S. HRG. 98-344

DEDUCTION OF RESEARCH AND EXPERIMENTATION EXPENDITURES FOR RESEARCH IN THE UNITED STATES AGAINST U.S. SOURCE INCOME

HEARING

BEFORE THE

SUBCOMMITTEE ON
TAXATION AND DEBT MANAGEMENT

AND

SUBCOMMITTEE ON
ENERGY AND AGRICULTURAL TAXATION

OF THE

COMMITTEE ON FINANCE
UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

FIRST SESSION

ON

S. 654

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DEDUCTION OF RESEARCH AND EXPERIMENTATION EXPENDITURES FOR RESEARCH IN THE UNITED STATES AGAINST U.S. SOURCE INCOME

FRIDAY, JUNE 17, 1983

U.S. SENATE, SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT, AND THE SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION, COMMITTEE ON FINANCE

Washington, D.C.

The subcommittee met, pursuant to notice, at 8:30 a.m. in room SD-215, Dirksen Senate Office Building, Hon. Malcolm Wallop presiding.

Present: Senator Wallop.

[The press release announcing the hearing and Senator Wallop's opening statement follow:]

[Press release No. 83-146, U.S. Senate, Committee on Finance, June 2, 1983]

FINANCE SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT AND SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION RESCHEDULE HEARING ON S. 654

Senators Bob Packwood, Chairman of the Subcommittee on Taxation and Debt Management and Malcolm Wallop, Chairman of the Subcommittee on Energy and Agricultural Taxation announced today that the subcommittees have rescheduled the hearing on S. 654 for Friday, June 17, 1983, at 8:30 a.m. The hearing will be held in Room SD-215 (formerly 2221) of the Dirksen Senate Office Building. Persons who have previously requested to testify on S. 654 need not submit an additional request.

STATEMENT OF SENATOR MALCOLM WALLOP, CHAIRMAN SENATE FINANCE COMMITTEE, SUBCOMMITTEE ON ENERGY AND AGRICULTURAL TAXATION

The purpose of this joint hearing between the Senate Finance Subcommittees on Taxation and Debt Management and Energy and Agricultural Taxation is to receive Administration and public comment on S. 654, which I introduced earlier this year and which now enjoys the support of eleven of my colleagues from the Committee. That legislation provides that for the purposes of section 861 of the tax code, all deductions for research and development expenditures attributable to activities conducted in the United States will be allocated to domestic source income.

By way of brief history, the Economic Recovery Tax Act of 1981 included a two year moratorium on the allocation regulations of section 861. Those regulations, which had been adopted by the Internal Revenue Service in 1977 provided for a complex allocation formula by which U.S. companies were required to allocate between U.S. source foreign source income, expenses associated with R&D activities performed in the United States. The moratorium, which expires at the end of this year, was adopted in recognition of the very strong sense among members of the Congress that the so-called 861 regulations were having a very adverse impact on domestic R&D activities, by either forcing those activities overseas or by simply reducing the expenditures here at home. As a part of the moratorium the Treasury

Department was directed to submit a study to the Congress on the impact of the 861 regulations.

Although considerably overdue, report was submitted to the Congress yesterday. Unfortunately, the report did not arrive at my office in time yesterday to provide any real opportunity to examine findings of the study in detail. However, I was pleased to see that the conclusion of the Treasury study was the recommendation that the moratorium be extended for two more years. That recommendation is based on the Treasury finding that the 861 Regulations indeed have a negative impact on U.S. based R&D activities. I do not believe that any of us here this morning find that conclusion particularly surprising.

While the Treasury Department was working on their study, other surveys and reports were prepared on the impact of 861 regulations. An Arthur Anderson survey of 85 companies with $400 billion in sales, employing 3.5 million people, and spending an excess of $12 billion on R&D singled out the 861 R&D allocation rules as a detriment to domestic R&D operations. In a special report in the June 13 edition of Tax Notes magazine, it was concluded that the readoption of the 861 R&D allocation rules would exert pressure to decrease U.S. based research and development. Further, it was strongly recommended that the moratorium on the regulations should be continued. The Treasury study released yesterday reaches that same basic conclusion. It was the finding of the Treasury Department that had the 861 Regulation moratorium not been in place in 1982, domestic research and development would have been reduced by $40 to $260 million. I will submit the executive summary of the Arthur Anderson survey, the Tax Notes special report, and the Treasury Department press release on the section 861 study for inclusion in the hearing record.

One of the contentions expressed by those who support the continuation of the moratorium on the 861 regulations is that the effect of those regulations pushes R&D activities into overseas markets. From a brief review of the Treasury Department study it would appear that Mr. Chapoton will dispute that contention here this morning. Indeed, the Treasury study points out that the reduction in R&D that would have happened had the moratorium not been in effect in 1982 would have been because the R&D in the United States had become somewhat more expensive and not because of a transfer of R&D abroad. I believe that a very clear rebuttal to that position is offered in two letters I will also submit for the record. The first letter is from Peter S. Chalfant, Tax Counsel to the WILTRON Corporation of Mountain View, California. In April of this year, this electronic test equipment firm with anticipated 1983 sales of $40 million established a research and development facility in the United Kingdom. In outlining the reason for that decision, Mr. Chalfant expressed the company's concern that the U.S. may fall further behind in encouraging companies to conduct their R&D activities in the U.S. Specifically, the possible continuation of the 861 R&D allocation rules was highlighted as an incentive to shift R&D work out of the U.S.

The second letter comes from the Foxboro Company of Foxboro, Massachusetts. In their letter they state that they had for several years intended to centralize all of their R&D efforts in the United States. They point to the 861 regulations specifically as one of the major factors in their decision in 1980 to establish a European R&D operation. They now have substantial R&D activities underway in both the United Kingdom and the Netherlands. It is somewhat ironic for a country which considers itself the leader in research and innovation to be the only industrialized nation in the world to require the allocation of domestic R&D expenditures. It would appear from these two letters that it has the potential of having some very dramatic affects.

Let me conclude by saying that I am very pleased that the Administration will be supporting a two year extension of the moratorium on the 861 regulations. But let me point out that the one thing we have not provided the business community much of lately is some certainty. Two-year fixes are not particularly helpful for the purpose of making long term business decisions. I sincerely hope that the Treasury Department will consider the importance of a permanent solution of this problem, and will work with me in arriving at that solution in the very near future.

Senator WALLOP. Good morning.

The purpose of this joint hearing between the Senate Finance Subcommittees on Taxation and Debt Management, and Energy and Agricultural Taxation, is to receive administration and public comment on S. 654, which I introduced earlier this year and which now enjoys the support of 11 of my colleagues from the committee.

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By way of a brief history, the Economic Recovery Tax Act of 1981 included a 2-year moratorium on the allocation regulations of section 861. Those regulations, which had been adopted by the Internal Revenue Service in 1977, provided for a complex allocation formula by which U.S. companies were required to allocate between U.S. source and foreign source income expenses associated with research and development activities performed in the United States.

The moratorium, which expires at the end of this year, was adopted in recognition of the very strong sense among Members of the Congress that the so-called 861 regulations were having a very adverse impact on domestic R&D activities either by forcing those activities overseas or by simply reducing expenditures here at home.

As a part of the moratorium, the Treasury Department was directed to submit a study to the Congress on the impact of the 861 regulations. Although considerably overdue, the report was submitted to the Congress yesterday. Unfortunately, the report did not arrive at my office in time yesterday to provide any real opportunity to examine the findings of the study in detail.

However, I was pleased to see that the conclusion of the Treasury study was the recommendation that the moratorium be extended for 2 more years. That recommendation is based on the Treasury finding that the 861 regulations could indeed have a negative impact on U.S. based R&D activities. I do not believe that any of us here this morning find that conclusion particularly surprising.

While the Treasury Department was working on their study, other studies and reports were prepared on the impact of 861 regulations. An Arthur Anderson survey of 85 companies with $400 billion in sales, employing 3½ million people, and spending an excess of $12 billion on R&D, singled out the 861 R&D allocation rules as a detriment to domestic R&D operations.

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[The items follow:]

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January 1983

To: The Sponsors of the National Research and Development Study

I. EXECUTIVE SUMMARY

A. Introduction

America's high technology industries are an important source of our future economic growth and competitiveness in the international market. The continued vitality of these industries depends in large part on their willingness to assume the risk of investing in research and development (R&D). A new product may take several years at great expense to develop, and unless there are expectations of a reasonable return on the investment, such investments will likely not occur. Government policies which have the effect of increasing risks or reducing expectations of a reasonable return can act as a disincentive for undertaking R&D and can encourage companies to invest their money and expertise in foreign markets.

In recognition of these realities and evidence that U.S. corporations have greatly expanded research and development activities overseas, Congress in 1981 reexamined domestic economic policy and undertook to remove disincentives to domestic

technology development. Subsequently, in the Economic Recovery Tax Act of 1981 (ERTA), specific steps were taken to spur technological innovation and to increase productivity of U.S. companies. ERTA contained a major overhaul of U.S. depreciation rules and provided a 25% tax credit for incremental increases in research and development expenditures. In addition, the Congress imposed a two year moratorium on the allocation requirements of Section 1.861-8 of the Income Tax Regulations. Section 1.861-8 requires U.S. companies to apportion part of their domestic R&D expenditures to their foreign operations. The apportionment may result in a denial of tax benefits either through loss of tax deductions or expired foreign tax credits which can effectively discourage domestic R&D investments.

As the expiration date of the moratorium approaches, Congress must reconsider Section 1.861-8, and decide whether or not to continue to encourage domestic R&D investments by extending the suspension. To assist it in this determination, Congress requested the Treasury Department to conduct a study of the impact of Section 1.861-8 on domestic R&D and on the availability of the foreign tax credit.

This Firm was commissioned to conduct a similar study that encompassed a survey of the major R&D spenders in the United States. The objectives of this study are to: 1) analyze the impact of Section 1.861-8 on corporate taxes and R&D investments; 2) analyze the factors affecting management decisions to locate R&D in the U.S. or abroad; and 3) examine trends in R&D

investments over the past decade. The National R&D Study represents a companion effort to the Treasury Department's report and is intended to expand the information required for Congress to decide on a permanent suspension of the Section 1.861-8 R&D allocation requirements.

B. Summary of Survey Findings

Questionnaires were completed by 85 corporations selected from among the largest R&D spenders in U. S. industry. The companies surveyed had aggregate sales in 1981 of almost $400 billion, employed over 3.5 million people, and had combined R&D expenditures in excess of $12 billion. The questionnaire sought detailed financial and personnel data and other information quantifying the impact of various factors, such as tax laws and government regulation, on R&D investment decisions. The primary findings of the survey are:

1. The R&D allocation requirements of Section 1.861-8 increase the overall tax liability of U. S. multinational corporations by generally placing firms in an excess foreign tax credit position.

2. Respondents to the survey considered pre-ERTA [illegible] rules as a disincentive to conducting R&D in the U. S. and Regulation Section 1.861-8 was singled out as a detriment to domestic R&D operations by a significant group.

3. The United States is the only nation requiring the allocation of domestic R&D expenditures. In fact, other developed nations have instituted a variety of incentives to attract and stimulate R&D activities within their borders.

4. Management most frequently reviews R&D decisions in light of long-term competitiveness, or is influenced by factors leading to a favorable R&D environment. Characteristics like a sufficient supply of skilled

manpower, adequate R&D facilities and various government incentives or disincentives played a significant role in these decisions.

5. Most corporations have shown an increase in their foreign R&D expenditures as a percentage of their worldwide R&D expenditures over the past ten years. Those companies with less than $2.5 billion in sales exhibited the greatest percentage increase in foreign to total R&D.

6. The percentage increase in respondents' foreign to total R&D exceeded the percentage change in the ratio of foreign sales to total sales. Thus, R&D investment occurred independently of expanding operations (as measured by sales). A significant reallocation of R&D abroad took place over the ten year period studied.

7. The growth on a percentage basis of respondents' foreign to total R&D manpower confirms the shift of R&D abroad. Employment of highly skilled scientists and engineering professionals increased faster abroad than in the U.S.

8. Most respondents believe that lifting the moratorium will encourage an expansion of foreign R&D investments in the future. In fact, 44% of the respondents stated that if the suspension was lifted, it would contribute to an excess foreign tax credit position in future years.

Conclusion

The survey results indicate that R&D investment in foreign markets by U.S. companies is in fact increasing faster than in U.S. markets. Companies considered a variety of factors including Section 1.861-8 in deciding where to locate R&D operations, and often concluded that their best choice for R&D investments is in operations abroad. A significant number of survey respondents felt that the enactment of the R&D incentive provisions of ERTA, if made permanent, represented an important step in rebuilding technological superiority in U. S. industry and in reversing the trends evidenced in this Study.

Arthur Andersen & Co.

II. INTRODUCTION

A. Purpose of Study

The National R&D Study has four objectives:

1. To analyze the impact of Income Tax Regulation Section 1.861-8 on corporate tax liabilities.

2. To compare U.S. tax policy with the policies of other developed countries as such policy affects R&D.

3. To identify the factors influencing corporate decisions to invest in R&D.

4. To analyze the growth of R&D investments by U.S. corporations in foreign countries (hereafter referred to as "foreign R&D" or "overseas R&D") by isolating trends in corporate R&D expenditures and manpower employment over the decade ended in 1981.

B. Background of U.S. Tax Implications

U.S. tax law allows corporations a credit against their U.S. tax liability for taxes paid to a foreign country. Through a complex formula, the law limits this foreign tax credit to the amount of U.S. tax that would otherwise be imposed upon the foreign source income. Thus, decreases in foreign source income will directly reduce the size of the allowable foreign tax credit. (See Appendix B.)

For the purposes of computing U.S. tax liability, Sections 861 and 862 of the Tax Code require corporations with foreign operations to allocate expenses, losses, or other deductions between domestic and foreign source income. Theoretically, expenses directly related to domestic income may be

used to offset U.S. income subject to tax and expenses related to foreign income may be used to reduce foreign income subject to tax by foreign tax authorities. Certain allowable deductions, however, including such overhead items as R&D expenditures and interest expense, are not easily allocated between a corporation's domestic and foreign operations. Believing that a portion of this category of expenditure must relate to the generation of foreign income, the Treasury Department promulgated Regulation Section 1.861-8 in 1977 including complex formulae whereby a part of overhead expenses is simply attributed to foreign source income. This allocation results in a permanent denial of a tax benefit in many situations. In other cases, the allocation results in an excess foreign tax credit which, if never used, also results in a permanent loss of a tax benefit.

Section 1.861-8 has become one of the more controversial elements of U.S. tax policy because of the economic cost it imposes on the performance of domestic R&D. The effect of this provision can be to deny U.S. corporations a full deduction against U.S. income for purely domestic R&D expenses. Such expenses are not permitted as a deduction against foreign taxable income by foreign tax authorities because no direct benefit accrues to the foreign entity. These expenses are not viewed as deductible costs of doing business in the foreign country. This results in loss of a tax benefit for a portion of R&D expenses and exposes a portion of income to both U.S. and foreign taxation. This occurs because the allocation of R&D expenses to foreign source income has the effect of reducing the amount of

foreign tax credit allowed currently and of increasing the corporation's overall tax liability. Seen in this light, Section 1.861-8 reduces the benefits of spending R&D funds in the U.S. The shift in R&D abroad as evidenced by the survey results (see Section V) supports this assertion.

C. Necessity for R&D

Clearly, R&D is vital to the American economy because of its impact on productivity and the creation of new jobs. R&D provides the stimulus for the growth of business and employment through the advancement of technology for new and better products and services. For the 1980's, a high rate of technological innovation is a prerequisite for competitiveness in the international marketplace. Thus, it is in the United States' interest to ensure that its economic and tax policies foster or, at the very least, do not impede efforts by U.S. industry to maintain a technological advantage over our competitors for both defense and nondefense reasons.

D. Sponsors of and Participants in the Study

Responding to the increased concern over the United States' declining economic position with respect to R&D in the world market, the National Association of Manufacturers, the Electronic Industries Association, the Pharmaceutical Manufacturers Association, and the Emergency Committee for American Trade commissioned this Study for purposes of summarizing trends in foreign and total R&D investment over the 1972-1981 period.

(For a more detailed profile of these organizations, see Appendix A.) Responses were received from members of these organizations and other nonmember companies interested in participating in the Study. A total of 85 responses with aggregate R&D expenditures of over $12 billion in 1981 were received, 53 of which reported foreign R&D expenditures of nearly $1.5 billion. The respondents represent several major industry groups. The Chemical and Allied Products Industry had the most respondents with 20 companies participating in the Study, 16 of which had foreign R&D expenditures. Other industries showing a significant number of responses were the Machinery Industry and the Electrical Equipment and Communications Industry. The Study participants with foreign R&D expenditures are among the largest corporations, in terms of net sales, in the United States.

III. IMPACT OF INCOME TAX REGULATION SECTION 1.861-8

A. Objectives of the R&D Study

The National R&D Study sought to assess the impact of Section 1.861-8 by requesting that respondents indicate whether the Regulation has contributed to an excess foreign tax credit (FTC) position, and whether it was considered in reaching a decision to locate an R&D facility outside the U.S. The survey questionnaire also asked respondents to identify the most significant factors that enter into the corporate R&D decision-making process. Additionally, respondents were called on to evaluate the Regulation by documenting their experiences with it, documenting any definitional problems encountered and stating instances where the rules are unnecessarily complex.

A complete discussion of the Section 1.861-8 rules is contained in Appendix B.

B. Response to the Survey

1. Effect of the Regulations on Respondents

The results indicate that the Regulation can exert a significant impact upon companies. Of the respondents with foreign R&D investments, 35% replied that the Regulation requiring allocation of R&D expense contributed to an excess foreign tax credit position on their U.S. corporate tax returns for the years 1977 through 1980. These corporations determined that their tax liabilities increased substantially as a result of the

Regulation. 44% of the companies responded that if the suspension was lifted, the Regulation will contribute to an excess credit position in future years. This confirms that a growing number of respondents expect the Regulation to impede R&D expansion in the U.S. by increasing the cost of R&D and reducing cash flow available for R&D investment as a result of greater corporate tax liabilities.

There were specific instances in which respondents considered the impact of the Regulation in making R&D decisions. For example, a respondent stated that the effect of the Regulation was a major consideration in its decision to expand a foreign R&D project involving expenditures in excess of $100 million.

Although the Regulation influences respondents in different ways, it clearly has a negative impact overall. According to the majority of Study participants, the Regulation has actually created an incentive to spend R&D funds in foreign markets. The specific cost of the Regulation in terms of excess or expired foreign tax credits is difficult to measure. Nevertheless, various respondents urged repeal of the Regulation on the basis that Congress should not allow disincentives to U.S. R&D to exist and thereby create any incentives for U.S. firms to invest abroad.

One respondent characterized the Regulation as "unnecessarily complex, poorly defined,..... and [that it] should be eliminated in order to give full U.S. tax benefit for R&D

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expenses wherever they are incurred." Another respondent questioned the validity of the approach of the Regulation and felt that the Regulation goes beyond the mandate of the statute as interpreted by the Courts.

A significant portion of the participants acknowledge that the Regulation has contributed to excess foreign tax credits and will continue to do so in the future. The failure to fully realize foreign tax credits will necessarily lead to a significant relocation of R&D activities outside the United States. It appears that U.S. - controlled multinational corporations may be placed at an international competitive disadvantage by the Regulation without any significant benefit to the U.S. Treasury.

2. Respondents's Views on the Regulation

Many of the respondents replied that they had encountered problems in applying the Regulation. The following are some of the more frequent responses.

a. Product Categories - Ordinarily, a taxpayer's R&D expenditures may be allocated among designated product categories as specified in the Regulation. The individual products within each category are enumerated in the Standard Industrial Classification (SIC) Manual. Most respondents believe that the product categories are too broad to equitably segregate R&D expenses. As a result, taxpayers are forced to allocate R&D incurred with respect to products sold solely in the U.S. to

foreign source income from sales of unrelated products simply because the two products are classified under one, broad SIC code. For example, the manufacture of bulldozers and lawnmower engines is included in the same SIC code even though the products are vastly different in function.

b. Treasury's Assumption - Many respondents questioned the Treasury's basic assumption that a portion of the U.S. R&D benefits foreign operations whereas foreign R&D does not benefit their U.S. operations.

c. Exclusive Apportionment Factor - The Regulation prohibits allocation of more than 30% of total R&D expenditures (for 1979 and after) to the geographic location where the R&D is performed even if more than 50% of the amount of such deduction is incurred in that geographic area. The taxpayer can use a greater apportionment factor if he can demonstrate to the Commissioner that there exists a very limited or long-delayed application of the intangibles resulting from the R&D outside the U.S. Many respondents indicated that the percentage limitation or exclusive apportionment of R&D expenses to U.S. sources was too low. Moreover, the Regulation makes it extremely difficult to substantiate a higher apportionment factor. This percentage increase is unavailable to many respondents with decentralized operations as it is very difficult for corporate managers to determine whether the results of a particular R&D project are being used by foreign subsidiaries or have been incorporated in products sold overseas. It is even more difficult to identify

the precise year in which an R&D project affects overseas operations. The respondents clearly pointed out that the exclusive apportionment percentage had no theoretical basis, because most R&D was utilized in the country where performed.

d. Sales Method of Apportionment - The remainder of R&D expense, after deducting the amounts related to government-mandated and exclusive apportionment, is apportioned by product category on the basis of sales. For purposes of the sales factor, product sales of controlled (more than 50% owned domestic and foreign affiliates) and uncontrolled parties (less than 50% owned affiliates and independent third parties) are included.

One respondent noted that in determining the level of sales to be included from controlled parties, it is difficult to determine whether a member of a controlled group can reasonably expect to benefit directly or indirectly from an R&D effort.

e. Data Accumulation - Many respondents affected by the Regulation indicated that gathering the information necessary to comply with the 861 rules was extremely time consuming and costly. Some Study participants stated that the amount of effort required to accumulate such information appeared to be far out of proportion to the value of the information presented. While it may be necessary to perform complex computations required by the Regulations in order to arrive at "exact" amounts of allocable and apportionable R&D expense, the respondents believe that the results do not justify the imposition of such an enormous burden on taxpayers.

C. Comparison of Reg. 1.861-8 to Tax Laws Around the World

We surveyed our offices in eleven foreign industrialized nations (see Appendix E) to determine whether income tax rules exist that are similar to those in the U.S. under Regulation Section 1.861-8. The findings are as follows:

1. Nine of eleven countries including Japan, West Germany and Canada tax income from all sources (worldwide income) and eight of nine provide relief from double taxation either in the form of a credit for foreign taxes paid or a lower tax rate on foreign source income. Only Ireland does not extend relief from double taxation of foreign source income, although corporations operating in Ireland may deduct foreign taxes from income.

2. With respect to the nine countries that tax worldwide income, none of the countries had specific tax provisions like Section 1.861-8 that cause the allocation of R&D expenses to foreign source income for purposes of computing a foreign tax credit limitation.

3. Australia and France do not tax foreign source income and, consequently, do not permit a deduction for foreign source expenses, such as R&D expenses incurred in the U.S. Neither of these countries disallow to any extent domestic R&D because there may be an indirect benefit to overseas operations.

The U.S. is the only major industrial country possessing the disincentive that requires allocation of R&D expenses to foreign source income in computing the foreign tax credit limitation. Other countries stipulate that home office expenses should be allocated to foreign branches and subsidiaries if the foreign entities benefit from the expenditures. However, R&D expenses are not specifically targeted for allocation in any of the surveyed countries, as they are in the United States.

D. Summary of Previous Studies

There have been many articles in tax literature explaining deficiencies of the Regulation. Dr. Mai Woo, in a published report for the Institute for Research on the Economics of Taxation, examined the economics of the Regulation. She concluded that the Regulation effectively raises the cost of conducting R&D in the U.S., which management in the long run must factor into their decision-making process.[1/] She also concluded that the Regulation does not achieve its fundamental justification of properly matching expenses with income. Since R&D can only generate a future income stream, the Regulation would have to allocate current expenses against the present value of future foreign source income in order to achieve an appropriate matching. Because of this misallocation, and the incentive it creates to conduct R&D overseas, Dr. Woo strongly urged repeal of the Regulation.[2/]

In 1980, the Department of Commerce commissioned Dr. Anita Benvignati to perform a study on the "Impact of American Tax Policy on the Level and Location of Industrial Research and Development" which was published in March, 1982. She conducted the research by examining the 1976, 1977, and 1978 tax returns of 65 multinational corporations, many of which were selected from Business Week's "R&D Scoreboard."[3/]

She concluded that some companies incur tax costs because of the Regulation. In fact, over the years examined, the percentage of firms allocating R&D to foreign source income

increased from 4% to 35.5%.[4/] The percentage of the R&D allocation to the overall 1.861-8 allocation increased from .3% to 20.4%.[5/] While no firms in 1976 paid additional taxes because of R&D allocations, 10% of the firms did in 1978.[6/]

While tax factors appeared to be of secondary importance to other economic factors in influencing the location of R&D facilities, Benvignati determined that certain firms are more influenced than others.

