0.454	-0.425	0.165	-0.514	0.260	0.091	0.495	0.831	0.431	0.347
FIN	0.74[illegible]	0.473	1.874	5.367	4.473	6.946	1.686	1.699	3.472	-0.011	-1.848	-1.312	-1.717	-0.432	2.104
JPN	-0.232	0.094	-0.375	-0.065	-0.841	-0.613	0.028	-0.037	-0.055	0.020	-0.033	-1.261	0.415	0.225	0.109
NZ	0.639	0.327	2.212	0.643	1.401	-0.262	0.291	0.274	0.340	0.225	-0.696	0.245	1.164	-0.036	-0.116
NOR	0.946	0.465	0.298	1.797	2.752	2.206	0.519	-0.343	2.681	-0.218	-0.610	4.154	-1.373	0.494	-0.086
SWD	0.301	-0.102	-1.057	0.531	-3.440	2.441	1.281	1.076	2.629	-0.142	-2.218	-5.073	0.771	0.019	1.057
SWZ	0.321	0.561	0.736	-0.032	-7.232	-0.475	-1.835	-2.757	-3.188	-0.168	1.848	-17.623	-4.417	-2.179	0.806
US	1.530	-0.114	-0.112	-0.449	0.830	0.090	-0.084	0.167	0.059	0.044	0.339	0.390	-0.059	-0.279	-0.013
TOTAL	0.175	0.262	0.656	0.582	0.357	0.564	-0.020	0.365	0.054	0.013	0.321	-0.203	0.215	0.062	0.305

TABLE 28 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.044	1.641	0.156	0.019	0.316	-0.084	0.763	0.048	0.008	0.009	-0.014	0.004	0.004	-0.028	0.010
ATA	1.106	0.676	-2.643	3.378	1.089	1.166	7.029	-0.155	-0.479	0.077	-0.362	-0.155	-0.296	-0.443	0.226
CND	-0.093	0.339	-1.008	0.633	-0.896	1.019	0.600	0.970	-0.176	0.148	-0.078	-0.004	-0.000	-0.092	0.023
EC	0.251	-0.403	0.471	0.642	0.625	0.574	2.378	-0.086	-0.133	-0.039	-0.139	-0.040	-0.059	-0.176	0.115
BLX	0.352	0.043	1.019	1.058	0.846	3.253	3.179	-1.125	-0.334	-0.071	-0.418	-0.116	-0.205	-0.493	0.398
DEN	-1.516	0.324	0.334	1.379	0.372	-1.651	5.603	0.068	-0.506	-0.053	-0.299	-0.144	-0.235	-0.338	0.241
FR	0.590	0.156	0.249	1.198	0.605	0.494	1.525	0.243	-0.119	-0.008	-0.103	-0.020	-0.036	-0.135	0.121
GFR	0.150	-0.796	0.662	0.470	0.934	0.943	3.076	-0.434	-0.284	-0.057	-0.207	-0.113	-0.122	-0.201	0.090
IRE	0.461	4.742	3.263	2.962	1.526	0.416	3.321	0.143	0.079	0.036	-0.118	0.129	0.107	-0.304	0.389
IT	0.235	-1.360	0.645	-0.561	0.335	0.480	1.216	-0.239	-0.094	-0.061	-0.096	-0.020	-0.070	-0.128	0.068
NL	-0.239	0.035	-0.420	0.410	0.759	1.374	4.145	-0.803	-0.202	0.011	-0.225	-0.067	-0.043	-0.305	0.187
UK	0.237	0.208	0.317	0.529	0.488	0.173	2.589	0.395	-0.031	-0.037	-0.060	0.023	0.029	-0.110	0.092
FIN	0.023	1.346	-0.051	0.124	-2.410	-0.971	-1.015	-0.459	0.109	-0.008	-0.084	0.113	-0.025	-0.165	0.257
JPN	-0.118	0.272	0.289	-0.232	0.394	0.274	0.182	-0.364	0.005	-0.004	-0.014	-0.003	0.005	-0.014	-0.022
NZ	-0.273	5.913	-0.396	-0.254	0.157	0.408	2.617	0.456	0.024	0.071	-0.039	0.050	0.024	-0.127	0.169
NOR	3.157	4.922	-0.722	-1.362	-1.938	-0.441	2.410	2.933	-0.068	-0.085	-0.182	0.044	-0.095	-0.224	0.085
SWD	2.544	1.484	1.015	0.941	-0.113	0.681	0.109	-1.186	0.036	-0.003	-0.095	0.056	-0.041	-0.131	0.133
SWZ	-4.431	0.298	0.432	-4.729	0.314	-20.463	2.489	-3.105	-0.185	0.133	-0.177	-0.255	-0.239	-0.131	-0.346
US	0.138	0.085	0.019	0.321	-0.053	0.179	-0.825	0.236	-0.115	-0.015	-0.068	-0.042	-0.066	-0.061	0.017
TOTAL	0.208	0.088	0.186	0.312	0.340	0.367	0.874	-0.016	-0.106	-0.013	-0.081	-0.030	-0.056	-0.099	0.049

(-3.1). West Germany has employment increases in: food, beverages, and tobacco (4.5), textiles and wearing apparel (7.7), furniture (1.4), chemicals (5.2), and metal products, machinery, transport equipment, and miscellaneous manufactures (42.2), and declines in agriculture (-9.6), leather (-1.5), paper and paper products (-2.3), and nonferrous metals (-0.9). Canada has employment increases in: agriculture (1.9), wood products (1.4), paper and paper products (2.9), nonelectrical machinery (0.9), and transport equipment (1.9), and a decline especially in metal products (-2.6).

As we have noted already in our earlier discussion, individual countries will vary in terms of the particular tradable industries that will experience employment increases or declines as the result of the MTN reductions in tariffs and NTB's. It is again evident that the nontradable industries will be adversely affected because of the switch towards the tradable industries where relative prices are lowered because of the MTN reductions. It is also clear that the absolute and percentage employment effects are comparatively small in most instances in the U.S., except in agriculture where there is an increase of 1.7 per cent in employment. The largest percentage declines are 0.4 per cent in wearing apparel and 0.8 per cent in miscellaneous manufactures. All of the changes in Japan are again comparatively small, but there are numerous instances especially in the smaller countries where the implied percentage changes (both positive and negative) are substantially greater than 1 per cent. But even in these cases, the phasing of the MTN reductions will minimize any unusual difficulties in adjustment in the short run.

Let us now consider the effects on prices. The detailed results by sector are recorded in Appendix Tables E.9 - E.12 for changes in export prices, import prices, home prices, and an index of import and home prices. The overall effects by country are summarized in Table 29. The overall percentage changes in export prices by country are all less than per cent. The percentage changes in import prices are all negative and in several instances substantially in excess of one per cent. The percentage changes in home prices are also all negative and fairly small, as is the case for the index of import and home prices. The decline in this index is an estimated seven one-hundredths of one per cent for the U.S., but is more significantly negative for several other countries.

The percentage exchange-rate effects are listed in the last column of Table 29. As mentioned earlier, these are measured as changes in effective exchange rates. They are all a fraction of one per cent. The rate for the U.S. shows a depreciation of two-tenths of one per cent. The detailed changes in exports and imports by ISIC sector and country are recorded in Appendix Tables E.13 and E.14. These changes in trade are what is required in the model to restore each country's trade balance to its initial level.

Let us consider finally the effects on economic welfare of the MTN reductions in tariffs and NTB's. The results are presented in Table 30. The first column corresponds to the method of calculation depicted in Figure B.1 and the second to Figure B.2. The difference between them reflects the importance of shifts in the demand function for imports due especially to the liberalization of government procurement. It should also be recalled that our welfare calculation of procurement liberalization had an upward bias because we had not made any allowance, because of data limitations, for actual government imports. In this respect therefore, the calculations in Table 30 based on the second method will also be overstated.

TABLE 29

PERCENTAGE PRICE AND EXCHANGE-RATE EFFECTS UNDER FLEXIBLE EXCHANGE RATES IN THE MAJOR INDUSTRIALIZED COUNTRIES DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS AND NTB'S IN THE MTN

COUNTRY	EXPORT PRICES*	IMPORT PRICES*	HOME PRICES*	INDEX OF IMPORT AND HOME PRICES*	EFFECTIVE EXCHANGE RATE+
AUSTRALIA	0.16	-0.88	-0.05	-0.07	0.06
AUSTRIA	0.08	-2.14	-0.50	-0.74	0.14
CANADA	0.33	-1.56	-0.95	-0.28	0.04
EUROPEAN COMMUNITY	0.16	-1.59	-0.39	-0.39	
BELGIUM-LUXEMBOURG	-0.38	-2.38	-3.56	-0.99	0.51
DENMARK	0.21	-1.79	-0.73	-0.57	0.07
FRANCE	0.28	-1.42	-0.22	-0.30	-0.19
GERMANY	0.06	-1.79	-0.38	-0.53	0.07
IRELAND	-0.10	-2.19	-0.35	-0.53	0.26
ITALY	0.24	-1.33	-0.20	-0.26	-0.05
NETHERLANDS	-0.21	-1.96	-0.60	-0.71	0.28
UNITED KINGDOM	0.29	-1.47	-0.15	-0.22	-0.13
FINLAND	0.67	-0.87	-0.27	-0.23	-0.26
JAPAN	0.13	-1.01	-0.06	-0.08	0.20
NEW ZEALAND	0.26	-0.73	-0.09	-0.14	-0.01
NORWAY	0.89	-0.09	-0.80	-0.10	-0.55
SWEDEN	0.48	-0.46	-0.90	-0.33	-0.22
SWITZERLAND	0.31	-0.31	-7.78	-0.37	-0.08
UNITED STATES	0.80	-0.97	-0.05	-0.07	-0.20
ALL COUNTRIES	0.43	-1.21	-0.27	-0.20	

*AVERAGE FOR ALL ISIC SECTORS, WEIGHTED BY VALUE OF PRODUCTION.
+POSITIVE SIGN MEANS APPRECIATION; NEGATIVE SIGN MEANS DEPRECIATION.

TABLE 30

CHANGES IN ECONOMIC WELFARE IN THE MAJOR INDUSTRIALIZED COUNTRIES DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS AND NTB'S IN THE MTN

COUNTRY	CHANGE IN ECONOMIC WELFARE (MILL. $)		% OF GROSS DOMESTIC PRODUCT	
	METHOD 1	METHOD 2	METHOD 1	METHOD 2
AUSTRALIA	7.2	13.2	0.01	0.01
AUSTRIA	52.6	25.7	0.14	0.07
CANADA	286.6	608.9	0.17	0.35
EUROPEAN COMMUNITY	1648.8	3377.3	0.13	0.26
BELGIUM-LUXEMBOURG	178.1	533.4	0.27	0.80
DENMARK	27.1	119.3	0.07	0.32
FRANCE	313.2	603.8	0.10	0.19
GERMANY	97.8	665.1	0.02	0.15
IRELAND	42.5	41.2	0.53	0.52
ITALY	201.6	327.7	0.12	0.20
NETHERLANDS	268.9	474.1	0.32	0.57
UNITED KINGDOM	519.5	612.9	0.27	0.31
FINLAND	40.7	165.4	0.16	0.65
JAPAN	157.0	357.7	0.03	0.07
NEW ZEALAND	22.4	15.6	0.19	0.14
NORWAY	38.1	251.3	0.13	0.88
SWEDEN	71.2	551.2	0.11	0.84
SWITZERLAND	-2.4	372.1	-0.00	0.67
UNITED STATES	1001.1	1462.0	0.06	0.09
ALL COUNTRIES	3323.2	7200.5	0.08	0.18

NOTE: FOR THE METHODS OF CALCULATION, SEE APPENDIX B.

It is evident from Table 30 that the absolute welfare gain for the U.S. is between $1.0 and $1.5 billion, which, in relative terms, is equal to between .06 and .09 per cent of gross domestic product in 1976. The absolute welfare gain for the European Community is between $1.6 and $3.4 billion, which is between .13 and .26 per cent of GDP for the combined EC. Canada's gain is between $287 and $609 million, which is .17 to .35 per cent of GDP. Japan's gain is between $157 and $358 million, which, as noted previously, may reflect our use of prevailing tariff rates that already included unilateral reductions prior to the MTN. The total welfare gain for all 18 countries combined is between $3.3 and $7.2 billion, which is between .08 and .18 per cent of combined GDP. Our earlier conclusion about the positive welfare benefits to be derived from each change separately is thus reinforced by the combined effects of the changes in tariffs and NTB's.

In conclusion, it may be useful to summarize our major results for each change separately and the combined effects. This is done in Table 31, which presents the overall employment, welfare, and price effects for each of the major countries and the EC combined. It can be seen that the tariff reductions dominate the employment and price-index results, while both the tariff reductions and procurement liberalization contribute substantially to the increase in economic welfare. This summary in Table 31 is the net result of all the detailed changes that occur in the individual tradable and nontradable industries. The reader interested in these detailed changes is referred to the relevant tables in the text above and in the appendices.

TABLE 31

THE OVERALL EFFECTS OF REDUCTIONS IN TARIFFS, AGRICULTURAL CONCESSIONS, AND GOVERNMENT-PROCUREMENT LIBERALIZATION IN THE MTN UNDER CONDITIONS OF FLEXIBLE EXCHANGE RATES

COUNTRY	EMPLOYMENT (000 WORKERS)				ECONOMIC WELFARE (MILL. OF $)					CHANGE IN PRICE INDEX OF IMPORTS AND HOME GOODS (%)			
	TARIFFS	AG CON	GOV PR	COMB*	TARIFFS METH 1	AG CON METH 1	GOV PR METH 2	COMBINED METH 1	COMBINED METH 2	TARIFFS	AG CON	GOV PR	COMB+
AUSTRALIA	0.9	-0.1	-0.2	0.6	23	-6	-7	7	13	-0.07	-0.00	0.00	-0.07
AUSTRIA	6.6	0.3	-0.3	6.7	52	2	-1	53	26	-0.73	-0.01	0.00	-0.74
CANADA	5.3	-0.4	-2.7	2.2	294	-6	359	287	609	-0.29	-0.00	0.01	-0.28
EUROPEAN COMMUNITY	121.4	-8.5	3.2	116.1	1360	73	1917	1649	3377	-0.37	-0.01	0.00	-0.39
BELGIUM-LUXEMBOURG	15.0	0.1	0.3	15.4	154	7	310	178	533	-0.98	-0.03	0.02	-0.99
DENMARK	5.6	-0.1	0.3	5.8	30	-1	106	27	119	-0.62	-0.01	0.06	-0.57
FRANCE	24.5	-2.8	3.4	25.2	279	5	326	313	604	-0.30	-0.01	0.01	-0.30
GERMANY	22.2	-1.8	1.6	22.0	-58	26	697	98	665	-0.50	-0.01	-0.01	-0.53
IRELAND	4.8	-0.5	-0.3	4.0	44	-1	0	43	41	-0.52	-0.01	-0.00	-0.53
ITALY	18.7	-3.7	-2.2	12.9	178	11	145	202	328	-0.25	-0.01	-0.00	-0.26
NETHERLANDS	9.9	0.0	-1.4	8.5	257	2	184	269	474	-0.69	-0.03	0.00	-0.71
UNITED KINGDOM	20.8	0.2	1.4	22.5	476	23	151	519	613	-0.20	-0.01	-0.00	-0.22
FINLAND	2.8	0.8	1.9	5.5	32	2	135	41	165	-0.31	0.02	0.06	-0.23
JAPAN	1.0	-14.5	1.9	-11.6	47	31	286	157	358	-0.05	-0.02	0.00	-0.08
NEW ZEALAND	2.0	0.2	-0.1	2.0	25	0	-1	22	16	-0.15	0.00	0.00	-0.14
NORWAY	2.0	0.2	-0.8	1.5	52	1	215	38	251	-0.22	0.00	0.12	-0.10
SWEDEN	3.0	-0.2	2.6	5.4	33	3	509	71	551	-0.32	-0.01	-0.00	-0.33
SWITZERLAND	-0.6	-0.0	-9.2	-9.8	-36	2	411	-2	372	-0.27	-0.02	-0.08	-0.37
UNITED STATES	2.3	11.0	1.6	15.0	710	231	616	1001	1462	-0.06	-0.01	0.00	-0.07
ALL COUNTRIES	146.8	-11.2	-1.9	133.7	2592	334	4440	3323	7201	-0.18	-0.01	0.00	-0.20

*FOR DETAILED RESULTS BY ISIC SECTOR, SEE TABLES 15, 26, E.8 AND E.9.
+FOR DETAILED RESULTS BY ISIC SECTOR, SEE TABLES E.4 AND E.12.

Sensitivity of Results to Changes in Parameters

The question naturally arises as to how sensitive our results may be to certain key parameters in the model. In order to test for sensitivity, we ran three separate experiments. We first doubled all supply elasticities, then doubled all elasticities of substitution between home and imported goods (with the original supply elasticities unchanged), and finally doubled both supply and substitution elasticities. For each of these cases, we considered the combined effects of the MTN tariff reductions, agricultural concessions, and liberalization of government procurement that were analyzed in the immediately preceding discussion. The results are compared for the overall employment and welfare changes for the major countries in Table 32.

Doubling the supply elasticities has the effect of enlarging the overall employment increases for the European Community and the U.S. and making Japan's negative employment greater. The additional supply responses thus appear to generate larger net changes in total employment, but the effects are clearly comparatively small. The welfare effects based on method 1 are reduced somewhat with the higher supply elasticities, but these effects move in both directions using method 2. On the whole, the welfare effects do not appear unusually sensitive to the increased supply elasticities.

Doubling the elasticities of substitution between imported and home goods has a negligible effect on the overall net changes in employment and on economic welfare using method 1. However, the welfare effects based on method 2 appear to be rather sensitive to the doubling of the substitution elasticities. Since method 2 is premised on the idea of a shift in the

Table 32

Sensitivity of Employment and Welfare Effects of the Combined Reductions in Tariffs and NTB's in the MTN to Doubling of Supply and Substitution Elasticities

	Effects with Given Elasticities	Effects of: Doubling Supply Elasticities	Doubling Substitution Elasticities	Doubling both Supply and Substitution Elasticities
Total employment (000 workers)				
Canada	2.2	3.5	1.3	2.4
European Community	116.1	164.4	114.1	151.1
Japan	-11.6	-24.4	-8.7	-23.1
U.S.	15.0	34.8	10.1	34.1
Economic welfare - method 1 (mill. of dollars)				
Canada	286.6	300.4	319.6	340.1
European Community	1648.8	1597.5	1836.1	1855.3
Japan	157.0	81.8	189.9	119.2
U.S.	1001.1	847.1	1087.9	960.0
Economic welfare - method 2 (mill. of dollars)				
Canada	608.9	645.4	775.2	898.1
European Community	3377.3	3641.2	5135.1	6012.8
Japan	357.7	282.8	518.9	460.2
U.S.	1462.0	1339.5	2189.5	2325.4

demand function (see Figure B.2), the higher substitution elasticities imply a shift of a more elastic schedule and thus a greater welfare effect.

Finally, the effects of doubling both the elasticities of supply and substitution can be seen by comparing the first and last columns in Table 32. The effects on overall net employment are comparatively minor, as are the effects on economic welfare using method 1. Doubling the elasticities further increases the calculation of economic welfare based on method 2, ostensibly because both the supply and demand schedules become more elastic and the quantity changes larger.

It should be pointed out that the elasticities of supply and substitution used in our model have been derived from empirical data. The supply elasticities for each sector are based on the elasticity of substitution between capital and labor, labor's share of value added from the 1967 U.S. input-output table, and value added as a fraction of total production. The elasticities of substitution for each sector are based on import shares of total consumption and elasticities of import demand. The elasticities used in the model are thus reasonably firmly grounded on realistic data, and our confidence in the model is enhanced by the comparative stability of the overall employment effects even with sizable parameter changes. By the same token, our welfare calculations have more of an ad hoc quality to them since they are not derived in a rigorous theoretical manner from the model itself. It is nevertheless noteworthy that the calculations based on method 1, which assumes given demand and supply functions and is most appropriate for changes in tariffs and agricultural and other quotas, yields fairly stable results. The same cannot be said, however, for the welfare calculations based on method 2, which assumes an implicit shift in demand.

We do not have as much confidence in this second calculation therefore as in the first. This is aside from the fact that the second welfare calculation is in any event an overestimate of the procurement-liberalization effect because data on government imports were not available.

VI. Effects on the Rest of World

As mentioned above, the rest of world is included as an aggregate to close the model. We do not attempt accordingly to treat any rest-of-world countries or regions explicitly. The rest of world is assumed to respond on the supply side nevertheless as world prices change in particular sectors as a result of reductions in tariffs and NTB's, and there will be further supply responses as exchange rates adjust in the model to restore the initial trade-balance positions in each of the 18 industrialized countries.

In the current version of the model, the rest-of-world trade balance is held constant under conditions of both fixed and flexible exchange rates. Under fixed rates, it is assumed that rest-of-world imports are subject to rigid restriction in the form of import licenses, which are adjusted in proportion to initial imports so as just to exhaust available foreign exchange. Under flexible rates, we assumed a rest-of-world excess demand function for each tradable industry, depending on the world price in that industry and a rest-of-world exchange rate. The latter was then assumed to adjust to hold the rest-of-world trade balance constant.

The thrust of the foregoing assumptions is that the rest-of-world's net contribution to all world markets together is held constant and the influence of the rest of world on the aggregate performance of the 18 industrialized countries is of negligible importance. But at the level of an individual industry, the presence of the rest of world can be a significant factor for world markets. Thus, the assumed constancy of the rest-of-world trade balance by no means prevents rest-of-world exports, say, from expanding in one sector while contracting in another.

One of the major concerns in the Kennedy Round and earlier GATT negotiations was that tariff reductions were concentrated primarily on industrial products of export interest to the major industrialized countries that were the chief parties in the negotiations. This implies that the tariff rates in the industrialized countries are lower on industrial products traded among themselves and higher on products of the rest-of-world. Also, it means that tariffs have been changed differentially between the industrialized countries and the rest of world. We shall investigate this matter with respect to the MTN tariff reductions in what follows, and thereafter examine some of the effects that the reductions in tariffs and NTB's may have on the rest of world.

Industrial-Country Tariffs on Rest-of-World Imports

To provide some indication of the tariff levels of the industrial countires vis-a-vis the rest of world, we weighted the post-Kennedy Round tariff rates on industrial products, the MTN offer rates, and the percentage depth of cuts for each of the 18 countries by total imports (excluding petroleum) from the other industrialized countries and from the rest of world, respectively. The results are given in Appendix Tables C.9 - C.14. A comparison of the weighted average tariffs and depths of cut for the individual countries is presented in Table 33. It is especially noteworthy that post-Kennedy Round average tariffs on industrial products tended to be lower for the European Community and Japan when weighted by own-country imports from rest-of-world than by imports from other industrialized countries. The opposite was the case for Canada and the U.S. Of course, these results reflect differences in the compositions of imports from the two types of supplying countries. But, in any event, if does not bear out the contention that the rest-of-world faces overall tariffs on industrial products that are higher than what industrial countries

TABLE 33

WEIGHTED AVERAGE TARIFFS ON INDUSTRIAL PRODUCTS AND DEPTH OF CUT
BY THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN
WEIGHTED BY TOTAL (EXCLUDING PETROLEUM) IMPORTS FROM
OTHER INDUSTRIALIZED COUNTRIES (OIC) AND REST OF WORLD (ROW)

COUNTRY	AVERAGE POST-KENNEDY ROUND TARIFF OIC	AVERAGE POST-KENNEDY ROUND TARIFF ROW	AVERAGE MTN OFFER RATE TARIFF OIC	AVERAGE MTN OFFER RATE TARIFF ROW	AVERAGE PERCENTAGE DEPTH OF CUT OIC	AVERAGE PERCENTAGE DEPTH OF CUT ROW
AUSTRALIA	15.9%	16.6%	15.5%	16.3%	2.7%	1.9%
AUSTRIA	15.9	10.6	12.4	9.0	22.1	14.9
CANADA	6.8	12.3	4.7	10.1	30.9	18.5
EUROPEAN COMMUNITY						
BELGIUM-LUXEMBOURG	8.7	3.3	6.2	2.4	28.5	26.9
DENMARK	8.9	9.8	6.5	7.2	26.2	26.1
FRANCE	8.8	5.7	6.3	4.2	27.8	26.6
GERMANY	9.0	7.4	6.4	5.5	28.2	26.4
IRELAND	9.5	7.6	7.0	5.5	26.3	28.3
ITALY	8.0	4.5	5.8	3.2	26.7	28.8
NETHERLANDS	9.3	7.4	6.8	5.5	27.2	25.3
UNITED KINGDOM	7.7	5.2	5.5	3.8	28.0	27.9
FINLAND	9.8	8.0	7.3	6.4	26.2	20.2
JAPAN	4.5	3.1	3.0	2.7	32.8	11.7
NEW ZEALAND	19.2	12.1	16.9	11.4	12.3	5.4
NORWAY	6.9	6.5	5.1	5.6	25.5	14.3
SWEDEN	6.4	6.5	4.9	5.6	24.4	12.8
SWITZERLAND	3.9	4.0	3.1	3.1	21.2	23.8
UNITED STATES	5.4	8.4	3.4	5.8	37.2	31.2
ALL COUNTRIES	7.9	6.7	5.8	5.0	27.2	24.8

47-084 O - 79 - 9

themselves face. The same holds true for the weighted-average MTN offer rates indicated in the third and fourth columns.

It can be seen in the last two columns of Table 33 that the weighted percentage depth of cut by the U.S. and the European Community was roughly the same based upon imports from the other industrialized countries and rest of world. This was not the case for Austria, Canada, Finland, Japan, New Zealand, Norway, and Sweden, where the depth of cut was somewhat greater when weighted by imports from the other industrialized countries. The evidence is thus mixed on whether weighted-average tariffs on industrial products are being reduced systematically more for the industrialized countries than the rest of world. There may of course be differences in rates by sector that are important. It also should be noted that there may be substantial nontariff barriers on both industrial and primary products of interest to the rest of world. The reader interested in such comparisons is referred to Appendix Tables C.7 and C.9 - C.14.

Changes in Net Exports by Sector of Rest of World

We present in Table 34 the changes in net exports by sector for the rest of world as a consequence of the reductions in tariffs in the MTN and the combined effects of the reductions in tariffs, the agricultural concessions, and the liberalization of government procurement. For the tariff reductions only, there are declines in textiles, leather and leather products, footwear, paper and paper products, products of petroleum and coal, nonferrous metals, and nonelectrical machinery. Some of these sectors are of course subject to varying amounts of quantitative restrictions in the industrialized

Table 34

Changes in Net Exports of Rest of World in Response to Reductions in Tariffs in the MTN and the Combined Reductions in Tariffs and NTB's (Millions of Dollars)

ISIC	Industry	Tariff Reductions Only	Combined Reductions in Tariffs and NTB's
1	Agriculture, forestry, & fishing	$ 76.6	$ 44.1
310	Food, beverages, and tobacco	23.7	-29.0
321	Textiles	-77.3	-67.8
322	Wearing apparel	15.1	15.8
323	Leather and leather products	-20.7	0.6
324	Footwear	-51.5	-55.3
331	Wood and wood products	16.9	25.2
332	Furniture	14.0	16.7
341	Paper and paper products	-4.4	-3.9
342	Printing and publishing	2.4	4.4
35A	Chemicals	43.1	55.7
35B	Products of Petroleum and coal	-176.1	-81.9
355	Rubber products	31.5	43.8
36A	Nonmetallic mineral products	21.4	28.0
362	Glass and glass products	3.6	3.2
371	Iron and steel	-0.5	3.5
372	Nonferrous metals	-33.1	-31.1
381	Metal products	25.9	29.3
382	Nonelectrical machinery	-4.2	7.6
383	Electrical machinery	52.0	90.8
384	Transport equipment	8.6	21.8
38A	Miscellaneous manufactures	123.0	184.9

countries. Thus, even though tariffs may be reduced in these industries, trade will not respond to the extent that the quantitative restrictions are binding.

The single largest increase in net exports of the rest of world is in miscellaneous manufactures. There are also positive effects on rest-of-world net exports in agriculture and food products, wearing apparel, wood products and furniture, chemicals, rubber products, nonmetallic mineral products, metal products, electrical machinery, and transport equipment.

The combined reductions in tariffs and NTB's in the second column of Table 34 produce similar effects on rest-of-world net exports as tariff reductions alone. The main difference is that net exports of food, beverages, and tobacco become negative and net exports of leather and leather products, iron and steel, and nonelectrical machinery become positive. There are substantial increases in the net exports of wood products and furniture, chemicals, rubber products, nonmetallic mineral products, electrical machinery, transport equipment, and miscellaneous manufactures.

The effects on individual countries and regions in the rest of world will thus depend on which of their tradable industries are most affected by the reductions in tariffs and NTB's in the major industrialized countries. If information were readily available, it might also be possible to determine how rest-of-world countries and regions would respond on the demand side as their exports and foreign-exchange earnings changed. Finally, if we had information on domestic production and employment, including input-output relationships, and on tariffs and NTB's, we could determine how employment and prices would change in individual countries just as we have done for the industrialized countries. Unfortunately, our model is not capable in its present form of providing this type of detail for the effects on the rest of world. The best we can do is to identify which sectors will be affected positively or negatively for the rest of world in the aggregate, as in Table 34.

VII. Summary

The Tokyo Round of Multilateral Trade Negotiations (MTN) has resulted in agreements to reduce tariffs significantly, to eliminate or reduce the scope of a number of nontariff barriers, and to alter or formalize certain codes of international economic behavior in ways that should help to liberalize trade even further in the future. Our study has attempted, as far as possible, to quantify all but the last of these aspects of the negotiations. In particular, we have estimated the effects on employment, prices, exchange rates, and welfare both of the negotiated tariff reductions and of those changes in nontariff barriers that we were able to quantify. The results, by and large, agree with earlier studies which have found the effects of trade liberalization to be beneficial but rather small. In particular, it is unlikely that implementation of the negotiated changes will cause significant dislocation in labor markets, especially in the U.S.

Part of our study has sought merely to describe the barriers to trade and the changes in them that have been negotiated in the MTN. But our primary purpose has been to obtain quantitative estimates of the effects of these changes, especially as they pertain to levels of employment within the various industries and countries that will be affected by the negotiations. To this end we have updated and then applied a large computational model of world production and trade that we have developed and used for other purposes in recent years at the University of Michigan. The model includes explicit markets for 22 tradable and 7 nontradable industries, which together provide exhaustive coverage of world production. These markets are cleared both nationally, for each of the 18 major industrialized countries, and internationally, to capture trade among these countries and between them and the rest of the world. Exchange rates are also included in the model and may be either held fixed or allowed to vary to clear markets for foreign exchange. Once a given set of changes in, say, tariffs or nontariff barriers is plugged into the model, it can be solved for the resulting changes in output, prices, trade and employment for each of the 29 industries and 18 countries. Exchange-rate changes for each country are also calculated, as is a rather *ad hoc* measure of economic welfare.

We applied the model first to the tariff changes that have been negotiated in the MTN. These changes, which were made available to us by the Office of the U.S. Special Trade Representative, show an average depth of cut on industrial products of about 26 per cent. Most of the countries participating in the MTN agreed to use some variant of the Swiss formula as the starting point for negotiating. In the end, the tariff cuts offered by the United States show a depth of cut that is fairly close to what would have been obtained under the Swiss formula. All other countries, however, offered noticeably smaller average cuts than they would have using the formula. As a result, the negotiated tariff cuts are somewhat larger for the U.S. than for such important trading entities as the European Community and Japan.

Given these differences in the negotiated tariff cuts, our model suggests, under fixed exchange rates, a deterioration in the U.S. balance of trade and a small absolute decline in employment as a result of the tariff cuts. However, this decline in employment amounts to only .05 per cent of the U.S. labor force, and indeed the decline becomes an increase when we allow the exchange rate to adjust. Under flexible exchange rates, then, the results of our model suggest that the negotiated tariff cuts will cause: (1) employment to rise in all countries except Switzerland; (2) a very small depreciation of the dollar; (3) import and therefore consumer prices to fall in all countries; and (4) welfare to improve in all countries except Germany and Switzerland. In most cases, however, these changes are sufficiently small so that they would probably not be noticed when accompanied by all of the other changes that constantly occur in a dynamic economy.

Nontariff barriers are in general much more difficult to quantify than are tariffs. Based on complaints filed with STR, we constructed an inventory of such barriers as faced by American exporters, but this inventory could not be used to make numerical estimates of their sizes or effects. Therefore, in our estimates, we have focused on two specific NTB's for which numerical information was available. The first pertains to trade in agricultural commodities, for which the U.S. has obtained concessions from most of its trading partners in the form of increased import quotas. In return, the U.S. has agreed to permit more imports of cheese under quota. The second NTB for which quantitative information was available pertained to government-procurement regulations. Here we were given estimates of the total amount of government expenditure in each country that was subject to such regulation and would be liberalized as a result of the negotiations.

We used our model, then, to analyze the effects of both the agricultural concessions and the procurement liberalization. The results were mostly similar to those of the tariff changes discussed above, though even smaller in magnitude. And the U.S. fared even better under the changes in NTB's than under the tariff changes, gaining employment even under fixed exchange rates.

The combined effects of both tariffs and NTB's were also estimated. The results were so similar to those for tariff changes alone that they need not be discussed further here. Our general conclusion, then, is as follows. Those aspects of the MTN which we have been able to quantify — including both tariff changes and liberalization of certain NTB's -- appear to be beneficial for almost all of the countries involved, including the U.S. Adjustment problems in labor markets appear to be either nonexistent or negligible at the country level. And even at the more disaggregated industry level, where employment changes occasionally amount to several per cent of an industry's labor force in some of the smaller countries, these adjustment problems should be slight given that the changes are to be phased in over a period of up to a decade.

APPENDIX A

The Model

The model that we have developed is a multi-sector model of the world economy. It was designed originally to study the effects of multilateral tariff reductions on disaggregated levels of output and employment.[1] In a subsequent version of the model, we included exchange rates and other exogenous variables besides tariffs. The effects of exchange-rate changes are presented in Deardorff et al. (1977b), and it is the version of the model used in that paper that will be presented below.[2] We have since modified the model to take various nontariff barriers into account. These modifications have been discussed above in Section II, but they are not represented in our formal presentation that follows.

The model includes supply and demand functions and market-clearing conditions for 22 tradable industries in world markets, plus markets for these and another 7 nontradable industries within each of 18 countries. The size of the model precludes our obtaining a meaningful and general analytical solution. Therefore, we have restricted the functional forms to ones whose parameters are either readily observable from available data or which have been estimated by others using econometric techniques. Within these constraints, however, we have tried to select functional forms which permit a rich variety of behaviour and which experience suggests provide a reasonable description of economic reality.

Equations of the Model

The complete model, though without the functional forms, is presented as equations (1) through (12) in Table A.1. The construction of the functional forms in equations (1-4) and (12) will be explained below.

The model includes m countries, $i = 1,\ldots,m$, producing and trading n goods, $j = 1,\ldots,n$, and producing an additional $(n' - n)$ nontradable goods, $j = n + 1,\ldots,n'$. A distinguishing characteristic of our model, however, is that both producers and consumers distinguish, within tradable industries, between goods which are produced and used in the same country, which we will call home goods, and those which are either exported or imported.

Thus, within each country and tradable industry, producers are separated into two sectors: a home sector which sells only to domestic users, and an export sector which sells only to users in other countries. Each sector has its own supply function, reflecting an assumption that there exist fixed factors of production which cannot be transferred between the two sectors in the relevant short run. This nontransferability may be the result of locational requirements or of the need for special product characteristics in the various national markets, though neither of these features is explicit in our model.

Demanders, too, differentiate between home-produced and imported products of a given tradable industry. In principle, we would like this differentiation to apply among imports from different countries as well as between home-produced and imported goods generally. However, data limitations and the difficulty of solving a more general model have led us to permit only the latter kind of differentiation. Thus, consumers, as well as producers in their role as demanders of intermediate inputs, are assumed to regard home-produced and imported goods as imperfect substitutes, but imports from various foreign countries as perfect substitutes. Finally, we assume that demanders are never willing to use the products of their domestic export sectors.

With these assumptions, three separate prices will obtain within each country, i, for each tradable industry, $j = 1,\ldots,n$. First, a home price, p_{ij}^H, is both paid by users and received by producers in the home sector. It

Table A.1

Equations of the Model

Supply functions of products for export

(1) $$S_{ij}^X = S_{ij}^X(p_{ij}^X, p_{i1}^H, \ldots, p_{in'}^H, p_{i1}^M, \ldots, p_{in}^M, w_i, K_{ij}^X)$$

$i = 1, \ldots, m; \quad j = 1, \ldots, n$

Supply functions of products for home use

(2) $$S_{ij}^H = S_{ij}^H(p_{ij}^H, p_{i1}^H, \ldots, p_{in'}^H, p_{i1}^M, \ldots, p_{in}^M, w_i, K_{ij}^H)$$

$i = 1, \ldots, m; \quad j = 1, \ldots, n'$

Demand functions for imported goods

(3) $$D_{ij}^M = D_{ij}^M(p_{ij}^M, p_{ij}^H, E_i, S_{i1}^H, \ldots, S_{in'}^H, S_{i1}^X, \ldots, S_{in}^X)$$

$i = 1, \ldots, m; \quad j = 1, \ldots, n$

Demand functions for home-produced goods

Tradables:

(4a) $$D_{ij}^H = D_{ij}^H(p_{ij}^H, p_{ij}^M, E_i, S_{i1}^H, \ldots, S_{in'}^H, S_{i1}^X, \ldots, S_{in}^X)$$

$i = 1, \ldots, m; \quad j = 1, \ldots, n$

Nontradables:

(4b) $$D_{ij}^H = D_{ij}^H(p_{ij}^H, E_i, S_{i1}^H, \ldots, S_{in'}^H, S_{i1}^X, \ldots, S_{in}^X)$$

$i = 1, \ldots, m; \quad j = n + 1, \ldots, n'$

Equations of the Model (Cont.)

Export prices

(5) $$p^X_{ij} = R_i p^W_j \quad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

Import prices

(6) $$p^M_{ij} = t_{ij} R_i p^W_j \quad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

Consumer expenditure and tariff revenue

(7) $$E_i = E^0_i + \sum_{j=1}^{n} (t_{ij} - 1) R_i p^W_j D^M_{ij} \quad i = 1,\ldots,m$$

Market equilibrium for home goods

(8) $$S^H_{ij} = D^H_{ij} \quad i = 1,\ldots,m; \quad j = 1,\ldots,n'$$

Market equilibrium for traded goods

(9) $$\sum_{i=1}^{m} S^X_{ij} = \sum_{i=1}^{m} D^M_{ij} \quad j = 1,\ldots,n$$

Trade balance

(10) $$B^T_i = \sum_{j=1}^{n} p^W_j (S^X_{ij} - D^M_{ij}) \quad i = 1,\ldots,m$$

Exchange rates

(11a) $$R_i = R^0_i \quad \text{(Fixed Rates)} \quad i = 1,\ldots,m$$

(11b) $$B^T_i + B^{KO}_i = 0, \; R_m = R^0_m \quad \text{(Flexible Rates)} \quad i = 1,\ldots,m - 1$$

Demand functions for labor

Tradables:

(12a) $$L_{ij} = L^X_{ij}(w_i, S^X_{ij}, K^X_{ij}) + L^H_{ij}(w_i, S^H_{ij}, K^H_{ij}) \quad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

Equations of the Model (Cont.)

Nontradables:

(12b) $L_{ij} = L^H_{ij}(w_i, S^H_{ij}, K^H_{ij}) \quad i = 1,\ldots,m; \; j = n + 1,\ldots,n'$

Notation:

Endogenous Variables:

S^X_{ij}, S^H_{ij} = Supply of good j by country i, export and home sectors, respectively

D^M_{ij}, D^H_{ij} = Demand for good j in country i, imported and home-produced, respectively

p^X_{ij}, p^M_{ij} = Domestic price of good j in country i, exported and imported, respectively

p^H_{ij} = Home-sector price of good j in country i

p^W_j = World price of good j

E_i = Consumer expenditure in country i

B^T_i = Balance of trade of country i

R_i = Exchange rate of country i (domestic currency per unit of world currency)

L_{ij} = Demand for labour by industry j in country i

Exogenous Variables:

K^X_{ij}, K^H_{ij} = Capital stock of industry j in country i, export and home sectors, respectively

w_i = Money wage in country i

t_{ij} = 1 plus the ad valorem tariff on imports of good j into country i

E^0_i = Exogenous component of expenditure in country i

R^0_i = Exogenous exchange rate

B^{KO}_i = Exogenous capital inflow in country i is determined by a purely domestic market which equates home-sector supply, S^H_{ij}, with home demand, D^H_{ij}.

The second and third prices are those of exports and imports. The export price, p^X_{ij}, is received by producers in the export sector and the import price, p^M_{ij}, is paid by users of imports. These prices are determined simultaneously in a singl. world market in which the sum of all countries' export supplies, S^X_{ij}, is equated to the sum of all countries' import demands, D^M_{ij}. Since demanders regard imports (of industry j) from all countries but their own as perfect substitutes, all countries' export prices must be identical when expressed in a common numeraire (we do not allow for export subsidies). Import prices are then equal to the corresponding export prices augmented by ad valorem tariffs. With these relationships only a single world price for each tradable industry, p^W_j, expressed in units of a numeraire currency, needs to be determined by the world market. Corresponding export and import prices for each country, i, then follow by multiplying p^W_j by exchange rates, R_i (expressed in units of domestic currency per unit of the numeraire), and, for import prices, by one plus the corresponding ad valorem tariff, t_{ij}.

The model is completed by specifying markets for foreign exchange with either fixed or flexible exchange rates (as separate cases) and by specifying the determinants of supply and demand. The latter include exogenous nominal wages, w_i, and capital stocks, K_{ij}, as well as appropriate prices and will be explained more fully below. In addition, demands depend also on endogenous levels of consumer expenditure, E_i, which incorporate an assumption that all tariff revenue is redistributed and spent by consumers.

Exchange markets either endogenously determine trade balances, B^T_i (measured in units of the numeraire currency), or, under flexible exchange rates, adjust via the exchange rate to maintain these trade balances at constant levels, $-B_i^{KO}$. In the latter case, B_i^{KO} represents an exogenously given inflow of capital into country i, which must, for consistency, have the property that the sum for all countries equals zero.

With these remarks, the reasons for most of the equations in Table A.1 should be clear. Equations (1) and (2) are the supply functions for the export and home sectors, respectively. Both depend on prices of all home and imported goods, reflecting their use as intermediate inputs in production. Equations (3) and (4) are the demand functions for imports and for home goods, respectively. The inclusion of home and export supplies in these functions again reflects the demand for intermediate inputs.

Equations (5) and (6) determine the domestic prices of exports and imports in terms of corresponding world prices, exchange rates, and tariffs. Equation (7) defines expenditure as the sum of an exogenous component, E_i^0, and of the tariff revenue.

Equations (1-7) each determine the variable that appears on the left-hand side. The prices of home goods, on the other hand, are determined implicitly by the market-equilibrium condition in equation (8). Likewise, world prices are determined by the market-equilibrium condition in equation (9), which adds up and equates the supplies of exports and the demands for imports from all countries.

Trade balances are defined in equation (10) by adding up net exports for all of a country's tradable industries, valued at world prices. The exchange regime is represented by either equation (11a) for fixed exchange rates or equation (11b) for flexible exchange rates. In the fixed case, each country's exchange rate, R_i, is set exogenously equal to its pegged value, R_i^0. In the flexible case, on the other hand, we form exchange-market equilibrium conditions for all but one of the countries by setting the sum of their trade balances and their exogenous capital inflows equal to zero. Only m - 1 of the markets need to be cleared explicitly, since the homogeneity of the system assures that if these are cleared, the omitted market will be cleared as well. However, to remove the indeterminacy of prices and exchange rates that would otherwise arise, we must then specify a numeraire. This is done in the last of equations (11b), where we fix the exchange rate of country m.

The selection of the numeraire is not trivial in this model, since exogenous capital flows are specified in units of the numeraire. As exchange rates change, the values of these flows in local currency change, unless it is the numeraire, and this affects the equilibrium that is ultimately reached. In our applications of the model in this paper, we have chosen the United States dollar as the numeraire.

Equations (1) through (11) are together sufficient to determine all of the endogenous variables that they contain. Equation (12) then determines employment in each industry and country as a function of these variables. Employment in this version of the model is entirely demand determined, the assumption being that labour markets do not clear in the relevant short run and that there is sufficient available unemployed labour to satisfy whatever increases in demand occur. Nominal wages, accordingly, are taken as exogenous, and the employment changes that are implied by the model indicate changes in labour-market disequilibrium.

Derivation of Functional Forms

Explicit supply and demand functions for use in the model were derived from utility and profit-maximization behaviour on the part of consumers and

47-084 O - 79 - 10

firms, assuming explicit utility and production functions. Details of these derivations are contained in a working paper, which can be consulted for further information.[3] Here we will merely report the assumptions that were made and the results.

Since both producers and consumers in our model are demanders of goods, and since each tradable industry has both imported and home-produced goods available to demanders, it was necessary first to characterize the choice between these two sources of goods. This was accomplished by assuming the existence of functions for each industry that aggregate the services of home and imported goods, and which then enter as arguments for the utility and production functions. To assure some flexibility in selecting the degree of substitution between home and imported goods, these aggregation functions were specified as Constant Elasticity of Substitution (CES) functions. The elasticity parameters of these functions for each industry were then inferred from published econometric estimates of import demand elasticities.[4]

To obtain demand functions for consumers, we then specified a Cobb-Douglas utility function. Its arguments were these aggregates of consumption of home and imported tradable goods plus the consumption levels themselves of nontradables. By maximizing this utility function subject to the constraint of a given level of expenditure, we obtained the consumers' demand functions for each industry. The differentiated forms of these demand functions appear below as equations (13) for imported goods and (14) for home goods.[5]

$$(13) \qquad eC^M_{ij} = eE_i + \theta^H_{ij}(\sigma_{ij} - 1)ep^H_{ij} - (\theta^M_{ij} + \theta^H_{ij}\sigma_{ij})ep^M_{ij}$$

$$i = 1,\ldots,m; \quad j = 1,\ldots,n$$

$$eC^H_{ij} = eE_i - (\theta^H_{ij} + \theta^M_{ij}\sigma_{ij})ep^H_{ij} + \theta^M_{ij}(\sigma_{ij} - 1)ep^M_{ij} \tag{14a}$$

$i = 1,\ldots,m;\ \ j = 1,\ldots,n$ (tradables)

$$eC^H_{ij} = eE_i - ep^H_{ij} \quad i = 1,\ldots,m;\ \ j = n + 1,\ldots,n' \text{ (nontradables)} \tag{14b}$$

where

C^M_{ij}, C^H_{ij} = Consumer demand in country i for imported and home-produced products of industry j,

θ^M_{ij}, θ^H_{ij} = Initial shares of demand in country i for imported and home-produced products of industry j, and

σ_{ij} = Elasticity of substitution in country i between imported and home produced products of industry j.

Notice that these demands depend only on expenditure and on the home and import prices of the own industry. Prices of other goods do not appear, since the assumption of a Cobb-Douglas utility function forces all cross elasticities of demand to be zero.

To derive the behaviour of firms, we assumed in this version of the model that production functions were characterized by fixed coefficients among the home-import aggregates for each industry and between these and an aggregate of primary factors as well.[6] The aggregate function for primary factors (labour and capital) was also specified as CES.[7] For each industry, production functions were assumed to be identical across countries. While the model could easily accommodate different input-output data for each country, we lacked the time and resources to gather and process the requisite data.

By solving the profit-maximization problem for the firm, subject to the constraints of its production technology and its given capital stock, we obtained the following supply functions for the export and home sectors:

(15) $$eS^X_{ij} = \varepsilon_j ep^X_{ij} - \varepsilon_j \sum_{k=1}^{n} b_{kj}[\theta^H_{ik} ep^H_{ik} + \theta^M_{ik} ep^M_{ik}]$$

$$-\varepsilon_j \sum_{k=n+1}^{n'} b_{kj} ep^H_{ik} - \varepsilon_j b^0_j ew_i + eK^X_{ij} \qquad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

(16) $$eS^H_{ij} = \varepsilon_j ep^H_{ij} - \varepsilon_j \sum_{k=1}^{n} b_{kj}[\theta^H_{ik} ep^H_{ik} + \theta^M_{ik} ep^H_{ik}]$$

$$- \varepsilon_j \sum_{k=n+1}^{n'} b_{kj} ep^H_{ik} - \varepsilon_j b^0_j ew_i + eK^H_{ij} \qquad i = 1,\ldots,m; \quad j = 1,\ldots,n'$$

where

ε_j = Supply elasticity of industry j,

b_{kj} = Input-output coefficients for use of good k as input in industry j, and

b^0_j = Value-added share of industry j.

The same problem also yields the following demand functions for imported and home-produced intermediate inputs:

(17) $$eZ^M_{ij} = eQ_i - \theta^H_{ij}\sigma_{ij}[ep^M_{ij} - ep^H_{ij}] \qquad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

(18a) $$eZ^H_{ij} = eQ_i + \theta^M_{ij}\sigma_{ij}[ep^M_{ij} - ep^H_{ij}] \qquad i = 1,\ldots,m; \quad j = 1,\ldots,n$$

(tradable)

(18b) $$eZ^H_{ij} = eQ_i \qquad i = 1,\ldots,m; \quad j = n + 1,\ldots,n'$$

(nontradable)

where

Z^M_{ij}, Z^H_{ij} = Demand for imported and home-produced inputs of good j by an arbitrary sector of country i, and

Q_i = Supply of the demanding sector ($Q_i = S^X_{ik}$, $k = 1,\ldots,n$ and S^H_{ik}, $k = 1,\ldots,n'$).

Unlike the consumers' demand functions, the firms' supply functions do depend on prices in all industries, since all potentially provide intermediate inputs. Also, while the firms' demand functions do not directly involve cross-price effects, they do have such effects indirectly, since they depend on supplies, which in turn depend on all prices. Thus, the markets in our model turn out to be very interconnected.

Finally, the firms' demands for labour were also derived from the maximization problem as follows:

(19a) $$eL_{ij} = \gamma^X_{ij}\left[\frac{1}{\theta^L_{ij}} eS^X_{ij} + \frac{\theta^K_{ij}}{\theta^L_{ij}} eK^X_{ij}\right] + (1 - \gamma^X_{ij})\left[\frac{1}{\theta^L_{ij}} eS^H_{ij} + \frac{\theta^K_{ij}}{\theta^L_{ij}} eK^H_{ij}\right]$$

$i = 1,\ldots,m;\ \ j = 1,\ldots,n$ (tradable)

(19b) $$eL_{ij} = \frac{1}{\theta^L_{ij}} eS^H_{ij} + \frac{\theta^K_{ij}}{\theta^L_{ij}} eK^H_{ij} \qquad i = 1,\ldots,m;\ \ j = n+1,\ldots,n'$$

(nontradable)

where

γ^X_{ij} = Share of exports in total production of industry j, country i, and

θ^L_{ij}, θ^K_{ij} = Labour and capital shares of valued-added in industry j, country i.

Note that these labour demand functions, like the supply functions on which they are based, do depend indirectly on wages, both nominal and real. The index of real wages in each industry is different, however, based upon the coefficients of the various price terms that enter the supply functions.

All of these supply and demand functions were derived at the level of the individual firm and consumer, and had to be aggregated to obtain the corresponding functions for the economy as a whole. Aggregation of supplies was trivial, given our assumption of linearly homogenous technologies. Aggregation of demand, however, was more difficult, since demanders of a given good include all other industries as well as consumers, each with a different demand function. Adding these up and differentiating, we obtained the following demand functions for the country as a whole:

$$eD^M_{ij} = -[v_{ij0} + \theta^H_{ij}(\sigma_{ij} - v_{ij0})]ep^M_{ij} + \theta^H_{ij}(\sigma_{ij} - v_{ij0})ep^H_{ij} + v_{ij0}eE_i + \sum_{k=1}^{n} v_{ijk}[\gamma^X_{ik}eS^X_{ik} + (1 - \gamma^X_{ik})eS^H_{ik}] + \sum_{k=n+1}^{n'} v_{ijk}eS^H_{ik} \quad i = 1,\ldots,m; \quad j = 1,\ldots,n \tag{20}$$

$$eD^H_{ij} = -[v_{ij0} + \theta^M_{ij}(\sigma_{ij} - v_{ij0})]ep^H_{ij} + \theta^M_{ij}(\sigma_{ij} - v_{ij0})ep^M_{ij} + v_{ij0}eE_i + \sum_{k=1}^{n} v_{ijk}[\gamma^X_{ik}eS^X_{ik} + (1 - \gamma^X_{ik})eS^H_{ik}] + \sum_{k=n+1}^{n'} v_{ijk}eS^H_{ik} \quad i = 1,\ldots,m; \quad j = 1,\ldots,n \ \text{(tradable)} \tag{21a}$$

$$eD^H_{ij} = -v_{ij0}ep^H_{ij} + v_{ij0}eE_i + \sum_{k=1}^{n} v_{ijk}[\gamma^X_{ik}eS^X_{ik} + (1 - \gamma^X_{ik})eS^H_{ik}] + \sum_{k=n+1}^{n'} v_{ijk}eS^H_{ik} \quad i = 1,\ldots,m; \quad j = n+1,\ldots,n' \ \text{(nontradable)} \tag{21b}$$

where

v_{ij0} = Share of consumer demand in total demand for good j in country i and

v_{ijk} = Demand by industry k for good j as a share of total demand for good j in country i.

Once the unspecified functions in equations (1-4) and (12-13) are replaced with appropriately indexed versions of equations (15), (16), (20), (21), and (19), the model is complete. In addition to the elasticity parameters and input-output coefficients already discussed, its solution requires information on exports, imports, total production, and tariffs for each country and industry to be included. We turn now to a description of the selection of countries and industries used for the current application of the model.

Application of the Model

The model we have just described is designed to take into account as many as possible of the interconnections among industries and countries at the microeconomic level. The benefit of this is that it enables us to examine a variety of economic issues that other models cannot address, either because they are too highly aggregated, or because they are specified only in partial equilibrium terms. The cost, on the other hand, is that our model is far too large to be able to say anything concrete without further specification of its parameters. Thus, to use the model, we must apply it to a realistic selection of countries and industries using, as far as possible, actual data to general the parameters.

We therefore selected the world's 18 major industrialized countries as our focus for analysis, and treated the rest of the world as a residual in order to close the system. The reason for this choice was the compilation of detailed information on ad valorem tariffs at the line-item level for these countries on a 1976 basis in machine-readable form by the General Agreement on Tariffs and Trade (GATT).[8] Import and export data for 1976 were obtained from United Nations trade tapes provided by STR. The 18 countries covered were as follows:

Australia	Italy
Austria	Japan
Belgium-Luxembourg	Netherlands
Canada	New Zealand
Denmark	Norway
Finland	Sweden
France	Switzerland
West Germany	United Kingdom
Ireland	United States

Information on output and employment was obtained directly or otherwise estimated from the United Nations, Yearbook of Industrial Statistics, and from the OECD publications on national accounts and labour statistics. We used a classification of industries based upon the International Standard Industrial Classification (ISIC), broken down into tradables and nontradables. For manufacturing industries we used the three-digit ISIC data, while for the remaining industries, mostly nontradable, we remained at the more aggregated one-digit level. The 29 industries were as follows:

Tradables

ISIC Group	Description
1	Agriculture, hunting, forestry, & fishing
310	Food, beverages, and tobacco
321	Textiles
322	Wearing apparel, exc. footwear
323	Leather & leather & fur products
324	Footwear
331	Wood products, exc. furniture
332	Furniture & fixtures, exc. metal
341	Paper & paper products
342	Printing, publishing
35A	Industrial chemicals (351); Other chemical products (352)
35B	Petroleum refineries (353); Misc. prod. of petroleum & coal (354)
355	Rubber products
36A	Pottery, china & earthenware (361); Other nonmetallic min. prod. (369)
362	Glass & glass products
371	Iron & steel basic industries
372	Non-ferrous metal basic ind.
381	Metal products, exc. machinery, etc.
382	Machinery, exc. electrical
383	Electrical machinery, apparatus, etc.
384	Transport equipment
38A	Plastic products, n.e.c. (356); Professional photogr. goods, etc. (385); Other manuf. industries (390)

Nontradables

ISIC Group	Description
2	Mining and quarrying
4	Electricity, gas, and water
5	Construction
6	Wholesale & retail trade, restaurants & hotels
7	Transport, storage, & communication
8	Finance, insurance, real estate, etc.
9	Community, social & personal services

Given appropriate data for the above countries and industries, solution of the model should, in principle, be straightforward. By differentiating all of the equations of the model, we obtained a system of linear equations relating changes in all of the variables of the system. The coefficients in each of these linear equations were evaluated using the data and elasticity information we had collected. All that remained was to solve the system. Since the system was linear, it could in principle be solved by any of a variety of means.

In fact, however, the size of the model made this difficult. With 18 countries and 29 countries, what we have represented here as single equations each become a large number of separate equations to be solved. Depending on how many of these equations were first eliminated by substitution, the number of equations in the model could be as large as 6,000. Such a large system strains the capacity of even high-speed computers. And while the number of equations can be reduced substantially by prior substitutions, the substitutions themselves involve a tremendous amount of computation. It was to avoid these difficulties that, in earlier applications of the model, we introduced a number of approximations to reduce the amount of simultaneity in the system.[9]

We have since been able to obtain exact solutions. To do so, we first devised several Fortran subroutines that process large partitioned matrices in which many of the partitioned blocks contain only zeros, and which avoids costly but meaningless computations involving these zeros. Second, we used a Fortran programming technique known as dynamic dimensioning to avoid wasting computer memory space on these empty blocks, even as the contents of all blocks change during the course of the solution. And finally, we applied these techniques first to each of the 18 countries separately, using only equations (1) through (8) and (10) to solve for their supplies and demands of traded goods in terms of world prices, exchange rates, and exogenous variables, and then used equations (9) and (11) to complete the solution. The resulting computer program is costly, but within reason.

Footnotes

[1] See Deardorff et al. (1977a), where an approximate solution of the current model was used for this purpose.

[2] Because we have succeeded in computing the exact solution of the current model, the approximations used in our earlier paper are no longer necessary.

[3] See Deardorff et al. (1976).

[4] These elasticities are surveyed in Stern et al. (1976). To infer elasticities of substitution from these estimates, we first used our model to derive import-demand elasticities in terms of substitution elasticities and measurable parameters such as import shares. The result was then solved for the substitution elasticities. Details are contained in Deardorff et al. (1976).

[5] In these and subsequent equations, we use the proportional form of the total differential. For any variable, X, the notation eX represents dX/X, and stands for the (infinitesimal) proportional change in the variable.

[6] We have developed a version of the model using a Cobb-Douglas production function instead, but have not yet adapted our solution programme to use it for calculations.

[7] The elasticities of substitution between capital and labour were obtained directly from published estimates in Zarembka and Chernicoff (1971). The fixed coefficients between value added and intermediate inputs were obtained from the input-output table of the United States as published by the Bureau of Economic Analysis (1974).

[8] Basic Documentation for the Tariff Study (Geneva: GATT, 1974) and subsequent updating to 1976.

[9] These approximations consisted primarily of using exogenous tariff changes to approximate the change in both expenditure and the prices of intermediate goods, and of ignoring demands for intermediate goods in the demand functions, at certain stages of the solution.

References

Basic Documentation for the Tariff Study (Geneva: GATT, 1974).

Bureau of Economic Analysis, "The Input-Output Structure of the U.S. Economy, 1967," Survey of Current Business (Washington: U.S. Government Printing Office, for the U.S. Department of Commerce, February 1974).

Alan V. Deardorff, Robert M. Stern, and Christopher F. Baum, "A Simulation Model of World Trade and Production," mimeographed, 1976.

Alan V. Deardorff, Robert M. Stern and Christopher F. Baum, "A Multicountry Simulation of the Employment and Exchange-Rate Effects of post-Kennedy Round Tariff Reductions," in N. Akrasanee, S. Naya, and V. Vichit-Vadakan (eds.), Trade and Employment in Asia and the Pacific (Honolulu: The University Press of Hawaii, pp. 36-66). (a)

Alan V. Deardorff, Robert M. Stern, and Mark N. Greene, "The Sensitivity of Industrial Output and Employment to Exchange-Rate Changes in the Major Industrialized Countries," to be published in J.P. Martin and M. A. M. Smith (eds.), Trade and Payments Adjustment Under Flexible Exchange Rates (London: Macmillan), 1977 (b).

Robert M. Stern et al., Price Elasticities in International Trade: A Compilation and Annotated Bibliography of Recent Research (London: Macmillan, 1976).

P. Zarembka and H. B. Chernicoff, "Further Results on the Empirical Relevance of the CES Production Function," Review of Economics and Statistics, February 1971, pp. 106-10.

APPENDIX B

Welfare Effects

Our model was not originally intended to estimate effects on economic welfare, but rather to deal exclusively with more observable variables such as employment and exchange rates. However, for the purpose of this report, we felt it to be desirable to include at least some crude estimates of the welfare effects of trade liberalization. Therefore, we have added a facility to compute the change in national welfare, based in a rather ad hoc manner on the partial-equilibrium theory of welfare economics combined with the quantitative estimates generated by our model.

Theoretical problems of dealing with both tariffs and nontariff barriers have led us to construct two different welfare measures. The first measure, to be described below, is valid if tariff changes are the only cause of changes in trade, and makes use of both the price and quantity estimates generated by our model. The second measure is valid in principle for both tariffs and NTB's, but its implementation relies on crude estimates of certain unobservable price changes, based on supply and demand elasticities and changes in trade, and may be unreliable in the context of a multi-sector, general equilibrium model such as ours. Accordingly, in the report, we have used one or the other or both when appropriate.

The effects of a tariff change in a partial equilibrium model of supply and demand may be seen in Figure B.1. Here the supply of exports, S_X, and the demand for imports, D_M, are graphed as functions of their prices. Two equilibria are shown, with quantities traded Q^0 in the first and Q^1 in the second after a tariff reduction. Corresponding export and import prices, which differ to the extent of the tariff, are shown on the vertical axis.

The increase in welfare for the exporting country is given by the change in producer's surplus, area e + f in Figure B.1. This can be calculated from our model by multiplying, for each sector, the change in the export price times the initial quantity of exports (to get area e) plus one half of the change in exports (to get area f).

For the importing country, the change in welfare has two parts. First is the increase in consumer's surplus, given by area a + b. This can be similarly calculated as minus the change in import price times initial imports plus one half the change in imports. Second is the change in tariff revenue, given by area d - a - e. This is already calculated in our model as the change in final expenditure.

Thus, for our first measure of the change in welfare, we calculate and add these three components for all 22 tradable industries. The result is equivalent geometrically to area b + d + f in Figure B.1 and gives us a dollar value for the benefits due to trade liberalization. We also calculate this figure as a fraction of gross domestic product to give an idea of the relative importance of the effect for each country.

This measure is theoretically invalid if trade liberalization entails a shift of either the supply or the demand functions rather than only a movement along them in response to tariff changes. Liberalization of government procurement regulations, for example, may be thought of as an outward shift of the demand function for imports

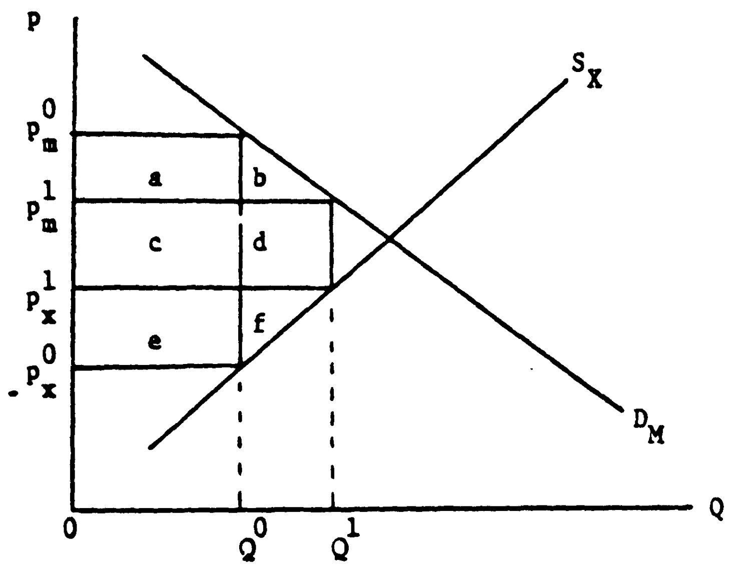

Figure B.1

Changes in Economic-Welfare, with Given Demand and Supply Function

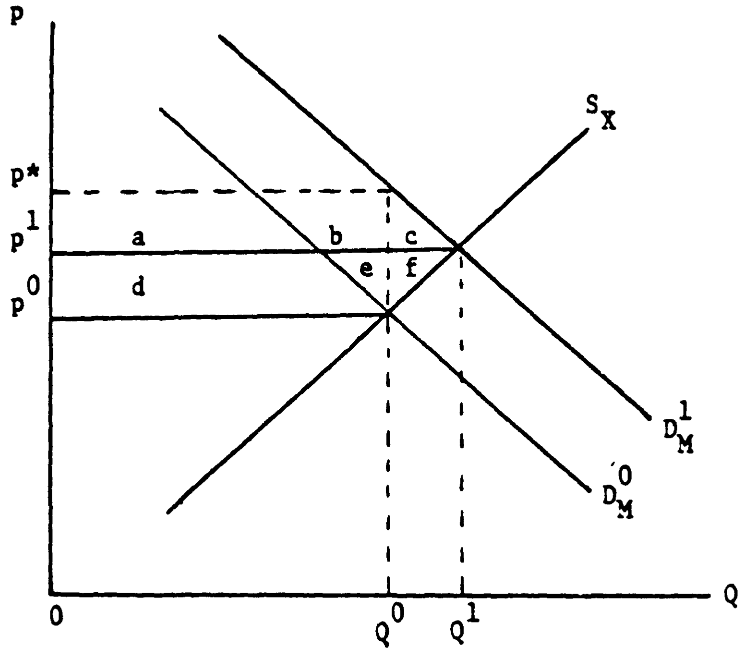

Figure B.2

Changes in Economic Welfare, with Shift in Demand Function as shown in Figure B.2. In this case, the price and quantity of imports both rise, and our first calculation would show a loss to consumers (though still a gain to producers). Yet the fact that imports were previously constrained by the regulation and now increase voluntarily suggests that demanders are in fact better off than before. In a sense, the true demand curve has always been D_M^1, and prior to deregulation the demanders responded to an artificially high but unobservable price, p^*, in demanding the quantity, Q^0. Thus their gain in welfare is the implicit change in consumer surplus, area a + b + c in Figure B.2.

This area cannot be measured directly, since p^* — the price at which Q^0 would be demanded in the absence of regulation — cannot be observed. However, we can infer the price change, p^* to p^1, from the elasticity of demand and the change in quantity. This is the approach taken in our second measure of welfare. Basically the second measure duplicates the first, except that the changes in export and import prices are replaced by corresponding changes in quantities, divided by corresponding elasticities of supply and demand. Since the latter are valid only in a partial equilibrium context, the second measure must be regarded as inferior to the first whenever shifts of supply or demand functions are absent.

APPENDIX C

Data

The tables in this appendix contain the complete data for 1976, by ISIC industry and country, that were used in the study.

Table C.1 shows the value of gross domestic production in each ISIC industry category together with the row and column sums. Figures are in millions of U.S. dollars and were derived from the United Nations, Yearbook of Industrial Statistics, and from OECD publications on national accounts.

Tables C.2 and C.3 present exports and imports for each industry-country cell. Figures are in millions of dollars and were computed from United Nations trade tapes provided by STR via the U.S. Department of State.

Table C.4 gives employment statistics for each industry-country cell. Figures are in thousands of man-years and were compiled from: United Nations, Yearbook of Industrial Statistics; OECD, Labour Force Statistics; and ILO, Annual Yearbook of Labour Statistics.

Tables C.5 and C.6 present post-Kennedy Round base rate tariffs and MTN offer rate tariffs on industrial products (excluding ISIC 1, 310, and 35B). These are nominal tariff rates expressed in ad valorem form. The underlying data were provided by STR. Own-country total (dutiable + nondutiable) imports were used at the BTN line-item level in the aggregation process.

Table C.7 presents indexes of the degree to which imports were subject to nontariff restrictions (e.g., quotas; health regulations, etc.). A value of unity indicates 100 per cent restriction; zero denotes no restriction.

The calculations were based on the detailed data underlying Table 1 in Murray and Walter (1978). The procedure was to record the value of 1973 imports for a given country and commodity category that was subject to some type of NTB, as identified in underlying documents prepared by the U.S. Department of State and UNCTAD. The results were aggregated and concorded with our ISIC classification. The indexes were updated to take into account more recent restrictions on such products as footwear, iron and steel, and television receivers. The indexes for textiles (ISIC 321) and wearing apparel (ISIC 322) were based upon the proportion of each country's 1976 imports in these sectors from the rest of world.

Tables C.8 - C.14 are based on the tariff and trade data in the relevant tables noted above.

Readers interested in additional information concerning these data can contact the authors. The data can be made available in machine-readable form at cost.