Because a shift of R&D investments overseas decreases the employment base, which reduces the tax base, several respondents and commentators have speculated that the revenues lost from the Regulation could exceed the revenues generated. Benvignati's findings appear to support this conclusion. She concluded that even though the Regulation generated minimal revenues in 1977 and 1978, it levied a substantial impact on a number of companies.[7/]

In a 1977 article entitled "The Allocation and Apportionment of Deductions," attorneys James Fuller and Alan Granwell argued that Regulation 1.861-8 is exceedingly complex and administratively burdensome.[8/] Moreover, Fuller and Granwell stated that the rules seem to go far beyond the statute.[9/] They point to "factual relationships" between items of income and deductions imposed by the Regulation that are often strained and inconsistent with the statutorily mandated concept of "properly apportioned" deductions.[10/] Fuller and Granwell characterized certain provisions for allocating and apportioning R&D as harsh and rigid.[11/]

E. Future Impact - Lifting the Suspension

If the suspension is lifted, the Regulation has the undesirable potential for a greater detrimental impact on international corporations in future years because the number of firms actually incurring a tax cost is increasing.[12/] In Benvignati's study, the percentage of firms in excess foreign tax credit positions increased from 25.5% to 43.2% over the years examined, while the percentage of firms paying additional taxes because of the required allocations increased from 9.8% to 26.5%.[13/] Of those firms with excess foreign tax credits in the years following the Regulation's enactment, one-third attribute 60% or more of the excess to the Regulation.[14/]

Our findings closely parallel that of Ms. Benvignati. As previously discussed, 44% of the respondents replied that if the suspension was lifted, the Regulation will contribute to an increased excess foreign tax credit position in future years.

Although the current and projected dollar impact of the suspension of the Regulation is presently unknown, the lifting of the moratorium is expected to further weaken the United States in the race for worldwide technological and scientific superiority.

FOOTNOTES

1/ Dr. Mai Nguyen Woo, "Research and Development at Home or Abroad? The Economics of IRS Regulation 1.861-8," Institute for Research on the Economics of Taxation, Economic Report #9, March 17, 1982, p. 10.

2/ Ibid, pp. 14-16.

3/ Dr. Anita Benvignati, "Impact of American Tax Policy on the Level and Location of Industrial Research and Development," Department of Commerce, Office of International Services, March 1982, pp. 18-20.

4/ Ibid, p. 4.

5/ Ibid.

6/ Ibid, p. 5

7/ Ibid, p. 2.

8/ James P. Fuller and Alan W. Granwell, "The Allocation and Apportionment of Deductions," 31 Tax Lawyer, (1977), pp. 125-161.

9/ Ibid, p. 126.

10 Ibid, p. 127.

11/ Ibid, p. 145.

12/ Benvignati, p. 2.

13/ Ibid, p. 5.

14/ Ibid, p. 45.

IV. RESEARCH AND DEVELOPMENT INCENTIVES AROUND THE WORLD

A. Introduction

This section examines research and development incentives existing in several major, industrialized foreign countries. (See Appendix E for a list of these countries.) The foreign offices of Arthur Andersen & Co. responded to a questionnaire that examined the environment for R&D activities in these countries. The responses described a number of tax and non-tax incentives that clearly indicate a determined effort abroad to attract R&D activities.

Many countries provide R&D incentives that are more beneficial to the investor than those offered in the United States. Japan, for example, considered a world leader in high technology, provides a greater number of R&D incentives than any other country.

The following summary highlights selected incentives available in the surveyed countries which provide the greatest stimulus to R&D investment.

B. Tax Incentives

1. Immediate Deduction or Special Accelerated Depreciation for R&D Capital Assets

Immediate deduction of R&D capital assets provides a current rather than a deferred tax benefit, i.e., capital expenditures may be offset against income in the year of

acquisition rather than ratably offset against income over the useful life of the asset.

Special accelerated depreciation also provides a tax benefit in that it permits a much faster recovery of the cost of a R&D asset as compared to the recovery period of a non-R&D asset. Most countries place limitations on the amount of accelerated depreciation which may be claimed in any one year as well as the type of assets which qualify for special accelerated depreciation.

Generally, immediate deductions or accelerated depreciation may be taken if the property is used only for the specific purpose of scientific research.

- Taxpayers in the United Kingdom and Canada are entitled to a 100% first year allowance on capital expenditures for scientific research. Although certain specifications must be met to qualify for the write-offs, they are the most rapid offered by any country in the world. Canada also provides an additional allowance equal to 50% of the excess of qualified R&D expenditures over an aggregate expenditure base. The expenditure base is computed by using a three year base period.

- Australia allows R&D capital expenditures other than expenditures for plant, land, machinery, or building (e.g., a patent), to be deducted from income in the year when made. Moreover, buildings may be depreciated over a three-year period.

- Belgium's tax law states that certain new assets acquired by a company may be depreciated at 110% of their cost over three years.

- West Germany allows accelerated depreciation for R&D assets in the form of additional depreciation taken in the first few years (initial write-off period) the assets are used. This is similar to bonus depreciation formerly offered to taxpayers under U.S. tax law. Regular depreciation must be computed using the

straight-line method. The undepreciated cost of the asset which remains after the initial write-off period must be spread over its remaining useful life.

- o France allows 50% of the cost of buildings used for scientific or technical research to be written off in the first year.

The United States provides a less rapid write-off for R&D capital expenditures than the aforementioned countries. For example, buildings used for scientific research are not given preferential treatment under U.S. tax law.

2. Special Tax Credits

Special tax credits directly reduce the tax liability and therefore provide a major tax benefit to the taxpayer.

Discussion

- o Japan allows a credit for R&D expenditures limited to the lesser of 20% of qualified incremental R&D expenses or 10% of the tax liability before any credits. The U.S. credit is due to expire for expenditures after December 31, 1985 -- a fact which significantly reduces the incentive to undertake long-term R&D projects.
- o The Dutch Government provides a refundable tax credit ("WIR Premium") for capital expenditures, including R&D investments. The credit is 14% of the cost of new buildings, 8% for existing buildings and 12% for other R&D assets.
- o Canada allows a credit of 10, 20, or 25% (depending on the region in which the expenditure was made and the nature of the taxpayer) for qualified research expenditures.

3. Deductions for Payments to Research Institutes

Businesses may be able to deduct payments to research institutes for contract research performed. Countries place

limitations on the amount of the deduction as well as the definition of a "research institute."

Discussion

- o In Japan, a 100% deduction is allowed if the contribution is to a research organization which the Minister of Finance declares is engaged in research vital and urgent to the public interest. Other contributions to qualified research institutes qualify for a deduction limited by the tax laws.

- o Australia allows a deduction for payments to an approved research institute for scientific research related to the taxpayer's business. An "approved research institute" is defined as the Commonwealth Scientific and Industrial Research Organization, or any university, college, etc. which is approved by various Australian authorities as an institution for undertaking research which is or may prove to be of value to Australia.

- o Canada allows a deduction for payments to an approved association that undertakes scientific research related to the taxpayer's class of business, payments to an approved university or similar institution, payments to a nonprofit scientific research corporation in Canada and payments to a resident corporation in Canada that performs scientific research related to the taxpayer's business.

- o Italy allows a deduction for payments to a research institute provided that the research institute is a corporation and the payments do not exceed two percent of the taxpayer's taxable income.

- o The United Kingdom allows a deduction for payments made to research institutes approved by the Secretary of State or the Minister of Technology.

C. Non-Tax Incentives

1. Inexpensive Government Financing

Government financing provides a viable way for business to obtain funds for R&D projects at interest rates usually well below market.

Discussion

- o Japan provides funds for certain types of R&D activity through the Japan Development Bank, The Small and Medium Sized Business Finance Public Corporation, and several other similar financial institutions. The interest rates on the loans range from 7.3% to 7.8% and the loan term varies from 5 to 18 years. The Japan Development Bank lent approximately $462 million in 1980 for R&D activities.

- o Belgium provides a lower rate of interest on loans made by some credit institutions approved by the government. To benefit from this lower rate of interest, loans must be used for direct financing of intangible investments such as market evaluation and research or testing of prototypes, new equipment, new manufacturing processes and commercial methods.

  A special non-interest bearing loan is allowed by the government for the experimental manufacturing or testing of new materials or processes. The loan cannot exceed 80% of the ultimate costs incurred. The loan is repayable as soon as a related industrial or commercial operation appears to be feasible.

- o The Netherlands will provide Technical Development Funds (up to stated limits and according to certain restrictions) covering 70% of the costs and risks of a development project at an interest rate of 5%. The fund will only provide financing for research conducted within the Netherlands.

These countries and West Germany were the only ones providing inexpensive government financing for R&D activities. The United States Government does not offer such an incentive.

2. Direct Governmental Grants

Direct governmental grants provide governmental funds to promote R&D activities. The grants are an excellent source of R&D funds since, in most cases, they do not have to be repaid. Nearly every surveyed country provides governmental grants for R&D activity.

- Japan provided more than $2.7 billion in grants for R&D during 1980. The major grants in Japan are offered through the Ministry of International Trade and Industry, the Ministry of Education, and the Ministry of Health and Welfare. The Vital Technology and Research and Development Grant offered through the Ministry of International Trade and Industry covers the cost of one-half the R&D expenditures to carry out a particular project. Most Japanese grants are nonrepayable; however, there are a few grants which must be refunded if the R&D project is successful.

- France will provide direct governmental grants to small and medium size enterprises in order to contribute to the development of innovation and technology in industry. The grants are provided to businesses that have under 2,000 workers and that are less than 50% owned (directly or indirectly) by one or more companies quoted on the stock exchange. The amount of the grant is fixed at 25% of sums paid to a research organization up to a limit of FF 1,000,000 (approximately $146,800) per beneficiary per year.

- Ireland provides grants through the Irish Development Authority ("IDA"). The grants can be used for 50% of direct R&D expenditures, e.g., wages, materials, prototype manufacturing and testing expenses, up to a maximum of £250,000 (approximately $350,800) per project. The grants can also be used towards permanent facilities, such as buildings and pilot plants. Grants are also available for feasibility studies.

3. Ability to Obtain Proprietary Rights to R&D Assets Funded by the Government

Business may acquire ownership rights to R&D assets which were purchased or constructed with governmental funds.

- In Japan, the R&D assets funded by government grants belong to the recipients of the grants in almost all cases. There are only a few grants which require the refund of the grant upon the success of the research effort for which the grant was made.

V. RESULTS OF SURVEY

A. Decision-Making Criteria

The survey questionnaire sought to identify the factors (beyond the basic one of increasing profitability) that influence a company's decision to commit funds to R&D. See Appendix C beginning at page 5 of 8. Part III of this report focused on the importance of Regulation Section 1.861-8 in the R&D decision making progress. As the survey results indicate, other factors also play a significant role.

Study participants were asked about two types of factors, "internal" and "external." Internal factors are those that arise from within a company or are fully controlled through management decisions. Some examples are a corporation's long-term growth strategy, its ownership of research facilities, and its judgments on the competitiveness of the industry. External factors are those outside of a corporation's direct control, such as government regulation, interest rates, and the competency of the available work force.

Both types of factors play an important role in developing an R&D project. On the whole, the survey results indicate that internal factors are given primary consideration in deciding whether to undertake an R&D project, and external factors become more important when timing, placement, and magnitude are considered.

1. Internal Factors Influencing R&D Investment Decisions

Respondents were asked to rank seven internal factors in terms of their relative importance to decisions to spend R&D funds outside of the U.S. The possible rankings for the items were: (1) very important, (2) somewhat important, and (3) unimportant. The factors to be ranked are listed on page 7 of Appendix C.

The survey results indicate that a company's long-term growth strategy is the most important internal factor in reaching a decision to commit funds for overseas R&D. Other factors considered very important by the respondents were (1) competitiveness within an industry and (2) the existence of a foreign support laboratory.

2. External Factors Influencing R&D Investment Decisions

To get a broader perspective on the external factors that influence a company's decision to invest in R&D, the survey sought to identify the factors relating to both the U.S. and overseas investment. In calculating the results for U.S. R&D investment the responses of all eighty-five study participants were incorporated (as contrasted to the fifty-three companies with foreign R&D). The results from those companies with foreign R&D are strikingly similar to those from the entire respondent pool.

The survey identified fifteen external factors for both domestic and overseas investment to be ranked by respondents

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according to their relative importance in stimulating R&D spending. The external factors affecting overseas investment are listed on page 6 of Appendix C. The factors for U.S. investment were the same as those listed on Appendix C except that "U.S." replaced the word "Foreign."

The results indicate that the most common incentive for determining timing, placement, and scope of R&D projects is the competency of the available work force. The geographical location of necessary raw materials and research data was the second most frequent response. Both of these incentives stress the importance of an R&D infrastructure conducive to continuing long-term R&D efforts. The erosion of this environment in the U.S. and its growth abroad is of utmost concern to managers as they cope with foreign competition.

In conjunction with the impact of Regulation Section 1.861-8, the internal and external factors discussed above have often combined to make foreign markets a more attractive setting for R&D investment. The United States thus faces the prospect of a drain on our technological expertise, and further deterioration of our global economic position.

B. Financial/Personnel Data

Section I of the questionnaire (see Appendix C) was designed to determine the overall trend in R&D activities over the last ten years. The intent was to ascertain whether there had been any measurable change in the growth of overseas R&D

activities as compared to domestic R&D activities. Financial, accounting and personnel information were requested for purposes of identifying such trends. The results are summarized by industry and company size in tabular form below.

1. R&D Investment Abroad

The survey results indicate that R&D investment by U.S. companies in foreign markets has grown extensively over the survey period (1972-1981). More importantly, foreign R&D expenditures as a percentage of worldwide R&D expenditures for the surveyed companies have increased over the last ten years and are projected to continue growing in the near future. Table 1 illustrates the tremendous growth in foreign R&D expenditures for the most recent 10 year period.

Table 1

Actual Foreign R&D Expenditures by Industry
(In Millions of $'s)

	1972	1981	% Change from 1972-1981
Electrical Equipment and Communication	$ 8.8	$ 23.2	+ 164%
Machinery	146.2	598.6	+ 309%
Chemicals and Allied Products	67.9	319.6	+ 371%
Motor Vehicles and Motor Vehicle Equipment	119.6	391.3	+ 227%
Aircraft and Missiles	9.3	111.7	+ 1,199%
Professional and Scientific Instruments	1.8	9.5	+ 428%
Petroleum Products and Refining	1.0	3.6	+ 260%
All Other	8.3	26.0	+ 213%
Total	$362.9	$1,483.5	+ 309%

Foreign R&D expenditures as a percentage of worldwide R&D have increased substantially over the survey period confirming a real shift of R&D investment to foreign markets. The Aircraft and Missles Industry experienced the greatest percentage increase of foreign R&D to total R&D for the last ten years. The Chemicals and Allied Products Industry also exhibited a strong reallocation of R&D expenditures to foreign markets. See Appendix F, Exhibit 2 for presentation of results by industry.

Table 2 presents foreign R&D expenditures adjusted for the effects of inflation. The most significant constant dollar increases in R&D investment overseas occurred in the Machinery Industry. However, the table further indicates that all industries experienced real growth in foreign R&D investment from 1972 to 1981. The Chemicals and Allied Products Industry, Motor Vehicles and Motor Vehicle Equipment Industry, and Aircraft and Missles Industry also demonstrated significant constant dollar growth in foreign R&D.

Table 2

Actual Foreign R&D and Foreign Sales

In Constant 1967 Dollars by Industry

(In Millions of $'s)

	Foreign R&D Expenditures	
	1972	1981
Electrical Equipment and Communication	$ 7.4	$ 7.9
Machinery	122.7	204.0
Chemicals and Allied Products	57.0	108.9
Motor Vehicles and Motor Vehicle Equipment	100.4	133.4
Aircraft and Missiles	7.8	38.1
Professional and Scientific Instruments	1.5	3.2
Petroleum Products and Refining	0.8	1.2
All Other	7.0	8.8
Total	$304.7	$505.6

2. Projected Growth of Foreign R&D

Table 3 illustrates projected growth in foreign R&D investment for all respondents through 1985. (For breakdown by industry, see Appendix F, Exhibit 1.) Respondents from the Aircraft and Missiles Industry expect foreign R&D expenditures to accelerate by over 72% between 1981 and 1985, an increase in spending of approximately $81 million. This accounts for nearly one third of the respondents' worldwide projected dollar growth for the period and represents the most significant percentage increase for any industry. Substantial growth in foreign R&D is also projected for respondents in the Chemical and Allied Products Industry with increases expected of over $62 million.

Table 3

Projected Industry R&D Investment Overseas

(In Millions of $'s)

	1983	1985
Est. Foreign expenditures	$1,559.2	$1,738.6
% Change from 1981	+ 5.1%	-
% Change from 1983	-	+ 11.5%

3. Growth By Size of Company

Table 4 shows the growth of overseas R&D investment on the basis of company size (as measured in 1981 net sales) for the ten-year period. Respondents were classified by company size to determine whether trends in R&D spending for the larger multi-national corporations differed significantly from those of the

smaller corporations. The results indicate that firms with sales under $2.5 billion experienced the greatest percentage growth in foreign R&D investment. In general, the largest multinational firms (with sales in excess of $7.5 billion) have increased their annual R&D investments less rapidly over the survey period than smaller corporations.

Table 4

Foreign R&D Expenditures

By Company Size

(In Millions of $'s)

Company Size (1981 Net Sales)	1972	1981	% Change from '72-'81
Over $7.5 billion	$257.7	$1,024.6	298%
$2.51 - $7.5 billion	80.3	330.6	312%
Under $2.5 billion	24.9	128.3	417%
Total	$362.9	$1,483.5	309%

Those companies with sales under $2.5 billion reported the most significant shift of R&D to foreign markets as a percentage of total R&D. However, the largest multinationals exhibited a very similar percentage reallocation of R&D abroad indicating that companies of all sizes are expanding foreign R&D operations. See Appendix F, Exhibit 3 for presentation of these trends by company size.

4. R&D Investment Abroad Related to Growth of Foreign Operations

Foreign operations, as measured by net sales data, expanded substantially over the survey period. Of the companies that provided both sales and R&D information, all experienced dramatic growth in foreign net sales. Table 5, however, confirms that foreign R&D expenditures increased more rapidly than foreign sales over the survey period. Furthermore, the table reveals that constant dollar growth of worldwide sales exceeds that of worldwide R&D expenditures. It follows that foreign R&D as a percentage of worldwide R&D is accelerating at a more rapid pace than foreign sales as a percentage of worldwide sales. All dollar amounts have been adjusted to exclude the effects of inflation by using the Commodities Price Index for Producers.

Table 5

Comparison of Growth in Operations (Net Sales) to Growth in R&D Adjusted for Inflation

(In Millions of $'s)

	1972	1981	% Change
Foreign Sales in Constant Dollars	$ 8,925.9	$12,601.5	+42%
Foreign R&D in Constant Dollars	$ 304.7	$ 505.6	+66%
Worldwide Sales in Constant Dollars	$29,659.9	$38,148.4	+29%
Worldwide R&D in Constant Dollars	$ 2,912.9	$ 3,466.7	+19%

5. Growth of R&D Personnel Abroad

The number of employees associated with R&D projects in foreign markets has increased regularly from 1972 to 1981. As defined in Appendix D of the Study, "employees" includes scientists and engineers, administrative personnel, and other employees involved directly or indirectly with foreign R&D activities. Table 6 demonstrates that the percentage growth of foreign R&D personnel exceeded the increase in worldwide R&D personnel over the survey period. This trend is similar to the percentage change of foreign R&D expenditures to total R&D expenditures (shown in Appendix F, Exhibits 2 and 3) which confirms an overall increase in foreign R&D investment. A more detailed breakdown by industry of this information may be found in Appendix F, Exhibits 4 and 5.

Table 6

Growth of R&D Personnel Employed Abroad from 1972-81

	1972	1981	% of Change
Foreign Scientists & Engineers	5,953	8,966	+ 51%
Worldwide Scientists & Engineers	46,070	62,613	+ 36%
All Foreign R&D Personnel	9,058	17,083	+ 89%
All Worldwide R&D Personnel	73,911	107,107	+ 45%

The number of foreign scientists and engineers increased more rapidly than the worldwide total of scientists and engineers. The total number of foreign personnel also grew at a faster pace over the survey period than the worldwide total. This indicates an increasing trend to perform research in foreign countries instead of in the U.S.

C. Summary of Findings

The survey results clearly substantiate Congress' concern that increased emphasis has been placed on the overseas R&D operations of U.S. companies. Considering projected foreign R&D expenditures reported for 1983 and 1985, this trend may continue barring no significant changes in the economic or regulatory climates of foreign nations. The evidence further establishes that U.S. R&D investment overseas has exceeded the rate of growth in foreign operations.

VI. APPENDICES

Description	Appendix
Sponsors of and Participants in the Study	A
Summary of Section 1.861-8 Rules for Allocating R&D Expenses	B
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Listing of Foreign Countries Reviewed with Respect to Section IV of the Study	E
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Appendix A

SPONSORS OF AND PARTICIPANTS IN THE STUDY

The Study was sponsored by the National Association of Manufacturers (NAM), the Emergency Committee for American Trade (ECAT), the Electronic Industries Association (EIA), and the Pharmaceutical Manufacturers Association (PMA).

The NAM has nearly 12,000 member firms across the country. The firms account for about 80% of the nation's industrial output and employ nearly 85% of the nation's industrial workforce.

Large multinational manufacturers representing a significant cross-section of all U.S. industrial firms comprise the membership of ECAT. Likewise, EIA includes many world leaders in the R&D intensive and highly competitive field of electronics. The members of these organizations annually invest a substantial portion of available working capital in domestic and foreign R&D.

PMA consists of 144 firms engaged in the manufacture of prescription pharmaceuticals, medical devices and diagnostic products. Since 1940, companies within these industries have invested over $13 billion in R&D. As a result, PMA members are responsible for the introduction of over 90% of the prescription drugs in the U.S., and over half of the new drugs introduced in the free world.[1/]

Appendix A

A. Companies Included in the Study

According to a recent National Science Foundation Study, 84% of all R&D is performed in seven industries: Electrical Equipment and Communication, Machinery, Chemicals and Allied Products, Motor Vehicle and Motor Vehicle Equipment, Aircraft and Missiles, Professional and Scientific Instruments, and Petroleum Products and Refining.

We used these industry groupings to classify the primary R&D activities of the Study participants. Respondents performing their principal R&D activities in industries other than those shown above were categorized as "All Others" for purposes of the Study.

Many of the respondents are engaged in R&D activities in several of the above industries. In some cases, we determined the primary industry classification for each company by using the industrial groupings from Business Week's "Annual R&D Scoreboard",[2/] the 1982 Standard and Poor's "Register" or from discussion with an executive at the company.

1. Industry Breakdown

Responses were received from 85 companies representing the various industries. The Study specifically focuses on the 62% of the respondents who had foreign R&D expenditures. Table 1 shows an industry breakdown of the survey participants.

Appendix A

Table 1

Number of Respondents by Industry

Industry	Total	With Foreign R&D	Without Foreign R&D
Electrical Equipment and Communication	9	4	5
Machinery	15	12	3
Chemicals and Allied Products	20	16	4
Motor Vehicles & Motor Vehicle Equipment	4	3	1
Aircraft and Missiles	8	4	4
Professional & Scientific Instruments	4	2	2
Petroleum/Refining	2	2	0
All Others	23	10	13
Totals	85	53	32

2. Size of Study Participants

The Study participants with foreign R&D expenditures are among the largest corporations, in terms of net sales, in the United States. Table 2 shows the breakdown by size of the study participants that had R&D investments overseas.

Appendix A

Table 2

Breakdown of Participants With Foreign R&D by Company Size

Company Size (1981 Net Sales)	Number of Respondents
Over $7.5 billion	10
$2.51 - $7.5 billion	24
Under $2.5 billion	19
Total	53

Business Week's "Annual R&D Scoreboard" identifies many of the respondents as the industry leaders in worldwide R&D expenditures.[3/] Further, the total R&D expenditures of the respondents represented over 38% of the total R&D expenditures for the participants in the Business Week survey. The Study therefore reflects a significant cross-section of U.S. corporations with substantial R&D expenditures.

Appendix A

FOOTNOTES

1/ Pharmaceutical Manufacturers Association, Prescription Drug Industry Fact Book - 1980, Washington, D.C., p. 11.

2/ "Technologies for the '80's," Business Week, July 6, 1981, pp. 46-75.

3/ Ibid..

Appendix B

SUMMARY OF SECTION 1.861-8 RULES FOR ALLOCATING R&D EXPENSES

Illustration of the Impact of the Regulation

The general thrust of the Regulation is to allocate and apportion U.S. tax deductions to foreign source income with the principal purpose of reducing the otherwise allowable foreign tax credit under U.S. tax law. In those situations where the U.S. taxpayer is incurring foreign taxes at an effective foreign tax rate which approximates or exceeds the U.S. effective tax rate, the impact of this Regulation would be to deny a current U.S. tax benefit for deductions allocated to foreign source income. This principle is illustrated by the following example. (See next page.)

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Appendix B

	R&D Deductions Allocated to Foreign Source Income			
	No		Yes	
U.S. source income	$1,000		$1,000	
Foreign source income	1,000	(A)	1,000	(A)
Total taxable income	$2,000	(B)	$2,000	(B)
Foreign taxes - assume a 46% rate	$ 460		$ 460	
U.S. R&D deductions allocable to foreign source income under the Regulation			$ 500	(C)
U.S. tax liability before the foreign tax credit ($2,000 x 46%)	$ 920	(D)	$ 920	(D)
Allowable foreign tax credit:				
$\frac{\$1,000\ (A)}{\$2,000\ (B)}$ x $920 (D)	(460)		-	
$\frac{\$1,000\ (A) - \$500\ (C)}{\$2,000\ (B)}$ x $920 (D)	-		(230)	
Net U.S. tax	$ 460		$ 690	
Foreign tax credit carryforward/ carryback	NONE		$ 230	

Since the effective foreign tax rate (46%) is equal to the U.S. tax rate, the allocation of $500 of R&D to foreign source income results in an increase in the U.S. tax liability of $230, or a permanent denial of a tax benefit for the deductions so allocated unless the excess foreign tax credit of $230 can be used either as a carryback or a carryforward.

Appendix B

General Discussion

Although acknowledging R&D expenditures are inherently speculative in nature, this Regulation provides for the allocation and apportionment of R&D expenditures based on the uncertain theory that successful R&D costs must support the unsuccessful costs incurred by a taxpayer.