Table C.1

Value of Production by ISIC Sector
in the Major Industrialized Countries, 1976

	AUSTRAL	AUSTRIA	BLG-LUX	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	IRELAND	ITALY
1	14551.9490	3939.91000	3405.33900	21646.0000	4383.77700	7388.94100	38314.7040	21005.6160	1086.20400	38218.2240
310	13304.8130	3694.30400	7998.95600	22707.3600	5123.35000	8139.81200	45124.5120	41539.6960	3823.53900	19724.9920
321	3595.94000	1517.72000	2000.15700	3933.11000	577.530000	810.280000	11103.3470	12431.7030	560.953000	11244.1560
322	1755.10000	646.117000	965.509000	2742.07300	360.781000	579.947000	5636.92100	8068.08200	254.751000	4723.18700
323	303.729000	111.459050	220.833000	264.034000	56.2550000	88.5020000	1148.93300	1325.47000	98.0530000	1185.41600
324	525.537000	345.304000	209.271000	536.620000	69.7430000	121.262000	1617.10600	2025.02400	111.928000	1693.66200
331	2194.72800	228.199000	113.562000	5181.96000	393.449000	1546.92400	5716.16000	6608.57400	144.323000	2459.42900
332	915.671000	692.845000	1447.60100	1651.09700	352.710000	148.196000	3009.78500	3305.60900	86.4050000	1952.59100
341	1796.99800	1211.12800	956.341000	10039.9920	437.404000	3088.75800	7073.50700	8264.09000	192.997000	5022.26500
342	2529.03400	459.620000	1003.84000	3452.70900	875.001000	578.915000	5921.23000	5883.81600	253.613000	3517.42500
35A	4460.88400	2272.59300	3126.38200	7588.23500	1332.04000	1021.29900	20485.6320	27470.7520	641.454000	20806.0640
35B	694.757000	2064.06700	1198.74700	6900.93300	1217.48200	1223.87800	21417.2960	13039.9420	306.030000	9671.20900
355	783.690000	396.535000	562.337000	1969.84800	121.364000	131.924000	2140.03500	3715.13300	101.400000	2946.44400
36A	2251.94000	1255.41200	1804.77000	2305.55000	818.985000	509.379000	10680.4270	10421.4960	201.650000	6325.44500
362	343.387000	222.991000	464.540000	518.050000	86.0470000	72.8340000	2882.82700	2737.67000	61.2150000	1984.76500
371	3979.07400	2229.79000	2805.03760	4509.98800	271.790000	754.255000	13980.2100	25376.1120	172.077000	16068.4140
372	3091.93900	706.391000	537.845000	3309.53300	283.633000	684.389000	5486.66700	7218.52700	69.9820000	1940.06100
381	4984.95700	1914.80000	2932.93100	8255.63600	1180.33100	1049.47200	14301.1040	18473.6080	152.694000	10306.1010
382	3576.80400	1720.95600	1764.54900	5308.73400	2201.99200	1821.13300	13558.0110	35751.3760	125.319000	15289.0030
383	2691.20000	2152.36400	2493.50100	7294.59300	976.208000	851.122000	14950.0700	29011.4240	343.571000	12449.2530
384	5688.94900	1316.22900	2622.49500	18765.0720	1079.07500	1536.79000	26597.4720	33638.3360	389.320000	15513.2460
38A	2343.70000	734.265000	1855.26400	3346.35600	646.061000	441.244000	10385.3570	10371.9500	395.325000	6806.35300
2	9032.69900	1348.48900	694.672000	17030.0240	14.0760000	282.032000	5661.06300	8752.69100	451.397000	8846.66000
4	5951.79400	1780.15300	2756.40400	10949.3670	804.279000	1874.26000	11126.7100	15710.9530	508.257000	6343.96400
5	26607.2640	9363.03900	11318.6200	40031.2960	7099.13200	7778.72200	79334.5600	66347.0720	2140.54600	47180.0000
6	29506.6000	8767.46800	10013.0020	46734.4960	7064.20760	5045.83900	75679.4000	53951.0400	3232.46300	52079.0560
7	14977.5090	3255.83900	7285.91600	31352.9760	4541.28100	3491.60000	32778.7040	32391.2320	1368.39000	20003.4200
8	28750.7840	5326.51500	9234.07800	45405.7120	3223.03700	3650.13000	73030.0400	38558.1400	2498.39600	36800.1400
9	41136.8160	9420.25700	22269.3440	116542.456	11639.0700	10221.7220	123727.744	146600.112	5026.60500	64351.0000
300	232247.620	69002.8550	104870.679	459241.430	57230.9140	61340.7770	687575.326	692613.722	25015.4290	403977.073

	JAPAN	NETHER	NEW ZEAL	NORWAY	SWEDEN	SWITZER	U. K.	U. S.	SUM
1	60513.4560	10024.5580	2970.40400	5367.23400	6753.04600	1791.95400	24087.6000	136713.936	402083.172
310	50109.2160	19009.9040	3719.35700	5015.71300	7085.75700	4850.11000	42620.4000	215646.752	515617.919
321	27609.7120	2081.08100	816.904000	388.927000	972.466000	1672.33300	15124.2890	43734.7600	140175.472
322	6837.32000	1107.98700	394.406000	239.017000	656.955000	673.161000	4662.12000	29415.5040	69719.6740
323	830.121000	119.882000	118.827000	35.7400000	128.061000	75.1750000	1344.56700	3058.04100	10511.4980
324	1157.95000	210.914000	163.873000	46.4970000	105.839000	182.144000	1606.63500	5959.27700	16687.1980
331	10503.6960	1028.02400	669.646000	1028.20700	3097.37400	565.605000	5359.08900	25432.1280	80343.0890
332	6390.96000	541.297000	208.472000	369.857000	507.222000	361.345000	3898.69300	12153.2850	37185.7210
341	13513.9450	1765.87500	719.196000	1647.13100	4176.67900	732.210000	8191.00000	55547.9520	125378.308
342	11275.3200	2981.13300	474.709000	709.341000	1311.17300	1115.20900	8625.95300	50662.4600	101630.701
35A	31205.6960	7564.54200	896.088000	1216.73000	2424.52600	4429.74500	27430.7360	109515.384	273097.462
35B	12015.0410	12929.9900	91.9200000	533.825000	1595.06100	378.537000	19482.1200	90727.2160	196764.159
355	7721.13600	1468.38500	168.842000	110.131000	549.504000	168.149000	4567.33400	16333.4210	44616.4620
36A	12232.8130	1342.18400	392.274000	559.573000	1497.82600	579.352000	6263.84100	22732.0320	82174.9570
362	3616.29000	396.700000	83.3820000	74.9940000	200.400000	94.7230000	1442.64700	8196.86700	23481.2170
371	35987.7120	3672.45000	275.524000	835.413000	1971.08500	527.360000	15512.7380	77879.0560	286808.097
372	17448.5920	1571.23300	217.813000	1191.42100	911.079000	757.664000	7840.09700	42862.6000	95321.4740
381	26605.6160	3614.48200	958.031000	1099.32400	3876.62900	1595.83100	16383.2140	72948.0000	194832.753
382	37345.5840	3468.62600	404.458000	1422.21400	4824.26900	2717.34100	24767.8000	112182.240	268322.501
383	44827.9360	4935.93700	616.042000	1029.39700	2931.81300	2344.56700	16617.0150	75801.6000	222317.693
384	51776.2240	3682.05700	751.736000	2296.50900	5033.44900	515.709000	22337.9840	141034.368	335295.980
38A	21487.6000	2171.50200	345.662000	484.546000	741.212050	1945.29400	9695.61900	53238.3040	127355.718
2	6035.67500	313.368000	1043.74600	3194.40300	920.709000	746.191000	16397.1900	99681.4240	182045.066
4	12734.8820	3677.86000	1216.57700	2228.50700	2519.57600	3244.63200	22293.9360	86334.1760	191788.305
5	100282.496	19395.7600	5434.01100	8428.53900	12132.9410	2304.48000	76528.6720	263049.312	793481.270
6	153474.000	21828.7520	6027.33500	9911.03100	11123.0460	4688.32000	61424.7040	661549.024	1223610.40
7	56841.5840	12054.9600	3057.57700	7521.25000	5336.42100	2762.17200	59689.3920	224276.672	523026.979
8	59704.0000	13785.2920	5870.35100	2054.09600	13492.5110	3371.36800	59885.0560	562044.920	960576.198
9	163578.304	42971.9830	8401.22200	13660.7030	20438.8640	12497.7960	186899.312	890770.432	1986169.03
300	1051054.90	199780.883	47429.4250	73812.3700	126035.092	57644.5050	771092.505	4198208.09	9358334.08

Table C.2

Exports by ISIC Sector
in the Major Industrialized Countries, 1976

	AUSTRAL	AUSTRIA	BIG+LUX	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	IRELAND	ITALY
1	2169.50000	119.406000	1052.84200	3952.20200	1114.71800	76.0310000	3645.15700	1192.94800	326.207000	1672.89000
310	2443.00000	269.561000	2001.01300	1092.86700	2025.35500	177.208000	4997.04100	3681.98700	1089.31100	1677.38400
321	1665.44700	670.996000	2314.40100	115.279000	239.161000	119.195000	2472.99400	4396.61900	245.581000	2265.03100
322	9.97300000	258.074000	604.659000	217.362000	178.595000	336.748000	1208.24200	1399.54200	101.148000	2095.77700
323	294.904000	54.3720000	152.272000	229.911000	171.105000	188.189000	490.638000	534.650000	60.8200000	397.348000
324	3.12400000	157.442000	41.7070000	125.284000	35.1240000	57.8490000	333.066000	261.267000	23.8810000	1830.30300
331	125.527000	559.815000	239.345000	2245.94100	123.610000	780.128000	48[illegible].655000	724.527000	22.1530000	208.930000
332	3.07900000	53.0210000	393.487000	3.66400000	171.146000	62.9410000	229.437000	1021.49200	12.8740000	678.185000
341	21.1220000	521.435000	632.682000	4899.73400	96.4650000	2139.55700	796.607000	1439.96800	38.5140000	364.864000
342	18.5450000	63.3940000	188.414000	81.6300000	47.9150000	35.4900000	434.025000	654.579000	29.5030000	272.752000
35A	730.298000	548.390000	4142.86900	1148.18200	589.386000	228.935000	5566.41200	12231.1100	301.394000	2823.15000
35B	2041.65600	206.172000	1648.31600	5394.30900	334.642000	101.979000	1668.04100	2621.85400	153.994000	1852.87300
355	13.4280000	144.619000	366.154000	396.503000	37.4410000	12.7570000	1194.30800	1119.78100	50.0570000	593.144000
36A	109.131000	249.278000	444.824000	834.679000	136.523000	34.2550000	684.399000	1484.82000	84.1500000	1156.24400
362	8.80500000	79.1630000	423.641000	99.6790000	34.6110000	40.5880000	517.264000	587.571000	21.4340000	278.906000
371	487.637000	836.373000	2881.98800	575.847000	115.347000	168.217000	3686.34900	6141.82700	13.4820000	1702.69100
372	3017.54400	184.900000	1500.13200	4441.03100	80.8930000	220.628000	1063.49200	1964.95200	63.0170000	370.540000
381	94.3120000	444.072000	924.992000	431.647000	223.375000	159.127000	1840.23300	4379.23500	96.1620000	1962.34500
382	273.815000	1245.48900	2324.78700	2971.24700	1465.45300	657.369000	8107.67000	22391.2910	240.537000	6865.23000
383	92.0790000	671.152000	1597.82200	915.666000	454.624000	253.306000	3449.99000	8433.33800	143.733000	1869.71100
384	169.207000	448.096000	3944.82800	6315.26500	337.514000	686.275000	9664.91500	17183.0310	75.9930000	4533.52200
38A	914.240000	1095.60600	3437.45400	5452.88400	976.220000	276.797000	5306.62300	8830.15600	298.853000	3740.55700
SUM	14715.1780	8880.02600	32258.6290	41940.8130	8998.72300	6815.56900	57843.5580	102678.565	3492.79800	39212.3820

	JAPAN	NETHER	NEW ZEAL	NORWAY	SWEDEN	SWITZER	U. K.	U. S.	SUM
1	734.428000	3849.69100	174.380000	528.550000	259.610000	126.616000	580.636000	17785.0700	39360.3840
310	284.183000	5621.27700	1339.20100	312.673000	251.869000	463.452000	2668.79400	5146.82500	35543.8010
321	3730.66500	1607.25400	630.079000	96.4520000	251.738000	904.353000	2183.60000	3371.89800	27282.7430
322	527.112000	536.373000	25.2030000	37.4690000	157.636000	181.112000	761.948000	654.112000	9291.09000
323	188.057000	198.854000	134.885000	77.6830000	126.011000	61.9560000	434.197000	1014.15900	4810.01100
324	121.346000	75.9550000	2.75600000	10.7330000	48.4470000	66.5350000	158.744000	71.2980000	3424.86100
331	178.401000	174.228000	75.8450000	111.877000	1122.60600	118.547000	122.887000	2560.34300	9981.36500
332	63.6240000	209.370000	7.18900000	46.5570000	223.099000	56.1660000	216.250000	276.279000	3727.86000
341	476.796000	684.460000	157.331000	604.330000	2922.08100	159.625000	550.712000	2788.89000	19295.1980
342	91.1190000	211.914000	3.18100000	13.9810000	76.5330000	142.610000	570.363000	812.283000	3748.23100
35A	3400.53200	5555.86100	22.0220000	463.830000	808.288000	3226.80000	5694.59800	10654.6600	58144.7170
35B	146.277000	6581.02700	3.79300000	1031.03700	358.981000	250.256000	2584.31300	4616.48700	31598.0070
355	963.249000	387.875000	1.88800000	23.6240000	137.114000	64.0300000	724.722000	906.204000	7136.89800
36A	748.414000	379.636000	4.18000000	103.041000	129.528000	84.0960000	728.474000	994.099000	8389.77100
362	154.854000	182.263000	5.09200000	12.0240000	74.2400000	32.7050000	261.590000	478.938000	3293.36800
371	9416.04000	1294.63600	6.65000000	503.715000	1216.25600	161.247000	1445.66800	2048.34400	33702.3140
372	606.667000	945.907000	126.706000	1141.00400	733.420000	250.357000	1006.70700	1928.91700	19646.8140
381	2236.94600	800.694000	18.6780000	196.053000	677.310000	520.527000	1731.11100	2722.75200	19459.5710
382	7748.9[illegible]300	2545.09200	56.4050000	475.828000	3105.10100	3502.74000	8634.33900	22895.8750	95507.2610
383	9003.76500	2106.50900	15.8980000	275.251000	1540.35100	1194.15600	3102.41100	8683.71000	43803.4720
384	18302.0820	2264.21300	20.6600000	1170.28400	3480.51500	209.193000	6020.42700	20179.0260	95005.0460
38A	11624.9730	5066.26000	225.625000	497.223000	1432.92800	4309.85000	7026.04500	14950.1250	75462.4190
SUM	70748.5230	41279.3510	3057.64700	7733.21900	19133.6620	16086.9290	47208.5360	125540.294	647615.202

Table C.3

Imports by ISIC Sector
in the Major Industrialized Countries, 1976

	AUSTRAL	AUSTRIA	BLG+LUX	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	IRELAND	ITALY
1	377.607000	528.108000	2461.51000	1776.44900	742.419000	420.791000	3994.38400	8622.39200	264.724000	4045.00700
310	286.809000	459.269000	2175.04600	1654.68400	692.711000	185.176000	3987.46500	6091.89300	294.531000	3543.44100
321	860.780000	715.227000	1676.51500	1293.34200	581.031000	380.537000	3153.61100	4484.36900	303.740000	2329.90300
322	273.834000	367.762000	907.409000	727.364000	286.275000	77.8460000	1040.00500	3633.24600	113.443000	243.228000
323	34.5010000	132.391000	162.561000	284.365000	216.419000	75.8190000	545.977000	1391.29700	24.8590000	947.124000
324	86.6340000	127.550000	250.873000	222.145000	83.6480000	29.4020000	398.596000	914.501000	39.2290000	28.4220000
331	237.176000	181.545000	503.996000	500.704000	383.877000	165.202000	963.556000	1348.90800	88.2770000	1080.88400
332	55.6540000	165.102000	335.789000	189.667000	109.532000	21.1740000	638.170000	634.152000	21.5100000	49.3270000
341	412.798000	181.531000	821.849000	567.902000	436.906000	58.7120000	1679.17200	2579.29400	138.722000	841.296000
342	171.023000	144.662000	220.632000	509.568000	71.4710000	33.9030000	473.600000	234.756000	32.9890000	57.4320000
35A	1209.58300	1083.60700	3142.05600	2373.34800	1105.77000	699.405000	5557.23400	6653.70800	473.988000	3713.98400
35B	1139.66300	1414.89900	4992.54100	4383.95900	2041.05400	1587.41400	14406.2610	16005.0060	562.569000	11096.0630
355	223.027000	150.667000	370.418000	486.309000	132.253000	90.5430000	758.247000	1080.73300	53.1240000	445.381000
36A	181.622000	226.124000	556.096000	409.132000	175.984000	82.8520000	913.788000	1350.00100	52.3420000	457.531000
362	100.640000	74.4270000	179.317000	253.170000	84.5430000	37.8010000	340.221000	477.054000	24.5170000	200.370000
371	217.690000	319.582000	1196.32400	730.393000	596.225000	317.566000	3152.58200	3944.92600	131.776000	2374.02800
372	64.2270000	383.463000	2187.47600	871.893000	212.684000	187.554000	2551.71000	4478.36100	55.0900000	1649.29500
381	314.838000	401.643000	856.140000	1085.91100	351.401000	215.495000	1443.43300	1583.87700	137.430000	562.225000
382	1797.06800	1394.19700	3025.19800	6690.13300	1182.20300	1049.61900	6965.63800	6137.16900	526.909000	3212.77700
383	979.942000	839.726000	1503.63700	2211.71600	770.850000	499.772000	2628.00400	3737.48200	216.818000	1710.35300
384	1640.96400	1344.35200	4349.64300	10371.0950	1488.37000	773.970000	4984.22000	5633.97900	323.246000	2588.32800
38A	1150.80500	887.386000	3066.42800	2806.10600	650.086000	400.648000	3440.34200	6765.79100	312.639000	1577.20300
SUM	11816.2850	11523.2200	35161.4540	40399.3610	12403.7120	7391.20100	64016.2160	87782.8950	4192.48000	42793.6040

	JAPAN	NETHER	NEW ZEAL	NORWAY	SWEDEN	SWITZER	U. K.	U. S.	SUM
1	7794.45600	3682.16700	111.412000	488.928000	1018.59800	1067.33800	4973.06700	8070.99700	50440.3560
310	3337.45500	2753.55900	103.426000	340.812000	751.381000	794.101000	5024.83800	5172.51800	37649.1150
321	2685.04100	1621.35000	234.262000	329.068000	747.198000	700.820000	2399.40300	1285.57200	25981.7750
322	715.519000	1538.88100	6.45900000	337.145000	692.318000	575.777000	1166.50700	3465.22600	16168.2440
323	497.734000	231.927000	4.80600000	75.9030000	203.803000	155.161000	546.197000	827.103000	6377.94700
324	117.975000	234.582000	5.58800000	86.3420000	136.265000	168.719000	303.222000	1787.50800	5021.20100
331	4100.19100	840.249000	19.2590000	202.288000	204.461000	142.040000	1570.16700	2326.44600	14939.2260
332	79.7530000	527.330000	1.79000000	121.051000	174.267000	204.207000	219.757000	0.0	3548.24000
341	564.179000	1068.51300	35.7750000	206.064000	211.096000	281.375000	2321.40200	3490.95700	15897.5430
342	114.421000	153.549000	52.1880000	54.3760000	80.9570000	200.319000	231.524000	341.897000	3179.26700
35A	2817.43000	3473.79800	481.231000	853.104000	1646.40900	1729.64700	3640.66900	2611.44800	43266.4190
35B	28309.3980	7753.37600	484.252000	1245.01700	3386.10300	1556.14700	10179.4780	35892.2820	146435.482
355	313.106000	316.102000	42.9800000	105.143000	272.091000	147.124000	489.511000	1639.85700	7116.61600
36A	512.708000	650.731000	46.5630000	129.692000	255.595000	176.950000	431.775000	1007.54700	7626.03300
362	65.5230000	249.395000	18.3980000	57.7320000	117.234000	94.5730000	204.295000	217.180000	2795.79800
371	438.131000	1414.36500	206.346000	471.204000	990.226000	521.489000	1652.67600	2436.04000	21111.5690
372	5545.18700	1064.37400	61.4480000	441.814000	622.543000	24[illegible].079000	2681.56600	5435.30700	28781.0710
381	228.409000	1149.71500	110.922000	449.360000	564.760000	366.018000	920.371000	1876.89000	12618.8380
382	1937.18100	3169.18800	395.642000	1328.20400	2510.11200	1257.46400	5370.71500	7758.65800	55708.0750
383	1072.40400	2268.23800	196.484000	643.320000	1338.20400	834.397000	1985.15900	7479.16900	30915.6750
384	848.967000	2890.74200	506.182000	2603.90500	1972.50800	1202.59700	3786.98200	12679.7730	59989.8230
38A	2409.51000	2391.35000	148.044000	534.792000	1188.03500	2339.42300	5651.26500	23907.3770	59835.2300
SUM	64504.6780	39452.4810	3273.46500	11105.2640	19164.1640	14762.7650	55950.5460	129709.752	655403.543

Table C.4

Employment by ISIC Sector in the Major Industrialized Countries, 1976

	AUSTRAL	AUSTRIA	BLG-LUX	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	IRELAND	ITALY
1	370.000000	364.000000	136.900000	566.000000	223.000000	297.000000	2264.00000	1743.00000	203.000000	2929.00000
310	203.640000	83.4100000	107.410000	265.360000	95.1500000	71.6100000	618.200000	554.900000	54.2500000	617.390000
321	60.5300000	76.2500000	104.530000	107.490000	24.6300000	27.5000000	365.690000	611.230000	20.9800000	603.670000
322	61.5500060	45.1500000	56.8304000	116.660000	21.0000000	34.8400000	268.090000	331.750000	13.4000000	360.170000
323	6.16000000	6.16000000	6.64000000	9.70000000	2.46000000	3.33000000	46.3200000	44.9200000	2.21000000	49.0400000
324	11.2800000	19.7000000	11.9560000	28.1600000	3.53000000	6.03000000	81.6800000	64.5100000	3.64000000	165.420000
331	53.7500000	11.1000000	25.3500000	121.000000	15.2500000	38.7500000	171.730000	195.970000	3.96000000	99.9000000
332	26.0000000	29.9500000	15.1900000	55.2200000	20.0400000	10.4300000	102.090000	113.420000	4.07000000	135.560000
341	30.3900000	31.6400000	31.0000000	144.950000	13.4300000	55.5500000	125.250000	196.200000	5.99000000	131.700000
342	73.9400000	27.7100000	44.1200000	102.570000	36.9700000	33.2400000	221.010000	217.460000	10.5900000	152.050000
35A	58.0800000	52.0700000	86.1400000	95.0900000	29.1800000	24.5700000	394.470000	676.890000	10.0400000	481.250000
35B	6.01000000	6.05000000	13.3300000	20.0300000	3.31000000	3.23000000	141.100000	35.0100000	1.06000000	33.6600000
355	19.0300000	12.7400000	8.17000000	30.2600000	4.41000000	5.62000000	88.7000000	132.840000	2.09000000	119.470000
36A	44.4500000	44.0490000	50.4100000	46.8400000	20.0500000	19.4100000	197.430000	204.480000	9.01000000	310.700000
362	8.27000000	12.5400000	31.9400000	16.2300000	3.80000000	4.41000000	74.2800000	103.110000	3.39000000	91.5100000
371	71.0000000	84.0700000	108.400000	73.3700000	8.26000000	17.3600000	229.650000	608.160000	6.04000000	422.550000
372	26.2903000	14.3300000	27.7700000	55.4000000	3.56000000	6.25000000	61.8300000	112.860000	1.79000000	97.1200000
381	111.630000	89.3800000	114.230000	151.510000	41.0100000	30.7900000	499.890000	615.800000	7.90000000	373.140000
382	110.610000	66.2000000	66.0600000	111.050000	71.2600000	66.1300000	479.320000	1333.60000	4.82000000	520.190000
383	82.2000000	87.2200000	99.7500000	136.060000	30.4500000	32.8600000	560.760000	1197.00000	11.9700000	599.750000
384	144.100000	36.1900000	75.8300000	106.840000	45.8000000	39.2700000	695.460000	853.120000	13.4000000	679.710000
38A	57.9400000	36.3000000	36.4200000	79.6200000	29.3700000	15.7000000	311.300000	450.660000	12.4400000	319.830000
2	70.0000000	23.0000000	37.8100000	146.000000	2.00000000	9.00000000	170.000000	370.000000	10.0000000	326.000000
4	85.4600000	33.0000000	35.8600000	112.000000	15.0000000	28.0000000	182.000000	230.000000	14.0000000	247.000000
5	495.000000	253.000000	318.980000	642.000000	195.000000	160.000000	1057.00000	1928.00000	76.0000000	1757.00000
6	1336.00000	483.000000	715.680000	1658.00000	353.000000	319.000000	3513.00000	3561.00000	169.000000	2636.00000
7	443.000000	197.000000	270.000000	721.000000	166.000000	161.000000	1188.00000	1494.00000	64.0000000	1100.00000
8	452.000000	136.000000	241.290000	501.000000	149.000000	116.000000	1258.00000	1346.00000	28.0000000	1369.59000
9	1274.00000	585.000000	975.230000	3280.00000	751.000000	507.000000	4710.00000	5345.00000	213.000000	2410.00000
300	5805.99000	2947.02000	3865.22000	9571.01000	2393.00000	2144.00000	20670.0100	24556.0300	1021.00000	18930.0100

	JAPAN	NETHER	NEW ZEAL	NORWAY	SWEDEN	SWITZER	U. K.	U. S.	SUM
1	6438.00000	295.000000	142.000000	168.000000	254.000000	243.000000	660.000000	3297.00000	20628.9000
310	1530.36000	179.720000	73.0400000	52.3000000	88.7200000	78.0600000	776.620000	1743.00000	6986.20000
321	1183.39000	48.5500000	18.6700000	14.1000000	28.4700000	64.1000000	521.330000	1174.57000	4855.68000
322	583.160000	31.3000000	20.2500000	11.3300000	26.9400000	29.6800000	338.560000	1163.61000	3514.35000
323	54.8900000	2.90000000	3.19000000	1.50000000	3.19000000	3.35000000	41.9500000	89.9300000	377.040000
324	39.7100000	5.65000000	5.92000000	2.00000000	4.10023000	11.5000000	84.0900000	174.890000	696.640000
331	634.670000	36.4100000	17.6800000	24.4900000	71.2200000	23.7900000	127.330000	531.360000	2204.59000
332	218.910000	19.5200000	6.26000000	10.2200000	19.8100000	12.8800000	120.200000	482.000000	1327.45000
341	389.850000	29.2600000	10.4700000	26.7600000	68.5100000	22.3800000	226.750000	665.130000	2205.37000
342	602.330000	77.7200000	18.9700000	41.4400000	49.8800000	54.2800000	334.770000	1070.88000	3178.73000
35A	594.220000	75.5900000	14.1600000	20.6200000	46.1900000	90.0000000	448.350000	1085.58000	4275.29000
35B	54.5900000	9.98000000	8.90000000	2.79000000	3.15000000	1.20000000	37.2900000	176.280000	558.570000
355	154.470000	18.3800000	5.73000000	3.54000000	16.2100000	6.16000000	118.900000	261.370000	1008.17000
36A	531.830000	31.6700000	8.33000000	12.3100000	33.0500000	20.3000000	228.810000	438.760000	2335.96000
362	86.1000000	10.8700000	2.35000000	2.51000000	6.82000000	4.20000000	65.7500009	177.400000	702.680000
371	651.070000	51.7800000	3.12000000	16.5800000	74.4500000	16.9100000	392.550000	788.520000	3616.64000
372	185.230000	15.3500000	3.26000000	12.1600000	15.9900000	17.2000000	108.460000	305.530000	1078.48000
381	1021.79000	67.7600000	25.0400000	29.2900000	104.200000	72.8400000	575.820000	1530.07000	5462.17000
382	1358.65000	99.5000000	11.7200000	32.3800000	158.930000	131.010000	863.240000	2271.37000	7764.04000
383	1480.87000	90.3000000	17.4400000	25.6400000	96.6900000	118.900000	722.970000	1834.49000	7233.72000
384	1218.83000	80.5800000	19.5900000	57.2500000	149.030000	13.2200000	899.540000	1791.34000	6994.26000
38A	875.940000	59.0800000	11.5200000	15.7100000	34.3000000	115.890000	392.940000	1287.08000	4142.20000
2	180.000000	4.00000000	5.00000000	11.0000000	21.0000000	59.5100000	344.000000	783.000000	2583.32000
4	330.000000	45.0000000	16.0000000	19.0000000	33.0000000	68.6200000	344.000000	736.000000	2565.94000
5	4920.63000	437.000000	93.0000000	148.000000	294.000000	196.000000	1657.00000	3594.00000	19820.9000
6	11510.0000	815.000000	193.000000	296.000000	592.000000	341.700000	4096.00000	20773.0000	53360.3800
7	3410.00000	310.000000	112.000000	161.000000	275.000000	251.320000	1563.00000	3616.00000	15582.3200
8	1730.00000	304.000000	78.0000000	82.0000000	241.000000	276.230000	1485.00000	7710.00000	17423.1190
9	10760.0000	1203.00000	270.000000	489.000000	1276.00000	487.760000	6897.00000	28020.0000	69545.3900
300	52720.0600	4541.99000	1207.01000	1789.00000	4086.01000	2815.99000	24377.0200	87485.0400	271125.410

TABLE C.5

POST-KENNEDY ROUND BASE RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY "WORLD" IMPORTS, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	17.9	18.4	9.9	15.8	9.9	19.9	9.9	9.9	9.9	9.9	7.2	9.9	13.7	11.0	8.6	8.3	9.9	14.8	11.9
322	61.0	37.2	16.7	25.3	16.7	37.7	16.7	16.7	16.7	16.7	13.7	16.7	69.2	22.6	14.4	15.4	16.7	26.9	25.4
323	17.2	6.0	4.0	8.9	4.0	9.9	4.0	4.0	4.0	4.0	8.7	4.0	18.2	4.3	3.4	1.7	4.0	4.1	6.4
324	33.8	25.2	12.1	24.2	12.1	17.3	12.1	12.1	12.1	12.1	15.5	12.1	42.9	24.5	13.7	12.6	12.1	8.8	17.5
331	13.9	4.9	3.2	3.2	3.2	1.4	3.2	3.2	3.2	3.2	3.6	3.2	10.4	1.6	0.7	3.8	3.2	2.5	4.0
332	41.1	22.6	8.5	19.3	8.5	8.7*	8.5	8.5	8.5	8.5	7.9	8.5	45.3	7.6	5.2	13.7	8.5	7.4	13.7
341	8.4	12.0	7.5	8.8	7.5	4.6	7.5	7.5	7.5	7.5	5.6	7.5	12.7	2.0	1.9	7.0	7.5	1.7	6.9
342	7.7	3.4	2.4	7.2	2.4	0.9	2.4	2.4	2.4	2.4	0.4	2.4	5.6	2.0	0.2	1.2	2.4	0.9	2.7
35A	6.5	7.3	11.3	7.6	11.3	2.8	11.3	11.3	11.3	11.3	7.1	11.3	13.5	8.5	6.3	1.2	11.3	7.5	8.8
355	12.6	15.0	5.6	11.8	5.6	13.8	5.6	5.6	5.6	5.6	5.6	5.6	8.9	5.8	5.4	1.6	5.6	4.5	7.2
36A	11.4	8.8	5.4	8.3	5.4	7.4	5.4	5.4	5.4	5.4	3.3	5.4	20.7	3.0	3.2	3.3	5.4	7.1	6.6
362	14.9	18.2	9.8	13.1	9.8	21.2	9.8	9.8	9.8	9.8	8.3	9.8	19.7	9.1	8.8	4.4	9.8	11.8	11.5
371	9.5	7.1	6.8	7.0	6.8	5.1	6.8	6.8	6.8	6.8	6.2	6.8	6.8	2.4	5.1	1.8	6.8	5.6	6.2
372	3.6	3.4	2.5	1.6	2.5	0.6	2.5	2.5	2.5	2.5	3.8	2.5	2.5	0.7	0.5	2.5	2.5	1.6	2.3
381	25.8	17.7	7.8	13.7	7.8	9.4	7.8	7.8	7.8	7.8	6.7	7.8	32.2	7.1	5.6	4.1	7.8	8.3	10.7
382	13.6	10.7	6.4	7.8	6.4	8.6	6.4	6.4	6.4	6.4	7.3	6.4	28.3	8.3	4.9	1.7	6.4	5.4	8.2
383	19.9	18.4	9.9	13.6	9.9	11.0*	9.9	9.9	9.9	9.9	6.8	9.9	22.7	9.1	7.2	1.9	9.9	6.9	10.9
384	19.7	19.1	9.4	5.7	9.4	6.0*	9.4	9.4	9.4	9.4	5.8	9.4	31.8	6.9	7.5	6.3	9.4	3.6	10.4
38A	9.0	10.6	7.9	7.2	7.9	8.5	7.9	7.9	7.9	7.9	7.1	7.9	17.9	6.6	4.6	2.1	7.9	8.2	8.1
ALL	15.3	13.3	8.2	8.9	8.2	8.5	8.2	8.2	8.2	8.2	6.7	8.2	21.9	7.3	5.7	3.8	8.2	6.7	9.1

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.6

MTN OFFER RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY "WORLD" IMPORTS, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	17.7	15.4	7.2	13.5	7.2	18.5	7.2	7.2	7.2	7.2	7.0	7.2	12.6	9.3	7.9	6.7	7.2	9.6	9.8
322	61.0	37.1	13.3	24.2	13.3	35.8	13.3	13.3	13.3	13.3	13.7	13.3	69.1	21.3	14.2	12.3	13.3	21.7	23.2
323	13.1	5.1	2.2	6.7	2.2	7.2	2.2	2.2	2.2	2.2	8.7	2.2	18.2	3.8	2.8	1.3	2.2	2.8	4.8
324	33.8	24.8	12.1	21.6	12.1	17.2	12.1	12.1	12.1	12.1	15.3	12.1	38.9	21.7	13.6	9.3	12.1	8.7	16.8
331	12.8	3.9	2.5	1.8	2.5	1.1	2.5	2.5	2.5	2.5	3.3	2.5	10.2	1.1	0.5	2.6	2.5	1.3	3.3
332	31.4	21.8	5.6	14.2	5.6	5.5*	5.6	5.6	5.6	5.6	5.2	5.6	44.9	5.1	3.9	9.2	5.6	3.8	10.5
341	8.4	10.1	5.5	5.0	5.5	2.6	5.5	5.5	5.5	5.5	4.2	5.5	12.1	1.5	1.6	4.4	5.5	0.7	5.3
342	7.7	2.1	1.6	1.6	1.6	0.5	1.6	1.6	1.6	1.6	0.2	1.6	5.6	1.9	0.2	0.9	1.6	0.5	1.9
35A	5.9	4.4	7.8	7.2	7.8	1.6	7.8	7.8	7.8	7.8	5.6	7.8	9.4	5.9	4.7	0.9	7.8	4.9	6.3
355	10.4	10.5	3.8	6.4	3.8	13.6	3.8	3.8	3.8	3.8	3.9	3.8	8.9	5.1	5.1	1.4	3.8	2.7	5.5
36A	11.2	5.6	3.9	5.6	3.9	6.3	3.9	3.9	3.9	3.9	2.5	3.9	17.2	2.7	2.6	2.3	3.9	4.4	5.1
362	14.9	13.1	7.6	8.8	7.6	16.4	7.6	7.6	7.6	7.6	5.5	7.6	16.9	7.4	6.7	3.1	7.6	7.9	9.0
371	9.5	6.6	5.3	5.6	5.3	4.1	5.3	5.3	5.3	5.3	4.9	5.3	6.6	1.8	4.0	1.5	5.3	4.2	5.1
372	3.3	2.6	2.1	1.6	2.1	0.4	2.1	2.1	2.1	2.1	3.4	2.1	1.7	0.6	0.4	1.4	2.1	1.0	1.8
381	25.4	10.0	5.4	8.4	5.4	7.7	5.4	5.4	5.4	5.4	4.9	5.4	29.1	4.8	4.1	3.0	5.4	4.9	8.1
382	13.3	6.3	4.4	5.2	4.4	5.6	4.4	4.4	4.4	4.4	4.5	4.4	23.2	5.1	3.5	1.5	4.4	3.4	5.9
383	19.9	15.0	7.9	6.1	7.9	6.0*	7.9	7.9	7.9	7.9	4.4	7.9	21.3	7.2	4.5	1.5	7.9	4.4	8.5
384	18.9	16.2	7.4	4.2	7.4	3.8*	7.4	7.4	7.4	7.4	2.6	7.4	31.7	4.4	4.6	5.6	7.4	2.2	8.5
38A	8.9	7.1	4.9	4.3	4.9	5.8	4.9	4.9	4.9	4.9	5.2	4.9	16.9	5.4	3.4	1.5	4.9	4.2	5.7
ALL	14.8	10.3	6.0	6.4	6.0	6.4	6.0	6.0	6.0	6.0	4.8	6.0	20.1	5.4	4.3	3.0	6.0	4.3	7.1

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

Table C.7

Indexes of Nontariff Restrictions by ISIC Sector
in the Major Industrialized Countries

	AUSTRAL	AUSTRIA	BLG-LUX	CANADA	DENMARK	FINLAND	FRANCE	GERMANY	IRELAND	ITALY
1	0.08600003	0.32999998	0.05400002	0.0	0.02200001	0.03200001	0.32900000	0.11000001	0.03700000	0.04200000
310	0.15899998	0.44599998	0.01499999	0.16000003	0.07300001	0.15899998	0.30100000	0.20599997	0.05800003	0.14499998
321	0.29979998	0.16329998	0.15309995	0.17329997	0.20259994	0.16729999	0.23490000	0.30039996	0.13499999	0.33419997
322	0.58219999	0.19329995	0.12049497	0.54439998	0.38669997	0.34619996	0.33269995	0.49849999	0.06180000	0.38169998
323	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
324	0.0	0.0	0.92600000	0.41079998	0.0	0.87699997	0.24869996	0.0	0.0	0.69599998
331	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
332	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
341	0.0	0.0	0.0	0.0	0.0	0.0	0.06000000	0.0	0.0	0.0
342	0.0	0.0	0.0	0.0	0.0	0.0	0.25999999	0.0	0.0	0.0
35A	0.06699997	0.11699998	0.00099999	0.0	0.0	0.00999999	0.04500002	0.0	0.0	0.13200003
35B	0.33899999	0.03399998	0.11600000	0.00700003	0.0	0.0	0.92900002	0.57599998	0.0	0.0
355	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.35200000	0.33200002
36A	0.10299999	0.00099999	0.14899999	0.0	0.0	0.06400001	0.26400000	0.01999998	0.0	0.13700002
362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
371	0.0	0.0	0.09999996	0.0	0.09999996	0.0	0.09999996	0.09999996	0.09999996	0.09999996
372	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
381	0.03700000	0.0	0.09500003	0.0	0.04100001	0.03299999	0.03200001	0.0	0.0	0.06599998
382	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.16200000
383	0.05199999	0.0	0.0	0.09700000	0.0	0.23500001	0.0	0.00700003	0.00599998	0.33099997
384	0.20999998	0.01999998	0.0	0.34200001	0.0	0.0	0.07800001	0.0	0.40899998	0.73799998
38A	0.04100001	0.0	0.00800002	0.0	0.0	0.0	0.21799999	0.0	0.0	0.10299999

	JAPAN	NETHER	NEW ZEAL	NORWAY	SWEDEN	SWITZER	U. K.	U. S.
1	0.60799998	0.05400002	0.08600003	0.38499999	0.03200001	0.69000000	0.08600003	0.01400000
310	0.46700001	0.01439999	0.15899998	0.61500001	0.15899998	0.71499997	0.04400003	0.45400000
321	0.53999996	0.12089998	0.38229996	0.09489995	0.19559997	0.24849999	0.36909997	0.41319996
322	0.65969998	0.27729994	0.29039997	0.25430000	0.19189994	0.22880000	0.60879999	0.66059995
323	0.14200002	0.0	0.0	0.0	0.0	0.0	0.0	0.0
324	0.47399998	0.92600000	0.0	0.91900003	0.87699997	0.0	0.0	0.51159996
331	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
332	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
341	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
342	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.60600001
35A	0.06199998	0.00099999	0.06699997	0.17799997	0.00999999	0.16900003	0.06699997	0.0
35B	0.88300002	0.11600000	0.33899999	0.0	0.0	0.0	0.01300001	0.56199998
355	0.0	0.0	0.0	0.48000002	0.0	0.0	0.0	0.0
36A	0.15100002	0.14099999	0.10299999	0.06900001	0.06400001	0.0	0.0	0.0
362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
371	0.0	0.09999996	0.0	0.0	0.0	0.0	0.09999996	0.09999996
372	0.35699999	0.0	0.0	0.0	0.0	0.0	0.0	0.0
381	0.0	0.09500003	0.03700000	0.03299999	0.0	0.00800002	0.0	0.0
382	0.28200001	0.0	0.0	0.0	0.0	0.0	0.0	0.0
383	0.35200060	0.0	0.05199999	0.00800002	0.0	0.0	0.09759998	0.08319998
384	0.0	0.0	0.20999998	0.0	0.0	0.0	0.0	0.01800001
38A	0.07300001	0.00800002	0.04100001	0.0	0.0	0.00900000	0.0	0.00500000

TABLE C.8

TARIFF REDUCTIONS AS PROPORTIONS OF 1+T

	1	310	321	322	323	324	331	332	341	342	35A
ALA	-0.023	-0.017	-0.002	0.0	-0.043	0.0	-0.010	-0.063	0.0	0.0	-0.004
ATA	-0.013	-0.001	-0.024	-0.001	-0.013	-0.006	-0.010	-0.007	-0.031	-0.009	-0.031
CND	-0.012	-0.007	-0.019	-0.010	-0.018	-0.021	-0.025	-0.043	-0.046	-0.044	-0.004
EC											
BLX	-0.019	-0.022	-0.021	-0.028	-0.015	0.0	-0.008	-0.027	-0.022	-0.009	-0.032
DEN	-0.021	-0.023	-0.030	-0.027	-0.017	0.0	-0.010	-0.027	-0.026	-0.015	-0.030
FR	-0.018	-0.021	-0.023	-0.030	-0.016	-0.002	-0.009	-0.027	-0.020	-0.012	-0.030
GFR	-0.026	-0.019	-0.026	-0.029	-0.018	0.0	-0.010	-0.027	-0.018	-0.012	-0.032
IRE	-0.019	-0.025	-0.026	-0.027	-0.034	0.0	-0.007	-0.026	-0.026	-0.009	-0.028
IT	-0.022	-0.018	-0.018	-0.029	-0.010	-0.004	-0.002	-0.027	-0.011	-0.009	-0.033
NL	-0.018	-0.021	-0.030	-0.028	-0.021	0.0	-0.008	-0.027	-0.020	-0.013	-0.034
UK	-0.017	-0.025	-0.023	-0.031	-0.016	0.0	-0.009	-0.027	-0.016	-0.012	-0.031
FIN	-0.011	-0.006	-0.013	-0.012	-0.029	-0.001	-0.001	-0.029	-0.032	-0.007	-0.013
JPN	0.0	0.0	0.0	0.0	0.0	-0.006	0.0	-0.025	0.0	-0.001	-0.013
NZ	-0.009	-0.002	-0.017	-0.001	0.0	-0.024	-0.003	-0.014	-0.003	0.0	-0.017
NOR	-0.002	-0.005	-0.025	-0.009	-0.008	-0.023	-0.004	-0.023	-0.010	0.0	-0.018
SWD	-0.003	0.0	-0.005	-0.002	-0.008	-0.001	-0.002	-0.013	-0.006	0.0	-0.014
SWZ	0.0	-0.001	-0.015	-0.027	-0.007	-0.030	-0.017	-0.035	-0.022	-0.002	-0.002
US	-0.004	-0.015	-0.045	-0.040	-0.013	0.0	-0.018	-0.037	-0.003	-0.004	-0.013

TABLE C.8 (CONT.)

	35B	355	36A	362	371	372	381	382	383	384	38A
ALA	0.0	-0.023	-0.001	0.0	0.0	-0.010	-0.003	-0.003	0.0	-0.007	-0.002
ATA	-0.008	-0.041	-0.028	-0.039	-0.004	-0.011	-0.075	-0.040	-0.034	-0.019	-0.044
CND	0.0	-0.049	-0.028	-0.037	-0.012	0.0	-0.049	-0.015	-0.063	-0.008	-0.031
EC											
BLX	0.0	-0.019	-0.014	-0.017	-0.014	-0.003	-0.021	-0.020	-0.020	-0.029	-0.021
DEN	0.0	-0.022	-0.016	-0.020	-0.016	-0.014	-0.022	-0.019	-0.020	-0.012	-0.035
FR	0.0	-0.016	-0.021	-0.022	-0.016	-0.005	-0.022	-0.019	-0.019	-0.022	-0.035
GFR	0.0	-0.018	-0.017	-0.021	-0.015	-0.004	-0.023	-0.020	-0.017	-0.020	-0.032
IRE	0.0	-0.018	-0.014	-0.020	-0.015	-0.014	-0.021	-0.017	-0.021	-0.016	-0.042
IT	0.0	-0.012	-0.005	-0.018	-0.011	-0.004	-0.023	-0.019	-0.017	-0.017	-0.033
NL	0.0	-0.019	-0.011	-0.016	-0.014	-0.007	-0.022	-0.020	-0.020	-0.017	-0.032
UK	0.0	-0.012	-0.008	-0.023	-0.015	-0.003	-0.022	-0.021	-0.017	-0.019	-0.018
FIN	0.0	-0.004	-0.009	-0.025	-0.014	-0.004	-0.017	-0.024	-0.045	-0.021	-0.047
JPN	-0.006	-0.004	-0.001	-0.022	-0.005	0.0	-0.016	-0.043	-0.029	-0.042	-0.013
NZ	0.0	0.0	-0.010	-0.016	-0.008	-0.048	-0.025	-0.047	-0.012	-0.006	-0.019
NOR	0.0	-0.007	-0.004	-0.023	-0.005	-0.002	-0.018	-0.033	-0.016	-0.013	-0.014
SWD	0.0	-0.004	-0.003	-0.020	-0.010	-0.002	-0.012	-0.013	-0.023	-0.029	-0.014
SWZ	0.0	-0.003	-0.010	-0.013	-0.004	-0.018	-0.010	-0.003	-0.004	-0.006	-0.004
US	0.0	-0.011	-0.035	-0.041	-0.011	-0.005	-0.025	-0.016	-0.021	-0.008	-0.033

TABLE C.9

POST-KENNEDY ROUND BASE RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS FROM OTHER INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GER	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	24.5	19.6	10.1	19.5	12.1	25.1	11.1	11.6	11.0	8.5	2.3	12.1	15.6	15.6	11.3	9.9	10.1	18.7	12.1
322	61.5	36.0	16.7	25.2	16.2	37.2	16.7	16.9	16.4	16.6	14.4	16.8	52.7	22.9	14.4	15.3	16.6	26.2	19.0
323	24.4	8.5	3.7	6.3	2.8	12.8	2.8	4.5	5.2	1.0	1.5	4.5	16.4	6.7	3.7	2.6	2.5	3.6	3.6
324	33.9	24.1	11.4	24.7	11.3	17.7	11.5	11.8	11.9	11.2	16.8	11.3	44.7	25.0	13.7	12.5	12.7	8.9	13.0
331	8.5	7.9	3.6	4.8	4.5	1.8	4.3	4.8	3.3	1.2	0.2	3.9	11.1	1.9	0.9	5.4	4.2	1.3	2.6
332	39.0	22.9	8.5	19.4	8.4	8.7*	8.5	8.5	8.5	8.5	7.8	8.5	38.2	7.6	5.5	13.1	8.5	9.8*	10.3
341	6.8	16.8	9.3	11.9	10.8	8.0	7.9	7.2	10.9	3.7	2.0	8.5	20.9	3.3	3.1	6.6	6.8	0.3	5.8
342	1.9	2.4	2.4	5.6	4.8	1.8	3.5	3.4	2.4	2.7	0.1	3.6	1.2	4.4	0.2	0.9	3.6	1.1	3.0
35A	6.5	8.4	12.0	7.9	12.2	3.4	11.7	12.1	11.2	12.1	6.4	12.3	10.8	9.5	6.5	1.2	12.0	4.1	9.9
355	17.0	16.5	6.3	13.4	6.9	14.6	6.4	6.5	6.4	5.2	5.1	6.6	12.0	7.6	6.8	2.0	5.3	5.4	7.3
36A	11.3	10.5	5.5	9.6	6.8	3.5	7.6	5.9	6.3	3.8	0.9	4.4	13.5	2.9	3.1	3.5	3.5	10.1	6.3
362	14.7	17.2	9.9	11.2	9.6	27.1	9.7	10.0	9.6	9.7	7.6	9.3	13.7	10.3	9.2	4.5	10.3	10.6	10.4
371	10.9	6.8	6.2	6.9	7.2	5.6	6.7	6.4	7.5	4.7	2.4	7.1	6.0	2.2	5.0	2.1	6.4	5.0	5.9
372	5.5	6.7	3.2	2.2	8.4	1.7	4.8	3.5	8.2	3.3	1.3	5.2	9.3	1.4	1.1	3.8	2.6	1.5	2.9
381	23.8	19.4	7.7	14.0	7.9	9.7	7.8	7.9	7.6	7.9	6.9	7.8	23.3	6.3	5.3	3.8	8.0	7.3	8.9
382	14.2	10.8	6.4	6.1	6.4	8.7	6.4	6.5	6.1	6.5	9.1	6.4	28.3	8.8	4.9	1.5	6.4	5.0	6.7
383	21.4	18.5	9.6	12.8	9.3	11.0*	9.7	10.1	9.4	9.9	7.4	9.3	21.0	8.6	7.0	2.0	9.8	6.7	9.8
384	22.2	24.9	11.1	2.4	8.4	6.0*	10.2	10.1	12.0	10.8	6.8	11.0	28.9	3.7	8.6	6.7	9.4	3.2	7.7
38A	10.6	13.8	5.8	8.6	10.0	18.6	9.9	9.6	11.2	9.4	6.7	9.2	19.7	8.7	6.0	1.6	6.0	7.5	8.0
ALL	15.9	15.9	8.7	6.8	8.9	9.8	8.8	9.0	9.5	8.0	4.5	9.3	19.2	6.9	6.4	3.9	7.7	5.4	7.9

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.10

POST-KENNEDY ROUND BASE RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS FROM NON-INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	15.8	14.5	6.0	15.6	11.9	18.9	5.4	7.1	8.2	5.3	3.9	9.2	12.0	14.4	9.2	3.1	7.5	8.5	7.2
322	62.5	37.5	17.0	25.2	16.8	37.3	16.8	16.8	16.7	16.5	13.5	16.8	65.6	22.6	14.4	15.8	17.1	27.4	21.5
323	27.6	11.0	6.8	17.0	7.3	11.7	4.0	5.7	6.9	2.7	7.9	7.1	10.9	6.4	6.1	3.2	3.0	6.5	5.6
324	33.8	23.9	11.3	24.2	12.0	17.0	11.2	11.3	11.8	10.1	16.1	10.9	42.4	23.6	13.9	11.8	12.1	9.0	11.8
331	13.9	1.5	2.0	10.0	4.0	0.1	2.4	2.4	2.7	0.9	0.3	2.7	10.9	3.4	0.7	3.2	3.5	9.7	2.4
332	41.7	23.3	8.5	19.4	8.4	8.7*	8.5	8.5	8.5	8.5	7.9	8.5	46.4	7.8	5.2	14.0	8.5	9.8*	10.0
341	23.9	8.5	7.6	7.1	9.9	7.8	3.4	5.7	7.4	3.7	2.6	6.7	21.0	2.9	2.7	6.9	2.0	5.0	4.6
342	0.6	1.3	3.3	11.5	0.9	0.7	1.4	1.5	3.5	2.8	0.3	2.3	0.8	2.0	0.0	0.7	1.1	0.9	1.3
35A	2.9	4.1	5.2	7.3	7.7	0.4	3.9	7.2	4.9	7.5	4.6	7.2	1.7	0.5	2.5	0.8	6.5	2.3	4.9
355	4.0	3.0	5.6	5.0	3.8	6.2	1.5	2.2	1.7	1.3	0.5	3.0	1.6	4.1	3.8	1.3	1.3	1.0	1.6
36A	8.8	2.5	2.2	7.4	4.6	5.8	3.4	3.1	2.4	1.4	0.3	4.4	17.5	2.2	2.6	3.0	1.6	5.8	3.2
362	14.1	21.1	10.2	13.5	11.2	12.6	11.0	11.1	7.6	9.1	7.2	10.1	37.2	15.3	10.0	4.3	10.8	11.3	11.2
371	9.3	2.6	5.9	4.7	7.2	6.2	6.5	6.1	7.3	4.8	4.7	6.2	1.0	1.0	2.8	2.0	6.0	3.2	5.0
372	1.4	1.5	0.1	0.4	2.6	0.3	0.7	0.5	2.5	0.9	0.8	0.9	4.1	0.2	0.2	7.3	0.7	0.9	0.7
381	24.9	18.8	9.0	16.2	8.4	7.9	8.1	8.6	8.5	8.2	7.0	8.1	47.2	5.8	5.2	4.6	8.7	7.8	10.1
382	12.4	11.4	6.2	6.2	6.6	8.1	6.8	7.3	6.4	6.9	9.2	6.5	18.7	9.0	4.5	2.4	6.4	5.0	6.7
383	24.2	21.4	9.3	13.4	9.5	11.0*	10.6	10.8	10.6	10.1	7.5	9.6	22.0	8.9	7.2	2.0	11.6	6.5	8.2
384	12.0	16.1	10.0	6.3	9.6	6.0*	10.7	7.2	14.0	8.0	0.9	7.5	7.5	0.6	3.5	7.1	7.7	5.0	7.2
38A	5.7	11.5	1.6	5.5	9.8	13.5	6.7	7.4	11.8	8.9	4.5	4.6	3.2	12.1	6.5	0.8	2.2	7.4	6.0
ALL	16.6	10.6	3.3	12.3	9.8	8.0	5.7	7.4	7.6	4.5	3.1	7.4	12.1	6.5	6.5	4.0	5.2	8.4	6.7

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.11

MTN OFFER RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS FROM OTHER INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	24.2	16.5	7.7	17.1	8.7	23.3	6.3	8.4	8.1	6.4	2.3	8.7	13.0	12.0	10.6	7.9	7.0	12.1	9.5
322	61.5	35.9	13.4	23.9	13.0	35.6	13.2	13.4	13.2	13.1	14.4	13.5	52.5	21.7	14.2	12.3	13.1	20.5	16.0
323	18.9	7.0	2.1	4.4	1.2	9.5	1.0	2.3	1.9	0.5	1.5	2.1	16.4	5.9	3.0	2.0	1.0	2.5	2.2
324	31.9	23.4	11.3	22.2	11.3	17.6	11.4	11.7	11.9	10.9	16.4	11.3	41.5	22.9	13.7	9.0	12.6	8.9	12.6
331	7.8	6.2	2.8	2.6	3.5	1.4	3.3	3.7	2.5	0.9	0.2	3.1	10.8	1.5	0.8	3.4	3.3	0.6	1.9
332	30.5	22.1	5.6	14.3	5.5	5.5*	5.6	5.6	5.7	5.6	5.1	5.7	35.5	5.1	4.0	9.2	5.6	4.8*	7.4
341	6.8	12.8	6.9	6.7	7.9	4.5	5.8	5.3	8.1	2.6	2.0	6.3	20.5	2.2	2.4	4.3	5.1	0.1	4.3
342	1.9	1.5	1.5	1.0	3.1	1.1	2.3	2.2	1.5	1.7	0.1	2.3	1.2	4.3	0.2	0.7	2.3	0.7	1.6
35A	6.1	4.9	8.2	7.5	8.6	1.9	6.2	8.3	8.0	8.3	5.0	8.4	8.8	7.4	5.0	0.9	8.2	2.5	7.0
355	13.7	11.2	4.2	7.5	4.6	14.2	4.3	4.4	4.3	3.6	3.6	4.4	12.0	6.9	6.4	1.7	3.6	3.7	5.1
36A	11.7	6.9	3.9	6.5	5.1	2.6	5.1	4.0	4.7	3.2	0.7	3.3	12.3	2.3	2.7	2.5	2.6	6.0	4.4
362	14.7	12.5	8.0	7.2	7.3	23.9	7.3	7.8	7.4	7.6	5.0	7.5	11.9	7.7	7.0	3.1	7.8	6.1	7.8
371	10.9	6.4	4.6	5.5	5.5	4.2	5.0	4.7	5.9	3.5	2.0	5.6	5.2	1.7	4.0	1.7	4.8	3.8	4.5
372	4.4	4.7	2.7	2.2	6.9	1.2	3.9	2.9	6.6	2.8	1.2	4.3	4.1	1.2	0.9	2.2	2.2	0.9	2.3
381	23.5	10.4	5.4	8.5	5.5	7.8	5.4	5.5	5.3	5.5	5.1	5.4	19.2	4.4	4.0	2.8	5.5	4.8	6.2
382	14.0	6.4	4.3	4.5	4.4	6.1	4.4	4.5	4.3	4.5	4.4	4.3	22.3	5.2	3.5	1.2	4.2	3.3	4.7
383	21.4	14.5	7.4	5.9	7.1	6.0*	7.7	8.2	7.2	7.9	4.2	7.0	19.5	6.9	4.5	1.6	7.9	4.3	7.3
384	21.3	22.5	7.9	1.6	7.1	3.8*	7.9	7.8	10.1	8.9	1.6	9.1	28.1	2.4	5.3	6.1	7.3	2.5	6.0
38A	10.4	8.7	3.4	5.1	6.1	12.8	6.0	5.8	6.5	5.9	5.0	5.5	17.4	7.3	4.6	1.2	3.7	4.0	4.8
ALL	15.5	12.4	6.2	4.7	6.5	7.3	6.3	6.4	7.0	5.8	3.0	6.8	16.9	5.1	4.9	3.1	5.5	3.4	5.8

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.12

MTN OFFER RATE TARIFFS ON INDUSTRIAL PRODUCTS BY ISIC SECTOR
IN THE MAJOR INDUSTRIALIZED COUNTRIES
(PER CENT; WEIGHTED BY OWN-COUNTRY IMPORTS FROM NON-INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	15.5	12.7	4.5	14.4	8.4	18.1	3.9	5.0	5.9	3.9	3.9	6.6	11.2	12.5	9.1	2.6	5.2	5.2	5.7
322	62.5	37.4	13.5	24.1	13.4	35.4	13.3	13.5	13.1	13.3	13.5	13.4	65.2	21.9	14.2	12.6	13.5	22.7	18.3
323	22.5	10.1	5.0	14.8	4.8	8.6	2.5	3.9	1.6	1.0	7.9	5.0	10.9	5.5	5.3	2.4	1.3	4.9	3.9
324	33.8	22.9	11.3	21.6	12.0	17.0	11.0	11.2	11.8	9.2	15.1	10.8	38.3	18.7	13.8	8.5	12.1	8.9	11.4
331	13.0	1.0	1.5	5.6	3.0	0.1	1.6	1.6	2.1	0.6	0.3	2.0	10.6	2.2	0.6	2.2	2.6	4.6	1.6
332	32.2	22.5	5.6	14.3	5.6	5.5*	5.6	5.6	5.6	5.6	5.2	5.6	46.4	5.2	3.9	9.6	5.6	4.8*	7.0
341	23.7	7.7	5.6	4.2	7.5	4.4	2.5	4.3	5.5	2.6	2.6	5.0	20.6	2.2	2.1	3.9	1.5	2.6	3.4
342	0.6	0.8	1.9	2.8	0.5	0.4	0.9	1.0	2.1	1.7	0.2	1.4	0.8	1.7	0.0	0.5	0.7	0.5	0.7
35A	2.8	2.8	3.8	5.9	5.8	0.3	2.9	5.4	3.7	5.7	3.9	5.1	1.1	0.3	1.6	0.6	4.4	1.3	3.6
355	3.3	2.1	3.6	1.9	2.5	6.1	1.0	1.4	1.1	0.9	0.3	2.0	1.6	3.4	3.7	1.1	0.8	0.7	1.1
36A	8.8	1.7	1.6	5.1	3.3	5.3	2.3	1.9	2.0	1.1	0.2	2.9	17.3	2.2	2.5	2.1	1.3	3.3	2.1
362	14.1	17.6	8.5	7.3	9.1	9.3	9.1	9.0	6.3	7.7	5.5	8.0	34.9	13.8	7.7	3.1	8.8	6.8	8.6
371	9.3	2.4	4.3	4.2	5.7	4.1	4.9	4.5	5.9	3.6	4.0	4.6	1.0	0.8	2.2	1.6	4.3	2.5	3.8
372	1.3	1.3	0.1	0.4	2.1	0.2	0.6	0.4	1.9	0.8	0.8	0.8	1.8	0.2	0.2	3.6	0.6	0.6	0.6
381	24.5	11.9	6.3	9.8	5.7	6.0	5.4	5.9	6.1	5.5	5.4	5.7	46.3	4.5	4.0	3.2	6.5	4.8	7.5
382	11.9	7.1	4.0	3.2	4.6	5.6	4.8	4.9	4.4	4.7	4.8	4.5	11.6	5.5	3.3	1.7	3.6	3.3	4.4
383	24.2	18.3	7.2	4.1	7.6	6.0*	8.2	8.8	8.6	8.3	4.4	7.3	21.0	7.4	4.6	1.6	9.7	4.5	5.9
384	10.2	11.9	7.4	3.5	8.4	3.8*	8.8	5.2	11.6	6.1	0.6	6.2	7.5	0.5	2.3	5.4	5.0	2.2	5.4
38A	5.7	8.5	0.9	3.7	5.9	9.8	4.2	4.5	6.9	5.3	3.7	2.9	3.1	9.4	4.5	0.6	1.3	4.0	3.7
ALL	16.3	9.0	2.4	10.1	7.2	6.4	4.2	5.5	5.5	3.2	2.7	5.5	11.4	5.6	5.6	3.1	3.8	5.8	5.0

*ESTIMATED FROM INCOMPLETE DATA.
+PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.13

PERCENTAGE TARIFF REDUCTIONS ON INDUSTRIAL PRODUCTS OFFERED BY THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN, AS OF APRIL 15, 1979
(WEIGHTED BY OWN-COUNTRY IMPORTS FROM OTHER INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	1.2	15.8	23.8	12.3	28.1	7.2	25.2	27.6	26.4	24.7	0.0	28.1	16.7	23.1	6.2	20.2	24.8	35.3	21.3
322	0.0	0.3	19.8	5.2	19.8	4.3	21.0	20.7	19.5	21.1	0.0	19.6	0.4	5.2	1.4	19.6	21.1	21.8	15.8
323	22.5	17.6	43.2	30.2	57.1	25.8	64.3	48.9	63.5	50.0	0.0	53.3	0.0	11.9	18.9	23.1	60.0	30.6	38.4
324	0.0	2.9	0.9	10.1	0.0	0.6	0.9	0.8	0.0	2.7	2.4	0.0	7.2	8.4	0.0	28.0	0.8	0.0	3.2
331	8.2	21.5	22.2	45.8	22.2	22.2	23.3	22.9	24.2	25.0	0.0	20.5	2.7	21.1	11.1	37.0	21.4	53.8	26.6
332	21.5	3.5	34.1	26.3	34.5	36.8*	34.1	34.1	32.9	34.1	34.6	32.9	7.1	32.9	27.3	29.8	34.1	51.0*	28.6
341	0.0	23.8	25.8	43.7	26.9	43.8	26.6	26.4	25.7	29.7	0.0	25.9	1.9	33.3	22.6	34.8	25.0	66.7	26.8
342	0.0	37.5	37.5	82.1	35.4	38.9	34.3	35.3	37.5	37.0	0.0	36.1	0.0	2.3	0.0	22.2	36.1	36.4	47.9
354	6.2	41.7	31.7	5.1	29.5	44.1	29.9	31.4	28.6	31.4	21.9	31.7	18.5	22.1	23.1	25.0	31.7	39.0	29.0
355	19.4	32.1	33.3	44.0	33.3	2.7	32.8	32.3	32.8	30.8	29.4	33.3	0.0	9.2	5.9	15.0	32.1	31.5	30.0
361	0.8	34.3	29.1	32.3	25.0	25.7	32.9	32.2	25.4	15.8	22.2	25.0	8.9	20.7	12.9	28.6	25.7	40.6	29.8
362	0.0	27.3	19.2	35.7	24.0	11.8	24.7	22.0	22.9	21.6	34.2	19.4	13.1	25.2	23.9	31.1	24.3	42.5	24.3
371	0.0	5.9	25.8	20.3	23.6	25.0	25.4	26.6	21.3	25.5	16.7	21.1	13.3	22.7	20.0	19.0	25.0	24.0	23.5
372	20.0	29.9	15.6	0.0	17.9	29.4	18.8	17.1	19.5	15.2	7.7	17.3	55.9	14.3	18.2	42.1	15.4	40.0	19.3
381	1.3	46.4	29.9	39.3	30.4	19.6	30.8	30.4	30.3	30.4	26.1	30.8	17.6	30.2	24.5	26.3	31.3	34.2	30.8
382	1.4	40.7	32.8	26.2	31.3	29.9	31.3	30.8	29.5	30.8	51.6	32.8	21.2	40.9	28.6	20.0	34.4	34.0	30.4
383	0.0	21.6	22.9	53.9	23.7	45.5*	20.6	18.8	23.4	20.2	43.2	24.7	7.1	19.8	35.7	20.0	19.4	35.8	25.8
384	4.1	9.6	28.8	33.3	15.5	36.7*	22.5	22.8	15.8	17.6	76.5	17.3	2.8	35.1	38.4	9.0	22.3	21.9	21.1
385	1.9	37.0	41.4	40.7	39.0	31.2	39.4	39.6	42.0	37.2	25.4	40.2	11.7	16.1	23.3	25.0	38.3	46.7	39.5
ALL	2.7	22.1	28.5	30.9	26.2	26.2	27.8	28.2	26.3	26.7	32.8	27.2	12.3	25.5	24.4	21.2	28.0	37.2	27.2

*ESTIMATED FROM INCOMPLETE DATA.
+USING PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

TABLE C.14

PERCENTAGE TARIFF REDUCTIONS ON INDUSTRIAL PRODUCTS OFFERED BY THE MAJOR INDUSTRIALIZED COUNTRIES IN THE MTN, AS OF APRIL 15, 1979
(WEIGHTED BY OWN-COUNTRY IMPORTS FROM NON-INDUSTRIALIZED COUNTRIES, EXCLUDING PETROLEUM)

	ALA+	ATA	BLX	CND+	DEN	FIN	FR	GFR	IRE	IT	JPN+	NL	NZ	NOR	SWD	SWZ	UK	US	ALL
321	1.9	12.4	25.0	7.7	29.4	4.2	27.8	29.6	28.0	26.4	0.0	28.3	6.7	13.2	1.1	16.1	30.7	38.8	20.7
322	0.0	0.3	20.6	4.4	20.2	5.1	20.8	19.6	21.6	19.4	0.0	20.2	0.6	3.1	1.4	20.3	21.1	17.2	14.9
323	18.5	8.2	26.5	12.9	34.2	26.5	37.5	31.6	76.8	63.0	0.0	29.6	0.0	14.1	13.1	25.0	56.7	24.6	28.9
324	0.0	4.2	0.0	10.7	0.0	0.0	1.8	0.9	0.0	8.9	6.2	0.9	9.7	20.8	0.7	28.0	0.0	1.1	3.2
331	6.5	33.3	25.0	44.0	25.0	0.0	33.3	33.3	22.2	33.3	0.0	25.9	2.8	35.3	14.3	31.3	25.7	52.6	33.5
332	22.8	3.4	34.1	26.3	33.3	36.8*	34.1	34.1	34.1	34.1	34.2	34.1	0.0	33.3	25.0	31.4	34.1	51.0*	29.7
341	0.8	9.4	26.3	40.8	24.2	43.6	26.5	24.6	25.7	29.7	0.0	25.4	1.9	24.1	22.2	43.5	25.0	48.0	27.6
342	0.0	38.5	42.4	75.7	44.4	42.9	35.7	33.3	40.0	39.3	33.3	39.1	0.0	15.0	0.0	28.6	36.4	44.4	43.2
35A	3.4	31.7	26.9	19.2	24.7	25.0	25.6	25.0	24.5	24.0	15.2	29.2	35.3	40.0	36.0	25.0	32.3	43.5	26.5
355	17.5	30.0	35.7	62.0	34.2	1.6	33.3	36.4	35.3	30.8	40.0	33.3	0.0	17.1	2.6	15.4	38.5	30.0	33.9
36A	0.0	32.0	27.3	31.1	28.3	8.6	32.4	38.7	16.7	21.4	33.3	34.1	1.1	0.0	3.8	30.0	18.8	43.1	33.4
362	0.0	16.6	16.7	45.9	18.8	26.2	17.3	18.9	17.1	15.4	23.6	20.8	6.2	9.8	23.0	27.9	18.5	39.8	22.7
371	0.0	7.7	27.1	10.6	20.8	33.9	24.6	26.2	19.2	25.0	14.9	25.8	0.0	20.0	21.4	20.0	28.3	21.9	23.8
372	7.1	13.3	0.0	0.0	19.2	33.3	14.3	20.0	24.0	11.1	0.0	11.1	56.1	0.0	0.0	50.7	14.3	33.3	16.2
381	1.6	36.7	30.0	39.5	32.1	24.1	33.3	31.4	28.2	32.9	22.9	29.6	1.9	22.4	23.1	30.4	25.3	38.5	26.0
382	4.0	37.7	35.5	48.4	30.3	30.9	29.4	32.9	31.3	31.9	47.8	30.8	38.0	38.9	26.7	29.2	43.8	34.0	34.8
383	0.0	14.5	22.6	69.4	20.0	45.5*	22.6	18.5	18.9	17.8	41.3	24.0	4.5	16.9	36.1	20.0	16.4	30.8	27.9
384	15.0	26.1	26.0	44.4	12.5	36.7*	17.8	27.8	17.1	23.7	33.3	17.3	0.0	16.7	34.3	23.9	35.1	56.0	24.8
38A	0.0	26.1	43.8	32.7	39.8	27.4	37.3	39.2	41.5	40.4	17.8	37.0	3.1	22.3	30.8	25.0	40.9	45.9	38.9
ALL	1.9	14.9	26.9	18.5	26.1	20.2	26.6	26.4	28.3	28.8	11.7	25.3	5.4	14.3	12.8	23.8	27.9	31.2	24.8

*ESTIMATED FROM INCOMPLETE DATA.
+USING PREVAILING RATES, WHICH INCLUDE UNILATERAL REDUCTIONS IN POST-KENNEDY ROUND TARIFF RATES.
SOURCE: BASED ON DATA SUPPLIED BY STR.

APPENDIX D

Fixed Exchange-Rate Results

The results reported in these tables refer to different runs of the model as noted, under conditions of fixed exchange rates.

The trade data in Tables D.1, D.2, D.7, and D.8 are in millions of dollars. The employment results are in thousands of man-years in Tables D.3, D.5, D.6, and D.9 and in percentage changes in Tables D.4 and D.10.