In order to allocate and apportion R&D costs properly, the taxpayer must make the following determinations and computations:

1. Define and accumulate R&D costs;
2. Classify such costs by product category;
3. Determine those costs which are undertaken solely to meet legal requirements of a political entity and which cannot be reasonably expected to generate gross income outside that particular geographic area;
4. Apply the prescribed exclusive apportionment factor or establish such a factor;
5. Apportion the remainder utilizing the sales method; and
6. Apply the optional gross income apportionment methods.

Definition of R&D

For purposes of defining R&D, the Regulation only makes reference to Internal Revenue Code Section 174. As a practical matter, although a taxpayer may have made the election to deduct currently all such expenditures under Section 174, only infrequently would an expense category of this nature appear on a tax return. Therefore, an analysis of the individual expense categories for tax return reporting purposes must be made to

provide a proper accumulation of these costs. A taxpayer must refer to FASB Statement No. 2, Accounting for Research and Development for a working definition of all such expenses subject to the allocation rules. A detailed discussion of FASB No. 2 is included in Appendix D.

Product Categories

In order to allocate R&D costs to income reasonably connected therewith, a taxpayer may accumulate the R&D costs by 12 major nonmanufacturing and 20 manufacturing categories. The individual products included within each category are enumerated in the Standard Industrial Classification Manual, 1972 (or later edition, as available; Executive Office of the President, Office of Management and Budget). Where a taxpayer does not desire to accumulate R&D costs by product category for allocation purposes or where research is not clearly identified with any product category, it will be considered to be allocable to all product categories. An example in the Regulation illustrates the possible adverse consequences of not being able to identify R&D costs and/or aggregating all R&D costs: an affiliated group of basically manufacturing companies allocates a portion of its basic R&D costs to the gross income of its incidental ownership in foreign hotel operations.

Product categories may not be subdivided into product lines or other subdivisions within the product category. The product categories are extremely broad. One of the examples in the Regulatation combines sales and R&D costs attributable to

lawnmower engines and bulldozers since they are both contained within the same product category. (SIC Major Group 35, "Machinery, except Electrical").

Government-Mandated Allocation

After determining the total applicable R&D, a specific allocation is granted for government-mandated expenditures. In order to qualify for this exception, the expenditures must be undertaken solely to meet the legal requirements imposed by a political entity, the results of which cannot reasonably be expected to generate amounts of gross income outside that particular geographic source (beyond a de minimus amount). The Regulation provides an example of product-testing expenditures imposed by the U.S. Food and Drug Administration as a possible result of applying this rule. Other similar government testing or product requirements giving rise to research expenditures (for pollution control, etc.) would appear to be appropriate specific allocations.

Exclusive Geographic Apportionment

Recognizing that R&D expense is normally most valuable in the country where performed because: (1) not all products may be manufactured or sold in other geographic areas and (2) the time delay in the use of such intangibles in other geographic areas could be significantly longer, an arbitrary portion of the R&D expense is exclusively apportioned to the geographic source where the R&D effort is performed if more than 50% of the amount

of such deduction is incurred in that geographic area (e.g., the United States). The arbitrary geographical apportionment is equal in amount to:

1. Fifty percent (50%), in the case of a taxable year beginning during 1977;
2. Forty percent (40%), in the case of a taxable year beginning during 1978; and
3. Thirty percent (30%), in the case of a taxable year beginning during 1979 and thereafter.

The taxpayer may demonstrate to the satisfaction of the Commissioner of the Internal Revenue Service that a significantly greater percentage (of R&D costs) than the flat percentage indicated above should be allocated to the geographic source where such R&D was performed, based upon a very limited or long-delayed application of the intangibles resulting from the R&D outside the geographic source where it was performed. In practice, the taxpayer may find the information necessary to compute a greater percentage extremely difficult to gather and effectively analyze. If the taxpayer attempts this computation based on judgmental approximations, there is a definite risk of challenge from the IRS on examination of the taxpayer's return.

Sales Method Apportionment of the Remainder

The remainder of the R&D expense, after deducting the costs allocable to government-mandated and exclusive apportionment, is then apportioned by product category or by product categories to foreign- or domestic-source income on the basis of sales. For purpose of the sales factor, a look-through

sales concept is utilized which includes product sales of controlled (more than 50% ownership of domestic and foreign affiliates) as well as uncontrolled parties.

Where a member of a controlled group can reasonably be expected to benefit directly or indirectly from the R&D effort, the amount of a controlled member's sales that will be taken into account will be the greater of: (1) the sales if the party were uncontrolled or (2) an amount based upon the taxpayer's percentage of control, except where the parties have entered into a cost-sharing arrangement.

Where the taxpayer licenses uncontrolled parties, the gross sales generated from the use of the intangible assets so licensed is included in the sales factor. If the sales of the licensee are not known or subject to reasonable estimates, then sales will be presumed to be 10 times the amount received from the licensing arrangement.

To avoid double counting of sales between controlled parties, the selling company shall subtract from its sales the purchases from members of the controlled group that have been resold during that year. In eliminating intercompany purchases of components from the sales of controlled parties, presumably the amount eliminated should be the transfer price. However, an argument can be made that transportation cost, insurance and import duties should also be eliminated from the controlled parties' sales. Similar questions can be raised with respect to adjusting sales for such factors as disparate inflation rates in

certain foreign countries and exchange rate differentials -- so that in apportioning R&D comparable sales dollars are utilized.

This brief discussion of the sales method highlights the complexity in and expense of performing the necessary calculations to comply with the Regulation. Additional exposure to IRS challenge arises when the taxpayer exercises judgment in interpreting various aspects of the sales method.

Gross Income Method

Option 1

The taxpayer may, at his election, apportion R&D expense ratably on the basis of the taxpayer's (separate company) gross income if the R&D expense apportioned to the foreign-source income and domestic-source income is at least 50% of the R&D expense apportioned under the Sales Method described above.

For purposes of the gross income method, R&D expense to be apportioned is not the same amount as that used under the Sales Method but is the total R&D expense for all SIC product categories reduced for the amount attributable to government-mandated expenditures.

Option 2

If R&D expense is ratably apportioned on the basis of gross income and if the amounts allocated to foreign-source income or domestic-source income are less than 50% of the respective amounts so apportioned to these groupings under the

Sales Method, then the taxpayer may use Option 2. If the 50% test is failed with respect to the foreign-source income, then 50% of the R&D expense apportioned to foreign-source income under the Sales Method is apportioned to foreign-source income under Option 2 and the remainder of the R&D expense is apportioned to domestic-source income.

If the 50% test is failed with respect to domestic-source income under the Sales Method, then 50% of the R&D expense so apportioned to domestic-source income under the Sales Method is apportioned to domestic-source income and the remainder is apportioned to foreign-source income.

The gross income method, perceived as a beneficial alternative to taxpayers, adds another layer of complexity in complying with the Regulation.

Appendix C

SURVEY QUESTIONNAIRE

GENERAL INFORMATION

SECTION I

Question 1

Please provide the total amount spent for R&D and the amounts spent for R&D by foreign subsidiaries, branches and joint ventures of your corporation for the following years:

(Note: If actual information is unavailable, please provide reasonable estimates. Please provide your assumptions regarding the estimation of such data on an attached sheet.

Also, to allow for the possibility that some companies will not respond with detail on 100% of worldwide net sales, you may provide partial R&D information if it is available. If you do provide partial information, please indicate the percentage of worldwide net sales for which the R&D expenses are being reported.)

A. Historical expenditures

Fiscal Year	Total R&D	% of Net Sales if Less Than 100%	Foreign Only	% of Net Sales if Less Than 100%
1972				
1973				
1974				
1975				
1976				
1977				
1978				
1979				
1980				
1981				

B. Projected or future expenditure (estimate as required):

Fiscal Year	Total R&D	All Foreign
1983		
1985		

Appendix C

Question 2

To the extent information is available, please provide a further breakdown of R&D expenses. The terms "Basic", "Applied" and "Development" as used here are defined in the attached footnotes. If your company uses a different definition of these terms or different nomenclature, please attach a brief explanation.

"Total" and "Foreign" amounts reported in this question should agree with amounts in question 1A.

a. Basic Research

	Total	Foreign
1972		
1973		
1974		
1975		
1976		
1977		
1978		
1979		
1980		
1981		

b. Applied or Developmental Research

	Total	Foreign
1972		
1973		
1974		
1975		
1976		
1977		
1978		
1979		
1980		
1981		

Question 3

Please provide the number of personnel involved in R&D in the various categories below for the following years:

(Note: If actual information is unavailable, please provide reasonable estimates. If you are reporting on less than 100% of worldwide net sales, please indicate the percentage in the far right column. If your company uses different definitions of these categories than those given in the attached footnotes, please explain.)

Worldwide

	Scientists and Engineers	Administrative	Other	% of Net Sales If Less Than 100%
1972				
1973				
1974				
1975				
1976				
1977				
1978				
1979				
1980				
1981				

Foreign Only

	Scientists and Engineers	Administrative	Other	% of Net Sales If Less Than 100%
1972				
1973				
1974				
1975				
197C				
1977				
1978				
1979				
1980				
1981				

Question 4

If detailed information is available, please indicate in parenthesis ( ) after each amount in question 3 the number of personnel involved exclusively in basic research.

Appendix C

SECTION II

Review of the Corporate Decision Making Function for R&D Expenditures

The following questions focus on the various factors that influenced your corporation to conduct R&D activity either in the United States or abroad. Please answer the questions as completely as possible.

Question 1

We believe it will be especially useful to document experiences where the Income Tax Regulation has caused significant changes in R&D policies or has influenced specific R&D decisions.

Please cite instances where the Section 861 R&D Regulation:

A. Contributed to an excess foreign tax credit position on your 1977 through 1980 U.S. corporate tax return.

B. Will contribute to an excess position in future years if the suspension of the regulation is lifted.

C. Was considered in reaching a decision:

1. To go forward with or cut back an existing U.S. R&D project.

2. To expand an existing foreign R&D project.

3. To move a project overseas.

4. To reduce the domestic R&D budget or defer domestic R&D expenditures.

D. Please indicate your interest or desire in publicly disclosing details of experiences reported in Question 1.

Yes ___ No ___

Question 2

A. On a scale of 1-4 (1 = an incentive, 2 = neutral factor, 3 = a disincentive, 4 = not relevant), please rank the following external factors in terms of relative significance to your decision to spend funds for R&D.

Please respond to all items.

	Foreign	U.S.
1. Tax Laws		
2. Government		
a. funding availability		
b. regulation and enforcement		
c. political climate		
3. "Favorable Climate"		
a. availability of funds (non-government, external)		
b. availability of raw materials (for R&D)		
c. product pricing advantages		
d. labor costs		
e. geographical location (proximity to source of research data)		
f. transportation facilities		
g. competency of work force in relationship to R&D activity (i.e., skilled, experienced, etc.)		
h. foreign interest rates		
4. Other (Please List)		

B. On a scale of 1-3 (1 = very important, 2 = somewhat important, 3 = unimportant), please rank the following internal factors in terms of relative importance to your decision to spend funds outside of the U.S.

	1-3 Ranking
1. Long-term Corporate Growth Strategy	
2. Competitiveness Within the Industry (current environment or expected long-term environment)	
3. Foreign Labor Skills Developed Within the Company	
4. Acquisition of Foreign Business With Existing R&D Facility	
5. Existence of a Foreign Support Laboratory (acting as a technical service center and adapting U.S. product technology to local conditions)	
6. Past Success in R&D Activities Abroad	
7. Other (Please List)	

Appendix C

SECTION III

Comparison of R&D Incentives Available in Other Industrialized Countries

This section was prepared from published information and other data gathered from offices of Arthur Andersen & Co. in 11 industrialized countries, where significant R&D activity occurs. No information was required from companies completing this questionnaire.

Appendix D

RESEARCH AND DEVELOPMENT STUDY DEFINITIONS

I. FASB No. 2 Guidelines for Research and Development Accounting

A. Research is planned search or critical investigation aimed at discovery of new knowledge with the hope that such knowledge will be useful in developing a new product or service (hereinafter "product") or a new process or technique (hereinafter "process") or in bringing about a significant improvement to an existing product or process.

B. Development is the translation of research findings or other knowledge into a plan or design for a new product or process or for a significant improvement to an existing product or process whether intended for sale or use. It includes the conceptual formulation, design, and testing of product alternatives, construction of prototypes, and operation of pilot plants. It does not include routine or periodic alterations to existing products, production lines, manufacturing processes, and other ongoing operations even though those alterations may represent improvements and it does not include market research or market testing activities.

C. Elements of costs shall be identified with research and development activities as follows.

1. Materials, equipment and facilities - The costs of materials (whether from the enterprise's normal inventory or acquired specially for research and development activities) and equipment or facilities that are acquired or constructed for research and development activities and that have alternative future uses (in research and development projects or otherwise) shall be capitalized as tangible assets when acquired or constructed. The cost of such materials consumed in research and development activities and the depreciation of such equipment or facilities used in those activities are research and development costs. However, the costs of materials, equipment, or facilities that are acquired or constructed for a particular research and development project and that have no alternative future uses (in other research and development projects or otherwise) and therefore no separate economic values are research and development costs at the time the costs are incurred.

2. Personnel - Salaries, wages, and other related costs of personnel engaged in research and development activities shall be included in research and development costs.

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3. Intangibles purchased from others - The costs of intangibles that are purchased from others for use in research and development activities and that have alternative future uses (in research and development projects or otherwise) shall be capitalized and amortized as intangible assets in accordance with APB Opinion No. 17. The amortization of those intangible assets used in research and development activities is a research and development cost. However, the costs of intangibles that are purchased from others for a particular research and development project and that have no alternative future uses (in other research and development projects or otherwise) and therefore no separate economic values are research and development costs at the time the costs are incurred.

4. Contract services - The costs of services performed by others in connection with the research and development activities of an enterprise, including research and development conducted by others in behalf of the enterprise, shall be included in research and development costs.

5. Indirect costs - Research and development costs shall include a reasonable allocation of indirect costs. However, general and administrative costs that are not clearly related to research and development activities shall not be included as research and development costs.

II. Personnel Definitions

A. Research and Development Science Engineers - Scientists and engineers for this survey are defined as all persons engaged in scientific or engineering work at a level which requires a knowledge of physical or life sciences or engineering and mathematics, equivalent at least to that acquired through completion of a four-year college course with a major in these fields, regardless of whether they hold a college degree in the field.

The figure on R&D scientists and engineers was obtained primarily from two sources:

1. Records on the number of scientists and engineers assigned to research and development. This source is satisfactory so long as the scientists and engineers of the unit are assigned to research and development on a full-time basis (i.e., no more than 5% of their time is spent on nonresearch and development). For example, for company laboratories performing only research and development, respondents reported the number of scientists and

engineers on the rolls in the first month of their fiscal year. For other units, they used source 2.

2. Figures on the proportion of total work time of scientists and engineers that is devoted to research and development. For example, if the engineering department of a manufacturing plant had 60 scientists and engineers in January 1977, and one-fourth of the scientists' and engineers' time during the month was charged to research and development projects, the figure for the number of research and development scientists and engineers included for that unit would be 15.

B. Administrative personnel are defined as executive and management personnel who devote a portion of their time to R&D activities. The portion of time spent on R&D should be estimated as for scientists and engineers or on some other reasonable basis.

C. Other is defined as all remaining employees involved either directly or indirectly with R&D activities. This category includes support staff such as secretaries and account clerks, and janitorial and machine-maintenance employees.

III. FASB No. 2 Definitions for Basic, Applied, and Developmental Research

A. Basic research - Original investigations for the advancement of scientific knowledge not having specific commercial objectives, although such investigations may be in fields of present or potential interest to the reporting company.

B. Applied research - Investigations directed to the discovery of new scientific knowledge having specific commercial objectives with respect to products or processes. This definition differs from that of basic research chiefly in terms of the objectives of the reporting company.

C. Development - Technical activities of a nonroutine nature concerned with translating research findings or other scientific knowledge into products or processes. Development does not include routine technical services to customers or other activities excluded from research and development.

Appendix E

LISTING OF FOREIGN COUNTRIES CONTACTED WITH RESPECT TO INCENTIVES PROVIDED FOR R&D

Country	AA&Co. Office
Australia	Melbourne
Belgium	Brussels
Canada	Toronto
Denmark	Copenhagen
France	Paris
Ireland	Dublin
Italy	Milan
Japan	Tokyo
The Netherlands	The Hague
United Kingdom	London
West Germany	Frankfurt

Appendix F

EXHIBIT 1

PROJECTED FOREIGN R&D INVESTMENT BY INDUSTRY
(In Millions of $'s)

	1983	1985
Electrical Equipment and Communication	$ 22.7	$ 23.5
Machinery	595.7	677.4
Chemicals and Allied Products	326.4	382.1
Motor Vehicles and Motor Vehicle Equipment	413.9	415.8
Aircraft and Missiles	151.2	192.8
Professional and Scientific Instruments	13.1	6.0
Petroleum Products and Refining	3.5	4.4
All Other	32.7	36.6
Total	$1,559.2	$1,738.6

Appendix F

EXHIBIT 2

COMPARISON OF FOREIGN R&D TO TOTAL R&D

BY INDUSTRY (AS A PERCENTAGE)

	% Change 1972-81
Electrical Equipment & Communication	+ 0.4%
Machinery	+ 4.3%
Chemicals & Allied Products	+ 5.6%
Motor Vehicles & Motor Vehicle Equipment	+ 3.3%
Aircraft & Missles	+ 8.2%
Professional & Scientific Instruments	+ 0.2%
Petroleum Products & Refining	+ 0.2%
All Other	- 2.6%
All Respondents	+ 4.1%

Appendix F

EXHIBIT 3

COMPARISON OF FOREIGN R&D TO TOTAL R&D

BY COMPANY SIZE (AS A PERCENTAGE)

Company Size (1981 Net Sales)	% Change 1972-81
Over $7.5 billion	+ 5.1%
2.51 - 7.5 billion	+ 1.7%
Under $2.5 billion	+ 5.2%
All Respondents	+ 4.1%

EXHIBIT 4

R&D SCIENTISTS AND ENGINEERS - FOREIGN AND WORLDWIDE

1972 AND 1981

	1972		% Foreign/ Total	1981		% Foreign/ Total
	Foreign	Total		Foreign	Total	
Electronic Equipment and Communication	*	*	N/A	*	*	N/A
Machinery	2,302	17,818	12.92%	3,676	24,672	14.90%
Chemicals & Allied Products	724	3,313	21.85%	958	5,322	18.00%
Motor Vehicles and Motor Vehicle Equipment	2,454	11,952	20.53%	2,516	12,312	20.44%
Aircraft and Missiles	313	11,625	2.69%	1,560	17,350	8.99%
Professional and Scientific Instruments	*	*	N/A	15	740	2.03%
Petroleum Products	145	964	15.04%	220	1,489	14.78%
All Other	15	398	3.77%	21	728	2.88%
All Respondents	5,953	46,070	12.92%	8,966	62,613	14.32%

* No response

EXHIBIT 5

TOTAL R&D PERSONNEL - FOREIGN AND WORLDWIDE

1972 AND 1981

	1972		% Foreign/ Total	1981		% Foreign/ Total
	Foreign	Total		Foreign	Total	
Electronic Equipment and Communication	12	1,762	.68%	58	2,958	1.96%
Machinery	6,538	37,978	17.22%	11,223	52,187	21.51%
Chemicals & Allied Products	1,640	7,919	20.71%	1,657	11,328	14.63%
Motor Vehicles and Motor Vehicle Equipment	*	*	N/A	*	*	N/A
Aircraft and Missiles	678	24,214	2.80%	3,816	36,188	10.54%
Professional and Scientific Instruments	*	*	N/A	28	1,100	2.55%
Petroleum Products	156	1,211	12.88%	262	1,793	14.61%
All Other	34	827	4.11%	39	1,553	2.51%
All Respondents	9,058	73,911	12.26%	17,083	107,107	15.95%

* No response

Appendix G

DESCRIPTION OF DATA BASE

A. General Information

Almost all of the participating companies submitted actual accounting information based on 100% of their worldwide operations. When actual information was unavailable, the responding company provided reasonable estimates and so indicated.

A ten year period (1972-1981) was chosen to discern R&D trends because significant trends should be readily apparent over such a time frame.

B. Total and Foreign R&D Data

For the years 1972 through 1981, companies submitted actual worldwide and foreign R&D expenditures, while for 1983 and 1985, they submitted projected R&D expenditures. The survey utilized the financial accounting definition of R&D recently promulgated in FASB #2. See Appendix D for detailed definitions relating to R&D. Foreign R&D as used in the survey refers to corporate expenditures abroad by foreign subsidiaries, branches and joint ventures.

We classified reponses as either positive (+), or non-foreign (N) depending upon the data submitted. A "+" response contained both total and foreign R&D, while an "N" response contained only domestic R&D. As shown in Table 1 of Appendix A, 53 of the 85 companies submitted positive responses.

To discern any possible relocation of R&D investment, we computed changes in the percentage of foreign R&D to total R&D for the survey period by calculating the percentage for each year and then computing the change in percentage between years. For example, an increase in the percentage of foreign R&D to total R&D over a number of years suggested a shift of domestic R&D to foreign markets. See Section V and Appendix F for a presentation of these trends.

C. Net Sales Data

Many of the respondents also submitted total and foreign net sales data. Net sales are defined as gross sales less returns and allowances, according to the financial accounting definition. The definition encompasses only income from operations and does not include income such as interest, dividends, or extraordinary gains and losses.

A few participating companies received a substantial portion of their operating income from leasing rights to the manufacture of their products. We determined that net sales would be more representative of the respondent's operations if it included such leasing income.

Increased operational growth overseas could explain an increased foreign R&D investment. To determine if this might have been a possible explanation, we calculated the ratio of foreign R&D to foreign sales. Section V presents conclusions with respect to this relationship.

D. Personnel Data

Personnel data was requested for the survey period to gain a different perspective of the rate of R&D growth in foreign markets. Such information is extremely reliable in confirming trends in R&D because inflation is not a factor in growth.

To discern whether a shift abroad of corporate R&D personnel was occurring, respondents were asked to submit the number of scientists and engineers, administrative, and other personnel engaged in total and foreign R&D. For the ratios demonstrating growth in foreign R&D personnel from 1972-81, see Section V.

E. Basic and Applied Research Data

The questionnaire asked companies to classify their R&D activities either as basic or applied research. For detailed definitions, see Appendix D. Due to insufficient data, we were unable to arrive at conclusions on the trends of basic R&D as compared to the trends of applied and developmental research. The majority of the respondents stated that: (1) the above breakdown was not available, or (2) basic research comprised an insignificant portion of their R&D operations. For the few companies that submitted actual data, basic research consisted of less than 5% of the total R&D in most cases.

F. Assumptions

We used the Commodities Price Index for Producers to adjust for the effect of inflation on R&D expenditures and sales in the U.S. and abroad. We believe this Index is reasonable for use in this Study although the Index technically relates to U.S. producers only. Since we did not request R&D data by foreign country we cannot specifically revise R&D information by country.

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TREASURY ISSUES REPORT ON RESEARCH & DEVELOPMENT REGULATION

The Treasury Department today released its report on "The Impact of the Section 861-8 Regulation on U.S. Research and Development." This report is required by section 223 of the Economic Recovery Tax Act of 1981 (ERTA).

Treasury Regulation 1.861-8 (the Regulation) provides rules for the allocation and appointment of research and development (R&D) and other expenses to income from domestic and foreign sources. Because of Congressional concern that the required allocation of domestic R&D expense to foreign source income might reduce R&D performed in the United States, section 223 of ERTA also suspends this allocation for a two-year period.

The report discusses U.S. taxation of foreign source income, the role of the foreign tax credit and its limitation, and the potential effect of the Regulation's R&D rules on tax liabilities and U.S. tax revenues. The report estimates that 1982 tax liabilities of U.S. corporations would have been $100 million to $240 million higher if the ERTA suspension of the Regulation's R&D rules had not been in effect. This would have increased the cost of privately-financed U.S. R&D by 0.27 to 0.65 percent. As a result, domestic R&D spending would have been reduced by about $40 million to $260 million.

The report states that the Treasury Department recognizes that this reduction in R&D may adversely affect the competitive position of the United States. Accordingly, it recommends a two-year extension of the present suspension of the Regulation's R&D rules to provide Congress with an opportunity to consider the findings of the report while Congress and the Administration work to develop a coherent national program of R&D incentives.

Copies of the report are available for purchase from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

R-2192

SPECIAL REPORT

THE EFFECT OF SECTION 1.861-8 REGULATIONS ON THE LOCATION OF R&D ACTIVITY

by Christopher Buja

Christopher Buja is a student at the Woodrow Wilson School of Public and International Affairs at Princeton University. *He would like to express thanks to Assistant Professor Don Fullerton, and to Sally Blount, David Seide, Peter Mayewski and Bonnie Crater for their suggestions and assistance.*

In this article, Buja describes the development of the controversy surrounding the section 1.861-8 research and development allocation regulations. He then constructs a model to examine the likely corporate response to reinstitution of the section 1.861-8 rules. He concludes that the moratorium on those allocation rules should remain in effect as a means of stimulating the American international trade sector.

I. Introduction

In today's international economy, research and development (R&D) is an invaluable agent in strengthening American business in the face of foreign competition. A recent study linked 45 percent of the growth in U.S. productivity to industrial innovation. Consequently, the U.S. government has taken several steps to create a more favorable climate for R&D. This paper examines one such measure, the two-year moratorium placed on Treasury Regulation 1.861-8 as part of the 1981 Economic Recovery Tax Act. This article models corporate decisions about R&D location and in particular, the likely influence on those decisions of reinstitution of the section 1.861-8 rules. This model helps us determine whether the end of the moratorium will adversely affect the growth of R&D in the United States.

Section II of this article describes the historical treatment of R&D, especially the mechanisms embodied in regulation 1.861-8. Section III looks at the interaction between R&D expenses and foreign tax credits and shows how to calculate the limitations on the foreign tax credit. Based upon these calculations, Section IV builds a model to quantify the corporate response (in terms of R&D location) to the reinstitution of the section 1.861-8 rules. Section V discusses the results of this modeling exercise, and Section VI points out the model's limitations. Finally, Section VIII examines the implications of these results for domestic firms and for American R&D.

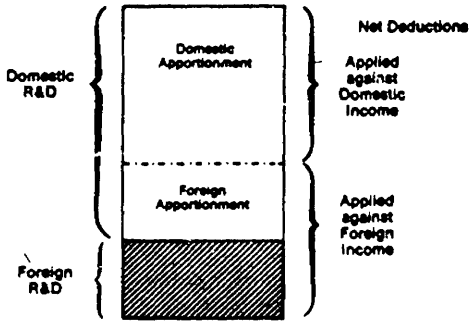
II. Background

R&D expenses traditionally have been considered a business expense and thus have qualified as a deduction from taxable income. This deduction acts as incentive for R&D by reducing the tax paid by the firm. Until 1981, this deduction was divided between U.S. and foreign income. Due to the interaction with the foreign tax credit as described below in Section III, American firms prefer to apply the entire deduction against their domestic income.

In 1981, firms were permitted to do precisely that, as a result of suspension of the regulation which had governed the distribution of the R&D deduction since 1977. The moratorium on the regulation was included as part of the Economic Recovery Tax Act of 1981 in the interest of facilitating R&D in the United States. This moratorium is only temporary; Regulation 1.861-8 will be reinstated in 1983, unless Congress acts to extend the moratorium or make it permanent. Before examining the future R&D environment, a brief history of the tax treatment of R&D deductions as well as an examination of the section 1.861-8 mechanisms may be helpful.

Figure 1

TREATMENT OF R&D EXPENSES FOR DEDUCTIONS: GENERAL APPROACH



The division of total R&D deductions is depicted in Figure 1. The shaded area represents actual foreign R&D, which is applied automatically against foreign income. The unshaded region indicates United States R&D. The deduction for expenditures is subdivided into domestic and foreign components through some form of tax regulation. The net effect for the company is shown at the far right as the division into the foreign and the domestic

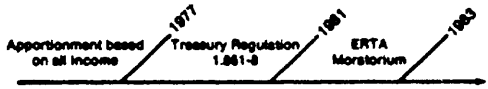
deductions. The total foreign deduction is the sum of the actual foreign expenditure and the portion of United States R&D expense which is to be set against the foreign income.

Since the shaded part of Figure 1 is never deducted against domestic income, this article is concerned primarily with the apportionment of the unshaded region.

The regime governing the subdivision of the U.S. segment of the R&D deduction has changed several times. The timeline in Figure 2 illustrates the evolution of the rules governing this subdivision.

Figure 2

TIMELINE OF METHODS FOR APPORTIONMENT OF R&D DEDUCTIONS



Prior to implementation of section 1.861-8 of the regulations in 1977, corporate deductions for research and development were divided according to the relative weights of domestic and foreign income. This tally of income included *all* revenue sources, even income unrelated to research work.[1] As a consequence, unrelated foreign income reduced U.S. deductions for R&D and increased implied deductions abroad. This shift created a problem for some firms because it reduced the foreign tax base which could be used to calculate the U.S. foreign tax credit, and thus generated excess credits.[2] These credits could not be recovered, even though under the intent of the R&D deduction, the company was entitled to them.

In 1977, Treasury responded to this problem by proposing Regulation 1.861-8. The regulation eased the foreign tax credit problem by reducing the effect of unrelated foreign income. This was done by subdividing the aggregated worldwide income into the two-digit Standard Industrial Code (SIC) categories. The SIC divisions split all goods and services into 33 smaller blocks. Appendix 1 contains a list of the SIC categories. This compartmentalization of the taxable income served to reduce the skewing effects of unrelated foreign income. Domestic and foreign income generated by the research would equally support the deduction. Benvignati (1981) pointed out, in fact, that one stipulation created a loophole which could be used to reverse the skewing effects back in favor of domestic income.[3]

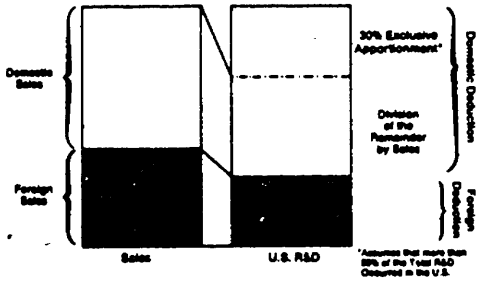
Within each SIC subgroup, a taxpayer had the option of calculating the deduction division by either of two different methods.

The *sales method* permitted the first 30 percent of the deduction to be allocated to the region in which more than 50 percent of the research was undertaken. The remainder was divided according to the relative levels of the domestic and foreign sales within each SIC category.

This method is illustrated in Figure 3. In this figure, the column on the left is the proportion of foreign sales to total sales. The column on the right represents the total R&D deduction for domestic expenditure. The upper 30 percent is the exclusive apportionment which the firm can claim if more than half of the research occurred in the U.S. The remainder is divided according to the fraction of foreign sales.

Figure 3

APPORTIONMENT UNDER REGULATION 1.861-8: SALES METHOD



The *gross-to-gross method* used the weightings of foreign and domestic gross income. This method is shown in Figure 4. Here, the left column depicts gross income, while the right column remains the domestic R&D expenditures. The R&D deduction is simply divided into domestic and foreign components according to the ratio of foreign income to total income.[4]

[1]As an example, if 80 percent of all income were earned in the U.S., then 80 percent of United States R&D would be applied as a domestic deduction. The remaining 20 percent would be applied against foreign income.

[2]See Section III below.

[3]The taxpayer may aggregate the SIC categories at his discretion which could be parleyed into distortions favoring domestic income. To do this, a company would need a SIC category which consisted entirely of domestic income. That category could then be combined with a second category which included foreign income. A larger portion of the R&D expenditures in the second division would be apportioned against domestic income than if the two categories had been calculated separately. See footnote seven, *infra*.

[4]Numerically, for a $100 R&D undertaken in the U.S., suppose a company has 40 percent of sales receipts from overseas and 10 percent of income from overseas.

By the first method, if more than half of the research budget was in the United States:

Exclusive Apportionment	$30
Remainder	70
U.S. portion (.6 x 70)	42
Foreign portion (.4 x 70)	28
Total U.S. deduction	30 + 42 = 72
Total foreign deduction	0 + 28 = 28

By the second method:

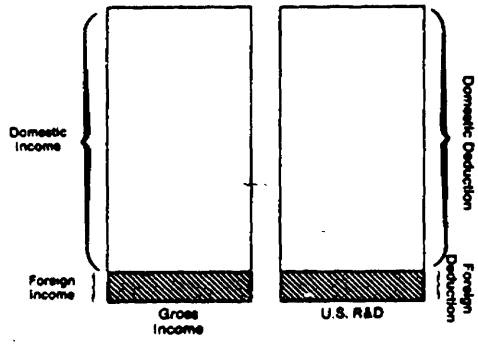
U.S. deduction	$90
Foreign deduction	10

In this example, the company would employ the gross income method since it yields a higher domestic deduction. See footnote six for a continuation of this example.

The second method measured "foreign gross income" as the amount repatriated to the U.S. parent corporation. An important consequence was that an international company could retain income in the foreign subsidiary, and thereby increase their U.S. deduction for R&D. This second method biased the deduction in favor of the domestic firm.[5] As a result, if the foreign deduction under the gross-to-gross method was less than half of that under the sales method, an intermediate method was to be employed. Half of the deduction from the sales method would be the foreign basic deduction, and the remainder would be split according to the relative gross income weightings. This intermediate method is depicted in Figure 5.[6]

Figure 4

APPORTIONMENT UNDER REGULATION 1.861-8: GROSS TO GROSS INCOME METHOD



On the whole, the SIC categories were still considered too broad. Most research was considered to be more narrowly focused than was reflected by the SIC divisions.[7] With narrower subdivisions, this problem would be reduced.

[5]See the second half of footnote seven, *infra*.

[6]Note that in our numerical example defined in footnote four, the "gross income" foreign deduction was indeed less than half of the "sales" foreign deduction. Therefore, the firm would have to employ the intermediate method in calculating the foreign deduction. This apportionment plan yields:

Half the foreign sales	$14.00
Remainder	86.00
U.S. portion (.9 x 86)	77.40
Foreign portion (.1 x 86)	8.60
Total U.S. deduction	$77.40
Total foreign deduction	22.60

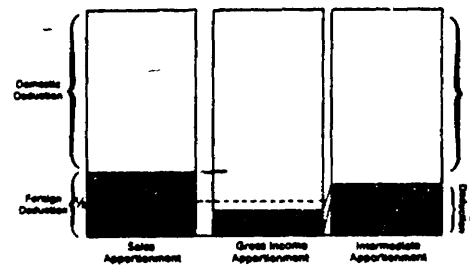
In using the intermediate method, the U.S. deduction will always lie between the sales method and the more lucrative gross income method.

[7]An example of this problem is explained by Ott (1982) in the SIC category 35 (machinery, except electrical). A company is doing research in small gasoline engines for domestic sales; it also markets bulldozers internationally. In calculating the R&D deduction, it would be forced to apportion the credit against the combined engine and bulldozer sales.

(Footnote 7 continued on next column)

Figure 5

APPORTIONMENT UNDER REGULATION 1.861-8: INTERMEDIATE METHOD



In 1981, measures were introduced both in the House and in the Senate to repeal the 1977 regulation (H.R. 2473 and S. 1410, respectively).[8] The intent of these two bills was different from that of the 1977 measure. The sponsors argued that the regulation penalized the foreign tax credit, encouraged existing international corporations to relocate a portion of their research abroad, and discouraged technology-intensive firms from entering export markets.[9] While still seeking to address the problem of unrelated foreign income, the proponents also argued that there would be social benefits from increased domestic R&D. They perceived that gains in high technology would provide advantages to the U.S. economy. These benefits could be "purchased" by allowing tax advantages. New York City tax attorney Charles I. Kingson (1981) characterized the situation as a contest among nations for research facilities and revenues.[10]

The 1981 bills were later incorporated into the Economic Recovery Tax Act of 1981. The House version repealed the regulation entirely, while the Senate plan provided a one-year suspension and required a report on the effects of the proposal from the Treasury Department during the interim. The final compromise lengthened the suspension to two years and called for a Treasury report assessing the proposal. (Release of the required report is expected in early June 1983).

In 1983, with the end of the moratorium approaching, proposals have been introduced in both chambers of the Congress to block the regulation permanently. In the House, Ways and Means Committee member Cecil Heftel, D-Hawaii, has sponsored H.R. 1887, while in the Senate, Finance Committee member Malcolm Wallop, R-Wyo., has joined with ten other senators in proposing S. 654.[11] As

(Footnote 7 continued)

Similarly a company which does research for foreign sales of gasoline engines and markets bulldozers domestically could skew the deduction towards domestic income. However, under the rules regarding aggregation of SIC categories, it would not matter if the domestic product were in the same category.

[8]Keith T. Ott, (1982), p. 900. p. 895.

[9]Ott, (1982). p. 895.

[10]Charles I. Kingson, (1981), p. 1233.

[11]*Tax Notes*, March 28, 1983, p. 942. The other senators are William L. Armstrong (R-Colo.), David L. Boren (D-Okla.), John H. Chafee (R-R.I.), John C. Danforth (R-Mo.), Dave Durenberger (R-Minn.), John Heinz (R-Pa.), Bob Packwood (R-Ore.), William V. Roth, Jr. (R-Del.), and Steven D. Symms (R-Idaho). All are members of the Senate Finance Committee.

in 1981, the bills seek both to provide greater equity, in light of the foreign credit limit, and to provide greater benefits for the American economy:

> This legislation will. . .bring our Tax Code into line with the international treatment of domestic research and development expenses, and will help to restore our competitive position in the international marketplace.[12]

III. Foreign Tax Credits and Their Limitation

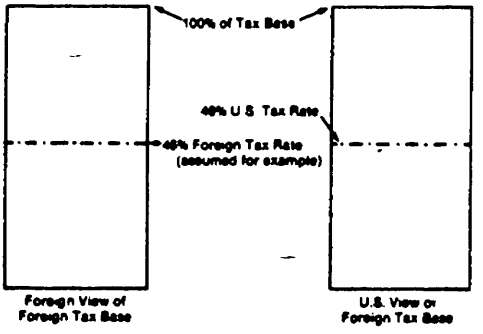
To prevent double taxation, the foreign tax credit permits the taxpayer to credit foreign income taxes against his U.S. tax bill.[13] The foreign tax credits, however, cannot exceed the level of the U.S. tax liability.[14] Accordingly, a formula limits the deduction to:

(1) U.S. limit = Gross U.S. tax rate x foreign taxable income

This result is pictured in Figure 6. In this illustration, the column on the left is the foreign view of the foreign tax base, while that on the right is the U.S. perception. In this example, both nations concur on the tax base *and* both nations impose the same tax rate.

Figure 6

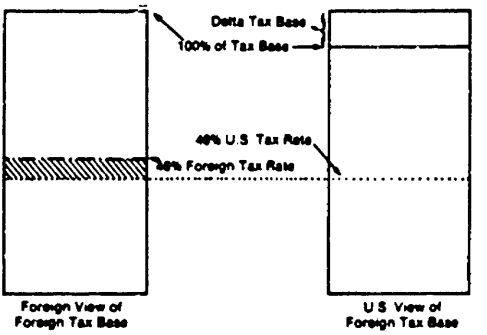
U.S. FOREIGN TAX CREDIT



This calculation breaks down, however, when the U.S. and the foreign government disagree on the foreign tax base. If the U.S. allocates a deduction that the foreign government does not allow, "foreign taxable income" in equation (1) is lowered, and thus the credit limitation is lowered. The actual foreign tax paid remains unchanged. Specifically, although the U.S. applies deductions based on the U.S. R&D expenses against foreign income, no other nation recognizes those deductions.[15] This result is pictured in Figure 7. The two columns are the same from Figure 6. The area 'delta tax base' represents deductions which are set unilaterally by the U.S. The excess credits are portrayed by the shaded region in Figure 7. The actual foreign tax, which has remained unchanged from Figure 6, now creates excess credits. Unless tax credit carryovers can be utilized, the company would be forced to forfeit those credits.[16]

Figure 7

U.S. FOREIGN TAX CREDIT



A company can reduce this loss by physically relocating its R&D in the foreign country. Through this maneuver, the R&D will be counted by the foreign country against the foreign taxes.

[12] Rep. Cecil Heftel, *Congressional Record*, March 2, 1983.

[13] If a company earned $100 income overseas, a foreign tax rate of 40 percent would reduce this profit to $60. If the U.S. tax rate of 46 percent were to be applied directly to this remainder, the after-tax profits would be $32.40—an effective tax rate of 67.6 percent. For compatibility with a similar $100 of U.S. income, the foreign tax is credited against the U.S. tax, reducing U.S. receipts to $6. This system sets an effective, and consistent, tax rate of 46 percent of all sources of income.

[14] This limitation prevents the foreign government from setting its taxes arbitrarily high. A foreign tax rate of 80 percent in the previous example would result in a $34 rebate by the U.S. to the American firm. The firm would not feel impaired by this prohibitive tax rate, and the foreign coffers would receive indirect transfers from the U.S. Treasury.

[15] George Carlson (1981), pp. 40-46. There is one exception in Canada, which allows deductions for foreign scientific expenditures but not foreign capital expenses.

[16] This result can be derived analytically. The original foreign tax is set as:

(2) Foreign tax = Foreign rate x foreign base

The upper bound on the U.S. foreign tax credit (including the American R&D deductions) is:

(3) Credit limit = U.S. rate x (foreign base - delta base)

The foreign tax payments which exceed the limit are calculated by subtracting equation (3) from equation (2). The lost excess credits are then equal to:

(4) Excess credits = U.S. rate x delta base - foreign base x (U.S. rate - foreign rate)

Furthermore, if the U.S. tax rate is equal to the foreign tax rate, as it is in Figure 7, equation (4) reduces to:

(5) Excess credits = U.S. rate x delta base

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IV. Model

To illustrate the corporate response to the reestablishment of Regulation 1.861-8, this article analyzes the change in the distribution of domestic and foreign research sites.

Two other approaches to estimating the effects of the section 1.861-8 regulations appear superior in theory, yet are far less feasible in practice. The first choice would have been to balance the social gain in tax revenue from readoption of the regulations against the social loss from an alteration in R&D expenditures. Evaluating social costs and benefits, however, is an extremely problematic exercise.

This article focuses on...transfers of R&D activities to foreign countries, to illustrate the likely effects of readoption of the section 1.861-8 regulations.

A second choice, in lieu of the first line of inquiry, would have been to measure the actual change in corporate R&D activity. It is commonly recognized, however, that the corporate response to tax incentives is often considerably delayed. This lag precludes the measurement of actual responses to the 1981 moratorium. Mansfield (1982) notes that other methods must be used to assess the merits of the moratorium. The present article focuses on one particular form of corporate response, transfers of R&D activities to foreign countries, to illustrate the likely effects of readoption of the section 1.861-8 regulations.

Assume that a company determines its tax on operations in a single foreign country within a single SIC category. Further assume that the company seeks to maximize after-tax profits while holding the R&D budget constant. The company achieves this goal by selecting the optimal distribution of research sites between the U.S. and overseas. The model simulates this process by first assuming values for income and sales, and then, for each allocation of the R&D budget between domestic sites and foreign sites, computing domestic and foreign taxes. Finally, plot the locus of after-tax profits, a variable that is dependent on the percentage of research at the foreign site.

In addition, this computation assumes constant returns to scale and constant costs for research undertaken at either location. By assuming different starting values, we can calculate the effects of varying the foreign tax rates or of changing the ratio of the R&D budget to gross income and sales.

In one model, we assume that the quality of research is the same in both locations. In a second model, we relax this assumption to examine the possibility of a different quality for foreign research. The foreign "quality level" is normalized against the American level and expressed as a percentage. These values are not a judgment that foreign research is inferior, but is intended to reflect the problems of communication and experience that a U.S. firm might undergo in its foreign R&D operations. Thus, if $100 were spent in a climate that was weighted as 50 percent effective, the real value of that research would be $50.

In selecting R&D sites, the hypothetical company holds constant the effective value of research. Thus, the tax advantages of foreign research are balanced against the need for higher levels of R&D spending. In neither model is the level of foreign source income affected by changes in the foreign R&D expenditures.

The following table illustrates the first or basic model for the tax apportionment.[17]

Table 1

BASIC TAX APPORTIONMENT MODEL

	U.S.	Foreign	Worldwide
1. Sales Percentage	____	____	____
2. R&D Total	____	____	____
3. R&D Quality	____	____	____
4. Nominal R&D	____	____	____
5. Gross Income	____	____	____
6. Sales: Exclusive	____	____	____
7. Remainder	____	____	____
8. Total	____	____	____
9. Gross to Gross	____	____	____
10. Preferred Method	____	____	____
11. Taxable Income	____	____	____
12. Gross U.S. Taxes			____
13. Max. Tax Credit		____	
14. Actual Foreign Tax	____	____	
15. U.S. Liability	____		
16. Worldwide Tax			____
17. Worldwide Tax Rate			____
18. After-Tax Income			____

The first line shows the percentage of total sales in the U.S. and the foreign country. The second row shows the effective value of the R&D. This worldwide total will remain fixed while the model transfers R&D from the U.S. to overseas. "R&D quality" is the measure of the effectiveness of the foreign R&D. In the first model, the foreign index is 100 percent, so foreign research is considered as effective as domestic research. The second model varies this "foreign quality" factor. The fourth line is the nominal cost of the R&D. If a $50 effective value is desired in a 50 percent quality environment, the nominal cost would be $100.

Gross income is the pre-tax income-sales revenue minus costs, not including the U.S. deduction for R&D. The foreign R&D expenditures are automatically subtracted from foreign income. When the nominal cost of the foreign R&D varies, the difference will be charged to the foreign income.

Lines six through ten of Table 1 apply the allocation methods provided by Treasury Regulation 1.861-8. The first three lines of this section comprise the sales method. The following line depicts the gross income method. Line ten selects the option which maximizes the domestic deduction. If necessary, it invokes the intermediate calculation.[18]

[17] This example was presented by Mai Nguyen Woo in "Research and Development at Home or Abroad? The Economics of IRS Regulations 1.861-8," a report from the Institute for Research on the Economics of Taxation.

[18] See footnotes four and six, *supra*, and text, *infra*, for a description of these methods.

Line 11 contains the tax bases which the U.S. Treasury regards as valid, while the two subsequent lines display the resultant worldwide U.S. tax and the U.S. foreign tax credit limit, respectively. Line 14 shows the actual U.S. credit and the actual foreign tax. The actual credit is the lesser of the foreign tax or the foreign tax credit limit. The next amount is the actual U.S. tax due after subtracting the foreign tax credit.

The worldwide tax is the sum of the foreign tax and the domestic tax; the worldwide tax rate is the ratio of the total tax to the corporate income (gross income less the R&D expenditures). Finally, the worldwide income after all taxes is shown on line 18.

The values for sales, income, R&D expenditures, and R&D relative qualities can be varied. In the first model, the R&D expenditures are varied by location; in the second model, an additional degree of freedom is permitted in the R&D quality.

V. Results

By running the model through each combination of the R&D sites in the U.S. and the foreign country, we can depict graphically in Figures 8 through 14 the after-tax income that results for each permutation. We then assume that the corporate R&D location decision is based upon maximizing this after-tax income.

The two variable elements in these figures are the foreign tax rate and foreign quality of research. Both prove to be quite important in the ultimate corporate decision. Varying the foreign tax rate changes the potential for creating excess credits, that is, a lower foreign tax rate permits more R&D to remain in the U.S. without generating the excess credits shown in Figure 7.[19]

Readoption of section 1.861-8 of the regulations will exert pressure to decrease United States R&D.

Since this scenario was developed as a numerical example, the interaction between the tax rates and R&D expenditures implies that any numerical answers are a function of spending and income levels. Thus, if the total income were at a higher level, while the R&D remained fixed, a greater portion of the R&D expenses would have to be sited in a foreign country.[20] All numerical values should not be used directly, but should be examined in relation to the other values to visualize the trends. The actual numbers which were used in this model are listed in Appendix 2.

Figure 8 shows the initial scenario of a foreign tax rate equal to that of the U.S. and a foreign R&D quality which is also comparable. The increasing level of after-tax income arises from the corporate recovery of the excess credits. As the R&D moves from the U.S. to the foreign country, it moves from a location where it is only unilaterally recognized as a tax deduction to one where it is mutually recognized as a valid deduction. The discontinuity in the rise of the after-tax income is due to the loss of the exclusive apportionment when the nominal level of R&D passes over fifty percent. After-tax income is highest in this example when 100 percent of the research is undertaken overseas.

Figure 8

AFTER-TAX INCOME WITH INCREASING FOREIGN R&D

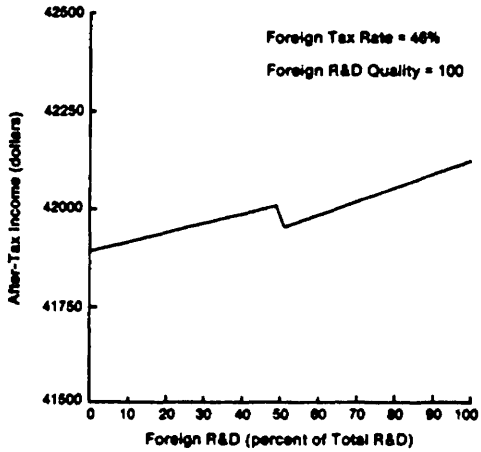
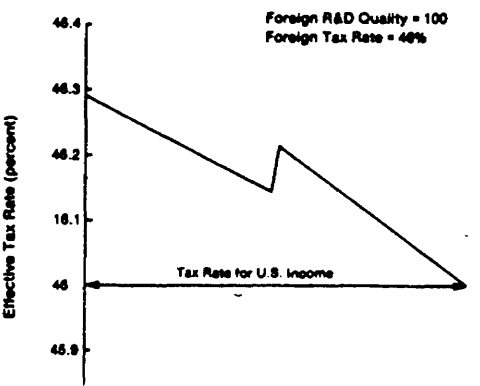


Figure 9

EFFECTIVE GLOBAL TAX RATE WITH INCREASING FOREIGN R&D



[19] See footnote sixteen, *supra*, for the more rigorous definition of excess credits.

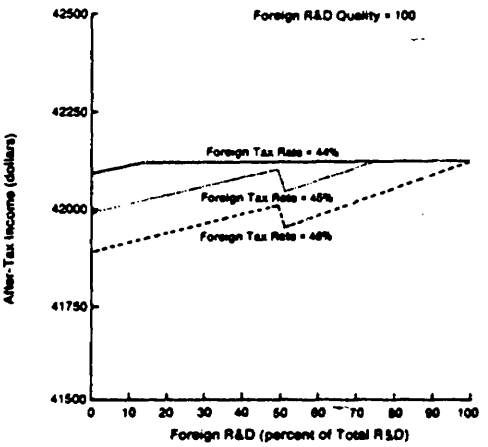
[20] This problem could be eliminated by couching the entire problem in terms of non-dimensional parameters, such as the ratio between the R&D budget and the gross income. That step was outside the realm of feasibility for this work. It remains a logical extension of the work initiated in this paper.

Figure 9 illustrates the complementary effect on the worldwide effective corporate tax rate. This graph is the inverse of the preceding figure: as the excess credits are reduced, the double taxation of those excess credits is eliminated. Consistency in the treatment of foreign earnings and domestic earnings is improved, because R&D deductions are allowed under both domestic and foreign tax rules. Note how the effective tax rate drops to the rate originally proscribed in the U.S. The implication is that regulation section 1.861-8 creates an environment which distorts the choice between domestic and foreign R&D: the tax rate for worldwide income is dependent upon the amount of foreign R&D and income.