TABLE D.1

CHANGES IN EXPORTS UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUL	7.4	6.1	-5.9	0.1	11.7	0.2	0.8	0.1	-0.1	0.2	8.5	-10.4
AUS	0.5	4.7	29.3	18.6	2.0	10.5	11.9	3.5	20.7	1.8	18.3	8.3
CND	14.6	11.2	2.0	11.2	5.7	7.9	31.2	0.2	104.0	2.1	18.8	25.4
EC	58.9	451.2	592.1	505.4	94.7	47.3	27.4	131.1	122.5	50.7	1030.8	114.7
BLX	5.3	59.4	143.0	80.8	10.4	2.5	4.5	23.2	33.4	6.1	173.7	-11.3
DEN	4.8	40.0	14.9	23.2	10.0	2.7	2.1	10.5	5.0	1.6	20.8	5.3
FR	14.5	54.7	67.6	79.7	13.6	9.0	5.0	9.6	14.4	8.4	134.2	28.3
GER	6.0	98.2	171.6	120.0	23.4	11.5	10.1	45.2	31.4	13.9	322.2	27.9
IRE	1.4	17.7	12.1	11.8	2.9	1.5	0.3	0.7	1.7	0.9	9.7	0.7
IT	7.1	25.4	29.4	73.0	10.1	12.0	1.6	22.2	2.4	4.1	57.8	15.2
NL	17.4	113.6	118.5	81.2	12.5	6.1	2.6	11.8	26.8	5.8	200.0	23.1
UK	2.4	42.2	35.0	35.7	11.7	2.1	1.3	7.9	7.4	9.9	112.5	25.4
FIN	0.3	1.4	1.6	15.0	8.0	4.0	4.9	2.4	15.5	0.6	4.4	1.2
JPN	2.4	-0.3	-27.9	1.9	-0.8	-3.0	0.5	1.5	-2.7	0.9	41.7	0.7
NZ	0.6	1.9	11.3	1.0	0.6	-0.0	0.4	0.3	0.5	0.0	0.4	0.0
NOR	1.9	1.8	4.5	3.5	1.4	0.3	0.9	2.0	6.0	0.2	10.0	2.1
SWD	0.9	0.5	2.0	4.1	1.7	0.3	5.5	7.5	7.2	1.0	15.2	0.7
SWZ	0.4	0.8	10.7	13.7	0.3	0.9	1.4	2.2	2.9	2.6	36.6	-0.6
US	59.2	4.8	-6.8	14.7	2.5	-0.3	19.4	8.3	-4.1	9.5	130.6	28.0
TOTAL	147.1	484.1	612.9	589.2	127.9	68.0	104.2	159.2	272.3	69.6	1315.2	170.4

TABLE D.1 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	0.3	1.6	0.1	-1.8	38.1	2.5	-0.0	1.1	1.2	9.6	71.5
ATA	9.0	9.0	2.4	26.2	6.0	23.2	47.1	25.9	14.7	57.2	350.9
CND	13.3	22.8	2.4	8.3	27.3	16.7	58.2	31.0	109.6	196.8	720.3
EC	207.7	117.9	49.8	304.1	91.0	446.2	601.0	451.5	791.3	1016.6	7303.9
BLX	27.6	13.2	12.4	131.7	25.4	50.1	63.9	51.3	142.6	137.4	1186.5
DEN	2.5	4.2	1.0	4.3	2.6	12.3	34.8	14.7	7.9	44.8	270.0
FR	50.9	16.0	10.0	56.4	12.6	70.2	110.9	71.1	167.0	131.6	1135.7
GFR	53.2	35.4	12.1	65.5	20.1	156.2	228.8	167.8	289.8	269.8	2179.8
IRE	2.9	2.4	0.5	0.4	2.5	4.9	5.8	4.5	1.8	13.1	99.9
IT	20.1	21.8	4.5	9.2	3.2	61.3	41.0	30.2	45.4	72.4	569.5
NL	26.3	10.5	4.6	27.5	18.6	36.0	53.2	59.6	54.9	204.6	1115.2
UK	24.3	14.4	4.6	9.2	6.1	55.3	62.7	52.4	81.9	142.9	747.3
FIN	0.4	0.8	0.8	3.5	2.5	6.6	13.6	8.3	16.0	9.8	121.5
JPN	18.1	11.2	1.9	-38.4	-1.2	53.6	-0.5	101.6	122.7	105.7	389.5
NZ	0.1	0.1	0.1	0.2	8.8	0.9	1.5	0.4	0.4	6.0	35.6
NOR	1.0	2.2	0.2	7.5	11.5	7.6	9.8	6.4	23.5	12.2	116.6
SWD	4.3	2.4	1.3	18.4	5.7	25.8	42.9	38.3	81.8	31.6	299.0
SWZ	1.3	1.6	0.6	0.8	4.8	16.9	14.3	17.8	2.2	65.9	198.2
US	18.5	17.6	6.6	-1.9	5.3	72.0	39.4	124.1	152.6	246.5	946.6
TOTAL	273.9	187.1	66.2	326.9	199.9	672.0	827.2	806.5	1315.9	1757.8	10553.5

TABLE D.2

CHANGES IN IMPORTS UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	5.7	4.6	0.6	-0.3	0.9	-0.6	2.7	9.3	0.3	-1.0	-0.1	0.0
AFA	1.6	-1.2	22.4	-0.6	4.8	0.7	1.0	-0.7	7.3	0.7	36.2	9.2
CND	6.6	8.8	16.1	7.6	4.4	5.2	16.8	18.5	36.1	49.6	-8.5	-1.9
EC	238.5	427.5	427.8	368.8	83.6	-4.2	43.6	116.8	196.3	24.6	1161.3	-44.4
BLX	26.8	38.5	87.3	39.4	5.4	-0.1	3.2	14.7	20.0	1.2	90.7	-2.4
DEN	12.6	13.8	21.2	9.1	9.3	-0.4	2.9	4.2	9.0	1.7	31.6	-4.6
FR	26.1	57.7	60.3	65.4	11.3	0.6	7.8	33.4	35.5	7.2	225.3	-2.2
GFR	104.0	85.9	94.8	133.6	25.8	-3.9	13.3	31.6	54.0	4.8	313.4	-11.8
IRE	3.7	7.0	11.7	7.1	1.3	-0.2	0.5	1.0	3.3	0.3	14.2	-0.1
IT	46.1	52.5	38.3	16.8	12.3	0.0	1.3	3.2	11.5	0.9	176.3	-16.9
NL	41.7	53.8	78.6	53.4	8.6	-0.1	5.0	15.5	22.7	3.1	127.1	7.2
UK	27.4	118.3	35.7	44.0	9.5	-0.2	9.6	13.3	40.3	5.4	182.7	-13.4
FIN	0.8	0.6	7.2	2.0	2.7	-0.0	0.6	1.2	3.0	0.3	7.9	-2.3
JPN	-25.4	-0.5	0.3	-0.2	-0.9	1.3	-3.1	5.1	0.8	-0.4	58.7	24.7
NZ	0.3	0.1	3.1	-0.0	-0.0	0.4	0.1	0.0	0.2	-0.4	8.6	-0.3
NOR	-2.1	0.3	6.5	2.6	0.6	0.2	0.7	4.7	2.7	-0.5	11.6	-1.1
SWD	-5.3	-1.3	4.6	0.2	1.2	0.0	1.2	3.1	2.0	-0.7	21.6	-3.0
SWZ	-2.7	-0.2	7.6	23.5	-1.2	8.3	2.2	12.4	6.7	-0.8	5.3	-0.1
US	-34.8	46.4	37.0	174.9	13.2	1.6	57.0	0.0	14.0	0.6	62.7	-11.6
TOTAL	233.0	485.0	533.4	578.5	109.3	12.8	122.8	170.5	269.6	72.1	1365.3	-30.8

TABLE D.2 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	16.9	-0.7	-0.3	0.2	0.8	-1.7	4.5	-4.0	17.5	0.4	55.9
AFA	15.0	10.3	2.7	0.7	3.9	67.8	38.8	33.0	23.9	25.8	303.5
CND	80.6	19.5	7.7	7.6	1.1	137.6	68.6	180.9	61.3	53.2	777.5
EC	130.9	93.2	40.0	251.0	108.8	318.7	456.5	325.7	770.1	603.3	6188.4
BLX	10.2	8.8	3.2	24.7	34.2	28.7	46.5	28.3	97.5	46.7	653.4
DEN	3.8	3.8	1.3	7.3	3.1	11.2	17.4	13.7	12.6	16.6	201.4
FR	25.7	29.0	8.9	51.9	13.2	70.1	99.5	68.2	206.7	131.3	1232.6
GFR	46.4	39.0	12.3	78.9	31.2	87.2	105.4	90.3	218.5	185.1	1739.8
IRE	1.4	0.9	0.5	2.5	0.8	1.9	6.0	4.3	3.7	11.6	83.3
IT	10.8	1.7	4.4	33.1	5.4	30.6	43.8	28.6	28.4	69.3	598.3
NL	14.9	5.5	4.1	24.4	12.5	39.2	46.4	47.9	49.1	52.0	712.8
UK	17.7	4.6	5.3	28.2	8.3	49.8	91.7	44.4	153.6	90.8	966.8
FIN	0.0	0.8	0.6	4.6	1.1	5.7	19.4	20.1	22.2	18.1	116.5
JPN	2.1	-1.8	2.1	3.6	5.7	9.5	60.3	37.7	117.0	50.1	346.7
NZ	-0.8	0.6	0.3	0.5	2.4	5.2	13.4	1.9	1.7	2.8	40.0
NOR	0.2	0.1	0.9	2.6	2.6	10.3	32.4	9.1	30.5	4.2	119.2
SWD	0.5	0.1	1.9	12.4	4.2	11.1	28.7	34.2	88.9	10.5	216.1
SWZ	0.3	2.3	0.9	4.4	5.4	4.5	3.0	1.9	3.7	5.7	93.1
US	58.6	82.5	12.7	31.2	26.1	132.1	121.8	223.3	210.3	1105.4	2364.8
TOTAL	304.4	206.9	69.5	318.9	161.9	700.7	847.3	863.8	1347.0	1879.6	10621.7

TABLE D.3

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	1.082	0.277	-0.237	0.062	0.319	0.118	-0.127	-0.222	0.002	0.049	0.143	-0.092	-0.571	0.079	0.015
ATA	1.029	-0.070	3.047	2.010	0.225	0.770	0.365	0.285	0.807	0.079	0.063	-0.013	-0.094	0.018	0.059
CND	2.521	0.204	-0.355	0.605	0.272	0.341	0.499	-0.416	1.870	-1.630	0.349	0.226	-1.392	0.176	-0.161
EC	6.497	12.064	38.725	24.091	3.396	3.606	0.841	3.952	1.356	1.697	13.629	0.623	5.709	2.684	2.584
BLX	1.303	1.420	9.232	5.360	0.467	0.192	0.730	0.216	1.655	0.339	6.575	-0.275	0.582	0.367	1.269
DEN	2.623	1.405	1.298	1.566	0.158	0.190	0.108	0.665	0.095	0.046	0.438	0.042	0.045	0.050	0.051
FR	5.588	1.058	4.394	2.939	0.629	0.725	-0.189	-0.450	-0.277	0.120	-0.048	0.353	1.624	-0.342	0.225
GFR	-3.746	3.540	10.340	3.062	0.692	0.720	0.338	1.319	0.566	0.507	8.148	0.149	1.499	0.008	0.623
IRE	2.970	0.537	0.976	0.665	0.090	0.083	0.010	0.013	0.021	0.054	0.176	0.012	0.062	0.123	0.037
IT	-5.276	0.868	6.300	6.893	0.569	1.167	0.219	1.925	-0.174	0.160	-3.725	0.126	0.936	1.663	0.162
NL	4.072	2.103	4.430	2.661	0.250	0.231	0.116	0.281	0.610	0.196	3.177	0.075	0.886	0.251	0.167
UK	-1.536	1.134	1.754	0.945	0.301	0.296	-0.492	-0.018	-1.142	0.276	-1.112	0.141	0.875	0.563	0.050
FIN	0.009	-0.079	0.375	1.151	0.193	0.273	0.282	0.157	0.444	0.016	0.054	0.010	0.067	0.001	0.038
JPN	4.366	-1.399	-2.844	0.207	-0.226	-0.161	0.423	-0.086	0.021	0.034	0.047	-0.167	0.627	1.008	0.076
NZ	0.521	0.029	0.401	0.130	0.021	-0.013	0.045	0.015	0.019	0.020	-0.130	0.002	0.054	-0.008	-0.006
NOR	0.504	-0.087	0.251	0.227	0.038	0.014	0.032	-0.028	0.145	0.018	0.160	0.017	0.057	0.080	-0.020
SWD	0.389	-0.236	0.159	0.224	0.059	0.014	0.346	0.318	0.197	0.060	0.237	0.000	0.278	0.126	0.021
SWZ	0.362	-0.155	0.577	0.120	0.006	-0.176	-0.089	-0.184	-0.010	0.239	1.562	-0.006	0.086	0.005	0.023
US	8.902	-1.171	-4.494	-5.969	-0.443	0.167	-1.550	0.554	-0.839	0.037	0.741	0.144	-1.027	-1.980	-0.230
TOTAL	26.734	9.446	35.605	22.957	3.858	4.951	1.467	4.343	3.960	0.620	16.854	0.744	3.794	2.191	2.400

TABLE C.3 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.019	0.536	0.146	-0.021	0.176	-0.255	0.376	0.196	0.009	0.059	-0.128	0.043	0.059	-0.335	1.735
ATA	1.429	0.211	-2.377	2.369	0.842	0.377	2.776	0.106	-0.125	0.144	-1.658	-0.192	-0.314	-2.603	9.563
CND	-0.165	0.559	-2.715	1.611	-1.457	1.690	4.204	0.924	-0.245	0.962	-1.429	-0.223	-0.043	-3.585	3.578
EC	9.894	2.658	12.678	25.239	17.825	16.746	35.685	4.417	-1.693	-6.084	-24.318	-1.471	-4.568	-44.151	164.510
BLX	4.327	0.775	2.618	2.431	2.493	3.565	2.140	0.747	0.041	-0.898	-2.650	0.529	0.097	-5.608	41.139
DEN	0.157	0.061	0.346	1.550	0.633	0.324	1.976	0.018	-0.064	-0.214	-1.076	-0.137	-0.269	-[illegible].807	9.319
FR	0.323	0.233	0.920	4.930	2.379	2.988	3.229	0.336	-0.321	-0.304	-4.420	-0.581	-1.052	-6.900	18.561
GFR	3.356	0.916	5.492	11.211	8.010	6.676	15.137	1.845	-0.508	-2.432	-7.797	-0.817	-[illegible].431	-[illegible]3.082	54.571
IRE	0.043	0.105	0.289	0.156	0.165	0.042	0.481	0.106	0.026	0.004	-0.146	0.135	0.054	-0.674	6.616
IT	0.291	0.202	1.972	1.429	1.076	2.034	2.564	0.683	-0.361	-1.284	-2.925	-0.374	-1.377	-3.282	12.462
NL	0.522	0.353	0.444	2.046	1.191	1.306	3.490	0.094	0.032	-0.471	-1.448	0.568	0.501	-4.530	23.345
UK	-0.354	0.163	0.597	1.485	1.889	-0.090	6.667	0.587	-0.588	-0.484	-3.857	-0.794	-1.092	-7.267	-1.503
FIN	0.066	0.053	0.117	0.510	0.021	0.312	0.236	0.028	-0.041	-0.085	-0.492	-0.021	-0.103	-1.077	2.617
JPN	-0.539	0.271	3.048	-0.798	4.362	2.028	4.310	-0.142	-0.081	-1.012	-3.159	-0.275	-0.255	-3.438	7.416
NZ	-0.014	0.190	-0.121	-0.043	0.004	0.049	0.242	0.019	-0.005	0.085	-0.088	0.018	-0.006	-0.298	1.231
NOR	0.208	0.197	-0.010	0.191	0.116	0.618	0.565	0.087	-0.035	-0.084	-0.568	-0.077	-0.105	-1.147	1.363
SWD	0.974	0.188	1.049	1.973	1.257	1.725	1.111	0.102	-0.032	-0.239	-0.851	0.032	-0.121	-2.507	6.854
SWZ	0.082	0.177	1.084	0.716	1.286	0.051	2.614	0.195	-0.092	-0.139	-0.588	-0.181	-0.273	-1.036	6.254
US	-0.873	-0.610	-1.800	0.105	-0.094	1.167	-12.976	-0.462	-0.887	0.932	-10.025	-1.986	-5.220	-7.365	-47.121
TOTAL	11.022	4.631	11.100	32.033	24.338	24.507	39.745	5.469	-3.226	-5.462	-43.305	-4.334	-10.950	-67.542	158.000

TABLE D.4

PERCENTAGE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.259	0.136	-0.391	0.100	5.180	1.043	-0.237	-0.827	0.005	0.066	0.246	-1.528	-2.999	0.179	0.185
ATA	0.233	-0.084	3.946	4.452	3.656	3.910	3.291	0.950	2.549	0.286	0.119	-0.217	-0.741	0.041	0.468
CND	0.445	0.077	-0.330	0.518	2.808	1.689	0.738	-0.753	1.290	-1.589	0.367	1.129	-4.599	0.377	-1.129
EC	0.376	0.430	1.844	1.695	1.729	0.899	0.124	0.739	0.178	0.155	0.621	0.225	1.158	0.236	0.673
BLX	1.317	1.322	8.832	9.432	7.030	1.610	2.881	1.419	5.338	0.767	7.632	-2.062	7.122	0.675	3.973
DNK	1.176	1.477	5.272	7.457	9.039	5.393	0.710	3.320	0.709	0.124	1.502	1.270	1.019	0.177	1.337
FR	0.247	0.171	1.202	1.096	1.358	0.899	-0.110	-0.437	-0.221	0.054	-0.012	0.250	1.829	-0.173	0.303
GFR	-0.215	0.638	2.514	0.923	1.566	1.116	0.172	1.124	0.288	0.233	1.204	0.417	1.129	0.003	0.604
IRE	1.222	0.990	4.652	4.931	4.087	2.289	0.254	0.313	0.358	0.509	1.749	0.632	2.949	1.369	1.098
IT	-0.130	0.208	1.044	1.914	1.159	0.803	0.219	1.420	-0.132	0.105	-0.774	0.375	0.784	0.535	0.177
NL	1.360	1.170	9.125	8.501	8.630	4.090	0.320	1.441	2.086	0.252	4.202	0.748	2.645	0.794	1.661
UK	-0.233	0.146	0.336	0.279	0.717	0.369	-0.386	-0.015	-0.504	0.082	-0.252	0.377	0.400	0.255	0.076
FIN	0.333	-0.110	1.364	3.303	5.792	4.496	0.728	1.501	0.800	0.049	0.220	0.324	1.191	0.005	0.872
JPN	0.376	-0.087	-0.240	0.035	-0.412	-0.405	0.067	-0.039	0.005	0.006	0.008	-0.306	0.406	0.190	0.089
NZ	0.437	0.039	2.148	0.644	0.644	-0.224	0.253	0.232	0.179	0.106	-0.917	0.219	0.950	-0.092	-0.250
NOR	0.330	-0.166	1.779	2.004	2.517	0.661	0.131	-0.271	0.540	0.043	0.77	0.618	1.622	0.647	-0.800
SWD	0.153	-0.266	0.559	0.832	1.812	0.334	0.485	1.605	0.287	0.121	0.513	0.012	1.713	0.382	0.309
SWZ	0.149	-0.222	0.900	0.405	0.175	-1.531	-0.373	-1.429	-0.046	0.441	1.735	-0.534	1.390	0.027	0.537
US	0.270	-0.067	-0.383	-0.504	-0.492	0.096	-0.292	0.138	-0.134	0.003	0.068	0.082	-0.393	-0.451	-0.130
TOTAL	0.130	0.135	0.733	0.653	1.021	0.711	0.067	0.327	0.180	0.020	0.394	0.135	0.376	0.094	0.342

TABLE D.4 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.027	2.039	0.130	-0.019	0.214	-0.177	0.649	0.251	0.010	0.012	-0.010	0.010	0.013	-0.026	0.030
ATA	1.649	1.471	-2.659	3.576	0.965	1.041	7.647	0.460	-0.377	0.057	-0.343	-0.098	-0.231	-0.445	0.324
CND	-0.252	1.010	-1.792	1.451	-1.064	0.904	5.280	0.633	-0.219	0.150	-0.086	-0.031	-0.009	-0.109	0.037
EC	0.541	0.666	0.552	0.732	0.537	0.502	2.214	0.348	-0.152	-0.074	-0.153	-0.024	-0.075	-0.195	0.164
BLX	4.545	2.791	2.292	3.681	2.499	4.702	5.875	1.975	0.114	-0.282	-0.370	0.190	0.040	-0.575	1.064
DEN	1.599	1.762	0.643	2.175	1.646	0.707	6.726	0.915	-0.430	-0.110	-0.305	-0.082	-0.181	-0.374	0.389
FR	0.308	0.457	0.134	1.029	0.424	0.415	1.037	0.198	-0.176	-0.016	-0.126	-0.049	-0.084	-0.147	0.089
GFR	0.557	0.811	0.892	0.841	0.669	0.783	3.359	0.499	-0.221	-0.126	-0.219	-0.055	-0.106	-0.245	0.222
IRE	0.705	5.673	3.653	3.235	1.381	0.315	3.368	1.064	0.184	0.005	-0.086	0.212	0.195	-0.317	0.648
IT	0.069	0.208	0.529	0.271	0.179	0.302	0.802	0.210	-0.146	-0.073	-0.111	-0.034	-0.101	-0.136	0.066
NL	1.200	2.303	0.655	2.057	1.308	1.621	5.916	1.172	0.183	-0.108	-0.178	0.183	0.165	-0.352	0.514
UK	-0.090	0.150	0.104	0.172	0.261	-0.010	1.697	0.171	-0.171	-0.029	-0.094	-0.051	-0.078	-0.105	-0.006
FIN	0.350	0.856	0.381	0.923	0.063	0.795	1.498	0.310	-0.148	-0.053	-0.154	-0.013	-0.089	-0.212	0.122
JPN	-0.083	0.146	0.298	-0.059	0.295	0.166	0.561	-0.079	-0.024	-0.021	-0.027	-0.008	-0.015	-0.032	0.014
NZ	-0.436	5.632	-0.485	-0.370	0.024	0.246	2.103	0.367	-0.029	0.092	-0.046	0.016	-0.008	-0.110	0.102
NOR	1.253	1.624	-0.032	0.591	0.451	1.079	3.599	0.787	-0.182	-0.057	-0.192	-0.048	-0.129	-0.235	0.076
SWD	1.309	1.176	1.007	1.242	1.300	1.158	3.237	0.486	-0.098	-0.081	-0.144	0.011	-0.050	-0.196	0.168
SWZ	0.456	1.031	1.468	0.547	1.061	0.389	2.255	0.328	-0.152	-0.071	-0.172	-0.072	-0.099	-0.212	0.222
US	-0.112	-0.200	-0.118	0.008	-0.005	0.065	-1.008	-0.059	-0.120	0.026	-0.048	-0.055	-0.068	-0.026	-0.054
TOTAL	0.305	0.433	0.203	0.413	0.336	0.350	0.960	0.212	-0.126	-0.029	-0.081	-0.028	-0.063	-0.097	0.058

TABLE D.5

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO AGRICULTURAL CONCESSIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.774	0.056	-0.013	0.004	0.001	0.000	0.001	0.000	0.000	-0.001	-0.011	0.004	-0.001	-0.001	0.000
AIA	0.458	0.456	-0.046	0.003	-0.004	-0.001	-0.004	-0.002	0.003	0.000	-0.012	0.000	-0.001	-0.006	0.006
CND	-1.227	0.135	0.002	0.010	0.002	0.001	0.007	0.001	-0.007	-0.000	-0.015	0.003	-0.003	-0.006	0.001
EC	-15.518	5.077	0.584	0.309	0.147	0.030	0.176	-0.014	0.097	0.020	-0.337	0.021	-0.014	-0.089	0.067
BLX	-0.404	0.658	0.210	0.019	0.024	-0.000	0.060	-0.002	0.007	0.002	-0.013	0.010	-0.001	-0.008	0.005
DEN	-0.336	0.364	-0.007	0.003	-0.000	0.000	-0.001	-0.002	0.005	0.002	-0.007	0.000	-0.000	-0.004	0.002
FR	[illegible]	.769	0.052	0.059	0.028	0.006	0.020	-0.001	0.014	-0.000	-0.063	-0.002	-0.009	-0.010	0.013
GFR	[illegible]	.857	0.156	0.074	0.042	0.005	0.050	-0.000	0.022	0.001	-0.116	0.006	-0.011	-0.022	0.016
IRE	[illegible]	0.040	0.004	0.004	0.002	0.000	0.001	0.000	0.001	0.000	-0.002	0.000	-0.000	-0.001	0.001
IT	-3.948	0.551	-0.033	0.065	0.011	0.014	0.004	-0.008	0.008	0.000	-0.075	0.004	-0.010	-0.026	0.012
NL	-0.956	0.777	0.050	0.012	0.008	-0.000	0.022	-0.001	0.010	0.009	-0.017	0.001	0.001	-0.005	0.006
UK	-1.405	1.011	0.151	0.031	0.033	0.006	0.020	0.000	0.030	0.006	-0.044	0.002	-0.005	-0.013	0.013
FIN	0.924	0.354	-0.023	-0.015	-0.012	-0.001	-0.042	-0.003	-0.018	0.003	-0.006	0.000	-0.000	-0.002	0.002
JPN	-16.012	.338	0.535	0.038	0.052	0.002	0.119	-0.008	0.040	-0.014	-0.030	-0.013	-0.006	-0.039	0.012
NZ	0.170	0.173	-0.021	0.001	-0.008	-0.000	-0.004	-0.001	0.001	0.001	-0.003	0.000	0.000	-0.001	0.001
NOR	0.249	0.201	-0.011	-0.001	-0.005	-0.000	-0.009	-0.001	0.001	0.005	-0.006	-0.000	0.000	-0.002	0.002
SWD	-0.291	0.069	-0.002	0.004	0.001	0.000	0.006	-0.001	-0.004	0.000	-0.009	0.001	-0.002	-0.002	0.000
SWZ	-0.009	0.406	0.019	0.006	0.003	0.000	0.009	-0.001	0.008	0.002	-0.025	0.000	-0.000	-0.003	0.002
US	42.095	-1.159	-0.469	-0.352	-0.016	-0.050	-0.163	-0.120	-0.152	-0.220	-0.100	-0.001	-0.057	-0.114	-0.050
TOTAL	7.964	8.116	0.556	0.067	0.161	-0.017	0.093	-0.148	-0.031	-0.205	-0.554	0.017	-0.105	-0.265	0.043

TABLE D.5 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.009	-0.005	-0.003	-0.007	-0.005	-0.008	-0.013	-0.004	-0.005	0.001	-0.028	-0.012	-0.016	0.001	-0.845
ATA	-0.028	-0.003	-0.004	-0.024	-0.018	-0.007	-0.018	-0.002	-0.000	-0.009	-0.007	0.015	0.003	-0.033	0.727
CND	-0.013	-0.011	-0.009	-0.031	-0.012	-0.032	-0.036	-0.001	-0.002	0.011	-0.004	-0.006	-0.003	0.047	-1.198
EC	-0.429	-0.065	-0.155	-0.986	-0.517	-0.605	-0.528	-0.085	-0.028	-0.042	-0.181	0.133	0.074	-0.204	-13.182
BLX	-0.043	-0.003	0.002	-0.025	-0.026	-0.021	-0.013	-0.000	-0.001	-0.026	-0.030	0.033	0.023	-0.075	0.362
DEN	-0.003	-0.001	0.001	-0.023	-0.009	-0.008	-0.013	-0.000	0.000	-0.007	-0.006	0.016	0.004	-0.040	-0.050
FR	-0.054	-0.008	-0.026	-0.144	-0.081	-0.124	-0.080	-0.016	-0.008	-0.013	-0.077	-0.003	-0.014	-0.056	-4.381
GFR	-0.157	-0.020	-0.070	-0.428	-0.204	-0.186	-0.163	-0.031	-0.009	0.013	-0.036	0.005	0.024	0.017	-3.429
IRE	-0.001	-0.000	-0.002	-0.002	-0.002	-0.001	-0.004	-0.000	0.001	0.002	0.005	0.004	0.002	0.005	-0.718
IT	-0.082	-0.015	-0.035	-0.139	-0.072	-0.100	-0.094	-0.024	-0.013	0.001	-0.043	-0.014	-0.037	-0.003	-4.071
NL	-0.016	-0.003	0.003	-0.035	-0.021	-0.020	-0.025	-0.000	0.003	-0.018	0.008	0.053	0.038	-0.064	-0.181
UK	-0.054	-0.015	-0.027	-0.191	-0.101	-0.143	-0.136	-0.013	-0.002	0.006	-0.002	0.040	0.034	0.014	-0.713
FIN	-0.005	-0.002	0.000	-0.016	-0.007	-0.010	-0.007	-0.000	0.001	-0.005	0.010	0.023	0.013	-0.031	1.127
JPN	-0.122	-0.027	-0.070	-0.224	-0.220	-0.212	-0.198	-0.046	-0.042	-0.240	-0.925	-0.188	-0.133	-0.573	-18.146
NZ	-0.000	-0.001	0.001	-0.001	-0.002	-0.002	-0.005	-0.000	0.000	-0.005	-0.003	0.009	0.002	-0.021	0.282
NOR	-0.008	-0.004	-0.001	-0.007	-0.005	-0.014	-0.009	-0.001	0.002	-0.000	0.013	0.024	0.008	-0.013	0.407
SWD	-0.029	-0.003	-0.011	-0.049	-0.022	-0.035	-0.015	-0.001	-0.001	0.006	0.001	-0.001	0.001	0.020	-0.369
SWZ	-0.005	-0.003	0.001	-0.055	-0.029	-0.003	-0.050	-0.004	0.000	-0.007	-0.005	0.027	0.016	-0.022	0.280
US	-0.188	-0.076	-0.389	-0.583	-0.452	-0.415	-0.370	-0.184	-0.404	-0.925	-6.426	-0.886	-3.109	-8.251	16.414
TOTAL	-0.336	-0.200	-0.641	-1.982	-1.288	-1.342	-1.247	-0.329	-0.478	-1.214	-7.555	-0.862	-3.141	-9.079	-14.502

TABLE D.6

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO LIBERALIZATION OF GOVERNMENT PROCUREMENT IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.035	-0.023	0.080	-0.012	0.073	-0.005	0.036	0.005	0.030	0.050	0.149	-0.027	0.039	0.034	0.002
ATA	0.002	-0.021	0.065	-0.013	0.032	-0.058	0.035	0.038	0.170	0.095	0.178	-0.039	0.065	0.111	0.002
CND	0.301	0.018	-0.347	-0.010	-0.114	0.019	0.359	-0.093	0.984	-0.248	-0.340	-0.093	0.116	0.226	-0.005
EC	1.735	0.276	-1.939	-1.339	-2.369	-1.086	-2.736	0.817	-4.543	0.470	0.910	-0.846	-1.019	-0.094	0.289
BLX	0.099	0.040	-0.212	-0.160	-0.010	0.008	-0.259	0.059	-0.419	-0.112	-0.336	0.080	0.002	0.018	0.028
DEN	0.178	0.071	-0.167	-0.062	0.014	0.003	-0.130	0.041	-0.343	-0.014	-0.260	-0.021	-0.099	-0.022	-0.002
FR	0.571	0.118	-0.163	-0.055	-0.091	0.025	-0.637	-0.143	-0.820	-0.119	-0.002	-0.241	-0.049	0.120	0.022
GFR	0.052	0.072	-2.024	-0.944	-1.561	0.098	-0.463	0.287	-1.621	0.127	0.160	-0.263	-1.346	-0.146	0.136
IRE	0.024	-0.023	0.015	-0.004	0.017	-0.005	0.006	0.008	0.019	0.028	0.045	-0.005	0.009	0.038	-0.001
IT	0.434	-0.026	0.577	0.130	-0.517	-1.183	-0.555	0.609	-0.522	0.137	0.399	-0.321	0.143	0.432	0.072
NL	0.165	0.062	-0.109	-0.079	0.016	-0.002	-0.576	-0.147	-0.650	0.024	0.257	0.004	0.049	-0.681	0.008
UK	0.132	-0.037	0.144	-0.214	0.164	-0.028	-0.123	0.104	-0.189	0.397	0.647	-0.078	0.273	0.148	0.025
FIN	0.423	0.045	-0.148	0.105	-0.116	0.058	0.127	-0.085	0.773	-0.091	-0.681	-0.083	-0.213	-0.137	-0.001
JPN	2.001	0.000	0.765	-0.119	0.009	-0.038	0.435	0.005	0.373	0.170	0.773	-0.485	0.354	0.604	0.090
NZ	0.020	-0.012	0.021	-0.005	0.036	-0.002	0.020	0.002	0.037	0.020	0.031	-0.001	0.011	0.004	0.000
NOR	0.123	0.054	-0.384	-0.161	-0.066	0.008	-0.084	-0.075	0.039	-0.200	-0.561	-0.015	-0.167	-0.125	-0.011
SWD	0.270	0.078	-0.648	-0.279	-0.233	0.038	0.176	-0.294	0.970	-0.204	-1.536	-0.190	-0.289	-0.217	-0.005
SWZ	0.375	0.116	-0.200	-0.175	-0.252	0.100	-0.350	-0.189	-0.680	-0.355	0.020	-0.209	-0.364	-0.462	0.001
US	0.999	-0.011	0.529	-0.109	0.430	-0.048	0.397	0.096	0.432	0.332	0.628	-0.265	0.172	0.309	-0.039
TOTAL	6.336	0.520	-2.207	-2.115	-2.569	-1.013	-1.585	0.228	-1.416	0.039	-0.431	-2.223	-1.296	0.254	0.324

TABLE D.6 (CONT.)

	371	372	381	382	383	384	38A	3	4	5	6	7	8	9	TOT
ALA	0.042	0.046	0.066	0.049	0.112	0.189	0.198	0.049	0.027	-0.070	0.021	0.062	0.061	-0.093	1.366
AIA	0.195	0.026	0.216	0.351	0.409	0.152	0.221	0.021	0.031	-0.063	0.060	0.092	0.065	-0.058	2.411
CND	-0.093	-0.582	0.017	-0.840	0.125	0.088	-4.147	-0.394	0.014	0.097	0.069	-0.010	-0.117	0.796	-4.245
EC	-0.006	-2.912	1.369	6.371	7.300	6.542	7.560	-3.226	0.457	1.483	3.370	0.681	2.300	3.404	23.186
BLX	-1.045	0.029	-0.115	-0.398	-0.344	-0.227	0.103	-0.073	-0.008	0.160	0.225	-0.036	0.039	0.394	-2.510
DEN	-0.256	-0.042	-0.192	-0.069	-0.455	-1.037	-0.252	-0.014	-0.010	0.097	0.030	-0.105	-0.075	0.284	-2.927
FR	-0.067	-0.246	0.006	0.505	0.700	0.476	1.041	-0.206	0.037	0.330	0.669	0.069	0.323	0.812	2.963
GFR	0.526	-1.080	0.724	2.553	5.112	4.104	2.668	-1.280	0.120	0.627	1.170	0.262	0.820	1.470	9.990
IRE	0.016	0.002	0.031	0.032	0.066	0.037	0.061	0.002	0.011	-0.021	0.016	0.021	0.012	-0.020	0.436
IT	0.534	-1.453	0.516	2.045	1.075	1.597	1.602	-1.386	0.143	0.163	0.465	0.179	0.505	0.171	6.071
NL	0.009	-0.006	-0.198	-0.417	0.176	0.349	0.220	-0.006	-0.020	0.123	0.103	-0.091	0.050	0.218	-1.150
UK	0.327	-0.116	0.608	2.106	0.965	1.243	2.116	-0.262	0.184	0.004	0.691	0.382	0.626	0.076	10.314
FIN	-0.252	-0.030	-0.284	-0.841	-0.950	-0.828	-0.577	-0.153	-0.010	0.167	0.051	-0.093	-0.121	0.387	-3.570
JPN	1.449	0.725	1.173	0.120	3.609	3.658	0.779	-0.094	0.315	0.247	3.311	1.476	1.070	1.482	24.257
NZ	0.003	0.004	0.019	0.016	0.024	0.037	0.058	0.004	0.008	-0.012	0.014	0.026	0.020	-0.021	0.383
NOR	-0.228	0.092	-0.485	-0.890	-0.797	-1.278	-0.647	-0.069	-0.053	0.145	-0.108	-0.269	-0.186	0.322	-6.078
SWD	-0.382	-0.117	-0.423	-1.528	-1.852	-1.171	-1.511	-0.561	0.003	0.397	0.116	-0.212	-0.243	1.102	-8.743
SWZ	-0.881	-0.129	-0.819	-6.872	-0.958	-2.752	0.169	-2.113	-0.029	0.422	-0.022	-0.515	-0.439	0.430	-17.132
US	0.328	0.065	0.453	2.465	-3.298	0.288	-3.677	-0.443	0.112	0.073	0.855	0.173	0.380	0.950	2.574
TOTAL	0.154	-2.812	1.322	-1.59[illegible]	3.724	4.923	-1.575	-6.980	0.875	2.886	7.737	1.411	2.789	8.700	14.408

TABLE D.7

CHANGES IN EXPORTS UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	5.1	5.4	-3.9	0.1	14.4	0.2	1.1	0.1	0.1	0.4	11.4	-13.0
ATA	0.4	13.7	29.4	18.6	2.4	9.7	12.9	3.9	23.7	2.4	20.1	7.6
CND	10.4	12.0	2.4	12.2	8.6	8.3	38.2	0.2	147.4	3.0	25.0	80.8
EC	47.0	533.4	636.5	513.7	124.8	46.5	37.7	160.8	171.6	79.3	1211.9	221.0
BLX	4.8	73.9	153.0	81.8	12.7	2.6	6.3	27.7	41.5	8.5	197.6	1.2
DEN	3.6	50.2	15.8	23.6	12.1	2.8	2.6	12.4	6.2	2.2	24.5	12.8
FR	10.9	65.1	74.1	82.0	19.3	9.3	7.2	11.9	22.0	13.5	159.5	34.2
GFR	4.9	106.5	193.4	120.2	31.2	13.0	13.3	55.5	46.7	21.9	385.4	52.3
IRE	1.0	17.4	12.2	11.8	3.5	1.4	0.4	0.8	1.9	1.2	10.6	0.4
IT	5.3	33.9	33.6	75.6	14.5	9.7	2.4	28.7	5.9	7.3	70.6	37.5
NL	14.5	140.4	124.1	82.2	15.0	6.0	3.7	14.1	35.8	8.6	226.6	50.2
UK	1.9	46.0	40.2	36.6	16.5	1.8	1.8	9.8	11.7	16.2	137.1	32.4
FIN	0.2	11.3	2.3	17.0	11.1	4.9	7.5	3.3	40.8	1.1	6.4	6.7
JPN	1.8	0.3	-18.4	2.7	1.3	-3.2	1.2	2.1	0.9	1.9	55.2	0.7
NZ	0.4	5.7	11.3	1.0	1.5	-0.0	0.6	0.3	1.6	0.1	0.5	0.0
NOR	1.3	11.6	5.4	3.9	2.8	0.4	1.4	2.7	14.6	0.4	13.9	31.2
SWD	0.7	1.8	4.7	5.3	4.5	1.1	11.4	11.0	54.8	2.2	24.2	29.5
SWZ	0.3	12.4	16.7	14.7	1.5	2.1	2.6	3.4	6.5	5.0	67.5	25.8
US	343.4	-11.5	1.0	16.5	13.2	-0.4	26.8	10.9	20.1	18.9	181.4	47.1
TOTAL	410.9	596.0	687.4	605.8	186.1	69.6	141.5	198.7	482.1	114.7	1617.5	437.4

TABLE D.7 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	0.4	2.2	0.1	-0.6	41.0	2.9	1.5	1.8	2.4	13.8	87.0
AFA	9.8	10.3	2.3	27.1	6.0	24.8	53.1	31.1	17.3	61.4	387.9
CND	16.9	28.8	2.4	11.7	57.3	19.5	80.3	40.1	159.3	247.2	1012.0
EC	244.2	153.8	50.4	387.5	115.7	511.0	977.9	653.1	1150.4	1219.9	9248.1
BLX	31.1	16.4	12.7	150.8	30.3	55.4	83.2	68.6	179.9	160.7	1400.7
DEN	2.9	5.4	1.0	5.1	3.2	13.8	47.7	19.9	11.3	52.7	331.9
FR	60.4	20.5	10.1	71.4	15.9	79.9	167.2	104.1	249.2	162.4	1450.2
GFR	63.2	46.4	12.3	96.2	29.5	181.4	399.6	247.7	429.4	323.4	2863.4
IRE	3.2	2.8	0.5	0.4	2.5	5.2	6.9	5.6	2.2	14.2	106.1
IT	24.5	29.9	4.5	16.7	4.9	71.3	84.0	47.2	78.4	92.8	779.1
NL	29.4	13.4	4.7	32.9	21.1	40.3	71.1	79.1	71.0	234.5	1318.5
UK	29.6	19.0	4.5	13.9	8.2	63.5	118.1	80.8	129.0	179.2	998.1
FIN	0.6	1.2	0.3	6.1	5.0	8.3	21.2	11.6	26.5	12.8	206.6
JPN	24.9	15.7	1.8	-11.5	-0.5	63.8	47.4	182.9	269.7	168.7	809.4
NZ	0.1	0.1	0.1	0.2	8.9	1.0	1.8	0.5	0.5	6.9	43.1
NOR	1.3	3.4	0.3	15.1	24.3	9.9	16.1	10.7	39.0	18.5	228.2
SWD	6.8	4.3	1.6	43.9	18.2	34.6	89.5	65.4	140.3	52.8	608.5
SWZ	2.3	3.2	0.8	5.5	9.8	26.1	91.6	39.7	7.7	126.5	471.6
US	25.9	24.3	6.7	7.3	10.5	36.9	206.2	211.1	324.0	338.2	1908.6
TOTAL	333.2	247.3	67.2	492.2	296.2	788.7	1586.5	1248.0	2137.2	2266.7	15011.0