Figure 10 depicts the effect of varying the foreign tax rate. Note that as the foreign tax rate drops, the differential between the U.S. rate and the foreign rate alleviates the pressure of the excess credit. Fewer R&D expenditures must be sited in the foreign country to counter the U.S. credit limit.

Figure 10

AFTER-TAX INCOME WITH INCREASING FOREIGN R&D

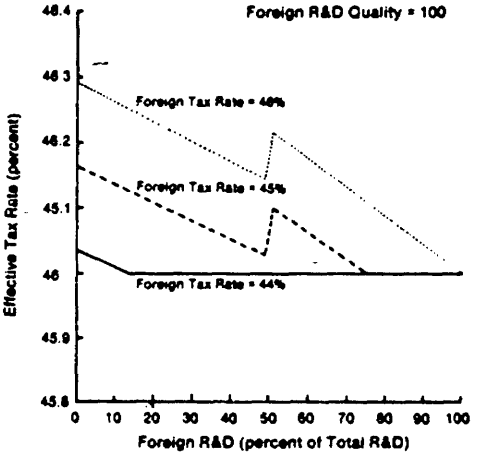


Varying foreign tax rates has a predictable result when examining effective world-wide tax rates. Figure 11 shows that as the excess credits are eliminated at lower foreign tax rates, less R&D needs to be transferred to eliminate the excess credits. In this case, relocating 15 percent of the total R&D suffices to make the U.S. foreign tax credit limit inapplicable when the foreign tax rate is 44 percent, and approximately 70 percent at a foreign tax rate of 45 percent. As excess credits are eliminated, the effective tax rate drops to the common level of 46 percent, the same as would be expected for U.S. income.

The first model tells us that in maximizing corporate after-tax income, U.S. firms will react to Treasury Regulation 1.861-8 by relocating their R&D centers overseas. This move is to combat the creation of excess credits implicit in enforcement of the regulation. The magnitude of the shift depends upon the tax rate in the foreign country. Assuming that a firm would prefer to do research

Figure 11

EFFECTIVE GLOBAL TAX RATE WITH INCREASING FOREIGN R&D



in the U.S., *ceteris paribus*, less R&D would be transferred to countries in which the tax rate—and by implication the potential for excess credits—is lower.

The second model introduces a new factor, the quality of the foreign work. When the foreign quality of R&D is reduced, the tax saving arising from relocation is offset. This effect can overwhelm the initial trend toward relocation overseas. The monies saved through manipulation of the tax code are lost due to inability to recoup the full value of foreign R&D expenditures.

The regulation creates problems for firms planning to enter export markets.

Figure 12 depicts three levels of "foreign quality"—100, 90, and 75—where 100 is the U.S. standard. At the 75 mark (where foreign research is only three-quarters as effective as that in the U.S.), the optimum corporate decision is to retain all of the R&D outlays in the United States and not to venture overseas.

This effect is even more pronounced when the foreign tax rate is lowered. The inefficiencies of utilizing foreign R&D continue unabated, while less countervailing tax savings accrue. This situation is displayed in Figures 13 and 14 for foreign tax rates of 45 percent and 44 percent, respectively. These rates were selected from the previous example. Note that the 100 level in the last three figures is identical to the respective traces in Figure 10.

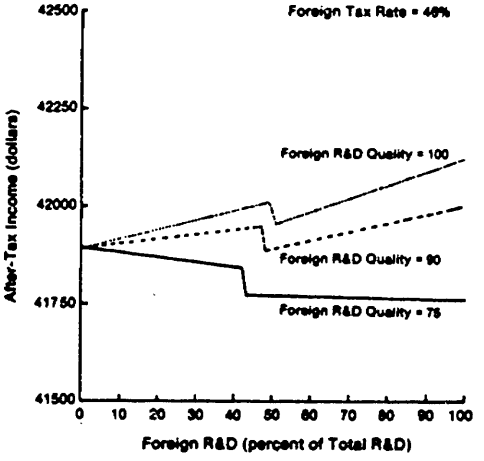
VI. Limitations

Several objections can be raised to the assumptions used in this model. The model does not include a changing

marginal value for research. There might be high start-up costs, so that the marginal costs of foreign R&D may fall. The marginal rates might not be fixed at one level, but might rise (or fall) with further expansion of foreign R&D. The marginal cost of foreign research should be greater at higher levels and at the starting levels. At the upper end, the decreasing marginal benefit of research work, as greater amounts of the foreign pool of research are used, should act to lower the quality of the research.

Figure 12

AFTER-TAX INCOME WITH INCREASING FOREIGN R&D



At the outset, foreign research would be difficult as well. In a study on the transfer of domestic research to foreign sites, Benvignati (1981) pointed out that experienced multinational companies were able to transfer work more swiftly than inexperienced firms. Benvignati noted that a major impediment was simply the exchange and clarification of information.[21]

Since the quality of the foreign research is measured against the American level, an improvement in the U.S. quality would adversely affect the value of the foreign research. As the U.S. level declined, presumably the lesser quality centers would be the first to be dropped, leaving a core of higher U.S. quality.[22]

Neither the marginal cost challenge nor the marginal benefit challenge is strong if the changes in research reflect only small changes in the overall pool of research in either domestic or foreign locations. On the other hand, since many companies would feel these pressures on their R&D efforts, the total change in either research pool could be quite significant. In either event, the start-up problem would continue to vex new participants in overseas research. This event can be adequately simulated by examining a case with low foreign quality. This approach, however, solely models "short-sighted" companies since it only explores their transient costs.

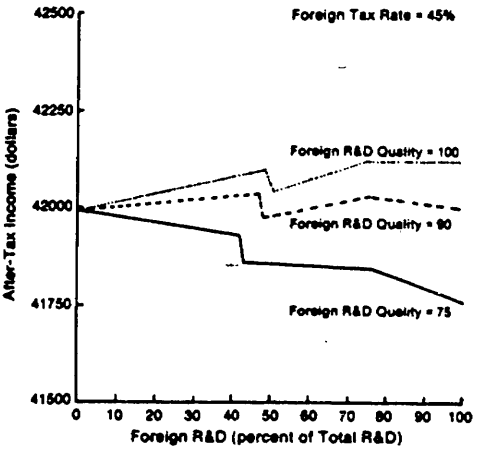
Also open to discussion are the mechanisms by which firms adjust to the reimposition of the section 1.861-8 regulations. We assumed here that they retain constant levels of gross income and overall research expenditures. More realistically, a company might simply re-evaluate its R&D spending based upon the higher cost of research and development—a question of the elasticity of demand for R&D.[23] Alternately, a company might juggle the retained earnings of the foreign company rather than altering the R&D performed by that company. This paper seeks to expose the forces for relocating R&D generated by reimplementation of Regulation 1.861-8. Holding these other means of adjustment constant permits this pressure to be examined.

VII. Conclusions

With these limitations to the model acknowledged, several conclusions remain clear. Readoption of section 1.861-8 of the regulations will exert pressure to decrease United States R&D. In addition, the regulation creates problems for firms planning to enter export markets.

Figure 13

AFTER-TAX INCOME WITH INCREASING FOREIGN R&D



Whether the corporate response is of the type postulated in this paper, or takes the form of a reduction of the overall R&D budget, the regulation impedes American R&D. In

[21] Anita Benvignati, (1981), p. 500.

[22] This effect on the foreign quality can be approximated by:

$$\frac{\text{Foreign quality}}{\text{U.S. quality}} = \frac{1}{(1+Q)} = \frac{(1-Q)}{1}$$

"Q" represents the increase in American quality. This approximation is valid for small values of Q.

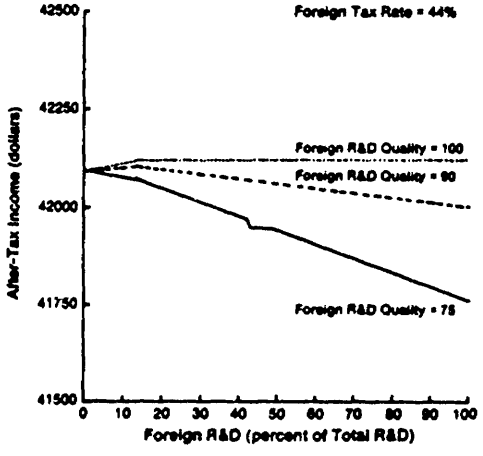
[23] Telephone interview with Harry Grubert, Treasury Department, April 4, 1983.

addition, the mechanism in this regulation hobbles international firms with a tax rate that is high in comparison with those firms that are located solely in the U.S. As Figure 9 demonstrates, the corporate tax rate for international firms is higher than the rate for firms that have U.S. income only.

The obverse of the comparability debate is that R&D completed in the U.S. frequently generates foreign income and the deduction for those expenses should therefore be allocated against the foreign tax base. The tax codes in foreign lands create an externality (unilateral R&D deductions) which renders this argument less valid. Short of changing the practices of the foreign nations, the second-best solution for eliminating this externality is to adopt a similar tax stance in the U.S. international tax codes and not to force the U.S. firms to apply unilaterally deductions which are not recognized in foreign tax systems.

Figure 14

AFTER-TAX INCOME WITH INCREASING FOREIGN R&D



Another repercussion can be seen in the realm of export markets. The U.S. is currently engaged in several attempts to facilitate American exports. In practice, however, this regulation counteracts those efforts. Consider, for instance, a domestic firm with large R&D expenditures: a timely example is a technologically intensive firm, a type which the U.S. is also currently seeking to cultivate. When a domestic firm of this type attempts to enter the foreign market, it will be penalized by this regulation, for it initially possesses no foreign R&D facilities. In addition, it will be less able to develop these sites, for as Benvignati (1981) points out, internationally inexperienced firms have a more difficult time adjusting initially. This would correspond to lowering the quality of the foreign R&D (for the firm is less able to make use of the research). Figures 12 through 14 clearly illustrate that, given this inefficiency, a firm might well decide not to develop foreign sites at all. Thus, newly entering firms are pinned between the requirements of the regulation and their own inexperience.

These repercussions all indicate that readoption of Regulation 1.861-8 would undercut other American economic initiatives. The fundamental problem is not the definition of industrial categories, or the reduction in "unrelated foreign income." Instead, the problem is that deductions for domestic expenses are set against foreign income. To enhance the American international trade sector and provide comparability between the tax treatment of foreign and domestic income, the moratorium on section 1.861-8 of the regulations should be continued.

APPENDIX 1

Standard Industrial Code Categories

(01, 02, 07, 08, 09) Agriculture, forestry, and fisheries.
(10, 11, 12) Hard mineral mining.
(13) Crude petroleum, and natural gas.
(14) Nonmetallic minerals.
(15, 16, 17) Construction services.
(20) Food and kindred products.
(21) Tobacco manufacturers.
(22) Textile mill products.
(23) Apparel and other finished products made from fabrics and similar materials.
(24) Lumber and wood products, except furniture.
(25) Furniture and fixtures.
(26) Paper and allied products.
(27) Printing, publishing, and allied industries.
(28) Chemicals and allied products.
(29) Petroleum refining and related industries.
(30) Rubber and miscellaneous plastics products.
(31) Leather and leather products.
(32) Stone, clay, glass, and concrete products.
(33) Primary metal industries.
(34) Fabricated metal products, except machinery and transportation equipment.
(35) Machinery, except electrical.
(36) Electrical and electronic machinery, equipment, and supplies.
(37) Transportation equipment.
(38) Measuring, analyzing, and controlling instruments; photographic, medical, and optical goods; watches and clocks.
(39) Miscellaneous manufacturing industries.
(40, 41, 42, 43, 44, 45, 46, 47) Transportation services.
(48) Communication.
(49) Electric, gas, and sanitary services.
(50, 51) Wholesale trade (not applicable with respect to sales by the taxpayer of goods and services from any other of the taxpayer's product categories and not applicable with respect to a domestic international sales corporation for which the taxpayer is a related supplier of goods and services from any other of the taxpayer's product categories).
(52, 53, 54, 55, 56, 57, 58, 59) Retail trade (not applicable with respect to sales by the taxpayer of goods and services from any other of the taxpayer's product categories, except Wholesale trade, and not applicable with respect to a domestic international sales corporation for which the taxpayer is a related supplier of goods and services from any other of the taxpayer's product categories, except Wholesale trade).
(60, 61, 62, 63, 64, 65, 66, 67) Finance, insurance and real estate.
(70, 72, 73, 75, 76, 78, 79, 80, 81, 82, 83, 84, 86, 88, 89) Other services.

APPENDIX 2

Actual Figures Used in Preparing the Model*

	U.S.	Foreign	Worldwide
1. Sales Percentage	60	40	100
2. R and D Total	2000	0	2000
3. R and D Quality	100	100	0
4. Nominal R and D	2000	0	2000
5. Gross Income	70000	10000	80000
6. Sales: Exclusive	600	0	600
7. Remainder	840	560	1400
8. Total	1440	560	2000
9. Gross to Gross:	1750	250	2000
10. Preferred Method	1505	495	2000
11. Taxable Income	68495	9505	78000
12. Gross U.S. Taxes			35880
13. Max. Tax Credit		4372	
14. Actual Foreign Tax	4372	4600	
15. U.S. Liability	31508		
16. Worldwide Tax			36108
17. Worldwide Tax Rate			46.29
18. After-Tax Income			41892

*In this particular example, the foreign tax rate is 46 percent and the foreign R&D quality is 100 percent. This corresponds to Figure 6 where the foreign R&D percentage is 0 percent of the total R&D.

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Mai Nguyen Woo, "*Research and Development at Home or Abroad? The Economics of IRS Regulations 1.861-8*," Institute for Research on the Economics of Taxation.

READER COMMENTS WELCOMED

We'd like to publish reader comments on this article in our "Letters to the Editor" column. If you'd like to make your views known, please write us promptly.

Please note that letters must be signed, and that we reserve the right to edit them in the interest of brevity. However, the full texts of all letters that we receive will be made available in the Tax Notes Microfiche Data Base.

Senator WALLOP. One of the contentions expressed by those who support the continuation of the moratorium on the 861 regulations is that the effect of those regulations pushes R&D activities into overseas markets. From a brief review of the Treasury Department study it would appear that Mr. Chapoton will dispute that contention here this morning. Indeed, the Treasury study points out that the reduction in R&D that would have happened had the moratorium not been in effect in 1982 would have been because the R&D in the United States had become somewhat more expensive and not because of a transfer of R&D abroad.

I believe that a very clear rebuttal to that position is offered in two letters which I also submit now for the record.

[The letters follow:]

805 East Middlefield Road
P.O. Box 7290
Mountain View, California 94042-7290
Telephone: (415) 969-6500
TWX:910-379-6578

June 9, 1983

Senator Malcolm Wallop
United States Senate
Room 210
Washington D.C. 20510

Attention: Lindsay Hooper

Dear Senator Wallop:

It is our understanding that you are currently reviewing several tax incentives involving the research and development ("R&D") area. We feel that our situation is typical of many middle-sized U.S. businesses, so we have outlined the facts concerning our R&D in the following paragraphs.

WILTRON Company is a manufacturer of electronic test equipment with anticipated sales of approximately $40 million in 1983. We just established in April of this year an R&D facility in the United Kingdom, to be followed by a manufacturing facility in several years. While a variety of economic and business factors entered into our decision to establish an R&D and subsequent manufacturing center outside the United States, considerable weight was placed on the amount of economic and tax incentives foreign governments were willing to provide both R&D and manufacturing operations over an extensive period of time.

We are concerned that the United States may fall further behind in encouraging companies to conduct their R&D operations in the U.S.

Specifically, we are focusing on three issues:

1) Defining research or experimental expenditures in broad terms in determining whether they qualify for the R&D tax credit. This position is in stark contrast to the recently issued Proposed Regulations;

2) Conversion of the temporary R&D tax credit into a permanent credit, or alternatively, extending the credit provision for three additional years.

   Such an extension to 1988 would provide us a five-year time frame for R&D planning and determining where it should be based;

3) A continuation of the apportionment of R&D conducted in the U.S. to income from sources within the U.S. under Regulation Section 1.861-8. A reversion back to the old rule of allocating R&D expenditures to worldwide income, thereby reducing foreign-source income and allowable foreign tax credits, provides an incentive to shift R&D work out of the U.S.

Respectfully submitted,

WILTRON Company

Peter S. Chalfant

By
Peter S. Chalfant
Tax Counsel

PSC:csm

cc: Chris Caine, Eaton Corp.

38 Neponset Avenue
Foxboro, MA 02035
Telephone 617-543-8750
Telex 927-602

The Foxboro Company

May 18, 1983

MAY 2[illegible]

Mr. Roderick DeArment
Chief Counsel
Senate Finance Committee
Room SD-221
Dirksen Senate Office Building
Washington, D. C. 20510

Reference: S654

Dear Mr. DeArment:

I will be unable to attend the May 27 hearings of the Senate Finance Taxation Subcommittee, and would therefore like to submit this letter with respect to S.654. That bill would amend the tax code to treat deductions for research and experimental expenses attributable to activities conducted in the U.S. as allocable to income from sources within the U. S.

Foxboro believes the operation of Reg. 1.861-8 is a disincentive to the conduct of research and development in the U.S. Our own company is a case in point. For many years, we tended to centralize all our R&D effort in the United States. Then in 1980 a decision was made to establish a European R&D operation. The Foxboro Company now has R&D activities underway in its subsidiaries in The Netherlands and the United Kingdom. Our reason for this relocation was a combination of tax penalties and shortages of key technical skills in the U.S. We already had a support infrastructure in place in Europe, and have found no difficulties in directing and coordinating this activity from the United States, thanks in part to ease of communication via telephone, telex, computer links, and personal visits. We believe that when cost differentials become noticeably large, action will be taken to relocate R&D, especially when it is believed that those cost differentials will continue, and especially when the move is to a location where an infrastructure already exists.

Foxboro had excess tax credits in 1979 and 1980, and we would not have had those excess tax credits if our R&D spending levels had remained constant. In fact, the operation of Reg. 1.861-8 was such that in 1979 and 1980 the increase in R&D expense apportioned to foreign source income grew even faster than the underlying R&D expense. This increased apportionment to foreign source income reduced our Section 904 limitation in amounts greater than our unused credits, i.e., if we had not increased our R&D expenditures we would not have run into a Section 904 limitation. The net result is the equivalent of denying a deduction for a portion of our increased R&D expenditure.

FOXBORO

We believe Reg. 1.861-8 attempts to address problems that are more appropriately addressed under Sections 367 and 482 of the Internal Revenue Code, i.e., the transfer of technology abroad free of charge. Therefore, we see no particular reason to allocate and apportion domestic expenses to foreign source income (other than royalty income). As to the allocation to royalty income, we believe that such allocations should be simply on a gross income to gross income basis, taking into account gross income from foreign source royalties and all domestic gross income (including domestic manufacturing gross income) which arises as a result of the use of R&D knowhow. Such an approach would certainly eliminate the negative effects of Reg. 1.861-8 which undercut the explicit national effort to encourage expanded R&D. We believe that this matter could be addressed by regulation alone, and still be consistant with the existing law.

As a matter of congressional policy, however, we believe that the moratorium found in the Economic Recovery Tax Act should be made permanent as proposed in S.654. By making the moratorium permanent, it would encourage firms to relocate their R&D activities within the U.S., and would serve as a further encouragement to expand their U.S. R&D efforts. The Congress has already indicated its firm commitment to and belief in the fact that R&D will lead to industry growth and profitability, as well as improved export performance. High technology companies such as Foxboro have in the past spent significant funds on R&D. As a result, they have grown and prospered, and have provided increased employment in the U.S. Such firms, along with Foxboro, have also significantly expanded exports. We think it is important that the Congress send a signal to all high technology companies that increased R&D expenditures are to be encouraged, not penalized.

Thank you very much for considering the points raised in this letter. If we can be of further assistance, please do not hesitate to contact us.

Sincerely,

THE FOXBORO COMPANY

Paul Cherecwich, Jr.
Corporate Tax Manager

PCJr:sjc

cc: Senator Packwood
Senator Wallop

bcc: Christopher G. Caine
E. Tisdale, SAMA
G. F. Morris, The Foxboro Company

FOXBORO

Senator WALLOP. The first is from Mr. Peter Chalfont, tax counsel to the Wiltron Corp. of Mountain View, Calif.:

> In April of this year, this electronic test equipment firm with anticipated 1983 sales of $40 million established a research and development facility in the United Kingdom.

In outlining the reasoning for that decision, Mr. Chalfont expressed his company's concern that the United States may fall further behind in encouraging companies to conduct their R&D activities in the United States—specifically, the possible continuation of the 861 R&D allocation rules was highlighted as an incentive to shift R&D work out of the United States.

The second letter comes from the Foxboro Co. of Foxboro, Mass. In their letter they state that they had for several years intended to centralize all of their R&D efforts in the United States.

The point to the 861 regulations specifically as one the major factors in their decision in 1980 to establish a European R&D operation. They now have substantial R&D activities underway in both the United Kingdom and in the Netherlands.

Isn't it ironic for a country which considers itself the leader in research and innovation to be the only industrialized nation in the world to require the allocation of domestic R&D expenditures? It would appear from these two letters that it has the potential of having some very dramatic effects.

Let me conclude by saying that I am very pleased that the administration will be supporting a 2-year extension of the moratorium on the 861 regulations; but let me point out that the one thing that we have not provided the business community much of lately is some sense of certainty. Two-year fixes are not particularly helpful for the purpose of making long term business decisions.

I sincerely hope that the Treasury Department will consider the importance of a permanent solution to this problem, inasmuch as the President of the United States in his economic message this year said that the R&D was critical to this country's presence in the world of economic competition and will work with me in arriving at that solution in the very near future.

We have a number of witnesses this morning, and we will observe the 5-minute rule. There will be two panels on this, but first we will hear from Buck Chapoton, Assistant Secretary for Tax Policy, the Department of the Treasury.

Good morning, Buck.

STATEMENT OF HON. JOHN E. CHAPOTON, ASSISTANT SECRETARY FOR TAX POLICY, DEPARTMENT OF THE TREASURY, WASHINGTON, D.C.

Mr. CHAPOTON. Good morning, Mr. Chairman.

Thank you for the opportunity of allowing us to present our views on this subject this morning. We do apologize for the tardiness of the report. As you know, we have well over 30 congressionally mandated reports pending. As I have mentioned before, almost every time we are asked to do one it will be very difficult for us to meet the time schedule given for those reports. They are done very thoroughly, and I think as shown in this one, it is a painstaking, thorough job.

We are pleased to appear before the subcommittee this morning on this subject. I would state the administration's firm belief that continued growth in domestic R&E activity is crucial to the long-run strength and international competitive position of the American economy. Since the bill before you this morning would encourage the performance of R&D in the United States, we are pleased to support the general objective of the proposed legislation. As you stated, Mr. Chairman, we are supporting a 2-year extension of the moratorium.

Let me give just a little bit of background to set this in context:

As you know, U.S. corporations are subject to U.S. tax on their income from all sources—foreign and domestic. Foreign source income is usually also taxed by the foreign country where it is earned. To alleviate double taxation, the United States allows a credit for foreign income taxes paid. The credit is of course limited to the amount of U.S. income tax on the foreign-source taxable income. The purpose of the limitation is to prevent foreign income taxes from reducing U.S. taxes on U.S. source income. Those are just sort of the basic rules.

The Code provides that foreign source taxable income is determined by deducting from gross income and, quoting the Code, a "ratable part of any expenses, losses, or other deductions which cannot be definitely allocated to some item or class of gross income."

The detailed rules for this allocation I have just quoted in the Code are set forth in the 861-8 regulations. The objective of the Code and the implementing 861-8 regulations is to match R&E expense and other overhead expenses with the income generated by or related to the expenditure.

Section 223-A of the Economic Recovery Tax Act, ERTA, provides that all R&E expenditures paid or incurred in the first 2 taxable years after that bill was passed shall be allocated to U.S. source income. That is, all domestically performed R&E shall be allocated to U.S. source income. Thus, it reversed the Code provision and the implementing regulations for this 2-year period insofar as they related to research and experiment expenditures.

S. 654 would make this change permanent; it would be a permanent amendment to the Code to provide that the deduction for R&E conducted in the U.S. shall be allocated to U.S source income.

The Treasury has carefully studied this issue, pursuant to the mandate of the Congress in ERTA. The study and the report are in response to that mandate. We did study the impact of the regulations on the availability of the foreign tax credit and on U.S. R&E activity.

Any allocation of R&E expense to foreign source income will of course reduce the limitation on the foreign tax credit. If the foreign government does not allow the apportioned expense as a deduction, income taxes actually paid to the foreign government will not be reduced. Consequently, the allocation may increase a taxpayer's tax total liability—U.S. and foreign combined.

Prior to ERTA the Code clearly required that there be a proper allocation of U.S. R&E expense to foreign source income. On tax policy grounds some allocation to foreign source income is appropriate when domestic R&E or the product of any other domestic ex-

penditure is exploited in a foreign market and generates foreign as well as domestic income. If such an allocation is not made, foreign source income is too high and the higher limitation may allow the credit for foreign taxes to reduce U.S. taxes on domestic source income. Thus, requiring no allocation in the case of R&E expenses to the foreign source income to which it relates can best be viewed as an incentive to encourage domestic R&E activity. I think that is the objective of S. 654 and the point Chairman's comments.

Compared to the pre-ERTA rules, the moratorium in ERTA and S. 654 would reduce U.S. tax receipts. If the regulations had been in effect in calendar 1982 instead of being suspended by ERTA, we estimate that U.S. tax liabilities of U.S. firms would have been from $100 million to $240 million higher.

The ERTA suspension and S. 654 only reduce the tax liabilities of those firms who are in an excess foreign tax credit position. Thus, the reduction in U.S. tax liabilities from the suspension, and from this bill, depends on the nature of the firm's foreign operations, not the level of its R&D effort. S. 654 would have its most significant impact on large, mature multinationals as opposed to small, relatively young high-tech type companies. It would assist those R&E oriented firms with relatively large amounts of foreign production and income, as opposed to those taxpayers exploiting their R&E primarily for domestic production.

The estimated $100 million to $240 million in higher tax liabilities that would have occurred in the absence of ERTA would have increased the cost of privately financed U.S. R&E activities, according to our study, by somewhere between .27 percent and .65 percent, or by less than 1.0 percent. We estimate that this would have reduced the $37 billion spent on domestic R&E in 1982 by $40 million to $260 million. Most of this reduction would represent a net reduction in overall R&E activity because it is simply more expensive; some it would represent a transfer of R&E from a domestic to a foreign location.

We recognize that this reduction in R&E may adversely affect the competitive position of the United States. In light of this fact we support a 2-year extension of the present suspension of the Code provision and the 861-8 regulation, relating to R&E.

This would provide the Congress and the Treasury with an opportunity to consider the facts set forth in the report while we continue to work in an interagency task force that we have established to develop what we think would be the soundest and most coherent incentive for domestic R&E activities.

Mr. Chairman, that summarizes our testimony. I would be happy to answer any questions.

[The prepared statement of Hon. John E. Chapoton follows:]

For Release Upon Delivery
Expected at 8:30 a.m., E.D.T.
June 17, 1983

STATEMENT OF
THE HONORABLE JOHN E. CHAPOTON
ASSISTANT SECRETARY (TAX POLICY)
DEPARTMENT OF THE TREASURY
BEFORE THE
SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT
OF THE SENATE COMMITTEE ON FINANCE

Mr. Chairman and Members of the Subcommittee:

I am pleased to have the opportunity to present the views of the Treasury Department on S. 654, which would amend the Internal Revenue Code to treat deductions for research and experimental (R&E) expenses attributable to activities conducted in the United States as allocable to income from sources within the United States. While the Treasury Department has a number of technical comments on the drafting of S. 654, which we would be pleased to review with the Committee, I will restrict my remarks to the policy issues raised by S. 654.

The Administration firmly believes that continued growth in domestic R&E activity is crucial to the long run strength and international competitive position of the American economy. Since S. 654 would encourage the performance of R&E in the United States, the Treasury Department supports the general objective of the proposed legislation.

Present Law

U.S. corporations are subject to U.S. tax on their income from all sources, domestic and foreign. Income earned from outside the United States (foreign source income) is usually also taxed by the foreign country where it is earned. To alleviate international double taxation, the United States allows a credit for foreign income taxes. Under U.S. law and long-standing U.S.

tax policy, the foreign tax credit is limited to the amount of U.S. income tax on the foreign source taxable income. The purpose of the limitation is to prevent foreign taxes from reducing U.S. taxes on U.S. source income.

Foreign source taxable income, for the purpose of calculating the limitation on the foreign tax credit, is measured under U.S. tax rules. The Code provides that foreign source taxable income is determined by deducting from gross income the "expenses, losses, and other deductions properly apportioned or allocated thereto, and a ratable part of any expenses, losses, or other deductions which cannot definitely be allocated to some item or class of gross income." The detailed rules for the allocation and apportionment of R&E, interest, legal and accounting fees, and other expenses to gross income for the purpose of determining taxable income from foreign and domestic sources are set forth in Regulation section 1.861-8 (the "Regulation"). The objective of the Code and the Regulation is to match R&E expense, and the other overhead expenses to which the Regulation applies, with the income generated by or related to the expenditure.

Section 223(a) of the Economic Recovery Tax Act of 1981 (ERTA) provides that all R&E expenditures paid or incurred in a taxpayer's first 2 taxable years after the enactment of ERTA shall be allocated to U.S. source income. Thus, section 223(a) suspends the application of the Regulation's R&E rules insofar as they relate to allocation or apportionment of R&E expense on a geographic basis.

Description of the Bill and Analysis

S. 654 would amend the Code to provide that amounts allowable as a deduction for R&E conducted in the United States shall be allocated to U.S. source income and deducted from such income in determining U.S. source taxable income. Like its ERTA predecessor, S. 654 would modify the Regulation insofar as it applies to U.S. R&E expense.

The Treasury Department has carefully studied the important issues raised by the allocation of R&E expense and has prepared a report to the Congressional tax-writing committees on the results of that study. The study and report are in response to section 223(b) of ERTA, which directs the Treasury Department to study the impact of the Regulation on the availability of the foreign tax credit and on U.S. R&E activity.

Any allocation of R&E expense to foreign source income will reduce foreign source taxable income and the limitation on the foreign tax credit. If the foreign government does not allow the apportioned expense as a deduction, income taxes actually paid to

the foreign government will not be reduced. Consequently, the allocation may increase a taxpayer's total tax liability. Prior to ERTA the Code clearly required that there be a proper allocation of U.S. R&E expense to foreign source income. On tax policy grounds, some allocation to foreign source income is appropriate when domestic R&E is exploited in a foreign market and generates foreign, as well as domestic, income. Likewise, the allocation of interest and other expenses to foreign source income is compelled by the Code, and by proper tax policy considerations, when an expense item generates foreign source income. If this allocation is not made, foreign source income will be too high and the higher limitation may allow the credit for foreign tax to reduce U.S. taxes on domestic source income. Thus, requiring no allocation of R&E expense to the foreign source income attributable to the expense can best be viewed as an incentive to encourage domestic R&E activity.

Compared to the pre-ERTA rules, S. 654 would reduce U.S. tax liabilities. According to the Treasury Department's report, if the Regulation's R&E rules had been in effect in calendar 1982 instead of being suspended by ERTA, U.S. tax liabilities of U.S. firms would have been $100 million to $240 million higher.

As with the ERTA suspension, all firms would not be affected uniformly by S. 654. It would only reduce the tax liabilities of those firms in an excess foreign tax credit position. That is, the reiuction in U.S. tax liabilities depends on the nature of a firm's foreign operations, not the level of its R&D effort. Based on the analysis in the Treasury's report, firms in an excess credit position earn approximately 20 percent of the worldwide income of U.S. manufacturing corporations. Whether or not a firm is in an excess credit position does not seem to be closely related to the level of its R&E effort. S. 654 would have its most significant effect on large, mature multinationals, as opposed to small, relatively young, high-technology companies. It would affect those R&E oriented firms with relatively large amounts of foreign production and income, as opposed to those taxpayers exploiting their R&E primarily for domestic production.

The estimated $100 million to $240 million in higher tax liabilities that would have occurred in the absence of the ERTA provision would have increased the cost of privately-financed U.S. R&E activity by between .27 and .65 percent, or by less than 1.0 percent. Based on reasonable responses of both the overall level and the geographical location of R&E to this range of cost increases, the $37 billion in 1982 domestic R&E spending would have been reduced by $40 million to $260 million. Most of this reduction represents a net reduction in overall R&E undertaken by U.S. corporations and their foreign affiliates because U.S. R&E has become somewhat more expensive, rather than a transfer of R&E from a domestic to a foreign location.

The Treasury Department recognizes that this reduction in R&E may adversely affect the competitive position of the United States. Because of the importance of R&E to the international competitiveness of the U.S. economy, it is essential that Federal policy be designed so that the limited resources available to finance the Federal incentives encourage the maximum in R&E and innovative activity.

In light of this recognition, the Administration supports a two-year extension of the present suspension of the Regulation's R&E rules. This would provide Congress with an opportunity to consider the findings of the Treasury Department's report while Congress and the Administration continue to work together in developing a coherent national program of R&E incentives.

Senator WALLOP. Thank you, Buck.

Let me say first of all that I welcome, and I'm certain others do welcome the extension of the moratorium, and I believe that it really behooves us within a year, if possible, to find the permanent solution to this thing, to provide that level of certainty which I think is necessary as people set about making their long term decisions as to where to locate these things.

Now, your report and your statement this morning says that it has its most significant impact on large, mature multinational firms, as opposed to the small emerging high technology companies. But isn't it a fact that most emerging companies anticipate that someday they will be one of the large companies? And won't their present management set about looking at their corporate structure, especially if they are generously emerging young companies, and do their tax planning now and try to locate their research and other things to keep themselves out of the 861 box that they see these more mature companies in?

Mr. CHAPOTON. Well, of course everyone will plan to reduce taxes. If an allocation is made abroad and if the company is either now, or expects to be in the future, in an excess foreign tax credit position, that would be a concern. That is the point. That is what the report concludes. It will simply mean that U.S. conducted R&E is slightly more expensive, and that's the point.

And I think no one—at least I would be interested if other witnesses disagree with this statement—is arguing that the allocation is improper as a matter of an attempt to relate, and it is difficult to do, but as an attempt to relate expenditures to the income to which they relate.

The point is, this is an incentive for carrying on R&E in this country, and the question is whether it is the most effective incentive.

Senator WALLOP. Well, I understand that, and one of the things in the report says that 85 percent of the benefits will go to 24 companies. I don't know whether that is accurate or inaccurate, but I would suggest that if the effect of the regulation is either to transfer—as you suggest in your statement—or reduce R&E from the national interest, whether it is 24 companies, 12, or 124 companies, it would seem to me that this country is the loser.

Mr. CHAPOTON. I think, Mr. Chairman, that's true. The only thing we have to keep in mind in this and as we look at the R&E

credit and at other incentives for R&E is we are spending U.S. dollars to encourage the conduct of R&E, and we had better spend those dollars the most effective way.

Let me add one other thing that we seem to fall into, I think we, as well as everyone else, discussing this issue. I think there has generally been a criticism of the regulations. I think we have to recognize that the Code mandates some allocation. What we are talking about is amending the Code, not the regulations, to prevent an allocation, for an incentive.

Senator WALLOP. I understand that.

Well, I appreciate your being a witness here this morning, and as well the position of the Treasury for the 2-year moratorium. I do believe that we may get some creative end to all of this. I certainly hope so.

Mr. CHAPOTON. Good.

Senator WALLOP. Thank you very much.

Mr. CHAPOTON. Thank you, Mr. Chairman.

Senator WALLOP. Now, the first panel consists of Mr. Paul Huard, vice president of taxation and fiscal policy, National Association of Manufacturers; Mr. C. William Schick, assistant controller, United Technologies Corp., on behalf of the U.S. Chamber; Mr. Peter McCloskey, president of Electronic Industries Association, Washington, D.C.—he is accompanied by Mr. Richard Irwin from ITT and Mr. Darwin Broeman, regional international tax director of Arthur Andersen & Co.; and, finally, Mr. Robert McNeill, executive vice chairman of the Emergency Committee for American Trade, Washington, D.C.

Mr. Huard?

STATEMENT OF PAUL R. HUARD, VICE PRESIDENT, TAXATION AND FISCAL POLICY, NATIONAL ASSOCIATION OF MANUFACTURERS, WASHINGTON, D.C.

Mr. HUARD. Thank you, Senator.

In view of the size of this panel, let me make my remarks as brief as possible.

As you know, NAM sponsored a study by Arthur Andersen & Co., along with the Electronic Industries Association, the Pharmaceutical Manufacturers, the Emergency Committee for American Trade. If that hasn't been submitted for the record, I would like to do so.

I would like to point out several of the more important conclusions that were reached in that study: One is that apparently no other country other than the United States has a regulation similar to regulation 1.861-8. This regulation typically, as the Treasury seems willing to concede, places firms in an excess foreign tax credit position, increasing their U.S. tax liability.

Numerous respondents in this survey singled out this regulation as a detriment to the conduct of domestic R&D. It is a fact that over recent years foreign R&D conducted by U.S. companies has been growing at a faster rate than U.S. R&D.

Numerous respondents to the study stated that the expiration of the current moratorium on 161-8, which is imminent, would encourage further expansion of foreign R&D.

My own staff economists have reviewed R&E statistics compiled by the National Science Foundation, and there is an analysis of this in our prepared statement. They concluded that as a percentage of GNP, nonmilitary R&D in the United States has been on a very long-term decline. On the other hand, between 1981 and 1982, despite as we all know a rather a poor economic environment, nonmilitary R&D in the U.S has been increasing, suggesting that the various R&D incentives included in the Economic Recovery Tax Act of 1981 have working.

I would like to note briefly, in addition to the R&D arguments, that there are some various administrative and accounting difficulties associated with this regulation. These are, briefly, administrative difficulties having to do with the allocation of expenses within SIC categories, limitations on the geographic apportionment of expenses, apportionment on the basis of sales; also the date collection requirements of this regulation has typically required considerable cost as well as considerable expenditure staff time.

Finally, I would like to conclude by agreeing with your point that after the 1981 act, followed by the 1982 act, followed by whatever we have this year, we have given the business community precious little in the way of certainty, whether it is in regard to investment planning or R&D planning, or anything else. And for that reason, I don't think the 2-year moratorium is particularly advisable, and we fully support the permanent moratorium that is contained in S. 654.

Thank you.

[The prepared statement of Paul R. Huard follows:]

STATEMENT OF

PAUL R. HUARD

VICE PRESIDENT, TAXATION AND FISCAL POLICY DEPARTMENT

NATIONAL ASSOCIATION OF MANUFACTURERS

BEFORE THE

SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT

OF THE

SENATE FINANCE COMMITTEE

ON S.654

JUNE 17, 1983

I am Paul R. Huard, Vice President for Taxation and Fiscal Policy of the National Association of Manufacturers. On behalf of NAM's more than 13,000 member firms who represent 85% of the nation's industrial output and 80% of its industrial workforce, I am pleased to have this opportunity to present our views on S.654, which would amend Section 861 of the Internal Revenue Code. The effect of such amendment would be to rescind on a permanent basis that portion of Section 1.861-8 of the Treasury Regulations requiring allocation of domestic research and development (R&D) expenses between U.S. and foreign source income, thus making all such expenses deductible against U.S. income. NAM strongly supports enactment of S.654.

INTRODUCTION AND SUMMARY

The need for preservation of R&D tax incentives is evidenced by the fact that R&D expenditures in the aggregate underwent a decline during the period 1969-75. As a result of the discontinuities during the 1970s, the share of Gross National Product (GNP) comprised by R&D is now lower than during its peak levels of the late 1960s. Furthermore, in this respect, the share of GNP comprised by non-military R&D outlays is lower than in most of the other major industrial countries. However, since the enactment of the R&D tax provisions* of the Economic Recovery Tax Act of 1981 (ERTA), R&D expenditures have exhibited an upward trend, notwithstanding an unfavorable overall economic environment. The implication is that these ERTA provisions have enhanced R&D outlays, suggesting that such provisions should be retained in order to achieve continued increases in R&D in subsequent years.

Section 1.861-8 of the Treasury Regulations, by requiring that U.S. multinational corporations allocate a given share of their R&D expenditures to their foreign affiliates, has tended

* The two major R&D incentives contained in ERTA are (1) a 25% tax credit on incremental R&D expenditures, which is scheduled to expire at the end of 1985 and (2) a moratorium for two taxable years on the applicability of Regulations Section 1.861-8 to domestic R&D expenditures. The latter provision is the subject of this hearing.

to depress domestic R&D spending in relation to R&D conducted overseas. Section 1.861-8 also has tended to increase the tax liability of American multinational firms by denying tax benefits for deductions allocated to foreign source income. Provisions comparable to Section 1.861-8 do not exist in the tax codes of other major industrial countries.

THE NEED FOR R&D TAX INCENTIVES

The need to retain tax incentives for R&D outlays is evidenced by the deterioration of R&D spending during the 1970s. Table 1 (in the Appendix) gives outlays for total and industrial R&D in constant 1972 dollars, and the ratio of total R&D expenditures to GNP.

From roughly 1969 until 1976, there was a sharp decline in total R&D expenditures, which fell substantially below their levels of the late 1960s. In 1960-68, total R&D spending in constant dollars increased 52%. Thereafter, there was a small decrease coinciding with the recession of 1969-70. However, during the recovery of 1971-73, R&D spending failed to improve as rapidly as during previous cyclical upswings in the economy, and in 1973 at the peak of the boom, real R&D spending was still below its 1968 level. The recession of 1974-75 led to another contraction in R&D spending. In 1975, at the trough of

the recession, R&D outlays were 5.3% lower than in 1968. The recovery of 1976-79 was associated with a major recovery in R&D spending. However, because of the earlier decline, outlays for R&D accounted for a considerably lower share of GNP than during the late 1960s. In 1963-68, R&D spending averaged just under 2.9% of GNP. By comparison, in 1979, R&D spending had fallen to 2.25% of GNP. Despite the recovery in R&D spending during the late 1970s, the fact that the share of GNP comprised by R&D outlays actually declined at this time indicates that the upturn in R&D expenditures lagged behind the recovery in the rest of the economy.

Part of the cause of the deterioration of R&D expenditures has had to do with decreases in Federal allocations for research, resulting from the de-escalation of the Vietnam War and the gradual shift in the composition of Federal spending from defense-related activities to transfer payments. However, the major causes had to do with a deterioration in private R&D spending during the early 1970s, which appears to be attributable to depressed profitability. During the recovery of 1971-73, real profits failed to reach their peak levels of the late 1960s, while profitability underwent serious cyclical declines during the recessions of 1969-70 and 1974-75. Private R&D spending followed a similar course. Industry spending for R&D peaked in 1969, and declined in real terms until 1975.

Thereafter, there was a recovery in R&D outlays, but because of the earlier decline, R&D allocations did not surpass their level of 1969 until 1977. In other words, the decline in R&D spending was not limited to the Federal government, but was also in evidence in the private sector.

Compared with other major industrial countries, the share of GNP devoted to non-military research in the United States has been unfavorably low. Measured in terms of total R&D allocations, the United States has had the highest ratio of R&D to GNP of every major industrial country except the Soviet Union. However, this is due primarily to the higher level of military expenditures in the United States. When military R&D expenditures are factored out, the ratio of civilian R&D to GNP in the United States has averaged below the corresponding ratios for West Germany and Japan, and has been roughly equal to the ratios for France and the United Kingdom.

In essence, the United States has faced a serious long run problem of deterioration in R&D spending. The causes have had to do partially with a corresponding decline in profitability--during the early 1970s, real corporate profits fell below their peak levels of the late 1960s, and did not improve until the recovery of 1976-79. This deterioration in profitability in turn reflects excessive taxation of corporate income. In this respect, the decline in R&D spending is indirectly traceable to

the increase in effective corporate tax liabilities during the 1970s. This in itself argues for the retention of tax incentives for R&D, as well as, for that matter, the preservation of ERTA's other business tax provisions.

A further argument is to be found in the fact that, prior to the enactment of ERTA, the tax treatment of R&D expenditures in the United States was for the most part inferior to R&D tax provisions in the other industrial countries. For this reason, achieving higher rates of R&D spending over the next few years will require preservation of special R&D tax incentives, as well as the other ERTA business tax provisions, which will facilitate reliquification and a recovery in profitability.

There is encouraging preliminary evidence regarding the success of ERTA's R&D provisions over the past two years. Notwithstanding the fact that the economic environment has been highly inconducive to higher research spending, both total and private allocations for R&D have increased in real terms. Real corporate profits declined by -22% peak-to-trough during the recession of 1981-82, and corporate liquidity has deteriorated to its lowest postwar level. Since the level of R&D spending is partially determined by the current profitability and liquidity of the business sector, this situation would ordinarily be associated with a serious decline in R&D spending. However, as the evidence presented in Table 1

indicates, this has not been the case. Instead, R&D spending increased in 1981-82. In constant dollars, total R&D outlays increased 5.2%, while industrial R&D increased 10.2%.

Just how good this performance is can be evidenced through a comparison of R&D spending during the 1981-82 recession with the recession of 1974-75, when ERTA's R&D tax incentives were not in place and effective corporate tax liabilities were substantially higher. Although the recessions of 1981-82 and 1974-75 were comparable in terms of length and depth, total R&D spending in 1974-75 fell by -3.1%, while industrial R&D spending was essentially flat, which compares unfavorably with the increases recorded during the recession of 1981-82.

Finally, as previously alluded to, further evidence of the desirability of retaining provisions in our tax laws favorable to R&D is provided by a comparison of the U.S. with other major industrial countries. Prior to ERTA, the tax treatment of R&D in the United States was inferior to that in other industrial countries, where various special R&D tax treatments were allowed in addition to deductibility of R&D expenses. It was only after the enactment of ERTA that the tax treatment of R&D in the United States became comparable to that of our major competitors.

In Canada, current and capital expenditures for research are fully deductible in the year incurred. There is a 7%

general investment tax credit for capital expenditures which can also be applied to research-oriented investment spending, and a credit varying between 10% and 25% for research expenditures. There is also a 50% tax credit for incremental research spending in excess of a three year base period amount. Contributions to scientific establishments are also tax deductible.

In West Germany, R&D expenditures are deductible in the year in which they are incurred. Capital expenditures for research facilities are subject to accelerated depreciation, i.e., they are eligible for additional depreciation in the initial write-off period. The acquisitions cost for research conducted by other institutions is depreciable over the useful life of the asset. There is a 7.5% investment tax credit for capital expenditures used in research. Individuals engaged in research are subject to preferential tax treatment, including a 50% reduction on the valuation of income derived from patents and a 50% reduction in qualifying wage income. Qualifying research organizations are exempt from income and net wealth taxes, and contributions to research organizations are tax deductible.

In France, R&D expenditures are deductible in the year in which they are incurred. Capital equipment used for research may be depreciated either through straight-line depreciation

(which applies to all other categories of capital assets) or through declining balance methods. Buildings used for research are eligible for faster write-offs. Fifty percent of corporate investments in research organizations are fully deductible. Qualifying income resulting from sales of patents are subject to preferential treatment.

In essence, up to 1981, tax provisions for R&D in other industrial countries were significantly better than in the United States, giving them considerable competitive advantages in international markets. The R&D tax provisions enacted under ERTA have substantially redressed this inequity by granting American corporations access to the same kinds of R&D tax incentives that their foreign competitors enjoy.

RESCISSION OF SECTION 1.861-8

Under Section 1.861-8 of the Treasury Regulations, R&D deductions along with general and administrative expenses must be allocated among domestic and foreign sources of income. In 1981, the applicability of Section 1.861-8 to domestic R&D expenditures was subjected to a two-year moratorium. S.654 would make this moratorium permanent. NAM urges adoption of S.654. In addition to the general need for retention of tax provisions favorable to domestic R&D, we note the following

specific evidence in support of our recommendation. These specifics are drawn primarily from a recent study by Arthur Andersen & Company, which study was sponsored by NAM and several other business organizations.

First, the result of the R&D allocation requirements of Section 1.861-8 has generally been to increase effective corporate tax liabilities. The main reason has been that as a result of R&D allocations, American-based multinational companies have frequently found themselves in an excess foreign tax credit situation on their domestic income tax returns. This problem was in evidence in 35% of companies studied for the period 1977-80, and in each case, the net effect was an increase in tax liability. A larger share of companies studied (44%) indicated that an end to the moratorium on Section 1.861-8 R&D expense allocations would cause or contribute to an excess foreign tax credit situation in subsequent years. The implication is that in many cases, Section 1.861-8 either has, or absent any demonstrable past effects can be expected to, reduce domestic R&D outlays by reducing after-tax cash flow, and by creating an additional regulatory disincentive to research.

Both the existence of the regulation and the recent moratorium are cited as factors influencing decisions to undertake R&D spending. The Section 1.861-8 moratorium has

contributed to the conducting of a greater share of R&D activity in the United States. Conversely, the regulation itself, and pre-ERTA treatment of R&D generally, have in the past constituted a deterrent to R&D spending. Companies studied cited repeated instances of research activities which were hampered or curtailed because of unfavorable tax treatment of R&D, and Section 1.861-8 was frequently singled out as one of the most objectionable components of the pre-ERTA R&D tax treatment.

Corporations have characterized this regulation as inefficient, arbitrary in its formulations, unnecessarily complex, and inadequately defined. The validity of the regulation has also been called into question on the grounds that it exceeds the statutory mandate of the tax laws as interpreted through the process of judicial review. Major areas in which Section 1.861-8 created administrative difficulties have had to do with allocation of expenses within SIC categories, limitations on the geographic apportionment of expenses, and apportionment on the basis of sales. The data collection requirements of this regulation have typically involved considerable costs, as well as considerable expenditure of time. The validity of the Treasury assumption underlying this regulation--that domestic R&D benefits foreign operations while foreign R&D does not have an equiproportionate

effect on domestic operations--has been strongly questioned.

A further effect of Section 1.861-8 has been to shift research activity by American corporations overseas. Of the companies studied, a majority have exhibited an increase in the ratio of R&D expenditures conducted through foreign affiliates to total R&D outlays. This trend was particularly visible among the smaller and intermediate-sized multinationals: companies with less than $2.5 billion in sales showed the largest increase in the ratio of foreign R&D to total R&D. Side by side with the transfer of research expenditures overseas, there has been a simultaneous reallocation of personnel engaged in research into foreign affiliates. The number of scientists, skilled engineers and other research personnel employed by the foreign affiliates of multinationals has typically increased more rapidly than employment of research personnel in the parent company. The degree to which this effect has been produced by tax regulations rather than by foreign and domestic growth rates can be evidenced by the fact that the rise in the ratio of foreign to total R&D was typically greater than the change in the ratio of foreign to total sales. In other words, the reallocation of research activity overseas was not a result of faster expansion of foreign operations. Rather, it occurred independently of growth in foreign sales.

The net result has been a reallocation of research activity overseas which is not justified on economic grounds. In the absence of Section 1.861-8, a substantially larger share of research activity very likely would have been conducted domestically.