TABLE D.8

CHANGES IN IMPORTS UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	8.1	4.7	0.8	-0.3	0.9	-0.5	2.5	9.1	0.0	-2.0	-1.7	0.0
AIA	5.1	-0.9	22.5	-0.7	4.5	0.7	1.1	-1.1	7.6	0.1	35.9	9.7
CND	10.9	9.5	21.1	8.8	9.3	5.2	16.8	20.9	41.1	56.5	10.3	64.5
EC	395.3	440.0	483.9	389.8	141.0	-3.9	90.1	137.0	363.7	49.0	1311.6	139.1
BLX	39.5	40.3	94.6	42.0	7.5	-0.1	9.7	15.7	35.4	5.8	114.9	22.7
DEN	15.6	14.5	22.6	10.1	11.2	-0.3	4.5	5.7	15.5	2.6	39.0	5.0
FR	47.5	59.3	67.9	67.8	18.3	0.7	18.6	39.3	68.2	14.9	250.9	2.2
GFR	127.3	88.3	123.0	144.9	66.9	-3.9	23.6	37.5	107.6	12.1	365.8	29.9
IRE	4.1	7.2	11.8	7.1	1.3	-0.2	0.5	0.9	3.3	0.1	14.4	-0.0
IT	58.0	53.9	40.5	17.1	15.2	0.1	9.3	3.6	27.1	2.4	185.5	36.2
NL	56.5	56.0	84.4	55.4	10.1	-0.1	11.2	20.9	53.8	5.6	142.8	33.7
UK	46.8	120.5	39.3	45.5	10.5	-0.1	12.7	13.4	52.9	5.7	198.4	9.5
FIN	3.5	0.8	9.8	2.9	6.1	-0.0	2.6	3.2	5.0	2.1	22.2	12.9
JPN	35.4	0.3	2.9	0.7	0.2	1.7	-4.3	6.7	1.7	0.0	62.7	34.7
NZ	1.0	0.2	3.1	-0.0	0.0	0.4	0.1	0.0	0.2	-0.7	8.2	-0.2
NOR	-0.4	0.5	9.7	5.1	4.2	0.2	2.1	7.2	7.8	2.0	27.1	35.4
SWD	-2.9	-1.0	12.6	5.2	9.1	0.0	4.9	12.8	14.7	4.8	64.4	55.1
SWZ	2.3	0.0	12.4	26.9	4.0	8.3	4.6	17.9	21.1	7.0	32.2	48.1
US	-2.9	101.9	37.7	176.7	13.6	2.0	57.0	0.0	18.3	-0.1	92.1	32.6
TOTAL	455.2	556.1	616.4	615.2	193.0	14.2	177.6	213.8	481.2	118.8	1665.2	432.0

TABLE D.8 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	16.2	-1.1	-0.3	0.2	0.8	-2.4	2.6	-7.2	9.4	-0.9	38.8
ATA	14.8	9.9	2.9	1.3	4.5	67.6	38.4	31.5	19.6	25.5	300.8
CND	78.0	18.6	7.5	11.8	10.3	137.2	119.9	179.7	94.4	185.4	1117.8
EC	189.7	145.4	41.6	362.7	211.4	391.6	776.4	438.0	1007.7	667.9	8169.2
BLX	13.6	12.0	3.3	36.9	37.9	35.5	86.5	3.0	152.3	62.2	921.1
DEN	5.7	5.3	1.2	11.9	4.1	14.6	31.8	27.2	33.9	26.1	307.8
FR	36.9	31.2	9.0	74.1	27.9	83.7	150.5	92.5	290.3	140.8	1592.3
GFR	84.4	56.8	13.0	125.5	81.8	114.3	259.6	100.6	258.3	201.9	2419.1
IRE	1.4	0.9	0.5	2.7	0.9	1.9	5.7	4.0	2.9	11.5	82.9
IT	13.6	6.0	4.6	46.9	24.1	36.7	51.0	35.3	34.2	69.3	770.5
NL	15.6	25.7	4.5	27.3	15.5	51.8	75.9	61.2	50.6	60.5	918.9
UK	18.6	7.5	5.5	37.6	19.3	53.2	115.2	64.2	185.1	95.5	1156.6
FIN	3.0	3.4	0.5	8.5	1.9	11.5	40.9	38.3	61.[illegible]	32.6	272.8
JPN	1.7	-2.8	2.2	3.1	-3.0	14.6	113.2	60.8	182.0	109.8	624.5
NZ	-0.9	0.5	0.3	0.6	2.4	5.0	13.1	1.3	-0.2	2.6	36.9
NOR	2.9	4.4	0.6	10.2	8.7	20.3	61.7	34.0	78.2	26.8	348.9
SWD	7.6	7.3	1.4	38.0	16.9	23.0	111.6	104.9	198.8	67.0	756.3
SWZ	6.7	8.6	0.5	11.6	6.3	13.5	80.9	36.0	106.9	35.8	491.5
US	57.4	79.6	12.6	30.1	22.0	132.7	219.4	414.5	386.7	1294.0	3177.9
TOTAL	377.1	273.7	69.9	478.2	282.3	814.5	1578.1	1331.8	2144.7	2446.5	15335.4

TABLE D.9

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.394	0.310	-0.170	0.054	0.393	0.113	-0.091	-0.217	0.032	0.098	0.281	-0.115	-0.533	0.112	0.018
ATA	1.439	0.375	3.066	2.000	0.253	0.711	0.396	0.321	0.980	0.175	0.230	-0.021	-0.031	0.123	0.066
CND	1.596	0.357	-0.700	0.605	0.160	0.360	1.265	-0.508	2.847	-1.878	-0.006	0.136	-1.279	0.396	-0.165
EC	-7.356	17.417	37.370	23.061	1.174	2.550	-1.719	4.755	-3.091	2.187	14.201	-0.202	4.656	2.500	2.940
BLX	1.498	2.118	9.231	5.219	0.480	0.199	0.532	0.272	1.243	0.229	6.225	-0.185	0.583	0.377	1.303
DEN	2.465	1.360	1.125	1.508	0.211	0.193	-0.022	0.704	-0.243	0.035	0.171	0.021	-0.054	0.024	0.051
FR	1.515	1.945	4.234	2.935	0.567	0.756	-0.805	-0.594	-1.083	0.001	-0.112	0.110	1.566	-0.232	0.260
GFR	-0.917	4.469	8.471	2.192	-1.027	0.823	-0.075	1.606	-1.033	0.635	8.192	-0.108	0.142	-0.161	0.775
IRE	2.222	0.554	0.995	0.654	0.109	0.078	0.017	0.021	0.041	0.082	0.218	0.007	0.071	0.160	0.037
IT	-3.740	1.423	6.645	7.138	0.063	-0.003	-0.332	2.526	-0.687	0.297	-3.401	-0.191	1.069	2.069	0.246
NL	3.231	2.941	4.370	2.593	0.274	0.229	-0.438	0.133	-0.029	0.230	3.416	0.079	0.536	-0.435	0.181
UK	-2.309	2.107	2.049	0.812	0.498	0.275	-0.595	0.087	-1.300	0.679	-0.509	0.065	0.744	0.698	0.088
FIN	1.356	0.320	0.204	1.241	0.065	0.330	0.367	0.069	1.199	-0.072	-0.632	-0.073	-0.146	-0.138	0.040
JPN	-11.145	1.009	-1.544	0.186	-0.166	-0.196	0.977	-0.088	0.435	0.190	0.790	-0.665	0.974	1.574	0.178
NZ	0.811	0.190	0.401	0.126	0.049	-0.016	0.061	0.016	0.057	0.041	-0.103	0.001	0.066	-0.004	-0.004
NOR	0.377	0.168	-0.144	0.066	-0.033	0.022	-0.0[illegible]1	-0.104	0.184	-0.178	-0.408	0.002	-0.110	-0.047	-0.029
SWD	0.369	-0.090	-0.491	-0.051	-0.174	0.052	0.528	0.023	1.163	-0.144	-1.309	-0.189	-0.013	-0.092	0.017
SWZ	0.727	0.367	0.396	-0.049	-0.244	-0.075	-0.430	-0.373	-0.682	-0.114	1.556	-0.215	-0.279	-0.460	0.026
US	51.996	-2.341	-4.434	-6.330	-0.029	0.069	-1.316	0.530	-0.610	0.149	1.269	-0.122	-0.911	-1.785	-0.319
TOTAL	41.054	18.063	33.954	20.908	1.450	3.921	-0.024	4.423	2.513	0.454	15.869	-1.463	2.394	2.180	2.767

TABLE D.9 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.054	0.577	0.208	0.071	0.283	-0.074	0.561	0.241	0.031	-0.011	-0.135	0.093	0.105	-0.428	2.257
AFA	1.596	0.234	-2.165	2.036	1.233	0.521	2.979	0.125	-0.094	0.071	-1.605	-0.085	-0.245	-2.693	12.700
CND	-0.231	-0.034	-2.707	0.700	-1.344	1.745	0.021	0.529	-0.234	1.071	-1.363	-0.239	-0.163	-2.742	-1.865
EC	9.409	-0.120	13.913	30.624	24.608	22.683	42.717	1.106	-1.264	-4.644	-21.129	-0.657	-2.194	-40.951	174.515
BLX	3.789	0.600	2.505	2.019	2.124	3.317	2.230	0.674	0.033	-0.765	-2.455	0.526	0.159	-5.289	38.991
DEN	-0.132	0.016	0.164	1.460	0.169	-0.721	1.711	0.004	-0.075	-0.124	-1.052	-0.226	-0.340	-2.563	6.342
FR	0.632	0.029	0.900	5.291	2.998	3.239	4.190	0.113	-0.291	0.014	-3.828	-0.516	-0.743	-6.145	17.142
GFR	3.745	-0.164	6.146	13.336	12.918	10.594	17.642	0.535	-0.398	-1.792	-6.663	-0.550	-0.597	-11.596	61.132
IRE	0.057	0.106	0.318	0.165	0.229	0.079	0.538	0.109	0.038	-0.015	-0.124	0.160	0.068	-0.690	6.334
IT	0.743	-1.266	2.452	3.338	2.083	3.531	4.073	-0.727	-0.231	-1.121	-2.503	-0.209	-0.909	-3.115	14.462
NL	0.615	0.344	0.249	1.535	1.336	1.635	3.686	0.087	0.066	-0.367	-1.337	0.529	0.590	-4.377	22.013
UK	-0.030	0.032	1.177	3.400	2.752	1.010	8.648	0.311	-0.405	-0.475	-3.168	-0.372	-0.433	-7.177	8.098
FIN	-0.201	0.022	-0.166	-0.247	-0.536	-0.525	-0.348	-0.125	-0.050	0.078	-0.431	-0.091	-0.211	-0.721	0.174
JPN	0.787	0.969	4.150	-0.901	7.751	5.474	5.491	-0.282	0.192	-1.006	-0.773	1.013	0.682	-2.529	13.526
NZ	-0.011	0.193	-0.101	-0.029	0.027	0.082	0.295	0.022	0.003	0.068	-0.077	0.053	0.016	-0.339	1.896
NOR	-0.028	0.286	-0.496	-0.705	-0.686	-0.675	-0.091	0.016	-0.086	0.060	-0.662	-0.323	-0.283	-0.839	-4.307
SWD	0.563	0.068	0.615	0.397	-0.617	0.520	-0.413	-0.461	-0.030	0.165	-0.734	-0.181	-0.364	-1.384	-2.258
SWZ	-0.303	0.045	0.266	-6.211	0.299	-2.704	2.733	-1.922	-0.120	0.277	-0.615	-0.669	-0.696	-0.629	-10.598
US	-0.733	-0.621	-1.736	2.066	-3.844	1.040	-17.023	-1.089	-1.178	0.080	-15.597	-2.699	-7.948	-14.666	-28.133
TOTAL	10.341	1.620	11.781	28.460	26.773	28.089	36.923	-1.840	-2.830	-3.790	-43.123	-3.785	-11.302	-67.921	157.906

TABLE D.10

PERCENTAGE CHANGES IN EMPLOYMENT UNDER FIXED EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	0.105	0.152	-0.280	0.088	6.384	1.004	-0.169	-0.807	0.105	0.133	0.483	-1.912	-2.802	0.253	0.216
ATA	0.409	0.449	4.020	4.430	4.103	3.611	3.570	1.072	3.096	0.630	0.434	-0.353	-0.243	0.280	0.530
CND	0.282	0.135	-0.651	0.519	1.650	1.788	1.038	-0.919	1.964	-1.831	-0.007	0.680	-4.226	0.846	-1.160
EC	-0.037	0.621	1.779	1.623	0.558	0.636	-0.254	0.889	-0.407	0.200	0.647	-0.073	0.944	0.220	0.766
BLX	1.094	1.972	8.831	9.184	7.230	1.669	2.097	1.792	4.008	0.518	7.227	-1.389	7.141	0.693	4.079
DEN	1.105	1.955	4.568	7.179	8.585	5.468	-0.145	3.511	-1.309	0.094	0.587	0.641	-1.235	0.085	1.341
FR	0.071	0.315	1.171	1.095	1.223	0.926	-0.469	-0.577	-0.865	0.000	-0.028	0.078	1.764	-0.118	0.350
GER	-0.397	0.805	2.060	0.661	-2.287	1.276	-0.038	1.368	-0.526	0.292	1.210	-0.300	0.107	-0.057	0.752
IRE	0.914	1.021	4.741	4.928	4.926	2.154	0.429	0.511	0.692	0.774	2.175	0.371	3.396	1.772	1.087
IT	-0.298	0.341	1.134	1.982	0.128	-0.002	-0.332	1.864	-0.521	0.195	-0.707	-0.567	0.895	0.666	0.269
NL	1.112	1.637	9.002	8.295	9.464	4.045	-1.203	0.680	-0.099	0.296	4.519	0.790	2.916	-1.372	1.793
UK	-0.426	0.271	0.393	0.240	1.187	0.324	-0.467	0.072	-0.573	0.203	-0.116	0.173	0.625	0.316	0.133
FIN	0.457	0.447	0.741	3.561	1.958	5.439	0.947	0.658	2.158	-0.216	-2.573	-2.256	-2.602	-0.713	0.897
JPN	-0.173	0.066	-0.130	0.032	-0.302	-0.495	0.154	-0.040	0.111	0.032	0.133	-1.218	0.630	0.296	0.207
NZ	0.571	0.260	2.149	0.622	1.538	-0.267	0.343	0.258	0.543	0.216	-0.724	0.164	1.146	-0.048	0.175
NOR	0.522	0.321	-1.024	0.578	-2.193	1.055	-0.248	-1.014	0.687	-0.429	-1.978	0.076	-3.107	-0.381	-1.162
SWD	0.145	-0.102	-1.723	-0.189	-5.461	1.256	0.741	0.114	1.698	-0.289	-2.833	-5.994	-0.079	-0.279	0.249
SWZ	0.299	0.524	0.617	-0.164	-7.273	-0.655	-1.808	-2.899	-3.045	-0.211	1.729	-17.948	-4.525	-2.265	0.615
US	1.577	-0.134	-0.377	-0.544	-0.031	0.039	-0.248	0.132	-0.092	0.014	0.117	-0.069	-0.349	-0.407	-0.180
TOTAL	0.199	0.259	0.699	0.595	0.384	0.563	-0.001	0.333	0.114	0.014	0.371	-0.266	0.237	0.093	0.394

TABLE D.10 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.075	2.195	0.187	0.054	0.345	-0.051	0.969	0.308	0.036	-0.002	-0.010	0.021	0.023	-0.034	0.039
ATA	1.398	1.634	-2.423	4.072	1.414	1.441	8.206	0.542	-0.285	0.028	-0.332	-0.043	-0.181	-0.460	0.431
CND	-0.397	-0.061	-1.787	0.630	-0.982	0.934	0.026	0.362	-0.209	0.167	-0.082	-0.033	-0.032	-0.084	-0.019
EC	0.515	-0.028	0.606	0.889	0.741	0.679	2.650	0.087	-0.114	-0.056	-0.133	-0.011	-0.036	-0.181	0.174
BLX	3.496	2.682	2.193	3.056	2.129	4.375	6.124	1.781	0.091	-0.240	-0.343	0.189	0.066	-0.542	1.009
DEN	-1.598	0.508	0.461	2.048	0.440	-1.571	5.824	0.215	-0.498	-0.063	-0.298	-0.136	-0.228	-0.341	0.265
FR	0.297	0.046	0.180	1.104	0.535	0.466	1.346	0.067	-0.160	0.001	-0.109	-0.044	-0.059	-0.130	0.082
GFR	0.616	-0.163	0.998	1.000	1.079	1.242	3.915	0.145	-0.173	-0.093	-0.187	-0.037	-0.044	-0.217	0.249
IRE	0.348	5.941	4.029	3.847	1.913	0.580	4.328	1.086	0.268	-0.020	-0.073	0.251	0.243	-0.324	0.620
IT	0.176	-1.304	0.657	0.612	0.347	0.523	1.273	-0.223	-0.094	-0.064	-0.095	-0.019	-0.066	-0.129	0.076
NL	1.138	2.243	0.368	1.603	1.479	2.029	6.247	1.090	0.147	-0.084	-0.164	0.171	0.194	-0.340	0.485
UK	-0.023	0.030	0.204	0.394	0.381	0.112	2.201	0.091	-0.118	-0.029	-0.077	-0.024	-0.031	-0.104	0.033
FIN	-1.159	0.447	-0.540	-0.373	-2.650	-1.337	-2.204	-1.392	-0.179	0.049	-0.135	-0.056	-0.182	-0.142	0.008
JPN	0.121	0.523	0.406	-0.066	0.524	0.449	0.627	-0.157	0.058	-0.020	-0.007	0.030	0.039	-0.024	0.026
NZ	-0.346	5.934	-0.405	-0.248	0.150	0.420	2.565	0.439	0.022	0.073	-0.040	0.047	0.020	-0.125	0.157
NOR	-0.159	2.349	-1.692	-2.178	-2.676	-1.179	-0.580	0.145	-0.453	0.041	-0.224	-0.201	-0.345	-0.172	-0.241
SWD	0.756	0.426	0.590	0.250	-0.639	0.349	-1.200	-2.194	-0.092	0.056	-0.124	-0.066	-0.151	-0.108	-0.055
SWZ	-4.750	0.263	0.365	-4.741	0.251	-20.451	2.358	-3.229	-0.198	0.141	-0.180	-0.266	-0.252	-0.129	-0.376
US	-0.034	-0.203	-0.113	0.091	-0.210	0.058	-1.323	-0.139	-0.160	0.002	-0.075	-0.075	-0.103	-0.052	-0.032
TOTAL	0.286	0.151	0.216	0.357	0.370	0.402	0.891	-0.071	-0.110	-0.020	-0.081	-0.024	-0.065	-0.098	0.058

APPENDIX E

Flexible Exchange-Rate Results

The results reported in these tables refer to different runs of the model as noted, under conditions of flexible exchange rates.

The results in Tables E.1 - E.4 and E.9 - E.12 are in terms of percentage changes. The trade results in Tables E.5, E.6, E.13, and E.14 are in millions of dollars. The employment results in Tables E.7 and E.8 in thousands of man-years.

TABLE E.1

PERCENTAGE CHANGES IN EXPORT PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUS	0.70	-0.02	-0.20	-0.05	-0.14	-0.25	0.02	0.36	-0.14	0.18	0.27	-0.07
AUT	0.63	-0.10	-0.27	-0.12	-0.21	-0.33	-0.06	0.28	-0.21	0.10	0.19	-0.14
CAN	0.75	0.05	-0.12	0.03	-0.06	-0.18	0.09	0.43	-0.06	0.25	0.35	0.01
EC	0.70	-0.06	-0.19	-0.07	-0.13	-0.25	0.02	0.31	-0.13	0.16	0.26	-0.09
BLX	0.37	-0.65	-0.83	-0.68	-0.77	-0.83	-0.62	-0.27	-0.77	-0.46	-0.36	-0.70
DEN	0.50	-0.22	-0.40	-0.25	-0.34	-0.45	-0.19	0.16	-0.34	-0.03	0.07	-0.27
FR	0.77	0.05	-0.12	0.03	-0.06	-0.18	0.09	0.43	-0.06	0.25	0.34	0.01
GER	[illegible]	-0.13	-0.30	-0.15	-0.24	-0.36	-0.09	0.25	-0.24	0.07	0.16	-0.17
IRE	0.56	-0.17	-0.34	-0.19	-0.28	-0.40	-0.13	0.21	-0.28	0.03	0.12	-0.22
IT	0.74	0.04	-0.13	0.02	-0.07	-0.19	0.08	0.42	-0.07	0.24	0.33	-0.01
NL	0.33	-0.40	-0.57	-0.42	-0.51	-0.63	-0.36	-0.01	-0.51	-0.20	-0.10	-0.44
UK	0.87	0.14	-0.03	0.12	0.03	-0.09	0.18	0.52	0.03	0.34	0.44	0.10
FIN	0.75	0.03	-0.15	0.00	-0.09	-0.20	0.06	0.41	-0.09	0.22	0.32	-0.02
JPN	0.70	-0.02	-0.19	-0.04	-0.13	-0.25	0.02	0.36	-0.13	0.18	0.27	-0.06
NZ	0.82	0.10	-0.08	0.07	-0.02	-0.14	0.13	0.48	-0.02	0.29	0.39	0.05
NOR	0.80	0.07	-0.10	0.05	-0.04	-0.16	0.11	0.46	-0.04	0.27	0.37	0.03
SWD	0.62	-0.11	-0.28	-0.13	-0.22	-0.34	-0.07	0.27	-0.22	0.09	0.18	-0.15
SWZ	0.52	-0.21	-0.38	-0.23	-0.32	-0.44	-0.17	0.17	-0.32	-0.01	0.09	-0.25
US	0.95	0.23	0.06	0.21	0.12	-0.00	0.27	0.61	0.12	0.43	0.52	0.19
TOTAL	0.79	0.07	-0.11	0.06	-0.06	-0.16	0.10	0.42	-0.02	0.30	0.37	0.04

TABLE E.1 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	0.19	0.23	0.26	-0.06	-0.10	0.40	-0.10	0.23	0.09	0.08	0.18
ATA	0.11	0.15	0.18	-0.14	-0.18	0.33	-0.18	0.15	0.01	0.01	0.07
CAD	0.26	0.30	0.33	0.01	-0.03	0.48	-0.02	0.30	0.17	0.16	0.23
EC	0.16	0.21	0.24	-0.08	-0.10	0.39	-0.11	0.20	0.09	0.07	0.12
BLX	-0.44	-0.40	-0.39	-0.69	-0.73	-0.23	-0.73	-0.40	-0.54	-0.55	-0.50
DEN	-0.01	0.03	0.05	-0.26	-0.30	0.20	-0.30	0.03	-0.11	-0.12	-0.02
FR	0.26	0.30	0.33	0.01	-0.03	0.49	-0.03	0.30	0.16	0.15	0.22
GER	0.08	0.12	0.15	-0.17	-0.21	0.30	-0.20	0.12	-0.01	-0.02	-0.00
IRE	0.04	0.08	0.11	-0.21	-0.25	0.26	-0.25	0.08	-0.06	-0.06	-0.05
IT	0.25	0.29	0.32	0.00	-0.04	0.47	-0.04	0.29	0.15	0.15	0.24
NL	-0.19	-0.15	-0.12	-0.43	-0.47	0.03	-0.47	-0.14	-0.28	-0.29	-0.25
UK	0.35	0.39	0.42	0.10	0.06	0.57	0.07	0.39	0.26	0.25	0.27
FIN	0.24	0.28	0.30	-0.01	-0.05	0.45	-0.05	0.28	0.14	0.13	0.24
JPN	0.19	0.23	0.26	-0.06	-0.10	0.41	-0.10	0.23	0.09	0.09	0.14
NZ	0.30	0.34	0.37	0.06	0.02	0.52	0.02	0.35	0.21	0.20	0.29
NOR	0.28	0.32	0.35	0.04	-0.00	0.50	-0.00	0.33	0.19	0.18	0.28
[illegible]	0.10	0.14	0.17	-0.15	-0.19	0.32	-0.18	0.14	0.01	-0.00	0.06
[illegible]	0.00	0.04	0.07	-0.25	-0.29	0.22	-0.28	0.04	-0.09	-0.10	-0.07
US	0.44	0.48	0.51	0.13	0.15	0.66	0.15	0.48	0.34	0.34	0.37
TOTAL	0.23	0.29	0.34	0.03	0.01	0.50	0.00	0.31	0.20	0.18	0.23

TABLE E.2

PERCENTAGE CHANGES IN IMPORT PRICES UNDER FLEXIBLE EXCHANGE RATES BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUS	-1.44	-1.45	-0.42	-0.07	-4.43	-0.25	-0.95	-5.93	-0.14	0.18	-0.11	-0.06
AUT	-0.50	[illegible]	-2.10	-0.20	-1.50	-0.89	-1.11	-0.45	-3.32	-0.78	-2.73	-0.89
CAN	-0.38	[illegible]	-1.73	-0.59	-1.92	-1.53	-2.37	-3.84	-4.62	-4.20	-0.03	0.01
EC	-1.19	[illegible]	-1.75	-1.91	-1.69	-0.30	-0.79	-2.36	-1.81	-0.94	-2.80	-0.12
BLX	-1.75	[illegible]	-2.23	-3.19	-2.30	-0.79	-1.39	-2.94	-2.96	-1.33	-3.58	-0.68
DEN	-1.61	[illegible]	-2.61	-2.08	-2.07	-0.45	-1.14	-2.52	-2.95	-1.56	-2.97	-0.27
FR	-0.71	-1.47	-1.86	-2.12	-1.71	-0.34	-0.78	-2.24	-1.92	-0.74	-2.54	-0.10
GER	[illegible]	[illegible]	-2.15	-1.85	-2.05	-0.36	-1.05	-2.42	-2.02	-1.09	-3.06	-0.20
IRE	-1.27	[illegible]	-2.46	-2.80	-3.70	-0.40	-0.81	-2.37	-2.90	-0.85	-2.69	-0.22
IT	-1.40	-1.56	-1.14	-1.84	-1.06	-0.26	-0.12	-2.25	-1.14	-0.64	-2.66	-0.01
NL	-1.40	-2.49	-2.96	-2.51	-2.60	-0.62	-1.13	-2.69	-2.54	-1.45	-3.50	-0.43
UK	-0.76	-2.24	-1.49	-1.33	-1.53	-0.09	-0.69	-2.15	-1.57	-0.82	-2.55	0.10
FIN	-0.31	-0.49	-1.08	-0.84	-3.02	-0.42	-0.04	-2.54	-3.33	-0.46	-0.94	-0.02
JPN	0.28	-0.03	-0.19	-0.04	-0.16	-0.47	0.02	-2.14	-0.13	0.08	-0.99	-0.14
NZ	-0.01	-0.07	-0.94	-0.09	-0.02	-2.50	-0.14	-0.95	-0.35	0.29	-1.28	0.02
NOR	0.37	-0.29	-2.40	-0.73	-0.79	-0.49	-0.28	-1.87	-1.01	0.27	-1.22	0.03
SWD	0.31	-0.12	-0.79	-0.27	-0.98	-0.28	-0.27	-1.05	-0.80	0.09	-1.22	-0.15
SWZ	0.05	-0.24	-1.60	-2.41	-1.00	-3.46	-1.88	-3.36	-2.48	-0.21	-0.09	-0.25
US	0.56	-0.72	-2.74	-1.40	-1.21	-0.05	-1.57	-3.09	-0.18	-0.01	-0.83	0.10
TOTAL	-0.26	-1.07	-1.70	-1.36	-1.48	-0.33	-0.92	-2.66	-1.11	-0.41	-1.60	-0.03

TABLE E.2 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	-2.10	0.12	0.26	-0.06	-1.14	0.08	-0.36	0.22	-0.54	-0.09	-0.78
ATA	-3.99	-2.60	-3.74	-0.51	-1.32	-7.13	-4.15	-3.22	-1.89	-4.39	-2.05
CND	-4.64	-2.53	-3.35	-1.20	-0.03	-4.43	-1.53	-5.51	-0.49	-2.97	-1.67
EC	-1.31	-1.09	-1.82	-1.38	-0.51	-1.82	-2.03	-1.50	-1.72	-2.67	-1.63
BLX	-2.33	-1.68	-2.10	-2.01	-1.03	-2.23	-2.70	-2.41	-3.42	-2.63	-2.48
DEN	-2.17	-1.57	-1.95	-1.75	-1.69	-1.97	-2.18	-1.98	-1.31	-3.66	-1.99
FR	-1.36	-1.43	-1.86	-1.45	-0.51	-1.70	-1.91	-1.61	-1.89	-2.71	-1.47
GFR	-1.72	-1.56	-1.94	-1.52	-0.60	-2.02	-2.17	-1.59	-2.02	-3.23	-1.87
IRE	-1.38	-1.34	-1.90	-1.54	-1.64	-1.89	-1.94	-2.01	-1.26	-4.29	-2.14
IT	-0.76	-0.18	-1.51	-1.03	-0.43	-1.74	-1.66	-1.02	-0.56	-2.87	-1.35
NL	-2.07	-1.11	-1.77	-1.72	-1.15	-2.06	-2.45	-2.14	-2.00	-3.49	-1.97
UK	-0.90	-0.38	-1.84	-1.26	-0.23	-1.65	-2.00	-1.22	-1.67	-1.56	-1.48
FIN	-0.11	-0.57	-2.17	-1.43	-0.45	-1.25	-2.44	-3.46	-1.94	-4.52	-1.17
JPN	-0.20	0.11	-1.98	-0.54	-0.05	-1.18	-3.20	-1.73	-4.15	-1.15	-1.07
NZ	0.30	-0.57	-1.27	-0.70	-4.74	-1.89	-4.67	-0.78	-0.39	-1.66	-0.64
NOR	-0.31	-0.07	-1.91	-0.45	-0.20	-1.26	-3.31	-1.23	-1.07	-1.20	-0.60
SWD	-0.27	-0.15	-1.84	-1.10	-0.38	-0.92	-1.52	-2.19	-2.86	-1.42	-0.88
SWZ	-0.29	-0.92	-1.27	-0.64	-2.11	-0.74	-0.58	-0.35	-0.66	-0.49	-0.65
US	-0.62	-3.00	-3.55	-0.77	-0.34	-1.86	-1.47	-1.46	-0.42	-2.99	-0.87
TOTAL	-1.02	-1.44	-2.47	-0.96	-0.38	-1.83	-1.93	-1.66	-1.48	-2.48	-1.21

TABLE E.3

PERCENTAGE CHANGES IN HOME PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.07	-0.06	-0.16	-0.10	-0.67	-0.73	-0.15	-0.20	-0.06	-0.02	-0.08	-0.02	-0.39	-0.02	-0.02
ATA	-0.22	-0.38	-0.64	-0.50	-0.37	-0.72	-0.63	-0.65	-0.67	-0.49	-1.02	-0.33	-1.44	-0.61	-0.71
CND	-0.06	-0.18	-0.40	-0.36	-0.40	-0.66	-0.33	-0.47	-0.39	-0.59	-0.17	-0.02	-0.95	-0.44	-0.60
EC	-0.33	-0.36	-0.48	-0.59	-0.46	-0.41	-0.28	-0.42	-0.40	-0.27	-0.70	-0.13	-0.55	-0.24	-0.24
BLX	-0.36	-0.88	-1.17	-1.54	-1.09	-0.92	-0.89	-0.93	-1.20	-0.75	-1.84	-0.58	-1.50	-0.70	-0.77
DEN	-0.24	-0.49	-0.95	-1.11	-0.67	-0.82	-0.55	-0.80	-0.99	-0.59	-1.26	-0.27	-1.22	-0.49	-0.60
FR	-0.12	-0.19	-0.46	-0.51	-0.37	-0.38	-0.22	-0.36	-0.36	-0.23	-0.64	-0.09	-0.57	-0.22	-0.20
GFR	-0.68	-0.50	-0.72	-0.75	-0.64	-0.56	-0.37	-0.47	-0.47	-0.30	-0.82	-0.17	-0.72	-0.31	-0.27
IRE	-0.17	-0.39	-0.74	-1.02	-0.68	-0.70	-0.40	-0.62	-0.84	-0.49	-1.08	-0.19	-0.81	-0.44	-0.44
IT	-0.33	-0.26	-0.23	-0.24	-0.31	-0.24	-0.09	-0.16	-0.19	-0.13	-0.51	-0.04	-0.30	-0.08	-0.12
NL	-0.55	-0.58	-1.14	-1.40	-0.52	-0.91	-0.60	-0.93	-0.86	-0.52	-1.45	-0.40	-1.05	-0.52	-0.53
UK	-0.24	-0.23	-0.28	-0.33	-0.33	-0.25	-0.23	-0.20	-0.27	-0.15	-0.39	0.01	-0.27	-0.08	-0.16
FIN	-0.12	-0.15	-0.20	-0.30	-0.58	-0.66	-0.01	-0.35	-0.17	-0.17	-0.36	-0.07	-0.19	-0.18	-0.46
JPN	0.01	-0.00	-0.08	-0.04	-0.07	-0.05	-0.00	-0.03	-0.03	-0.02	-0.11	-0.05	-0.06	-0.02	-0.02
NZ	0.26	0.02	-0.26	-0.25	-0.07	-0.13	-0.00	-0.18	-0.10	-0.06	-0.40	-0.04	-0.16	-0.15	-0.15
NOR	-0.01	-0.11	-0.74	-0.62	-0.24	-0.37	-0.10	-0.39	-0.19	-0.13	-0.47	0.02	-0.33	-0.11	-0.38
SWD	-0.09	-0.11	-0.32	-0.25	-0.35	-0.30	-0.10	-0.28	-0.20	-0.12	-0.48	-0.12	-0.26	-0.12	-0.34
SWZ	-0.13	-0.14	-0.51	-0.84	-0.44	-0.62	-0.54	-0.61	-0.51	-0.24	-0.08	-0.16	-0.21	-0.25	-0.34
US	0.06	0.00	-0.11	-0.17	-0.11	-0.13	-0.14	-0.08	-0.05	-0.04	-0.03	0.03	-0.09	-0.11	-0.06
TOTAL	-0.10	-0.14	-0.27	-0.33	-0.33	-0.31	-0.16	-0.24	-0.18	-0.13	-0.33	-0.05	-0.31	-0.17	-0.16

TABLE E.3 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.04	-0.28	-0.07	-0.07	-0.02	-0.17	-0.08	-0.00	-0.01	-0.05	-0.01	-0.01	-0.02	-0.02	-0.05
ATA	-0.43	-0.60	-1.38	-1.04	-0.98	-1.19	-1.52	-0.28	-0.23	-0.66	-0.22	-0.19	-0.32	-0.28	-0.50
CND	-0.24	-0.09	-0.58	-0.50	-0.99	-0.38	-1.00	0.07	-0.08	-0.34	-0.11	-0.08	-0.16	-0.12	-0.20
EC	-0.21	-0.21	-0.35	-0.34	-0.34	-0.59	-0.67	-0.01	-0.08	-0.22	-0.10	-0.07	-0.12	-0.14	-0.24
BLX	-0.85	-0.68	-1.07	-1.01	-1.06	-2.11	-1.17	-0.74	-0.28	-0.63	-0.26	-0.23	-0.36	-0.35	-0.65
DEN	-0.51	-0.67	-0.85	-0.59	-0.82	-0.89	-1.30	-0.25	-0.22	-0.47	-0.20	-0.16	-0.28	-0.27	-0.42
FR	-0.22	-0.20	-0.33	-0.39	-0.32	-0.59	-0.53	-0.03	-0.07	-0.19	-0.08	-0.06	-0.11	-0.11	-0.20
GFR	-0.23	-0.26	-0.37	-0.36	-0.34	-0.68	-0.92	-0.15	-0.13	-0.26	-0.13	-0.10	-0.18	-0.18	-0.33
IRE	-0.42	-0.74	-0.98	-0.70	-0.78	-0.81	-1.30	-0.14	-0.07	-0.47	-0.14	-0.08	-0.15	-0.22	-0.34
IT	-0.11	-0.17	-0.21	-0.21	-0.19	-0.22	-0.43	0.01	-0.04	-0.12	-0.06	-0.04	-0.08	-0.09	-0.16
NL	-1.52	-0.59	-0.79	-0.74	-0.79	-1.16	-1.27	-0.50	-0.17	-0.47	-0.18	-0.15	-0.23	-0.26	-0.46
UK	-0.09	-0.06	-0.19	-0.22	-0.17	-0.43	-0.41	0.10	-0.01	-0.11	-0.05	-0.03	-0.06	-0.08	-0.13
FIN	-0.30	-0.18	-0.43	-0.55	-0.94	-0.90	-1.11	-0.04	-0.07	-0.24	-0.10	-0.08	-0.14	-0.14	-0.20
JPN	-0.03	-0.02	-0.04	-0.08	-0.05	-0.15	-0.10	-0.05	-0.02	-0.03	-0.01	-0.02	-0.02	-0.02	-0.03
NZ	-0.34	-1.22	-0.54	-0.77	-0.37	-0.37	-0.49	0.01	-0.02	-0.24	-0.05	-0.03	-0.06	-0.07	-0.10
NOR	-0.17	-0.09	-0.43	-0.59	-0.42	-0.63	-0.47	0.16	-0.04	-0.21	-0.08	-0.06	-0.11	-0.11	-0.14
SWD	-0.28	-0.20	-0.35	-0.41	-0.62	-1.16	-0.52	-0.11	-0.09	-0.19	-0.08	-0.08	-0.11	-0.11	-0.21
SWZ	-0.21	-0.51	-0.32	-0.26	-0.21	-0.42	-0.27	-0.23	-0.12	-0.21	-0.08	-0.08	-0.12	-0.09	-0.18
US	-0.02	-0.04	-0.07	-0.07	-0.13	-0.09	-0.42	0.07	-0.01	-0.07	-0.02	-0.02	-0.03	-0.04	-0.04
TOTAL	-0.11	-0.11	-0.22	-0.20	-0.24	-0.31	-0.46	0.04	-0.04	-0.15	-0.05	-0.04	-0.06	-0.08	-0.12

TABLE E.4

PERCENTAGE CHANGES IN INDEX OF IMPORT AND HOME PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.11	-0.09	-0.24	-0.09	-3.71	-0.67	-0.23	-0.53	-0.07	-0.00	-0.09	-0.06	-0.77	-0.01	0.04
ATA	-0.26	-0.37	-1.31	-0.36	-1.16	-0.79	-1.11	-0.61	-1.22	-0.57	-1.68	-0.57	-2.39	-0.97	-1.74
CND	-0.09	-0.21	-0.74	-0.41	-1.67	-0.97	-0.63	-0.82	-0.81	-1.07	-0.13	0.00	-1.82	-0.89	-1.64
EC	-0.49	-0.57	-0.87	-0.94	-1.11	-0.37	-0.39	-0.75	-0.78	-0.30	-1.28	-0.13	-0.74	-0.34	-0.54
BLX	-1.32	-1.40	-2.27	-2.71	-1.97	-0.84	-1.39	-1.42	-2.47	-0.87	-3.57	-0.68	-2.04	-0.98	-1.86
DEN	-0.50	-0.84	-2.00	-1.70	-2.06	-0.56	-0.90	-1.45	-2.09	-0.67	-2.28	-0.27	-1.80	-0.71	-1.44
FR	-0.18	-0.30	-0.83	-0.82	-0.97	-0.37	-0.31	-0.71	-0.69	-0.27	-1.16	-0.09	-0.83	-0.32	-0.41
GFR	-1.04	-0.67	-1.23	-1.14	-1.54	-0.49	-0.50	-0.89	-0.89	-0.34	-1.50	-0.19	-1.01	-0.47	-0.57
IRE	-0.45	-0.59	-1.58	-1.78	-1.68	-0.60	-0.57	-1.02	-1.82	-0.54	-2.01	-0.21	-1.02	-0.72	-1.00
IT	-0.44	-0.48	-0.41	-0.38	-0.72	-0.26	-0.10	-0.24	-0.33	-0.14	-0.90	-0.02	-0.38	-0.09	-0.27
NL	-0.67	-0.91	-2.55	-2.21	-2.58	-0.72	-0.86	-2.01	-1.70	-0.56	-2.75	-0.42	-1.28	-0.76	-1.19
UK	-0.34	-0.46	-0.47	-0.56	-0.78	-0.22	-0.33	-0.34	-0.54	-0.17	-0.70	0.05	-0.34	-0.10	-0.41
FIN	-0.13	-0.17	-0.51	-0.43	-2.99	-0.59	-0.01	-0.78	-0.36	-0.19	-0.63	-0.04	-0.16	-0.24	-1.38
JPN	0.04	-0.00	-0.09	-0.04	-0.11	-0.09	-0.00	-0.06	-0.03	-0.02	-0.19	-0.11	-0.07	-0.01	-0.06
NZ	0.25	0.02	-0.64	-0.24	-0.02	-0.21	-0.01	-0.19	-0.12	-0.02	-0.71	0.01	-0.07	-0.20	-0.37
NOR	0.02	-0.12	-1.63	-0.69	-0.78	-0.45	-0.13	-0.80	-0.33	-0.10	-0.87	0.03	-0.32	-0.10	-1.11
SWD	-0.04	-0.11	-0.51	-0.26	-0.98	-0.28	-0.12	-0.57	-0.29	-0.11	-0.85	-0.14	-0.27	-0.12	-1.07
SWZ	-0.06	-0.15	-1.03	-1.69	-0.96	-2.31	-0.86	-1.71	-1.16	-0.23	-0.08	-0.24	-0.26	-0.43	-0.90
US	0.09	-0.01	-0.19	-0.30	-0.43	-0.11	-0.27	-0.08	-0.05	-0.04	-0.05	0.05	-0.14	-0.24	-0.16
TOTAL	-0.15	-0.23	-0.49	-0.53	-0.92	-0.32	-0.26	-0.41	-0.34	-0.15	-0.59	-0.05	-0.46	-0.27	-0.37

TABLE E.4 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.04	-0.68	-0.06	-0.17	0.04	-0.26	-0.08	-0.00	-0.01	-0.05	-0.01	-0.01	-0.02	-0.02	-0.07
ATA	-0.45	-0.91	-2.61	-3.36	-1.79	-1.62	-4.36	-0.28	-0.23	-0.66	-0.22	-0.19	-0.32	-0.28	-0.73
CND	-0.39	-0.03	-1.05	-1.27	-2.15	-0.43	-2.95	0.07	-0.08	-0.34	-0.11	-0.08	-0.16	-0.12	-0.29
EC	-0.46	-0.35	-0.50	-0.95	-0.56	-0.89	-1.89	-0.01	-0.08	-0.22	-0.10	-0.07	-0.12	-0.14	-0.37
BLX	-1.99	-1.02	-1.42	-2.69	-1.90	-3.41	-2.61	-0.74	-0.28	-0.63	-0.26	-0.23	-0.36	-0.35	-0.98
DEN	-1.51	-1.19	-1.15	-1.61	-1.52	-1.17	-3.64	-0.25	-0.22	-0.47	-0.20	-0.16	-0.28	-0.27	-0.62
FR	-0.51	-0.31	-0.44	-1.24	-0.56	-0.89	-1.41	-0.03	-0.07	-0.19	-0.08	-0.06	-0.11	-0.11	-0.30
GFR	-0.45	-0.42	-0.54	-0.93	-0.53	-1.02	-2.80	-0.15	-0.13	-0.26	-0.13	-0.10	-0.18	-0.18	-0.50
IRE	-0.33	-1.54	-1.62	-1.93	-1.42	-1.04	-3.59	-0.14	-0.07	-0.47	-0.14	-0.08	-0.15	-0.22	-0.52
IT	-0.24	-0.30	-0.30	-0.61	-0.30	-0.28	-1.26	0.01	-0.04	-0.12	-0.06	-0.04	-0.08	-0.09	-0.25
NL	-0.97	-0.94	-1.16	-2.07	-1.39	-1.72	-3.47	-0.50	-0.17	-0.47	-0.18	-0.15	-0.23	-0.26	-0.69
UK	-0.22	-0.11	-0.27	-0.67	-0.31	-0.67	-1.20	0.10	-0.01	-0.11	-0.05	-0.03	-0.06	-0.08	-0.20
FIN	-0.69	-0.26	-0.59	-1.45	-2.09	-1.39	-3.53	-0.04	-0.07	-0.24	-0.10	-0.08	-0.14	-0.14	-0.31
JPN	-0.03	-0.03	-0.05	-0.27	-0.10	-0.25	-0.31	-0.05	-0.02	-0.03	-0.01	-0.02	-0.02	-0.02	-0.05
NZ	-0.49	-2.64	-0.68	-2.64	-0.47	-0.38	-1.14	0.01	-0.02	-0.24	-0.05	-0.03	-0.06	-0.07	-0.15
NOR	-0.34	-0.19	-0.71	-2.18	-0.80	-0.94	-1.19	0.16	-0.04	-0.21	-0.08	-0.06	-0.11	-0.11	-0.22
SWD	-0.75	-0.34	-0.43	-1.07	-1.39	-1.93	-1.41	-0.11	-0.09	-0.19	-0.08	-0.08	-0.11	-0.11	-0.32
SWZ	-0.46	-1.03	-0.43	-0.58	-0.27	-0.61	-0.49	-0.23	-0.12	-0.21	-0.08	-0.08	-0.12	-0.09	-0.27
US	-0.05	-0.08	-0.12	-0.18	-0.26	-0.12	-1.41	0.07	-0.01	-0.07	-0.02	-0.02	-0.03	-0.04	-0.06
TOTAL	-0.22	-0.18	-0.33	-0.56	-0.44	-0.45	-1.41	0.04	-0.04	-0.15	-0.05	-0.04	-0.06	-0.08	-0.18

TABLE E.5

CHANGES IN EXPORTS UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	0.9	5.8	-9.0	0.1	10.2	0.2	0.5	0.1	-0.1	0.2	8.3	-19.1
ATA	0.5	3.9	26.8	16.7	1.5	9.0	10.2	3.5	17.6	1.6	17.2	6.1
CND	14.5	14.4	2.1	12.0	5.8	8.3	31.5	0.2	112.6	2.3	20.4	26.1
EC	51.6	372.7	529.8	468.3	75.3	43.8	18.6	125.2	83.4	45.5	935.2	-11.1
BLX	3.6	26.2	111.5	59.1	4.2	0.4	1.2	14.9	15.3	2.1	125.9	-36.4
DEN	4.1	30.3	13.3	20.4	7.2	2.1	1.4	9.6	3.9	1.2	18.2	0.[illegible]
FR	14.3	67.0	69.3	83.8	13.5	9.9	5.0	11.1	15.7	9.5	141.2	27.5
GFR	5.4	85.2	146.7	104.8	16.9	8.1	6.8	43.1	19.8	11.1	289.2	-2.5
IRE	1.2	14.6	10.8	10.6	2.1	1.1	0.2	0.7	1.3	0.7	8.7	-0.7
IT	6.9	29.0	29.8	77.3	9.7	14.7	1.5	26.4	2.8	4.6	60 6	12.5
NL	13.6	62.8	101.9	67.9	7.4	3.6	0.9	9.2	13.6	3.0	159.3	-52.5
UK	2.6	57.6	44.4	44.4	14.3	3.9	1.6	10.3	11.0	13.3	131.9	40.9
FIN	0.3	1.7	1.5	15.4	7.7	4.1	4.4	2.8	16.0	0.7	4.5	1.0
JPN	2.2	-0.4	-36.4	0.1	-1.8	-3.5	0.2	1.7	-4.0	0.9	40.0	-0.7
NZ	0.6	4.9	12.2	1.2	0.9	-0.0	0.5	0.3	1.2	0.1	0.5	0.1
NOR	1.9	2.9	4.7	3.7	1.5	0.3	0.9	2.4	7.7	0.3	10.8	2.2
SWD	0.8	-0.2	0.9	2.7	0.4	-0.2	1.3	7.4	-11.7	0.8	13.5	-2.6
SWZ	0.3	-2.3	4.8	11.1	-0.7	-0.2	0.7	1.9	1.1	1.6	24.0	-4.4
US	70.3	65.1	35.4	32.2	18.7	1.4	34.6	13.3	35.7	18.0	204.1	136.0
TOTAL	149.8	468.5	572.7	563.4	119.4	63.1	103.4	158.8	259.4	71.8	1278.4	133.7

TABLE E.5 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	0.2	1.5	0.1	-0.9	32.2	2.4	-0.4	1.0	1.0	8.3	49.7
ATA	8.2	8.2	2.2	23.8	5.1	21.8	43.0	24.2	13.8	52.8	317.6
CND	13.8	24.9	2.7	12.2	30.3	17.6	61.5	32.3	112.9	205.6	764.1
EC	189.7	103.7	41.3	200.0	42.9	417.2	473.1	393.6	708.0	860.4	6168.2
BLX	18.4	3.8	4.1	28.8	-2.9	34.9	26.8	27.8	106.5	61.8	637.9
DEN	2.1	3.1	0.8	3.2	1.9	10.8	25.2	12.2	6.6	36.6	214.3
FR	52.3	17.6	11.7	80.3	13.2	73.8	119.2	75.8	171.5	139.9	1223.1
GFR	45.6	28.7	10.2	36.0	8.7	137.2	127.8	137.5	238.7	222.2	1729.3
IRE	2.5	1.9	0.4	0.3	2.1	4.4	4.6	3.9	1.5	11.1	84.3
IT	20.5	24.0	5.3	19.2	3.2	64.6	46.0	32.2	46.7	76.5	614.1
NL	19.8	5.6	2.4	4.3	6.3	26.3	25.0	39.3	40.0	132.2	691.8
UK	28.4	18.9	6.3	27.9	10.4	65.1	98.6	65.0	96.5	179.9	973.5
FIN	0.4	0.8	0.9	4.3	2.5	6.8	13.7	8.5	16.0	9.9	123.8
JPN	15.9	10.6	2.0	-25.0	-2.8	52.0	-11.0	94.7	102.6	88.3	325.5
NZ	0.1	0.1	0.1	0.2	9.1	1.0	1.6	0.4	0.4	6.7	42.1
NOR	1.0	2.6	0.3	11.2	12.8	8.0	10.5	6.9	24.3	13.3	130.2
SWD	3.6	1.9	1.1	14.7	2.4	23.5	32.0	34.1	73.8	25.4	225.5
SWZ	0.7	1.0	0.4	-0.6	2.7	13.6	-6.5	11.7	1.4	32.3	94.5
US	29.5	28.8	11.8	43.5	25.6	101.1	229.7	189.7	258.2	401.5	1984.3
TOTAL	263.3	184.2	63.0	283.4	162.8	665.1	847.2	797.1	1312.4	1704.4	10225.4

TABLE E.6

CHANGES IN IMPORTS UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO TARIFF REDUCTIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	5.9	4.6	0.4	-0.2	0.8	-0.5	2.9	9.2	0.5	-0.9	-0.2	0.2
ATA	1.8	-1.0	21.1	-0.4	4.2	0.9	0.9	-0.6	7.2	0.9	35.7	10.5
CND	6.9	8.0	16.3	7.3	4.6	5.1	16.9	18.0	36.3	48.9	-9.4	-2.0
EC	287.1	441.4	394.2	375.8	76.0	-2.3	42.8	119.7	188.2	27.4	1131.6	-25.6
BLX	23.7	48.6	67.3	41.3	3.1	0.0	1.6	17.5	14.7	3.2	75.5	6.6
DEN	11.9	14.7	19.7	9.5	7.3	-0.2	2.8	4.5	8.7	2.0	31.6	-2.0
FR	27.4	56.3	61.3	64.9	11.6	0.4	8.0	31.8	35.6	6.8	224.1	-2.1
GFR	108.8	91.2	89.3	137.6	23.0	-1.7	14.1	32.2	53.6	5.4	311.7	-4.6
IRE	3.5	7.2	10.6	7.2	1.2	-0.1	0.5	1.0	3.1	0.4	13.5	0.1
IT	47.6	51.2	39.3	16.7	13.7	0.0	1.8	3.0	11.7	0.9	175.7	-15.6
NL	35.4	60.0	68.4	55.7	5.9	0.0	4.6	17.3	20.1	4.2	117.6	8.1
UK	28.8	112.2	38.1	43.0	10.2	-0.8	9.3	12.3	40.6	4.6	181.8	-16.1
FIN	0.9	0.5	7.3	2.0	2.7	-0.0	0.6	1.2	3.0	0.3	7.8	-2.1
JPN	-23.8	-0.3	0.1	-0.0	-1.0	1.3	-1.1	5.0	1.0	-0.3	58.8	26.9
NZ	0.5	0.1	3.2	-0.0	0.0	0.4	0.1	0.0	0.2	-0.5	8.5	-0.3
NOR	-2.0	0.2	6.7	2.4	0.7	0.2	0.7	4.4	2.8	-0.6	11.5	-1.1
SWD	-4.7	-0.8	3.9	0.9	0.2	0.0	0.9	3.1	1.6	-0.5	21.0	-0.8
SWZ	-2.4	0.2	5.8	24.6	-2.2	8.7	2.2	12.8	6.5	-0.1	3.4	1.4
US	-43.7	39.3	36.5	166.2	12.6	-2.2	53.4	0.0	7.7	-0.3	52.9	-49.4
TOTAL	226.5	492.2	495.5	578.6	98.7	11.6	120.3	172.8	255.0	74.2	1321.5	-42.4

TABLE E.6 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	17.2	-0.6	-0.4	0.1	0.7	-1.6	5.0	-3.7	18.7	0.8	58.8
ATA	15.2	10.5	2.7	0.4	3.6	68.2	39.1	33.5	25.6	26.0	305.9
CND	80.4	19.2	7.6	7.4	1.4	136.4	67.8	179.8	59.0	52.9	768.7
EC	133.1	96.7	38.1	222.6	79.3	321.1	462.8	332.9	803.8	609.9	6156.4
BLX	10.0	10.7	2.4	10.7	13.6	30.3	50.1	31.5	113.5	50.4	626.4
DEN	4.0	4.2	1.3	5.9	2.8	11.9	18.2	14.6	16.4	17.1	206.9
FR	25.5	28.3	8.6	52.0	14.1	68.8	99.0	67.0	204.7	130.4	1224.5
GFR	48.4	40.7	12.2	72.6	24.3	89.0	106.0	93.5	230.8	188.7	1766.9
IRE	1.5	1.0	0.5	2.3	0.7	1.9	6.2	4.5	4.2	11.7	82.6
IT	10.8	1.4	4.3	32.9	6.0	30.2	43.8	28.2	28.2	69.1	601.0
NL	16.4	6.8	3.7	18.0	7.0	41.6	48.3	51.4	59.6	53.6	703.8
UK	16.6	3.5	5.1	28.2	10.9	47.4	91.0	42.3	146.4	88.9	944.3
FIN	0.1	0.8	0.6	4.6	1.1	5.6	19.3	20.0	22.1	18.1	116.5
JPN	2.6	-1.7	2.1	3.5	6.0	9.6	60.6	37.9	117.9	51.0	356.3
NZ	-0.9	0.5	0.3	0.4	2.4	5.1	13.2	1.7	1.2	2.7	38.7
NOR	0.2	-0.1	0.9	3.0	3.0	10.0	32.2	8.8	29.5	4.1	117.5
SWD	0.8	0.3	1.9	10.9	3.2	11.5	28.8	34.7	91.3	11.0	219.1
SWZ	0.3	2.4	0.8	2.7	4.6	4.7	3.4	2.7	6.5	6.7	95.6
US	45.8	77.5	12.0	27.5	24.5	120.4	110.8	201.0	145.2	1044.4	2082.1
TOTAL	294.7	205.6	66.6	283.0	129.7	690.9	843.0	849.1	1321.0	1827.5	10315.6

TABLE E.7

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO AGRICULTURAL CONCESSIONS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.552	0.112	0.042	0.002	0.014	0.000	0.010	0.001	0.010	0.007	0.030	0.007	0.008	0.007	0.003
ATA	0.410	0.461	-0.105	-0.052	-0.016	-0.026	-0.011	-0.004	-0.012	-0.004	-0.024	-0.007	-0.009	-0.017	0.002
CND	-1.102	0.131	0.015	0.010	0.007	0.003	0.048	0.002	0.152	0.011	0.025	-0.014	0.012	0.016	0.006
EC	-14.597	4.942	0.345	-0.186	0.067	-0.107	0.184	0.012	0.219	0.075	0.207	-0.210	0.039	-0.010	0.124
BLX	-0.434	0.632	0.168	-0.043	0.015	-0.004	0.050	-0.003	0.004	0.000	-0.001	-0.039	-0.004	-0.012	0.003
DEN	-0.347	0.359	-0.017	-0.018	-0.004	-0.003	-0.004	-0.007	0.003	0.002	-0.006	-0.006	-0.001	-0.006	0.002
FR	-4.251	0.778	0.074	0.013	0.026	0.002	0.033	0.007	0.048	0.018	0.078	-0.054	0.026	0.007	0.031
GFR	-3.155	0.821	0.098	-0.020	0.022	-0.005	0.052	0.006	0.058	0.012	0.073	-0.037	0.004	-0.002	0.032
IRE	-0.675	0.046	0.010	0.005	0.003	0.001	0.002	0.001	0.004	0.002	0.005	-0.001	0.001	0.004	0.003
IT	-3.794	0.569	-0.140	-0.116	-0.021	-0.092	0.005	0.004	0.022	0.006	-0.006	-0.035	0.000	-0.002	0.023
NL	-0.9[illegible]4	0.757	0.044	-0.005	0.006	-0.002	0.022	0.001	0.020	0.013	0.016	-0.010	0.003	-0.000	0.008
UK	-1.365	0.980	0.109	-0.002	0.021	-0.002	0.023	0.004	0.060	0.022	0.047	-0.029	0.010	0.001	0.023
FIN	0.369	0.353	-0.050	-0.077	-0.020	-0.009	-0.066	-0.008	-0.066	-0.001	-0.013	-0.004	-0.003	-0.005	-0.000
JPN	-17.608	2.298	0.705	0.079	0.057	0.003	0.175	-0.003	0.104	0.001	0.110	-0.022	0.032	0.012	0.026
NZ	0.135	0.161	-0.030	-0.003	-0.013	-0.000	-0.006	-0.001	-0.001	0.000	-0.005	-0.001	-0.001	-0.001	0.001
NOR	0.234	0.198	-0.019	-0.009	-0.008	-0.001	-0.016	-0.003	-0.014	0.002	-0.010	-0.011	-0.002	-0.004	0.001
SWD	-0.230	0.064	-0.006	-0.006	-0.002	-0.002	0.003	-0.000	0.022	0.002	0.002	-0.004	-0.001	-0.000	0.002
SWZ	-0.034	0.401	-0.023	-0.018	-0.004	-0.011	0.001	-0.003	0.002	-0.003	-0.037	-0.006	-0.004	-0.007	0.001
US	41.719	-1.213	-0.962	-0.665	-0.171	-0.066	-0.332	-0.131	-0.332	-0.257	-0.373	-0.198	-0.159	-0.184	-0.081
TOTAL	8.764	7.908	-0.068	-0.926	-0.058	-0.216	-0.009	-0.138	0.085	-0.166	-0.088	-0.470	-0.086	-0.195	0.086

TABLE E.7 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	0.037	0.029	0.016	0.018	0.011	0.014	0.048	0.046	0.007	-0.020	-0.005	0.021	0.019	-0.029	-0.114
ATA	-0.078	-0.013	-0.019	-0.026	-0.025	-0.007	-0.038	-0.024	-0.004	-0.001	-0.018	-0.001	-0.007	-0.027	0.298
CND	0.023	0.007	0.029	0.051	0.017	0.037	0.058	-0.025	0.012	-0.007	0.022	0.038	0.024	0.001	-0.392
EC	-0.001	-0.095	0.263	0.518	0.075	0.153	0.063	-0.553	0.054	-0.080	-0.006	0.259	0.270	-0.263	-8.537
BLX	-0.067	-0.026	0.008	-0.004	-0.018	-0.008	-0.015	-0.045	0.000	-0.020	-0.035	0.023	0.017	-0.071	0.100
DEN	-0.004	-0.002	0.001	-0.009	-0.007	-0.004	-0.017	-0.002	0.001	-0.003	-0.008	0.011	0.002	-0.037	-0.132
FR	0.046	-0.002	0.076	0.148	0.048	0.074	0.067	-0.030	0.009	-0.038	-0.026	0.042	0.047	-0.080	-2.786
GFR	-0.010	-0.029	0.066	0.198	0.019	0.033	-0.002	-0.160	0.010	0.007	0.014	0.047	0.078	0.008	-1.762
IRE	0.002	0.000	0.005	0.003	0.003	0.002	0.008	-0.001	0.003	-0.001	0.010	0.009	0.034	0.001	-0.541
IT	0.012	-0.017	0.032	0.065	0.011	0.021	0.001	-0.165	0.002	-0.003	-0.028	0.002	-0.008	-0.011	-3.662
NL	0.003	-0.006	0.019	0.018	0.001	0.003	0.002	-0.007	0.007	-0.022	0.014	0.053	0.045	-0.069	0.032
UK	0.017	-0.014	0.056	0.099	0.018	0.033	0.020	-0.144	0.022	0.001	0.053	0.071	0.086	-0.005	0.214
FIN	-0.014	-0.007	-0.005	-0.021	-0.011	-0.011	-0.015	-0.009	-0.003	0.001	-0.002	0.005	0.001	-0.024	0.781
JPN	0.183	0.019	0.136	0.193	0.132	0.158	0.322	0.003	-0.011	-0.293	-0.681	0.004	-0.019	-0.611	-14.496
NZ	-0.001	-0.004	0.001	-0.001	-0.002	-0.002	-0.007	-0.002	-0.001	-0.004	-0.006	0.005	-0.001	-0.019	0.193
NOR	-0.020	-0.020	-0.005	-0.008	-0.007	-0.016	-0.020	-0.021	0.000	0.006	0.010	0.010	0.001	-0.004	0.242
SWD	-0.012	-0.010	0.008	0.020	0.001	0.004	-0.003	-0.011	0.002	0.006	0.008	0.006	0.009	0.017	-0.160
SWZ	-0.012	-0.016	-0.009	-0.048	-0.039	-0.002	-0.103	-0.063	0.000	0.000	-0.008	0.018	0.007	-0.018	-0.036
US	-0.372	-0.215	-0.598	-1.037	-0.729	-0.603	-1.149	-0.782	-0.435	-0.827	-6.551	-1.042	-3.462	-7.853	11.043
TOTAL	-0.267	-0.326	-0.182	-0.340	-0.577	-0.274	-0.844	-1.441	-0.378	-1.219	-7.235	-0.678	-3.158	-8.831	-11.177

TABLE E.8

ABSOLUTE CHANGES IN EMPLOYMENT UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO LIBERALIZATION OF GOVERNMENT PROCUREMENT IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.323	-0.154	-0.003	-0.008	0.048	-0.004	0.007	0.003	-0.002	0.033	0.066	-0.021	0.021	0.018	-0.004
ATA	-0.270	-0.034	-0.098	-0.122	0.004	-0.110	-0.002	0.015	-0.091	0.057	0.048	-0.009	0.024	0.039	-0.032
CND	0.410	0.049	-0.266	0.098	-0.054	0.061	0.442	-0.094	0.629	-0.236	-0.299	0.082	0.160	0.270	0.003
EC	-0.256	0.784	-1.701	-0.897	-2.290	-1.104	-2.974	0.448	-6.034	0.244	-0.785	-0.254	-1.247	-0.462	0.143
BLX	0.206	0.157	0.120	0.105	0.034	0.029	-0.214	0.066	-0.465	-0.079	-0.196	0.236	0.034	0.086	0.116
DEN	0.913	0.433	-0.003	0.156	0.060	0.045	-0.076	0.142	-0.294	0.023	-0.122	0.025	-0.064	0.062	0.021
FR	0.602	0.166	0.202	0.212	0.004	0.104	-0.659	-0.164	-0.975	-0.135	-0.033	-0.025	0.012	0.124	0.017
GFR	-0.413	0.106	-1.972	-0.898	-1.956	0.110	-0.596	0.141	-2.151	0.057	-0.599	-0.183	-1.436	-0.281	0.054
I&E	-0.325	-0.061	-0.009	-0.025	0.011	-0.008	0.001	0.004	-0.006	0.019	0.021	-0.005	0.005	0.019	-0.008
IT	-1.096	-0.064	0.215	-0.045	-0.583	-1.343	-0.636	0.378	-0.765	0.081	-0.113	-0.275	0.011	0.201	-0.012
NL	0.091	0.109	-0.051	-0.039	0.023	0.005	-0.589	-0.165	-0.753	0.019	0.208	0.033	0.053	-0.687	0.004
UK	-0.235	-0.062	-0.204	-0.362	0.115	-0.045	-0.205	0.046	-0.626	0.259	0.049	-0.060	0.138	0.014	-0.049
FIN	1.324	0.053	0.181	0.765	-0.016	0.155	0.458	-0.007	1.532	-0.026	-0.510	-0.046	-0.161	-0.086	0.045
JPN	-0.637	0.261	-1.074	-0.478	-0.146	-0.066	-0.129	-0.014	-0.190	0.083	-0.105	-0.466	0.100	0.240	0.006
NZ	-0.175	-0.067	0.007	-0.007	0.029	-0.002	0.005	0.001	-0.007	0.013	0.015	-0.000	0.006	0.002	-0.001
NOR	0.782	0.116	-0.206	-0.030	0.009	0.031	0.096	-0.023	0.526	-0.124	-0.314	0.109	-0.110	-0.031	0.012
SWD	0.922	0.055	-0.359	0.009	-0.120	0.112	0.852	-0.097	2.139	-0.103	-1.143	-0.133	-0.079	-0.082	0.063
SWZ	0.309	0.170	0.410	0.063	-0.173	0.229	-0.235	-0.153	-0.551	-0.220	0.723	-0.162	-0.296	-0.360	0.031
US	0.705	0.048	0.925	0.076	0.544	-0.030	0.331	0.078	0.016	0.308	0.572	-0.035	0.202	0.314	-0.047
TOTAL	3.392	1.280	-2.185	-0.529	-2.165	-0.728	-1.150	0.157	-2.034	0.028	-1.731	-0.935	-1.380	-0.137	0.220

TABLE E.8 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.006	-0.050	0.021	0.045	0.081	0.142	0.072	-0.047	0.000	-0.024	-0.025	-0.010	-0.012	-0.028	-0.164
ATA	-0.147	-0.015	0.023	0.119	0.268	0.103	0.031	-0.027	-0.001	-0.010	-0.003	-0.010	0.001	-0.010	-0.259
CND	-0.034	-0.441	0.050	-0.339	0.156	0.119	-3.975	0.251	0.008	0.041	0.064	0.054	-0.047	0.670	-2.666
EC	-1.193	-3.142	0.042	2.080	5.710	4.417	5.484	-3.001	0.056	1.630	2.586	-0.034	1.313	3.666	3.230
BLX	-0.513	0.125	-0.012	-0.314	-0.226	-0.181	0.217	0.140	0.005	0.099	0.291	0.065	0.117	0.345	0.293
DEN	-0.212	-0.020	-0.060	0.242	-0.323	-0.962	0.050	0.005	-0.004	-0.007	0.082	0.003	0.009	0.172	0.299
FR	-0.017	-0.229	-0.060	0.233	0.639	0.281	1.040	-0.036	0.030	0.304	0.648	0.084	0.323	0.753	3.448
GFR	-0.158	-1.178	0.151	0.463	4.352	3.378	1.925	-1.224	0.042	0.736	0.982	0.015	0.576	1.594	1.640
IRE	0.004	-0.004	0.008	0.015	0.049	0.029	0.021	-0.007	0.002	-0.007	-0.003	-0.001	0.001	-0.007	-0.265
IT	-0.019	-1.572	0.132	1.176	0.703	1.106	0.992	-1.475	0.017	0.280	0.232	-0.090	0.108	0.258	-2.200
NL	-0.001	-0.005	-0.225	-0.506	0.150	0.309	0.198	0.013	-0.026	0.128	0.100	-0.080	0.051	0.223	-1.409
UK	-0.178	-0.260	0.109	0.769	0.365	0.457	1.042	-0.416	-0.010	0.098	0.253	-0.030	0.126	0.329	1.424
FIN	-0.084	0.039	-0.141	-0.517	-0.612	-0.681	-0.390	-0.060	0.071	0.075	0.222	0.189	0.065	0.271	1.911
JPN	-0.556	0.351	0.012	-1.919	1.771	1.870	-2.499	-0.482	0.131	0.829	2.230	0.317	0.456	2.119	1.908
NZ	0.001	-0.003	0.007	0.008	0.019	0.029	0.026	0.000	0.001	-0.006	-0.002	-0.001	0.000	-0.009	-0.111
NOR	0.225	0.397	-0.234	-0.651	-0.629	-0.888	-0.218	0.235	0.011	-0.026	0.003	0.091	0.004	0.086	-0.753
SWD	1.137	0.166	0.202	-0.121	-1.144	-0.391	-0.854	-0.236	0.038	0.143	0.371	0.292	0.147	0.673	2.561
SWZ	-0.695	0.048	-0.388	-5.919	-0.374	-2.720	1.712	-1.475	0.028	0.271	0.044	-0.294	-0.178	0.302	-9.155
US	0.286	0.077	0.333	1.907	-3.435	0.023	-3.730	0.101	0.074	0.049	0.662	0.152	0.318	0.811	1.636
TOTAL	-1.124	-2.570	-0.074	-5.736	1.612	2.024	-4.340	-4.740	0.465	2.973	6.152	0.745	2.069	8.551	-1.863

TABLE E.9

PERCENTAGE CHANGES IN EXPORT PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUL	0.37	-0.09	-0.18	-0.05	-0.06	-0.27	0.05	0.44	-0.13	0.36	0.36	-0.07
AUS	0.23	0.38	-0.33	-0.20	-0.21	-0.42	-0.10	0.29	-0.28	0.22	0.21	-0.21
CND	0.55	0.09	-0.01	0.12	0.11	-0.10	0.22	0.61	0.04	0.53	0.53	0.10
EC	0.40	-0.09	-0.16	-0.05	-0.04	-0.25	0.08	0.41	-0.11	0.37	0.37	-0.07
BLX	-0.16	-0.64	-0.71	-0.58	-0.59	-0.80	-0.49	-0.10	-0.66	-0.17	-0.17	-0.60
DEN	0.40	0.03	-0.15	-0.02	-0.03	-0.24	0.08	0.47	-0.10	0.39	0.39	-0.04
FR	0.50	0.05	-0.06	0.07	0.06	-0.15	0.17	0.56	-0.01	0.49	0.49	0.06
GER	0.28	-0.19	-0.28	-0.14	-0.15	-0.37	-0.05	0.34	-0.23	0.27	0.27	-0.16
IRE	0.21	-0.27	-0.35	-0.21	-0.23	-0.44	-0.12	0.27	-0.30	0.20	0.20	-0.23
IT	0.43	0.05	-0.13	0.01	-0.00	-0.21	0.10	0.49	-0.07	0.42	0.42	-0.01
NL	0.04	-0.43	-0.52	-0.38	-0.40	-0.61	-0.29	0.10	-0.47	0.03	0.03	-0.40
UK	0.53	0.05	-0.03	0.10	0.09	-0.12	0.20	0.59	0.02	0.52	0.52	0.09
FIN	0.75	1.33	0.19	0.33	0.31	0.10	0.42	0.81	0.24	0.74	0.74	0.31
JPN	0.34	-0.15	-0.22	-0.09	-0.10	-0.31	0.01	0.40	-0.17	0.33	0.32	-0.10
NZ	0.46	0.12	-0.10	0.04	0.02	-0.19	0.13	0.52	-0.05	0.45	0.45	0.02
NOR	1.01	1.13	0.45	0.58	0.57	0.36	0.68	1.07	0.50	1.00	0.99	0.56
SWD	0.69	0.28	0.14	0.27	0.26	0.05	0.36	0.75	0.19	0.68	0.68	0.25
SWZ	0.47	0.36	-0.09	0.05	0.04	-0.17	0.14	0.53	-0.03	0.46	0.46	0.03
US	4.71	0.16	0.08	0.22	0.20	-0.01	0.31	0.70	0.13	0.63	0.63	0.20
TOTAL	1.88	0.05	-0.09	0.07	0.04	-0.16	0.17	0.53	0.03	0.51	0.48	0.07

TABLE E.9 (CONT.)