In this respect, it is noteworthy that no other industrial country has tax laws which tend to shift R&D overseas; instead, the tax laws of other countries have by and large been designed to insure that research is conducted domestically. While the impact of Section 1.861-8 represents in essence a form of double taxation of foreign source income, the tax laws of eight other industrial countries including Canada, West Germany and Japan have been aimed at avoiding such double taxation. The provisions through which double taxation is eliminated or reduced range from credits for foreign taxes, or lower direct taxes on foreign source income. Two countries, France and Australia, do not levy taxes on foreign source income, and in both countries, domestic R&D deductions are not disallowed because of any putative benefits to overseas operations. While Ireland does not provide special credits to offset double taxation, corporations are permitted to deduct fully foreign tax liabilities from their taxable income.

In sum, the provisions of Section 1.861-8 represent an aberration that is unique to the United States. No other

country has any comparable law, and in most other countries, tax laws are designed to prevent the shift of R&D overseas that has been engendered by Section 1.861-8.

CONCLUSION

It is apparent that the R&D tax changes enacted in ERTA have contributed to a significant increase in domestic R&D by reducing pre-existing biases in our tax laws against such spending. In the process, they have given American corporations tax advantages comparable to those enjoyed by corporations in other major industrial countries, and in this respect have placed American firms on a more equal competitive footing in world markets. S.654, the bill before you, would make permanent one of those ERTA provisions which is scheduled to expire imminently, e.g., the Section 1.861-8 moratorium. We urge its prompt adoption.

APPENDIX

TABLE 1: RESEARCH AND DEVELOPMENT EXPENDITURES

YEAR	TOTAL R&D SPENDING IN CONSTANT DOLLARS*	PERCENT OF GNP	INDUSTRIAL R&D SPENDING IN CONSTANT DOLLARS*
1960	19.6	2.67	16.6
1961	20.6	2.73	17.2
1962	21.8	2.73	17.6
1963	23.7	2.87	18.4
1964	25.9	2.96	18.8
1965	26.9	2.89	19.2
1966	28.4	2.88	19.9
1967	29.2	2.89	20.6
1968	29.8	2.82	21.3
1969	29.6	2.71	21.3
1970	28.5	2.63	20.3
1971	27.8	2.48	19.6
1972	28.4	2.40	19.5
1973	29.1	2.32	19.8
1974	28.8	2.29	19.9
1975	28.2	2.27	20.0
1976	29.5	2.26	20.6
1977	30.7	2.24	21.7
1978	32.0	2.23	22.8
1979	33.7	2.25	24.0
1980	35.1	2.33	25.3
1981	36.1	2.37	26.6
1982	36.9	2.45	27.9

Source: National Science Foundation
* Billions of constant 1972 dollars

Senator WALLOP. Thank you, Mr. Huard.

We may end up with that. I just think that the circumstance this morning is better than it was the day before yesterday. That may be small comfort, but it is better, and it is an improvement.

Mr. Schick?

STATEMENT OF C. WILLIAM SCHICK, ASSISTANT CONTROLLER, UNITED TECHNOLOGIES CORP., HARTFORD, CONN., ON BEHALF OF THE CHAMBER OF COMMERCE OF THE UNITED STATES, WASHINGTON, D.C.

Mr. SCHICK. Good morning.

I am William Schick, assistant controller of the United Technologies Corp. Our company is a member of the Chamber of Commerce of the United States, and that's the organization that I represent today. Accompanying me is David Franasiak, the chamber's manager of tax policy. We appreciate having this opportunity to speak on 861 today.

Our company projects to spend $1 billion per year in R&D over the next 5 years, and so as a company we have significant interest in this subject.

Section 861-8 of the regs we think requires urgent attention such as contemplated in your bill. The Internal Revenue Code has long provided that foreign source income must be reduced by an allocation of indirect expenses incurred in the United States that are deemed to be applicable to foreign operations. In the 1977 regulations it became required that substantial amounts of research and development expenditures in the United States are to be charged against that foreign source income. This in turn, of course, reduces the foreign tax credit and usually increases the United States tax by an equal amount.

The effect is that substantial amounts of R&D expenditures incurred in the United States are denied on the basis highly arbitrary methods as U.S. Federal income tax deductions. As these expenses incurred in the United States are not generally deductible in the foreign countries merely because they were disallowed under the 861-8 concept, the allocated R&D expenditures usually will not be recognized a tax deduction anywhere. Another way of saying this is, that this extent, the same business income is or can be subject to double taxation, foreign and United States.

In our view, the 1977 regulations were prepared in an arbitrary manner. They require in many instances U.S. R&D costs incurred to design and develop a domestic product to be allocated to foreign source income which is derived from the sale of products that have nothing to do with U.S. products.

Such results are in conflict with a sound tax policy. The proof of this is that one way a company can avoid this penalty is to transfer R&D operations to a country which does allow a tax deduction, and all or most countries do.

Congress recognized this problem in 1981 when it suspended the regulations for the years 1982 and 1983. We think your bill would permanently solve this problem, and we agree that a 2-year fix is not sufficient. We urge that you enact this bill promptly.

Thank you very much.

[The prepared statement of C. William Schick follows:]

STATEMENT
on
ALLOCATION OF R&D COSTS TO FOREIGN SOURCE INCOME (S. 654)
and
MAKING THE R&D TAX CREDIT PERMANENT (S. 738)
before the
TAXATION AND DEBT MANAGEMENT SUBCOMMITTEE
of the
SENATE FINANCE COMMITTEE
by
C. William Schick
June 17, 1983

I am William Schick, Assistant Controller of United Technologies Corporation. Our company is a member of the Chamber of Commerce of the United States, which is the organization I represent today. Accompanying me is Mr. David E. Franasiak, the Chamber's Manager of Tax Policy. We appreciate having this opportunity to address important research and development tax policy questions.

United Technologies Corporation designs, develops and manufactures products with high technology content. Our products include Pratt & Whitney Aircraft gas turbine engines, Sikorsky helicopters, Otis elevators, and Carrier air conditioners. We are headquartered in Hartford, Connecticut. Our annual sales volume is 14 billion dollars. We invest over 800 million dollars each year in research and development. We carry out our work with 180,000 employees.

SUMMARY

The U.S. Chamber vigorously supports all prudent steps which can stimulate Research and Development efforts in the United States. There is a consensus that the American business establishment is falling behind its foreign competitors in productivity. There is little doubt that this trend, in whole or in part, comes about from a decline in the level of U.S. R&D expenditures relative to those of some other countries. We must not allow this trend to continue.

In recognition of our vital need to encourage, and to avoid discouraging, increased investments in Research and Development, without which we cannot increase jobs and exports, two important tax policy issues have been identified by your Committee. Making the R&D Tax Credit permanent, which would encourage R&D, is one.

The other deals with an existing rule which can discourage R&D in the United States, the R&D allocation procedure in the Section 1.861-8 regulations.

I will summarize the U.S. Chamber's position on these issues.

Section 1.861-8 of the Regulations

Section 1.861-8 of the Income Tax Regulations, issued by Treasury in 1977, urgently requires attention, such as that contemplated in Senator Wallop's bill, S. 654.

The Internal Revenue Code has long provided that foreign source income must be reduced by an allocation of indirect expenses incurred in the United States, that are deemed to be applicable, in part, to foreign operations. In the 1977 regulations, it became required that substantial amounts of research and development expenditures in the United States are to be charged against foreign source income. This, in turn, reduces the foreign tax credit and usually increases the U.S. tax by an equal amount.

The effect is that substantial amounts of R&D expenditures incurred in the United States are denied, on the basis of highly arbitrary methods, as U.S. federal income tax deductions. As these expenses incurred in the United States are not generally deductible in the foreign countries merely because they were disallowed in the United States under the 1.861-8 concept, the allocated R&D expenses usually will not be recognized as a tax deduction anywhere. Another way of saying it is that, to this extent, the same business income is, or can be, subjected to double taxation, foreign and U.S.

The 1977 regulations were prepared in an arbitrary manner, requiring in many instances U.S. R&D costs incurred to design and develop a domestic product to be allocated to foreign source income derived from sales of products that have nothing to do with the U.S. products.

Such results are in conflict with sound tax policy. One way a company could potentially avoid the 1.861-8 penalty is to transfer its R&D operations to a country which allows a tax deduction for R&D, as all or most do.

Congress recognized this problem in 1981 when it suspended the IRS regulations for the years 1982 and 1983. Now, Senator Wallop's bill would permanently solve this problem. We urge that his proposal be enacted promptly.

It is wrong to have a tax policy that has the potential of discouraging R&D efforts in the United States.

R&D Tax Credit

The R&D tax credit is and can continue to be an important ingredient in stimulating R&D effort in this country. Clearly, Congress shared that view in 1981 when it enacted the credit. However, under present law, the credit's last year of life is 1985. We believe it is essential to make the credit permanent.

We understand that other countries, including Canada and Japan, have R&D tax credits. In addition, some foreign governments provide direct funds for selected projects.

It is generally understood that U.S. R&D levels have fallen in recent years relative to the efforts of our competitor nations.

The nation's R&D shortfall cannot be cured in such a short period as five years. R&D is, by its very nature, long term. To maintain and increase productivity, jobs, and competitiveness, R&D efforts must be conducted at high levels, year in, year out.

We strongly urge Congress to establish a generally stable tax policy, and in particular, to make the R&D tax policy permanent.

OUR VIEWS IN MORE DETAIL

Allocation of U.S. R&D to Foreign Source Income

Sections 861, 862, and 863 of the Internal Revenue Code were created to define the sources of income. They require that indirect expenses be apportioned to the sources of income. Presumably, if this defining process is properly carried out, that which is U.S. source income will be taxed in the U.S., and that which is foreign source income will be taxed in the foreign nation. It is entirely correct to deal with the apportionment of expenses to source in this context.

Since the overall foreign tax credit is limited to 46% of a company's foreign source income, there is a need to define source of income for that purpose. Sections 861, 862, and 863 are used for this purpose.

The allocation of indirect expenses to the foreign source income, without a corresponding foreign deduction, has the inherent effect of taxing the same earnings twice; that is to say, the allocations cause double taxation. This result, of course, defeats the very purpose of the foreign tax credit, which is to prevent double taxation.

Double taxation results, or can result depending on the particular circumstances, because the U.S. expenses that are allocated under the Section 1.861-8 regulations to the foreign source income generally are not deductible or may not be deductible in the foreign jurisdiction. This result occurs because the world taxing system is not set up to provide that indirect expenses to be allocated under the Section 1.861-8 concept are deductible in the foreign jurisdiction. Thus, a U.S. taxpayer - in effect - receives no deduction for the expenses either in the U.S. or in the foreign country from which the foreign source income is derived.

The proof that this analysis is correct is the fact that a U.S. taxpayer can avoid or minimize the penalty imposed by the Section 1.861-8 regulations by moving all or some of its R&D operations to other nations, where a deduction can be realized. In writing the Section 1.861-8 regulations, we believe that the Internal Revenue Service misinterpreted the intent of Sections 861, 862, and 863 as they relate to the foreign tax credit.

The 1977 regulations require the allocation of U.S. R&D to foreign source income almost without regard to any particular facts and circumstances. In the regulation, there is a presumption that U.S. incurred R&D that is even remotely related to products the taxpayer manufactures abroad must be allocated to income earned abroad.

The overreaching regulatory approach is exemplified in a particular provision in the regulations which require that R&D spent in the United States to develop bulldozers must be allocated to foreign source income derived by anaffiliated manufacturer from sales of lawn mower engines abroad. The regulations require this conclusion on the basis that bulldozers and lawn mower engines are in the same two-digit Standard Industrial Classification (SIC) Code; hence, there is a presumption that bulldozer R&D benefits lawn mower engines.

Whether there is a casual or beneficial relationship between bulldozer R&D and lawn mower engine R&D, we do not know. We suspect there is not much of a relationship. Even if it were correct to allocate <u>any</u> U.S.-incurred R&D

expenses to foreign source income for purposes of computing the foreign tax credit, it is wrong to do so in an arbitrary and inflexible manner such as is mandated in the 1977 regulations.

We know of one actual instance where the regulations require R&D expenses incurred to design and develop a product in the U.S. to be allocated to income derived from a different product developed in a foreign country merely because the two products are in the same SIC. The Department of Commerce has confirmed that the two products are in the same SIC only because separate classifications would cause the public disclosure of competitive information.

The U.S. Department of Commerce publishes product/service classifications for the purpose of compiling industrial statistics. Thus, the classifications may or may not reflect the extent to which a particular R&D project benefits another project. SIC's should not be used for cost allocation purposes.

The regulations also presume that all R&D is conducted in the United States, and completely ignore the fact that many products manufactured and sold abroad were designed and developed abroad. It makes no sense to require allocation of U.S. R&D expenses to income derived from sale of products abroad that were, in fact, designed abroad.

The arbitrariness of those regulations caused the current controversy. This controversy now requires that Congress enact a correct solution. That solution is contained in Senator Wallop's bill, which provides that R&D incurred in the United States is to be deducted from U.S.-source income.

Finally, in those cases where the facts and circumstances do indicate that R&D expenses incurred in the United States are conducted on behalf of a foreign operation, and the expenditures have not been charged to that operation, the Commissioner may invoke Section 482. This section gives the Commissioner the power to distribute, allocate, or apportion any deduction to any commonly owned organization or trade or business to which the deduction pertains. If that process is correctly carried out, each entity, U.S. and foreign, will bear its proper deductions and report its proper income to the relevant taxing authorities, and the current controversy will be resolved.

We urge your prompt enactment of S. 654.

R&D Tax Credit

The United States has always been an important investor in R&D. It probably continues to be the largest investor in the free world, both in absolute terms and in terms of percent of GNP.

In terms of total R&D expenditures, expressed as a percentage of GNP, the United States has led the free world since at least the late 1960's, although in recent years our lead has substantially narrowed.

As for non-defense R&D, U.S. expenditures in the late 1960's are estimated to have been somewhat less, in terms of percent of GNP, than those of West Germany, Japan, The United Kingdom, and France. In the 1970's, expenditures of West Germany and Japan are estimated to have significantly exceeded U.S. levels, again on a percent of GNP basis.

All industrial progress, if not survival, depends on the development of new and innovative products and methods. Our competitor nations are working hard to stimulate their economic progress, and to employ their workers. Their objective is to outsell us in the world marketplace, which, unfortunately, includes our own backyard and probably our own front yard.

The fruits of our competitors' efforts are now evident in the marketplace. Congress recognized the need to restore the U.S. to its previous world economic posture by enacting the R&D Tax Credit in 1981. Unfortunately, that tax bill contained an automatic cut-off date -- 1985.

Our nation's R&D shortfall cannot be cured in a five-year period. Research and Development is inherently long range in nature. In rapidly moving technologies such as electronics, product cycles can last 3-5 years. In other high technology industries such as aerospace, product cycles can last 10-15 years. In either case, research and development efforts must be carried out at a high level, year in, year out. American industry is committed to undertaking the necessary efforts. But to carry them out, we need sensible and stable policies.

Stability is needed for industry to plan how its resources will be acquired and how they will be employed. This is particularly true with respect to R&D, the fruits of which can only be realized well beyond the time the R&D effort is undertaken. Aside from the substantive value of the various tax policies designed to stimulate productivity and jobs, one must ask how the industrial community can plan for the future without reasonable stability in tax policy.

Already, we have had too much on-again off-again tax policy. I will briefly outline the history which leads us to that conclusion.

In 1981, the Congress enacted the Accelerated Cost Recovery System, known as ACRS. This provision allows the business community to recover the cost of machinery and equipment over a reasonable period of time. At the same time ACRS was adopted, the R&D tax credit was enacted.

We believe those recent steps were necessary to get our nation back on the track. In earlier years, other steps designed to increase production and jobs were enacted.

In 1962, the investment tax credit was enacted. This credit was intended to stimulate investment in plant, machinery, and productive equipment. The credit did that then, and it does it today.

In 1971, the Congress enacted DISC, the Domestic International Sales Corporation. The DISC permits deferral of income taxes that would otherwise be due on profits earned from exports of products to other countries. This was important legislation that stimulated exports then, and it continues to do so today.

These are some of the past actions that have been taken which we believe continue to be necessary to restore our nation's industrial power.

Then in 1982, at the height of the current recession, some of these measures were cut back. You will recall that the 1986 depreciation reform originally was proposed to have become effective in 1981. It would have established the cost recovery rate at 200% of the Declining Balance. But a change was made at the last moment because it was decided that the Government could not tolerate the reduced revenues until later. Instead, the 1981 law provided that the recovery rate was to be set at 175% of the Declining Balance in 1985 and 200% in 1986.

And now, the 1985 and 1986 depreciation reforms are lost. We did not agree then, and we do not agree now, that the 1981 deferral and the 1982 reversal were wise acts.

At the same time the depreciation reforms were lost, the 10% investment tax credit, in effect, was cut-back to 8%. Safe Harbor leasing was repealed.

In 1981, the Tax Code was changed to speed up corporate tax payments. A further speed-up provision was adopted in 1982.

In 1976, DISC was cut back, so that tax on profits on incremental sales only was deferrable. In 1982, the DISC stimulus was cut back another 15%.

And in 1985, the R&D tax credit will die.

Economic stimulus cannot be turned on and off like a spigot. It is with this recent history in mind that we urge Congress to make the R&D tax credit permanent, by enacting S. 738.

CONCLUSION

We strongly urge that S. 654 and S. 738 be enacted. Moreover, we urge Congress to provide more certainty in the tax law. Constant and arbitrary changes only increase business risk and, thereby dampen business investment and innovation.

Senator WALLOP. Thank you, Mr. Schick.

Mr. McCloskey?

STATEMENT OF PETER F. McCLOSKEY, PRESIDENT, ELECTRONIC INDUSTRIES ASSOCIATION, WASHINGTON, D.C.

Mr. MCCLOSKEY. Good morning, Senator.

Accompanying me this morning are Dick Irwin, ITT Corp., chairman of the EIA's Tax Council; and Darwin Broemen of Arthur Andersen, the company that performed the R&D tax study that has been referred to.

I think it is evident that R&D is more important than ever to the U.S. economy and to U.S. industries' competitiveness. The connection between R&D and improved productivity is beyond question. R&D, if performed here, provides beneficial effects and results that radiate through the spectrum of industry, our work force, and our overall tax base.

The connection between research at institutions of higher learning, the availability of scientific faculty and graduate students, too, and the creation of R&D centers is apparent. We have seen it at Route 128, Research Triangle, Silicon Valley, and most recently at Austin, Tex., the MCC Corp.

ERTA helped us reverse the decline of R&D as a percentage of GNP. It would be foolhardy to provide a tax credit for research and development on the one hand, and on the other hand to effectively deny its deductibility in the United States.

Other companies recognize the importance of R&D; I think the study amply highlights all of the incentives that are provided in other countries. For us to not recognize the pull of those incentives and to continue to provide the push that our disincentives provide is really shortsighted.

We have a number of those disincentives that are not tax code related. The Export Administration Act is one itself which might now favor performing some R&D outside of the United States just because of the potential embargo of the use of that technology outside of the United States.

The diminishing supply of scientists and engineers in the United States is another reason why we might, and I think that is critical.

The expenditure of research and development in the United States has a direct impact on the research being performed in our universities, which has a direct impact on the graduate students who will be available to work in those areas, and on, and on, and on. If you take a look at any of our centers of research and development activities and recognize what has been achieved in terms of the creation of new, innovative companies clustered around those areas, for us to in anyway make it make sense for us to relocate research and development abroad over and above the compelling reasons that already exist is just absurd.

So I think your legislation is certainly a major step to remove this push, this disincentive to conduct research here in the United States.

Fortunately, we haven't endured the impact to date of the full recognition on the part of top management of just what the 861-8 regulations meant. That in part is because they are just now beginning to be audited on post-1977 figures that contain these allocations of research and development. But when it is brought home crystal clear, I think it is going to become a very important element in the decisionmaking for those companies.

There was a question raised about the 24 companies that might have had 85 percent of the benefits. I suspect that the figures will show that those 24 companies might have conducted 50 percent of the research and development of those top 100 industrialized companies, and I think it is those very companies that have the capability inhand today to do the research and development abroad, should they want to, because they have facilities there. It is just a question of an increase in their research and development. Those are ones that we are particularly concerned about, because they can do it; they are experiencing the pull factors; they are experiencing the push factors; the mechanism is in place; the scientists are there; the management and laboratories are there; and they are fully capable of doing it for precisely the reasons that make sense to what businessmen ought to do, what is good for the bottom line.

It is not good for the bottom line of the United States, in the overall, and I think your legislation is a step in that direction.

Thank you, Senator.

[The prepared statement of Peter McCloskey follows:]

Statement by the
ELECTRONIC INDUSTRIES ASSOCIATION
for the hearing of June 17, 1983
before the
SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT
of the
Committee on Finance, United States Senate

Mr. Chairman and members of the subcommittee, my name is Peter F. McCloskey. I am the President of the Electronic Industries Association (EIA). Accompanying me today as experts are Richard F. Irwin, Associate General Tax Counsel of ITT Corporation and chairman of the EIA Tax Council and by Darwin Broemen, Regional International Tax Director of Arthur Andersen & Co., which conducted a study to which I will refer in my testimony.

With more than 1000 participating companies, EIA is the full-service national trade organization representing the entire spectrum of U.S. companies manufacturing electronic products. These include components, equipment, and systems; they are made for industrial, governmental, and consumer end-uses.

In 1982, the electronic industries of the United States generated $126 billion worth of factory sales, exported over $24 billion worth of electronic products and imported $21 billion. We are one of the few manufacturing sectors of the U.S. economy that produced a trade SURPLUS ($3.2 billion). These figures are an indication that our industries are advancing and that our products are competitive.

The members of our Association, both large and small, make a disproportionately large contribution to the American economy, both by providing taxable profits and by creating badly needed jobs. The electronic industries employed 1.6 million Americans in 1982.

Our success as an industry is dependent on our ability to stay ahead of our foreign competitors in producing products using state-of-the-art technology. This, in turn, requires a high commitment to research and development. We believe it is in the nation's interest that the research and development we must

conduct to stay in business be carried on in the United States. We therefore urge that the Congress make permanent the two-year moratorium on the allocation of research and development expense under the section 861 regulations for foreign tax credit purposes so that a full deduction is allowed for all research and development conducted in the United States.

Toward that end, we enthusiastically support S.654, introduced by Senator Wallop, a member of the Senate Committee on Finance, with a number of Senators as his co-sponsors.

Under the section 861 regulations, the allocation of expense rules act as a disincentive to research and development because of the economic cost it imposes on the performance of domestic R&D. The effect of these rules is to deny U.S. corporations a full deduction against U.S. income for purely domestic R&D expenses. Such expenses, when allocated to foreign sales, are not permitted as a deduction against taxable income by foreign tax authorities either, because no direct benefit accrues to the foreign entity. Nor are they viewed as deductible costs of doing business in the foreign country. The result is a loss of tax benefit for a portion of R&D expenses, and exposure for a portion of income to both U.S. and foreign taxation. This occurs because the allocation of R&D expenses to foreign-source income has the effect of reducing the amount of foreign tax credit allowed currently and of increasing the corporation's overall tax liability.

The "National Research and Development Study," recently conducted by Arthur Andersen & Company, shows that the United States is unique in limiting the availability of deductions for research and development. Many other countries such as Japan, Canada, the U.K., Belgium, West Germany, and France encourage research and development through a variety of tax and fiscal incentives. The combined result of foreign incentives and the U.S. disincentives has been documented by the same study. It indicates that R&D investment in foreign markets by U.S. companies is in fact increasing faster than in U.S. markets. A permanent end

to this section 861 disincentive is needed to reverse this trend.

At this point, let me emphasize that 861 is not the only disincentive imposed by our own Government on the performance of R&D in the United States. Another is the Export Administration Act, right now being reported by the Committee on Banking, Housing, and Urban Affairs. That Act provides controls on exports of product and transfers of technology to destinations abroad -- not just to Communist countries, but even to allied nations.

As 861, the Export Administration Act structurally favors the performance of R&D abroad -- in this case because technologies developed there can more readily be utilized in commerce.

Foreign governments do not impose controls on technology transfers, and they impose much less stringent controls than we do on product exports. As you have been seeing in the press, a highly controversial subject at the Summit Conference with our allies, recently held at Williamsburg, Virginia, was "East-West Trade." There, the United States pressed our industrialized allies to impose a system of controls as rigid as ours. As in the past, they simply declined.

A report on the "Williamsburg Declaration" had this to say:

> "The question of trade with the Soviet bloc, which was so divisive during and after the Versailles summit, was disposed of in a single paragraph saying East-West economic relations 'should be compatible with our security interests.'"

Rigid controls would curtail business just at a time when unemployment is rampant, our allies explain, and foreign earnings are sorely needed by their exchequers.

My point is this: 861 structurally favors the performance of R&D in foreign countries. R&D expenditures made there can be deducted there. The Export Administration Act structurally favors the performance of R&D in foreign countries. New technologies developed there can be applied to products manufactured there, sold in their domestic markets and exported.

(4)

Incidentally, the Washington POST of May 25 carried an article entitled, "U.S. Science Losing Its Magic as Rivals Excell." It maintains that cutbacks in funding basic research here might be inducing American scientists to migrate. If so, this is yet another factor influencing decisions on where to locate R&D facilities.

The disincentives to locating them here must be dismantled. Enacting S.654 would dismantle one of the least justifiable.

The Treasury Department has, in the past, justified the 861 regulations on the basis that they properly match expenses with income. We submit it is difficult to justify the regulations on this basis when their long-term effect is to raise the cost of conducting R&D in the United States, a cost that management must factor into its long-run decision-making process.

Further, the justification stated above is technically unsound. Since R&D can only generate a future income stream, the regulations would have to allocate current expenses against the present value of future foreign-source income in order to achieve an appropriate matching. The section 1.861-8 allocation is, then, a misallocation which ill-serves both the U.S. Treasury and American research and development objectives.