	[illegible]	36A	362	371	372	381	382	383	384	[illegible]	TOT
[illegible]	0.24	0.31	0.21	-0.05	-0.10	0.48	0.31	0.44	0.32	0.15	0.16
[illegible]	0.13	0.16	0.06	-0.20	-0.25	0.31	0.14	0.29	0.17	0.00	0.04
[illegible]	[illegible]	0.48	0.33	0.12	0.07	0.63	0.13	0.61	0.49	0.32	0.33
[illegible]	[illegible]	0.32	0.22	-0.05	-0.08	0.47	0.02	0.43	0.33	0.16	0.16
[illegible]	[illegible]	-0.22	[illegible]	-0.58	-0.63	-0.07	-0.32	-0.09	-0.22	-0.38	-0.38
[illegible]	0.31	0.34	0.24	-0.02	-0.07	0.49	0.04	0.47	0.35	0.18	0.21
[illegible]	[illegible]	0.43	0.33	0.07	0.02	0.58	0.13	0.56	0.44	0.27	0.28
[illegible]	[illegible]	0.22	0.12	-0.14	-0.20	0.37	-0.08	0.35	0.22	0.06	0.06
[illegible]	0.11	0.15	0.05	-0.21	-0.27	0.30	-0.15	0.27	0.15	-0.01	-0.10
[illegible]	0.34	0.37	0.27	0.01	-0.04	0.52	0.07	0.50	0.37	0.21	0.24
[illegible]	[illegible]	[illegible]	-0.12	-0.38	-0.44	0.12	-0.32	0.10	-0.02	-0.18	-0.21
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.05	0.61	0.16	0.59	0.47	0.30	0.29
[illegible]	[illegible]	[illegible]	0.53	0.33	0.27	0.84	0.39	0.82	0.69	0.53	0.57
[illegible]	[illegible]	0.27	0.17	[illegible]	-0.14	0.42	[illegible]	0.40	0.28	0.11	0.13
[illegible]	.37	[illegible]	[illegible]	0.04	[illegible]	0.55	0.10	0.53	0.40	0.24	0.26
[illegible]	[illegible]	[illegible]	0.64	0.58	0.53	1.00	0.54	1.07	0.95	0.78	0.89
[illegible]	[illegible]	0.63	0.53	0.27	0.22	0.73	0.33	0.76	0.63	0.47	0.49
[illegible]	[illegible]	0.41	0.31	0.05	[illegible]	0.56	0.11	0.54	0.41	0.25	0.31
[illegible]	[illegible]	0.39	0.48	0.22	0.16	0.73	0.26	0.71	0.58	0.42	0.80
[illegible]	0.37	0.40	0.31	0.05	0.07	0.53	0.14	0.53	0.45	0.27	0.43

TABLE F.10

PERCENTAGE CHANGES IN IMPORT PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUS	-2.11	-1.52	-0.41	-0.07	-4.36	-0.27	-0.92	-5.65	-0.13	0.36	-0.02	-0.06
AUT	-1.10	-0.41	-2.18	-0.27	-1.49	-0.93	-1.15	-0.44	-3.38	-0.66	-2.71	-0.96
CAN	-0.32	-0.60	-1.55	-0.47	-1.65	-1.43	-2.24	-3.66	-4.52	-3.91	0.16	0.11
EC	-1.53	-1.98	-1.62	-1.83	-1.60	-0.21	-0.74	-2.26	-1.77	-0.69	-2.63	-0.00
BLX	-2.42	-2.35	-2.07	-3.07	-2.13	-0.74	-1.26	-2.77	-2.86	-1.05	-3.39	-0.52
DEN	-1.74	-2.25	-2.25	-1.79	-1.77	-0.24	-0.88	-2.21	-2.72	-1.14	-2.65	-0.04
FR	-1.30	-1.50	-1.72	-2.05	-1.58	-0.31	-0.70	-2.11	-1.79	-0.30	-2.39	0.14
GER	-2.30	-1.78	-1.93	-1.75	-1.96	-0.37	-1.01	-2.33	-2.00	-0.89	-2.36	0.04
IRE	-1.61	-2.66	-2.46	-2.82	-3.64	-0.44	-0.80	-2.31	-2.91	-0.68	-2.60	-0.23
IT	-1.30	-1.64	-1.11	-1.82	-0.99	0.13	-0.09	-2.16	-1.14	-0.46	-2.56	-0.01
NL	-1.36	-2.54	-2.86	-2.45	-2.49	-0.59	-1.06	-2.57	-2.50	-1.23	-3.37	-0.37
UK	-1.34	-2.34	-1.43	-1.23	-1.46	-0.12	-0.66	-2.08	-1.57	-0.64	-2.36	0.09
FIN	-0.33	-0.26	-0.51	-0.35	-2.62	-0.27	0.32	-2.13	-3.00	0.05	-0.51	0.31
JPN	-0.07	-0.10	-0.14	0.01	-0.10	-0.36	0.01	-2.11	-0.17	0.23	-0.93	0.03
NZ	-0.43	-0.17	-0.93	-0.12	0.02	-2.55	-0.14	-0.90	-0.38	0.45	-1.22	-0.00
NOR	0.69	-0.02	-1.73	-0.17	-0.18	-0.32	0.29	-1.26	-0.47	1.00	-0.37	0.56
SWD	0.39	0.15	0.02	0.25	-0.51	-0.07	0.17	-0.57	-0.40	0.68	-0.71	0.25
SWZ	-0.14	-0.12	-1.00	-2.09	-0.64	-3.20	-1.57	-3.00	-2.19	0.26	0.49	0.03
US	0.25	-1.70	-2.63	-1.36	-1.12	-0.05	-1.52	-3.00	-0.16	0.12	-0.72	0.19
TOTAL	-0.72	-1.50	-1.60	-1.30	-1.39	-0.28	-0.85	-2.56	-1.06	-0.22	-1.48	0.09

TABLE E.10 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	-2.00	0.20	0.21	-0.05	-1.15	0.13	-0.25	0.42	-0.36	-0.03	-0.88
ATA	-3.97	-2.59	-3.85	-0.57	-1.40	-7.15	-4.11	-3.08	-1.74	-4.39	-2.14
CND	-4.45	-2.35	-3.30	-1.10	0.07	-4.28	-1.33	-5.21	-0.11	-2.80	-1.56
EC	-1.19	-0.34	-1.84	-1.29	-0.49	-1.73	-1.90	-1.24	-1.43	-2.57	-1.59
BLA	-2.14	-1.46	-2.05	-1.77	-0.93	-2.05	-2.50	-2.10	-3.10	-2.46	-2.38
DEN	-1.85	-1.25	-1.76	-1.41	-1.46	-1.67	-1.84	-1.54	-0.85	-3.36	-1.79
FR	-1.21	-1.26	-1.95	-1.32	-0.36	-1.59	-1.75	-1.35	-1.57	-2.55	-1.42
GER	-1.61	-1.46	-1.97	-1.40	-0.59	-1.95	-2.05	-1.37	-1.78	-3.15	-1.79
IRL	-1.32	-1.27	-1.96	-1.54	-1.66	-1.84	-1.85	-1.82	-1.11	-4.24	-2.19
IT	-0.60	-0.04	-1.56	-0.98	-0.44	-1.67	-1.51	-0.71	-0.10	-2.81	-1.33
NL	-1.94	-0.73	-1.77	-1.66	-1.11	-1.93	-2.30	-1.90	-1.73	-3.38	-1.96
UK	-0.32	-0.31	-1.90	-1.22	-0.24	-1.61	-1.90	-0.96	-1.45	-1.51	-1.47
FIN	0.30	-0.08	-1.99	-1.09	-0.12	-0.84	-2.01	-2.26	-1.38	-4.13	-0.87
JPN	-0.15	0.15	-2.06	-0.57	-0.17	-1.17	-2.07	-0.98	-3.97	-1.02	-1.01
NZ	0.37	-0.53	-1.35	-0.72	-4.77	-1.87	-4.59	-0.61	-0.23	-1.62	-0.73
NOR	1.01	0.64	-1.42	0.09	0.33	-0.65	-2.67	-0.47	-0.31	-0.60	-0.09
SWD	0.22	0.41	-1.48	-0.69	0.02	-0.46	-1.01	-1.58	-2.23	-0.94	-0.46
SWZ	0.08	-0.56	-1.03	-0.34	-1.83	-0.40	-0.19	0.15	-0.15	-0.13	-0.31
US	-0.52	-2.91	-3.59	-0.75	-0.33	-1.79	-1.34	-1.12	-0.18	-2.91	-0.97
TOTAL	-0.91	-1.31	-2.59	-0.91	-0.37	-1.74	-1.65	-1.26	-1.21	-2.37	-1.21

TABLE E.11

PERCENTAGE CHANGES IN HOME PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.17	-0.09	-0.15	-0.09	-0.86	-0.72	-0.15	-0.19	-0.05	-0.00	-0.05	-0.02	-0.36	-0.01	-0.01
ATA	-0.22	-0.40	-0.69	-0.54	-0.42	-0.74	-0.65	-0.65	-0.69	-0.47	-1.03	-0.37	-1.44	-0.61	-0.71
CND	-0.08	-0.19	-0.42	-0.36	-1.85	-0.66	-0.29	-0.48	-0.39	-0.64	-0.26	-0.23	-0.93	-0.41	-0.60
EC	-0.45	-0.42	-0.73	-0.60	-0.91	-1.27	-0.58	-0.45	-0.53	-0.30	-1.44	-0.21	-0.64	-0.28	-0.24
BLX	-1.04	-0.99	-6.94	-1.54	-1.38	-0.90	-34.13	-0.95	-1.89	-0.87	-24.60	-3.41	-1.75	-0.72	-0.74
DEN	0.03	-0.40	-0.95	-1.04	-8.22	-0.74	-0.73	-0.86	-1.26	-0.59	-1.58	-0.29	-1.52	-0.50	-0.55
FR	-0.21	-0.23	-0.46	-0.50	-0.47	-0.38	-0.34	-0.39	-0.45	-0.26	-0.68	-0.09	-0.67	-0.21	-0.19
GFR	-0.83	-0.58	-0.82	-0.76	-1.30	-0.60	-0.49	-0.51	-0.63	-0.35	-0.97	-0.25	-0.95	-0.37	-0.26
IRE	-0.36	-0.47	-0.75	-1.03	-0.69	-0.69	-0.41	-0.61	-0.84	-0.47	-1.03	-0.20	-0.78	-0.42	-0.44
IT	-0.43	-0.31	-0.24	-0.25	-0.51	-4.02	-0.25	-0.17	-0.27	-0.15	-0.55	-0.15	-0.33	-0.11	-0.12
NL	-0.71	-0.68	-1.36	-1.42	-7.01	-0.90	-1.03	-1.18	-1.34	-0.57	-1.66	-0.41	-1.06	-0.96	-0.52
UK	-0.42	-0.31	-0.31	-0.34	-0.36	-0.25	-0.29	-0.21	-0.30	-0.16	-0.42	-0.02	-0.28	-0.10	-0.16
FIN	0.33	0.01	-0.05	-0.17	-44.07	-0.63	0.18	-0.61	-0.02	-0.19	-0.92	-0.23	-0.56	-0.28	-0.44
JPN	-0.20	-0.09	-0.10	-0.05	-0.13	-0.06	-0.04	-0.04	-0.03	-0.02	-0.12	-0.09	-0.06	-0.02	-0.01
NZ	0.27	0.02	-0.28	-0.25	-0.06	-0.12	-0.01	-0.18	-0.10	-0.04	-0.39	-0.04	-0.14	-0.15	-0.15
NOR	0.42	0.07	-0.91	-0.55	-51.29	-0.29	0.02	-0.40	-0.12	-0.15	-1.09	-15.73	-0.78	-0.18	-0.30
SWD	0.06	-0.05	-0.50	-0.19	-46.08	-0.28	0.09	-0.68	-0.19	-0.19	-1.36	-0.52	-0.52	-0.23	-0.32
SWZ	0.02	-0.14	-0.51	-0.77	-4.26	-0.61	-0.94	-0.90	-0.97	-0.44	-0.77	-2.57	-1.24	-0.74	-0.37
US	0.11	-0.00	-0.12	-0.18	-0.12	-0.14	-0.15	-0.09	-0.06	-0.05	-0.05	0.01	-0.10	-0.12	-0.08
TOTAL	-0.15	-0.18	-0.38	-0.34	-1.74	-0.70	-0.24	-0.27	-0.22	-0.14	-0.65	-0.18	-0.36	-0.20	-0.16

TABLE E.11 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.03	-0.27	-0.06	-0.05	0.02	-0.12	-0.06	-0.00	-0.00	-0.04	-0.01	-0.01	-0.01	-0.02	-0.05
ATA	-0.44	-0.62	-1.38	-1.03	-0.55	-1.13	-1.52	-0.34	-0.25	-0.67	-0.22	-0.19	-0.32	-0.29	-0.50
CND	-0.26	-19.49	-0.59	-1.02	-1.00	-0.46	-81.78	0.12	-0.06	-0.33	-0.11	-0.08	-0.16	-0.13	-0.95
EC	-0.71	-0.41	-0.38	-1.03	-0.39	-1.65	-1.86	-0.09	-0.08	-0.22	-0.09	-0.07	-0.12	-0.14	-0.39
BLX	-13.92	-4.64	-1.11	-30.13	-1.77	-41.50	-10.34	-0.66	-0.27	-0.62	-0.25	-0.22	-0.35	-0.35	-3.56
DEN	-1.06	-0.79	-0.88	-1.10	-1.50	-1.83	-26.87	-0.20	-0.21	-0.44	-0.19	-0.15	-0.26	-0.25	-0.73
FR	-0.24	-0.26	-0.34	-0.59	-0.36	-0.74	-0.56	-0.04	-0.06	-0.19	-0.08	-0.06	-0.10	-0.11	-0.22
GFR	-0.26	-0.46	-0.41	-0.61	-0.33	-0.74	-1.12	-0.27	-0.14	-0.27	-0.12	-0.10	-0.18	-0.18	-0.38
IRE	-0.40	-0.73	-0.95	-0.67	-0.71	-0.74	-1.27	-0.15	-0.06	-0.46	-0.13	-0.07	-0.14	-0.22	-0.35
IT	-0.13	-0.41	-0.22	-0.22	-0.19	-0.23	-0.44	-0.14	-0.06	-0.13	-0.06	-0.04	-0.09	-0.09	-0.20
NL	-0.54	-0.67	-0.87	-1.48	-0.90	-1.24	-7.86	-0.48	-0.18	-0.48	-0.18	-0.15	-0.23	-0.26	-0.60
UK	-0.10	-0.11	-0.19	-0.25	-0.21	-0.50	-0.45	0.05	-0.01	-0.12	-0.05	-0.03	-0.06	-0.08	-0.15
FIN	-0.47	-0.27	-0.58	-1.02	-1.89	-2.36	-2.62	-0.26	-0.04	-0.22	-0.08	-0.05	-0.11	-0.13	-0.27
JPN	-0.03	-0.01	-0.04	-0.12	-0.06	-0.21	-0.21	-0.13	-0.02	-0.03	-0.01	-0.01	-0.02	-0.02	-0.06
NZ	-0.33	-1.22	-0.53	-0.75	-0.33	-0.31	-0.48	0.01	-0.02	-0.23	-0.04	-0.03	-0.05	-0.07	-0.09
NOR	-0.49	-2.04	-0.59	-1.36	-1.36	-2.11	-74.13	0.76	0.08	-0.15	-0.07	-0.02	-0.09	-0.09	-0.80
SWD	-0.59	-1.51	-0.41	-1.50	-1.58	-2.56	-81.25	-0.46	-0.07	-0.18	-0.07	-0.06	-0.10	-0.10	-0.90
SWZ	-1.04	-0.83	-0.79	-138.55	-1.15	-10.33	-24.33	-1.05	-0.23	-0.30	-0.10	-0.14	-0.18	-0.09	-7.78
US	-0.03	-0.06	-0.08	-0.11	-0.22	-0.16	-0.53	0.04	-0.03	-0.07	-0.03	-0.02	-0.05	-0.04	-0.05
TOTAL	-0.31	-0.38	-0.24	-1.91	-0.32	-0.74	-4.12	0.01	-0.05	-0.15	-0.05	-0.04	-0.07	-0.08	-0.27

TABLE E.12

PERCENTAGE CHANGES IN INDEX OF IMPORT AND HOME PRICES UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B	355	36A	362
ALA	-0.23	-0.13	-0.23	-0.09	-3.64	-0.66	-0.23	-0.52	-0.07	0.02	-0.04	-0.06	-0.73	0.01	0.04
ATA	-0.33	-0.40	-1.37	-0.41	-1.17	-0.64	-1.14	-0.61	-1.25	-0.52	-1.68	-0.62	-2.38	-0.97	-1.78
CND	-0.13	-0.22	-0.71	-0.38	-1.67	-0.95	-0.57	-0.81	-0.80	-1.07	-0.15	0.02	-1.76	-0.83	-1.62
EC	-0.68	-0.63	-0.86	-0.92	-1.16	-0.30	-0.47	-0.75	-0.85	-0.31	-1.30	-0.09	-0.77	-0.35	-0.53
BLX	-1.75	-1.48	-2.12	-2.63	-1.92	-0.80	-1.59	-1.39	-2.59	-0.91	-3.60	-0.55	-2.00	-0.93	-1.81
DEN	-0.30	-0.74	-1.77	-1.50	-1.83	-0.39	-0.82	-1.37	-2.08	-0.64	-2.22	-0.11	-1.72	-0.65	-1.30
FR	-0.33	-0.34	-0.80	-0.79	-0.57	-0.36	-0.39	-0.71	-0.73	-0.26	-1.14	0.01	-0.85	-0.30	-0.40
GFR	-1.28	-0.75	-1.20	-1.10	-1.72	-0.52	-0.58	-0.91	-1.00	-0.37	-1.58	-0.08	-1.14	-0.51	-0.57
IRE	-0.68	-0.67	-1.59	-1.79	-1.87	-0.61	-0.57	-0.99	-1.82	-0.49	-1.95	-0.22	-0.98	-0.68	-1.02
IT	-0.57	-0.53	-0.42	-0.38	-0.77	0.09	-0.20	-0.25	-0.40	-0.15	-0.91	-0.07	-0.37	-0.10	-0.27
NL	-1.18	-0.99	-2.52	-2.17	-2.53	-0.70	-1.05	-2.04	-1.92	-0.60	-2.74	-0.38	-1.26	-0.87	-1.19
UK	-0.58	-0.54	-0.48	-0.56	-0.77	-0.23	-0.37	-0.34	-0.57	-0.17	-0.71	0.02	-0.34	-0.11	-0.42
FIN	0.30	0.00	-0.21	-0.21	-3.03	-0.52	0.21	-0.91	-0.19	-0.18	-0.73	0.09	-0.19	-0.25	-1.22
JPN	-0.25	-0.09	-0.11	-0.05	-0.12	-0.09	-0.03	-0.07	-0.04	-0.02	-0.19	-0.00	-0.06	-0.01	-0.05
NZ	0.24	0.02	-0.67	-0.25	0.02	-0.20	-0.01	-0.19	-0.11	0.01	-0.68	-0.01	-0.04	-0.19	-0.38
NOR	0.45	0.06	-1.35	-0.31	-0.69	-0.31	0.07	-0.64	-0.18	-0.06	-0.71	0.40	0.20	0.00	-0.83
SWD	0.11	-0.03	-0.23	0.06	-0.96	-0.13	0.10	-0.64	-0.22	-0.13	-1.03	0.04	-0.22	-0.13	-0.88
SWZ	-0.04	-0.13	-0.75	-1.48	-0.93	-2.15	-1.09	-1.74	-1.37	-0.32	-0.03	-0.17	-0.47	-0.69	-0.77
US	0.12	-0.04	-0.20	-0.31	-0.41	-0.12	-0.27	-0.09	-0.06	-0.08	-0.07	0.06	-0.14	-0.24	-0.17
TOTAL	-0.24	-0.27	-0.48	-0.51	-0.94	-0.28	-0.27	-0.42	-0.35	-0.16	-0.60	-0.01	-0.46	-0.28	-0.37

TABLE E.12 (CONT.)

	371	372	381	382	383	384	38A	2	4	5	6	7	8	9	TOT
ALA	-0.03	-0.68	-0.05	-0.12	0.13	-0.17	-0.04	-0.00	-0.00	-0.04	-0.01	-0.01	-0.01	-0.02	-0.07
ATA	-0.47	-0.95	-2.62	-3.32	-1.72	-1.50	-4.36	-0.34	-0.25	-0.67	-0.22	-0.19	-0.32	-0.29	-0.74
CND	-0.39	-0.12	-1.04	-1.25	-2.08	-0.30	-3.58	0.12	-0.06	-0.33	-0.11	-0.08	-0.16	-0.13	-0.28
EC	-0.45	-0.40	-0.51	-0.99	-0.54	-0.88	-1.86	-0.09	-0.08	-0.22	-0.09	-0.07	-0.12	-0.14	-0.39
BLX	-1.69	-0.97	-1.39	-2.77	-1.58	-3.48	-2.53	-0.66	-0.27	-0.62	-0.25	-0.22	-0.35	-0.35	-0.99
DEN	-1.33	-1.13	-1.09	-1.56	-1.53	-1.18	-3.60	-0.20	-0.21	-0.44	-0.19	-0.15	-0.26	-0.25	-0.57
FR	-0.49	-0.33	-0.44	-1.24	-0.55	-0.93	-1.36	-0.04	-0.06	-0.19	-0.08	-0.06	-0.10	-0.11	-0.30
GFR	-0.46	-0.52	-0.57	-1.06	-0.49	-1.00	-2.77	-0.27	-0.14	-0.27	-0.12	-0.10	-0.18	-0.18	-0.53
IRE	-0.92	-1.55	-1.58	-1.84	-1.29	-0.93	-3.54	-0.15	-0.06	-0.46	-0.13	-0.07	-0.14	-0.22	-0.53
IT	-0.25	-0.42	-0.31	-0.58	-0.27	-0.20	-1.24	-0.14	-0.06	-0.13	-0.06	-0.04	-0.09	-0.09	-0.26
NL	-0.96	-0.95	-1.18	-2.11	-1.35	-1.57	-3.43	-0.48	-0.18	-0.48	-0.18	-0.15	-0.23	-0.26	-0.71
UK	-0.22	-0.14	-0.28	-0.66	-0.30	-0.68	-1.17	0.05	-0.01	-0.12	-0.05	-0.03	-0.06	-0.08	-0.22
FIN	-0.69	-0.23	-0.63	-1.49	-2.05	-1.90	-3.69	-0.26	-0.04	-0.22	-0.08	-0.05	-0.11	-0.13	-0.23
JPN	-0.04	-0.05	-0.05	-0.24	-0.08	-0.30	-0.37	-0.13	-0.02	-0.03	-0.01	-0.01	-0.02	-0.02	-0.08
NZ	-0.50	-2.65	-0.67	-2.59	-0.40	-0.28	-1.11	0.01	-0.02	-0.23	-0.04	-0.03	-0.05	-0.07	-0.14
NOR	-0.15	0.09	-0.61	-2.12	-0.55	-0.85	-1.32	0.76	0.08	-0.15	-0.07	-0.02	-0.09	-0.09	-0.10
SWD	-0.59	-0.32	-0.42	-1.21	-1.78	-2.41	-1.74	-0.46	-0.07	-0.18	-0.07	-0.06	-0.10	-0.10	-0.33
SWZ	-0.53	-1.15	-0.69	-1.56	-0.61	-2.22	-0.37	-1.05	-0.23	-0.30	-0.10	-0.14	-0.18	-0.09	-0.37
US	-0.06	-0.09	-0.13	-0.21	-0.31	-0.16	-1.44	0.04	-0.03	-0.07	-0.03	-0.02	-0.05	-0.04	-0.07
TOTAL	-0.22	-0.21	-0.34	-0.59	-0.45	-0.48	-1.44	0.01	-0.05	-0.15	-0.05	-0.04	-0.07	-0.08	-0.20

TABLE F.13

CHANGES IN EXPORTS UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTION IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
AUS	4.2	2.1	-7.9	0.1	12.4	0.2	0.7	0.1	-0.1	0.3	10.3	-20.7
AUT	0.3	11.9	25.3	15.1	1.5	7.2	9.8	3.6	15.3	2.0	17.7	4.7
CAN	10.9	17.9	2.9	14.7	9.5	9.6	41.3	0.3	148.3	3.4	27.9	99.2
EC	41.5	461.4	582.8	478.6	107.7	42.0	28.3	150.5	109.7	71.6	1103.2	124.8
BLX	3.2	44.4	125.4	62.6	7.3	0.7	3.3	19.9	22.4	4.8	153.8	-19.5
DEN	5.3	50.3	15.6	23.3	11.4	2.7	2.4	12.7	5.5	2.2	24.1	12.0
FR	10.7	60.0	79.5	39.2	22.3	11.3	7.2	13.2	20.0	14.5	167.6	41.9
GER	4.2	90.6	161.1	154.3	2[illegible].5	9.6	9.3	50.8	26.3	18.0	343.8	26.4
IRE	0.8	13.1	10.9	10.4	2.5	1.0	0.2	0.7	1.3	0.9	9.3	-1.0
IT	4.9	55.2	33.1	76.1	13.4	9.7	2.1	30.5	3.5	7.2	70.3	35.6
NL	10.5	90.6	105.9	69.5	10.1	3.7	2.0	11.2	19.5	5.7	185.1	-17.7
UK	1.9	57.1	47.9	43.3	18.2	3.3	1.9	11.4	11.2	18.2	149.2	47.1
FIN	0.2	13.5	3.3	24.6	14.6	6.4	12.0	4.4	62.2	1.5	7.9	9.0
JPN	1.3	-0.8	-37.2	-2.5	-0.7	-4.4	0.3	1.9	-5.2	1.5	45.8	-1.0
NZ	0.3	6.9	11.6	1.1	1.4	-0.0	0.5	0.4	0.8	0.1	0.5	0.0
NOR	0.0	15.7	7.4	5.6	5.6	0.9	2.9	4.0	29.2	0.7	19.2	45.1
SWD	0.6	4.5	6.8	8.5	6.3	2.1	16.6	14.2	75.9	2.9	28.5	33.9
SWZ	0.3	13.4	17.6	15.2	1.5	2.3	2.5	3.6	5.9	5.2	69.8	26.2
US	352.1	43.0	42.5	33.3	29.6	1.3	39.0	15.1	40.9	26.0	245.5	160.6
TOTAL	412.0	592.4	655.2	594.4	188.9	67.6	153.9	198.1	482.7	115.3	1576.4	481.8

TABLE E.13 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	0.3	2.0	0.1	-0.7	30.8	2.6	0.7	1.7	2.0	11.1	52.5
ATA	8.5	8.4	1.8	19.7	4.5	21.6	44.7	27.5	15.5	52.6	319.0
CND	18.8	32.7	3.0	18.0	68.1	21.2	87.7	42.8	168.2	268.4	1114.9
EC	226.6	137.1	41.4	289.9	66.8	471.7	802.8	586.5	1044.7	1051.0	8018.5
BLX	22.9	8.0	5.1	60.1	4.5	41.3	48.6	47.1	146.2	92.2	904.8
DEN	2.8	5.3	1.1	5.4	3.0	13.6	45.1	19.6	10.9	51.3	323.4
FR	63.3	22.6	11.9	101.2	17.2	84.0	175.9	109.8	254.0	173.5	1568.9
GFR	55.1	38.2	9.8	60.9	16.4	157.3	272.3	210.9	365.7	267.2	2322.8
IRE	2.7	2.2	0.4	0.3	2.0	4.5	5.3	4.8	1.9	11.7	86.0
IT	24.1	30.2	4.8	23.0	4.4	71.0	76.9	46.7	74.4	90.4	767.5
NL	23.2	8.5	2.5	10.3	8.8	30.4	42.0	58.7	55.5	162.4	901.2
UK	32.4	22.1	5.7	28.8	10.6	69.6	136.7	88.8	136.0	202.2	1143.9
FIN	0.8	1.6	1.4	10.0	7.3	10.0	26.7	13.6	29.8	16.0	276.8
JPN	19.3	12.6	1.4	-45.7	-4.0	54.2	11.5	152.9	210.0	109.6	520.8
NZ	0.1	0.1	0.1	0.2	8.9	1.0	1.8	0.5	0.5	7.1	43.8
NOR	1.9	5.5	0.5	32.5	42.3	13.3	23.2	14.6	48.8	28.5	352.6
SWD	8.3	5.6	2.3	66.1	23.3	39.9	108.8	75.0	152.7	65.5	748.5
SWZ	2.4	3.3	0.8	6.4	9.8	26.6	91.9	40.7	7.7	130.3	483.5
US	36.2	34.5	11.3	50.1	28.4	112.2	365.7	268.8	411.9	475.4	2822.5
TOTAL	323.0	243.5	64.1	446.6	286.2	774.4	1565.5	1224.4	2091.8	2215.5	14753.5

TABLE E.14

CHANGES IN IMPORTS UNDER FLEXIBLE EXCHANGE RATES
BY ISIC SECTOR IN THE MAJOR INDUSTRIALIZED COUNTRIES
DUE TO THE COMBINED EFFECTS OF REDUCTIONS IN TARIFFS
AND NTBS IN THE MTN

	1	310	321	322	323	324	331	332	341	342	35A	35B
ALA	8.2	4.8	0.5	-0.1	0.9	-0.4	2.7	9.1	0.6	-1.8	-1.4	0.2
AFA	5.5	-0.5	20.2	-0.2	3.5	1.0	0.9	-0.6	7.3	0.6	35.2	11.4
CND	11.0	7.9	21.3	7.8	10.0	4.9	16.8	20.2	41.3	55.4	8.8	63.1
EC	399.1	455.9	453.5	396.3	134.5	-2.1	89.6	140.6	360.6	52.0	1285.8	150.6
BLX	37.0	49.5	77.1	43.6	5.5	0.0	8.2	18.3	30.5	7.6	101.4	30.3
DEN	16.0	14.6	22.5	10.1	10.9	-0.3	4.5	5.7	15.7	2.6	38.9	5.4
FR	49.1	57.6	69.8	66.9	18.9	0.4	18.7	37.9	69.3	14.4	250.2	1.7
GFR	133.5	94.8	117.2	149.1	64.1	-1.6	24.4	38.6	108.1	12.8	364.6	36.1
IRE	3.8	7.4	10.5	7.2	1.2	-0.1	0.5	1.0	3.2	0.2	13.6	0.2
IT	60.1	53.6	40.5	17.1	15.2	0.1	9.8	3.6	27.8	2.4	185.5	36.7
NL	50.7	62.2	74.7	57.6	7.6	0.0	10.7	22.8	51.3	6.7	133.6	34.1
UK	48.9	116.4	41.0	44.7	11.0	-0.6	12.7	12.7	54.7	5.3	198.2	6.1
FIN	3.5	0.4	12.2	2.8	7.0	-0.0	3.0	3.0	5.3	1.9	22.7	10.6
JPN	39.0	2.0	2.1	1.4	0.0	1.9	-0.2	6.8	2.8	0.3	65.0	37.9
NZ	1.1	0.2	3.1	-0.0	0.0	0.4	0.1	0.0	0.2	-0.7	8.2	-0.3
NOR	-0.8	-0.2	10.6	3.3	5.1	0.2	2.1	6.0	8.5	1.3	27.0	34.3
SWD	-3.4	-2.6	14.1	3.9	11.0	-0.0	5.5	12.1	15.3	4.4	64.7	51.5
SWZ	2.5	-0.1	12.8	26.7	4.2	8.2	4.6	17.6	21.3	6.9	32.5	48.0
US	-9.5	95.6	37.1	168.4	13.1	-1.7	54.1	0.0	15.7	-0.8	83.6	-7.3
TOTAL	456.1	563.4	587.4	610.2	189.4	12.3	179.1	214.8	478.7	119.6	1632.1	399.9

TABLE E.14 (CONT.)

	355	36A	362	371	372	381	382	383	384	38A	TOT
ALA	10.6	-0.9	-0.3	0.2	0.7	-2.0	3.5	-6.5	12.0	-0.0	46.4
ATA	15.0	10.4	2.9	0.5	3.7	68.4	38.9	32.4	23.0	25.9	305.5
CND	77.0	18.0	7.4	11.5	11.1	135.2	118.2	177.5	88.3	184.5	1097.3
EC	191.7	149.0	39.9	333.4	180.7	395.3	782.9	445.5	1044.7	675.2	8154.4
BLX	13.5	13.7	2.6	24.1	19.0	37.1	90.0	55.9	167.0	65.6	897.5
DEN	5.7	5.4	1.2	11.6	4.0	14.8	32.0	27.3	34.9	26.2	309.7
FR	36.4	30.4	8.8	74.1	29.0	82.2	150.1	90.9	288.0	139.6	1584.4
GFR	86.3	58.7	12.9	117.5	73.2	116.6	260.4	104.3	273.6	206.2	2451.4
IRE	1.4	1.0	0.5	2.4	0.7	1.9	6.1	4.2	3.6	11.6	82.2
IT	13.7	6.0	4.5	45.9	24.1	36.7	51.3	35.3	34.7	69.5	773.9
NL	16.9	27.0	4.1	20.7	9.9	54.3	78.0	64.7	61.3	62.1	910.9
UK	17.8	6.8	5.3	37.1	20.8	51.7	115.0	62.8	181.6	94.4	1144.5
FIN	2.9	3.0	0.4	9.0	2.4	10.7	40.1	37.4	58.7	32.0	269.1
JPN	2.8	-2.1	2.2	2.8	-4.4	15.0	114.2	61.6	184.8	112.8	648.9
NZ	-0.9	0.5	0.3	0.5	2.4	5.0	13.1	1.2	-0.1	2.6	36.8
NOR	2.7	3.6	0.5	13.0	12.7	18.3	59.8	31.7	68.4	25.6	333.7
SWD	7.1	6.5	1.4	41.1	19.0	21.8	111.4	103.7	194.7	66.0	749.1
SWZ	6.7	8.5	0.5	11.6	6.4	13.4	80.8	35.8	106.9	35.7	491.5
US	45.3	75.1	12.0	26.3	20.4	122.5	210.2	394.7	332.4	1239.9	2927.0
TOTAL	366.8	271.5	67.3	450.1	255.1	803.7	1573.1	1315.2	2113.5	2400.3	15059.6

Bibliography

Balassa, B. "The 'New Protectionsim' and the International Economy," Journal of World Trade Law, September-October 1978.

Baldwin, R.E. Nontariff Distortions of International Trade. Washington: The Brookings Institution, 1970.

___________. "The Multilateral Trade Negotiations: Towards Greater Liberalization?" American Enterprise Institute, 1979.

Baldwin, R.E., J.H. Mutti, and J.D. Richardson, "Welfare Effects on the United States of a Significant Multilateral Tariff Reduction," April 1978, in process.

Blackhurst, R., N. Marian, and J. Tumlir, Trade Liberalization, Protectionism, and Interdependence. GATT Studies in International Trade, No. 5. Geneva, November 1977.

Brown, F. and J. Whalley. "General Equilibrium Evaluations of Tariff-Cutting Proposals in the Tokyo Round and Comparisons to More Extensive Liberalization of Trade," December 1978, in process.

Cline, W.R., N. Kawanabe, T.O.M. Kronsjo, and T. Williams. Trade Negotiations in the Tokyo Round: A Quantitative Assessment. Washington: The Brookings Institution, 1978.

Deardorff, A.V., R.M. Stern, and C.F. Baum. "A Multi-Country Simulation of the Employment and Exchange-Rate Effects of Post-Kennedy Round Tariff Reductions," in N. Akrasanee et al. (eds.), Trade and Employment in Asia and the Pacific. Honolulu: University Press of Hawaii, 1977.

Deardorff, A.V., R.M. Stern, and M.N. Greene. "The Implications of Alternative Trade Strategies for the United States," in D.B.H. Denoon (ed.), An American Response to the New International Economic Order. New York: New York University Press, 1979.

Houck, J. "The Tokyo/Geneva Round: Its Relation to U.S. Agriculture," prepared for the Committee on Finance, U.S. Senate, May 1979.

Lowinger, T.C. "Discrimination in Government Procurement of Foreign Goods in the U.S. and Western Europe," Southern Economic Journal, 42 (January 1976), pp. 451-60.

Murray, T. and I. Walter. "Special and Differential Liberalization of Quantitative Restrictions on Imports from Developing Countries," in L. Perez (ed.), Trade Policies Toward Developing Countries: The Multilateral Trade Negotiations. Washington: Agency for International Development, 1978.

Nowzad, B. The Rise in Protectionism. Pamphlet Series, No. 24. Washington: International Monetary Fund, 1978.

OECD. Labour Force Statistics. Paris, annual.

Schnittker Associates. "Multilateral Trade Negotiations: Results for U.S. Agriculture," prepared for the Congressional Research Service, April 1979.

United Nations. Yearbook of Industrial Statistics. New York, annual.