One would suppose that a tax provision which has so great a potential for harm would at least raise significant revenues. However, this is not the case. A 1982 study written by Dr. Anita Benvignati for the Department of Commerce indicates that the regulations generated only minimal revenues. We expect that this pattern would continue to hold true.

There is no anomaly in our assertion that a provision which provides minimal revenues for the Treasury can cause substantial harm to the U.S. economy. The combination of the section 861 disincentives and foreign incentives must necessarily have an impact on sourcing decisions for research and development. Once an R&D facility is located abroad, the jobs that facility will generate are

more or less permanently lost to the U.S. economy. The United States needs to protect and extend its research and development here now. The suspension must be made permanent, and not merely extended for another short period to avoid the harm caused by the Section 861 disincentives. It would be unfortunate if this opportunity to make the suspension permanent were lost.

While 861 is an immediate problem because the two-year moratorium is about to end, a few remarks on the R&D tax credit are also in order. The enacting legislation is scheduled to expire at the end of 1985.

It is difficult to reckon the benefits of this tax credit in the long-term when there is a lack of certainty about its future. The closer we get to 1986, the greater the impact of the termination date on any financial decision. A permanent credit is more likely to generate the long-term capital that successful research and development requires. Investment in high technology is critical to the future economic well-being of our country. It requires a committed long-term capital investment in research and development. Accordingly, we would hope that the United States Senate would nurture and protect this investment.

Toward that end, we enthusiastically support S.738, introduced by Senator Danforth with a number of distinguished Senators as co-sponsors.

Mr. Chairman and members of the subcommittee, that concludes my testimony. Mr. Irwin, Mr. Broemen, and myself stand ready to answer any questions you might have.

Senator WALLOP. Thank you very much, Mr. McCloskey.
Mr. McNeill?

STATEMENT OF ROBERT L. McNEILL, EXECUTIVE VICE CHAIRMAN, EMERGENCY COMMITTEE FOR AMERICAN TRADE, WASHINGTON, D.C.

Mr. McNEILL. Thank you, Mr. Chairman.

I am pleased to be here this morning to present the views of the Emergency Committee for American Trade on your bill, S. 654.

ECAT is an organization of the heads of 63 large U.S. corporations with 1981 worldwide sales of over $700 billion. In that same year our members employed about 5 million workers on a worldwide basis.

Our companies are very heavily engaged in research and development and have an abiding interest in the provisions of Internal Revenue Code section 861.

We strongly support the provisions of S. 654 that would make U.S. research expense a charge against U.S. income for U.S. tax purposes.

In 1981 the Congress correctly perceived the inconsistency of adopting changes in the Internal Revenue Code to provide an incentive for U.S. companies to increase their domestic research while Treasury regulations under Internal Revenue Code section 861 were operating to produce adverse tax consequences for increased research by requiring that a portion of domestic research and development expenditures be allocated to foreign source income. Since foreign governments do not reoognize this allocation, the 861 practice constitutes a tax disadvantage to conducting research and development in the United States.

In the Economic Recovery Act of 1981 the Congress imposed a 2-year moratorium, as you know, on the implementation of the regulations as they applied to research expenses. Today it is as apparent as ever that the rebuilding of U.S. industry and leadership in innovation and technology is a critical priority. The moratorium due to expire later this year should now become the permanent rule as is proposed in your bill, S. 654. We urge prompt passage of the bill in order to avoid the uncertainty and the disincentives that will otherwise arise if the moratorium ends.

Let me add my voice to those of the chamber, the NAM, and other of my colleagues here that the 2-year suspension, in our judgment, will not be sufficient. I have a lot of my companies that have research and development laboratories that are quite old, in some cases going back to World War I, and with respect to one of my members, a large international company, their research facilities have to be replaced. The question is, Shall they be placed here, or shall they be placed in a foreign country such as Canada?

So I think a 2-year suspension for that company is not going to be particularly helpful in arriving at a very important competitive research and development decision.

There are many reasons why a U.S. company would prefer to conduct its research in the United States and why it will accept some additional cost to do so; but the incontrovertible fact is that under the scheme of the suspended regulation, one way a U.S. firm

can reduce a tax credit penalty is to conduct the additional research abroad. And we fear, Mr. Chairman, that this might be the case if your bill is not legislated. The 2-year moratorium just suggested by Treasury puts our research and development planners, and the heads of corporations, in an enormously difficult position as to the future.

So we compliment you on your bill.

Thank you.

[The prepared statement of Robert McNeill follows:]

STATEMENT OF ROBERT L. McNEILL, EXECUTIVE VICE CHAIRMAN, EMERGENCY COMMITTEE FOR AMERICAN TRADE, BEFORE THE TAXATION AND DEBT MANAGEMENT SUBCOMMITTEE OF THE SENATE FINANCE COMMITTEE HEARING ON S.654.

Friday, June 17, 1983

Thank you, Mr. Chairman, for allowing me to present the views of the Emergency Committee for American Trade on S.654, a bill that would amend the tax code to treat deductions for research and development expenses attributable to activities conducted in the United States as allocable to income from sources within the United States.

ECAT is an organization of the heads of 63 large United States corporations with substantial overseas business interests. In 1981, their worldwide sales totalled about $700 billion. In the same year, their worldwide employment was just over five million. ECAT members are heavily engaged in research and development and have an abiding interest in the provisions of Internal Revenue Code Section 861.

ECAT strongly supports the provisions of S.654 that would make U.S. research expense a charge against U.S. income for U.S. tax purposes. In 1981, the Congress correctly perceived the inconsistency of adopting changes in the Internal Revenue Code to provide an incentive for U.S. companies to increase their domestic research while Treasury regulations under Internal Revenue Code section 861 were operating to produce adverse tax consequences for increased research by requiring that a portion of domestic research and development expenditures be allocated to foreign source income. Since foreign governments do not

recognize this allocation, the 861 practice constitutes a tax disadvantage to conducting research and development in the United States.

In the Economic Recovery Tax Act of 1981, the Congress imposed a two-year moratorium on the implementation of the regulations under Section 861 as they applied to research expenses. Today, it is as apparent as ever that the rebuilding of U.S. leadership in innovation and technology is a critical priority. The moratorium due to expire later this year should now become the permanent rule as is proposed in S.654. We urge prompt passage of the bill in order to avoid the uncertainty and disincentives that will otherwise arise if the moratorium ends.

Following the 1981 legislation, ECAT was one of several organizations that commissioned a study on national researh and development by Arthur Andersen & Co. to analyze the impact of the regulations under section 861, specifically section 1.861-8, on corporate taxes and research activity. This study was completed in January, 1983, and the principal conclusions confirmed the experience of many of our members:

a. The research allocation requirements of the regulations section 1.861-8 increase the overall tax liability of U.S. multinational corporations by generally placing firms in an excess foreign tax credit position.

b. Respondents to the survey considered pre-ERTA tax rules as a disincentive to conducting research in the U.S. and regulation section 1.861-8 was singled out as a detriment to domestic research operations by a significant group.

c. The United States is the only nation requiring the allocation of domestic research expenditures.

d. Most respondents believe that lifting the moratorium will encourage an expansion of foreign research investments in the future. In fact, 44% of the respondents stated that if the suspension were lifted, it would contribute to an excess foreign tax credit position in future years.

While the subject matter is an essentially arcane provision of the Treasury's tax regulations, it is, nevertheless, important. Recently, the distinguished Business-Higher Education Forum, in a report to the President entitled "America's Competitive Challenge: The Need for a National Response," included the following item on its agenda for discussion of increased U.S. competitiveness: "Eliminate Treasury Regulation 1.861-8, which may reduce the incentive of U.S. multinational companies to conduct R&D in the U.S."

ECAT agrees that we are talking about a disincentive -- a disincentive to U.S. research efforts. This disincentive arises not from a considered choice made between difficult alternatives, but from a mechanical application of separate rules of the Internal Revenue Code, whose interaction was never considered by the Congress.

Before turning to the policy questions underlying this issue, it is instructive to consider prior actions by Congress with respect to research expenses, research incentives and U.S. taxes.

1. Worldwide Taxation and Relief from Double Taxation.

The income tax rules adopted by the Congress in 1918 contained basic principles taxing the worldwide income of U.S. companies and relieving them of double taxation by providing a tax credit for foreign taxes imposed upon their foreign income. In 1921, the Internal Revenue Code was amended to deal with foreign taxpayers having operations in the U.S.; the amendment, which is the predecessor of the current section 861, required that expenses incurred should be allocated between domestic and foreign income. General guidelines covering business expenses were promulgated both for domestic and foreign companies. There was no discussion or specific mention of expenses for research in the legislation or regulations. Indeed, at that time research expenses were generally costs that were capitalized for tax purposes.

2. Deduction for Research.

In 1954, in a specific action by the Congress to stimulate increased U.S. research, the Internal Revenue Code of 1954 authorized in section 174 the immediate expensing of research costs. No consideration was given to the question of the allocation of such expenses betwen domestic and foreign income.

3. Treasury Revision of Expense Allocations.

Beginning in the early 1970s, the Treasury began a massive revision of the regulations for allocations under the 50-year-old section 861, turning what had historically been a few sentences in the regulations into dozens of pages of text, formulas, and examples. The proposed regulations added a rule specifically allocating research expenses, and did so on a highly theoretical basis. After several years of intense controversy, revised regulations under section 861 were issued by the Treasury, generally effective on January 1, 1977. These regulations adopted 56 years after the statute they interpreted had been enacted and 23 years after authorization of the current deduction for research, included a section specifically allocating research expense.

4. Incentive Credit for Research.

In 1981, as the effects of the regulations were being felt, Congress sought to stimulate U.S. research through the enactment of the 25% incremental R and D tax credit. With the support of the Administration, Congress also imposed the current moratorium on the research portion of the 861 regulations.

5. How Are the Regulations a Disincentive?

The disincentive of the regulations is created by reducing available credits for foreign taxes paid by a U.S. taxpayer. The regulations require that the deduction for domestic research

permitted as an incentive by section 174 of the Code be allocated between the current U.S. and foreign income of the U.S. taxpayer. The U.S. allocation of the expense against the foreign income reduces the amount of the foreign income -- but it obviously cannot reduce the amount of foreign tax. Although U.S. tax law provides a tax credit for foreign taxes paid on income earned abroad, foreign countries ordinarily do not permit a deduction for research done in the United States. The result is that part or all of the foreign tax cannot be claimed as a credit, even though it has been paid in full to the foreign government. The stimulative effect of the immediate U.S. deduction for the research expense is thus offset by the loss of foreign tax credits. A 1980 Treasury study summarized this adverse effect as equivalent to loosing the benefit of a portion of the deduction otherwise allowed:

> By denying U.S. corporations a full deduction for domestic R&D expenses against domestic income and by assigning some portion to foreign source income, where it often is not allowed as a deduction for part of R&D expenses, the apportionment can effectively deny any tax deduction for a part of R&D expenses. A. M. Benvignati, "The Tax Treatment of Research and Development (R&D) Expenditures of Multinational Corporations: The Impact of Regulation 1.861-8." U.S. Treasury Department Office of Tax Analysis, December 1980.

Even if the Treasury were to tinker with the regulations to try to draw industry-by-industry distinctions or distinctions between new companies and old companies or large or small companies or similar tailoring of theoretical rules, the fact would remain

that as companies increased their research in the United States (in response, for example, to incremental research credits) they would encounter the disincentive effect of the allocation regulations. The United States would be allocating these U.S. expenses to foreign income; foreign governments would not recognize these expenses and the foreign taxes would exceed the U.S. tax on the same income. This result is intensified as U.S. research is increased.

Whatever tax policy argument can be marshalled for the theory that the research undertaken by U.S. companies should be allocated to income from abroad should be weighed against the answer to these questions:

A. If the Regulation Is Reinstated, What Will Be the Effect on Incremental U.S. Research?

An increase in U.S. research raises the worldwide effective rate of tax for a U.S. company that is presently paying foreign taxes on its foreign income equal to the U.S. tax on such income. Thus, even if U.S. and foreign tax rates are identical and remain static, a U.S. firm increasing its U.S. research (for example, to take advantage of domestic incremental research credit) would incur an increasing tax penalty in increased loss of foreign tax credits.

B. Aren't the Deductions and Allocations Related to the Foreign Income?

The relationship is only in the most theoretical and arbitrary sense. The deductions are for current research that has not produced the foreign sales income against which the expense is allocated. Indeed, there is no effort to trace prior U.S. research into those products into which it may or may not have been incorporated. For example, if a U.S. company manufactures trucks in the United States for sale in North America and might someday send a design for any part of a motor vehicle abroad (perhaps for lawn mowers made by an affiliate in Germany), then all 1983 dividends repatriated from that German affiliate will have a portion of the total 1983 truck research expense of the U.S. company allocated to the dividend without regard to the earnings out of which that dividend was paid, whether or not it arose from lawn mowers and even if the lawn mower production in Germany had lost money. German tax authorities will have given no deduction for a theoretical benefit to Germany, and the German income taxes will be on a higher base than the U.S. tax base. Tracing expenses into particular sales is not attempted under the regulations because it would be extremely difficult.

C. Do Other Countries Have Rules Similar to Those Contained in the Suspended Treasury Regulations?

No other developed country has adopted a similar allocation rule. There is no similar rule, for example, in Japan, Germany,

France, Canada or the U.K. Most of those countries have concentrated upon the adoption of special tax rules to encourage domestic research.

D. Shouldn't the Foreign Country Provide a Deduction for U.S. Research Expense?

That is certainly arguable if an allocation system is to work. But since that would have the effect of encouraging continued and expanded U.S. research, one shouldn't hold one's breath waiting for such a rule to be adopted by foreign countries.

E. How Can the Effect of the Treasury Regulations Be Avoided?

There are many reasons why a U.S. company would prefer to conduct its research in the United States, and why it will accept some additional costs to do so, but the incontrovertible fact is that under the scheme of the suspended regulation, one way the U.S. firm can reduce the tax credit penalty is to conduct additional research abroad. Indeed, for a business which has one-half of its sales in the U.S. and one-half abroad and pays the same rate of tax in the U.S. and abroad, an optimum tax result would be realized by conducting at least one-half of its research abroad. The practical effect is exactly the opposite of that intended by Congress in adopting the research credit incentive in 1981.

The mix of foreign and domestic source income varies among U.S. companies and, therefore, the impact of the regulations does not affect all companies today. The trend line, however, is toward higher worldwide earnings, and, it is hoped, increased U.S. research; this means that an increasing number of U.S. companies will be affected by the disincentive to domestic research intrinsic in regulations section 1.861-1.

Senator WALLOP. Thank you all very much.

Does anybody buy the argument that Mr. Chapoton advanced this morning that in some instances this allocation may have the effect of raising and not lowering tax obligations?

Mr. MCNEILL. It certainly raises your tax obligation.

Senator WALLOP. Well, I mean that the passage of my bill and the permanent resolution to the 861 question would have the effect in many instances of raising your tax obligation rather than lowering it?

Mr. SCHICK. I don't understand how that is possible, Senator.

Mr. HUARD. I don't, either, sir.

Senator WALLOP. Mr. Huard, in your comments you talked about the long term decline in U.S. R&D with the little bubble taking place last year. How do the incentives in ERTA interact with 861? Is there any danger there that the passage of S. 654 would do any harm to the incentives contained in ERTA?

Mr. HUARD. Well, certainly not in my judgment, Senator. The two major incentives in ERTA are of course the suspension of the section 861-8 regulation and the 25-percent incremental R&D tax credit for research—certain research activities conducted in the United States. And I find those two provisions to be very complementary. I don't think one detracts from the other at all, in my judgment. Having both of them in the code is a very good thing in terms of stimulating R&D and restoring our productivity.

Senator WALLOP. Mr. McCloskey, in your comments there was a kind of implication that failure to resolve the 861 question might result in what the English used to call "a brain drain," where some of the talented people of this country would go abroad to conduct the research of which they are capable.

Is that likely to be a broad spread effect?

Mr. MCCLOSKEY. I would look at it more over a long term, that if we don't create the R&D jobs here, then we are not going to fill our educational system, we won't attract people to go into those fields as opposed to people emigrating to perform research and development. I don't see that as a major problem.

What I do see is that that connection that is very strong between universities and between people who are going into those fields and the availability of jobs after they get out diminishing as the commitment to research and development abroad increases.

Senator WALLOP. So basically what you are saying is that the talent that may be here will definitely not be here; it won't be trained.

Mr. MCCLOSKEY. That's right. I think over a long term that supply and demand has a way of working out.

Senator WALLOP. One of the problems we always have with tax legislation is that we always view the static effect of whatever proposal is in front of us versus the dynamic effects.

Wouldn't you agree with me that, while that is hard to quantify in any specific way, that probably, both in terms of employment, in invested capital, in building, and in what I suspect are generally well paid jobs, that there is a return to the country that may not be measurable but may at least equal whatever problems that the Treasury sees on the revenue effect?

Mr. MCCLOSKEY. Absolutely. That's what I refer to as the "radiating out" of research and development.

I think Joe Kraft had an article in the paper day before yesterday that pointed out why the intense competitive bidding, if you will, of the locations around the country that wanted to see MCC, the consortium of 12 electronics companies who are going to do research and development on the next generation technology, in their area, because they saw and envisioned this university connection; they saw and envisioned the creation of new and innovative companies that would support that activity.

And just as the miracle of 128 and the revitalization of Massachusetts and Silicon Valley and what is going on in Research Triangle, that's what Austin, Tex., hopes to get out of MCC, and that's what they will get out of it.

Senator WALLOP. One criticism that we have had by Treasury and some others of the repeal of the 861 allocation rule is that a non-U.S. subsidiary could take unfair advantage of the parent corporation's technology through insufficient royalty payments.

Is there any credibility to that? And, if there is, is there a remedy under current law available to IRS to prevent this, Mr. Schick?

Mr. SCHICK. My view is that if that were to happen there is an adequate remedy under 482, and that under the case you cite, there should be proper allocations of expense between foreign source and U.S. source income. The problem with the 861 regulation is its arbitrary nature—it's wrong. This is not a question of incentive for R&D but rather the removal of an improper disincentive.

Senator WALLOP. There appears to be unanimity that the moratorium merely adds to the level of uncertainty for long-term business decisions. I assume that most of you represent in one way or another companies who are in business to be around for awhile. Those decisions are being made sort of over the course of time.

What is the time frame of those decisions? Mr. McNeill, you were talking about a lot of old plants that are being replaced. I mean, are we somewhere on the threshold of seeing those decisions made regardless of what we do here unless we can secure quick passage of S. 654?

Mr. MCNEILL. Senator, I think that corporations are making decisions on a regular basis, a routine basis, as to their research and development expenditures and where those expenditures will be placed in terms of people and capacity and laboratories.

My concern is that incremental research and development expenditures will be placed increasingly overseas because it is more economical for companies to do it that way.

As I indicated, companies would rather do it here for a lot of logistical and other reasons, including citizenship reasons; but the tax code and these allocations are forcing people to look very carefully at whether incremental research should not be done abroad. Increasingly it is being done abroad for this reason.

So, the longer the uncertainty, the more likely that R&D decisions will be adverse to the United States.

Senator WALLOP. Mr. Huard?

Mr. HUARD. Well, it is my impression that the time planning horizon is considerably longer than 2 years. As a matter of fact, in numerous discussions we have had with our member companies, they are already concerned about the 1985 expiration of the 25 percent incremental R&D tax credits, because their planning extends into 1986, 1987, and 1988.

So I would think that under any circumstances the 2-year suspension, the 2 year additional suspension, would be highly inadequate. I think the time planning horizon for R&D expenditures is much longer than that.

Senator WALLOP. Well, most research itself takes longer than a year, or thereabouts, I would think.

Mr. HUARD. That's quite right.

Senator WALLOP. And if you are going to make that kind of a commitment and you have to get it not only researched but developed, 2 years is a very short time frame I would think in almost anything that would be involved in American competitive manufacturing.

Well, I thank you all very much. I appreciate your testimony. We will certainly work on it.

Our next panel is Mr. Stephen Desmond, international tax partner of Price Waterhouse; Mr. William Kitt, assistant controller, accompanied by Dr. Lamont Eltinge who is director of research at the Eaton Corp.; Mr. Charles Allen, executive vice president and chief financial officer of TRW: and Mr. Jon Bischel, Professor of Law, College of Law, Syracuse University.

Good morning, gentlemen. Mr. Desmond?

STATEMENT OF STEPHEN D. DESMOND, INTERNATIONAL TAX PARTNER, PRICE WATERHOUSE, CHICAGO, ILL.

Mr. DESMOND. I am Stephen Desmond, and I am a Price Waterhouse tax partner based in Chicago. I appreciate you allowing me to appear today as a representative of our firm to make comments on S. 654.

Price Waterhouse strongly feels that as a matter of national policy U.S. based research activities must be encouraged, and for that reason we support the basic thrust of this legislation.

In our view, the section 861-8 regulations may encourage the export of U.S. jobs and technology. Accordingly, Price Waterhouse feels that continuing and encouraging U.S.-based research outweighs any tax policy implications raised by the suspension of the section 861-8 regulations. Therefore, we strongly oppose the lapse of suspension period. It is, however, up to the tax-writing committees and Congress to determine whether the ERTA change should be made permanent or simply extended for an additional period of time.

Price Waterhouse would like to raise two technical issues with respect to the legislation as it is currently drafted:

First, the bill makes no specific reference to section 863(b), the code section which relates to income derived partly from within and partly from without the United States. The absence of any specific reference to such code section would lead

one to conclude that R&D expense can still find its way against the foreign source income element of that type of transaction.

Given the significance of this transaction to multinational companies, we strongly encourage clarity in the proposed legislation. Based on the intent of S. 654, that is, encouragement of U.S. R&D via elimination of any disincentive in the 861-8 regulations, it would appear that U.S. incurred R&D should not offset the foreign element of income covered by section 863(b) and therefore subsection (g) should make specific reference to that section.

The second technical point deals with clarification that we feel needs to be provided as to the applicabiiity of this legislation to provisions of the code other than those dealing with geographic sourcing—principally DISC pricing calculations.

If the intent of this legislation is to abolish the R&D provisions of the 861-8 regulations in their entirety, then all operative sections of the Internal Revenue Code that deal with that regulation section should be referenced in the legislation.

I might add here that we have assisted literally hundreds of multinational companies, make calculations under these regulations, and without question they are extremely complex. You said earlier that it has been a long time since we have given the American business community definitive guidance on our long term policy in certain areas of tax law. I can tell you it's even been longer since we have given the American multinational company tax departments definitive guidance on how to make some of these calculations.

So the genesis of our comments is to make the legislation, should it be passed, much easier to implement and have the intent documented by the legislative writers.

So, to summarize, although we feel additional time may be required to determine whether the suspension of the regulations should be made permanent to give both the administration and the Congress a chance to study it further, we do oppose the lapse of the suspension period. As I said earlier, we feel the choice of whether it is made permanent or it's merely extended is a task that faces the administration and the Congress.

From a technical standpoint, however, resolution of the two issues that I have raised we feel is imperative to the effective implementation of this legislation, and I might add the effective implementation of the 861-8 regulations, whether they be modified or not.

I appreciate the opportunity to make these comments. I recognize that two of them have technical ramifications that perhaps we shouldn't pursue here. In this vein, if anybody on the staff would like to correspond with me, I would be more than happy to go further into where I think the problems are.

Senator WALLOP. I would say for the record that we would appreciate that coming directly, whatever discussion you care to make of those problems—the earlier the better.

Mr. DESMOND. OK. Thank you.

[The prepared statement of Stephen Desmond follows:]

STATEMENT OF

STEPHEN D. DESMOND

ON BEHALF OF

PRICE WATERHOUSE

SUMMARY OF MAJOR
POINTS OF WRITTEN TESTIMONY

Price Waterhouse strongly feels that as a matter of national policy U.S.-based research activities must be encouraged, and for that reason we support the thrust of S. 654. In our view, the section 861-8 regulations may encourage the export of U.S. jobs and technology. Accordingly, Price Waterhouse feels that continuing and encouraging U.S.-based research outweighs any tax policy implications raised by the suspension of the section 861-8 regulations. Therefore, we oppose the lapse of the suspension period. It is up to the tax-writing committees and Congress to determine whether the ERTA change should be made permanent or simply extended for an additional period of time.

Price Waterhouse would like to raise the following technical points with the Committee:

- Based on the stated intent of the proposed legislation (i.e., encouragement of U.S. R&D via elimination of disincentives imposed by the 861-8 regulations) it would appear that U.S. incurred R&D should not be offset against the foreign element of income derived from partly within and partly without the United States (Section 863(b)), and therefore subsection (g) should make specific reference to Section 863(b).

- Clarification is needed as to the applicability of S. 654 to provisions of the Internal Revenue Code other than those dealing with geographic sourcing (i.e., principally DISC pricing). If the intent of S. 654 is to abolish the R&D provisions of the 861-8 regulations in their entirety then all operative sections of the Internal Revenue Code should be included in the statutory language.

Mr. Chairman, I am Stephen D. Desmond, a Price Waterhouse tax partner based in Chicago. I appreciate your allowing me to appear before you today as a representative of my firm to present comments on S. 654, which would provide a permanent rule allocating to U.S. sources all research expenditures attributable to activities conducted in the United States.

In 1977, the Treasury Department issued regulations which provide that research and development expenditures must be allocated to foreign-source and U.S.-source income based on a broad classification of 32 product groups. Under the regulations, research expenditures are not allocable solely to the income generated by the particular product which benefitted from the research activity, but to all the income within the product group in which the product is classified. Therefore, once a research expenditure is identified with a product group, it is apportioned to foreign sources based on the ratio of total foreign source sales receipts or income within the product group to the total worldwide sales receipts or income within the product group.

Critics of the regulations noted that some foreign countries do not allow deductions under their tax laws for expenses of research activities conducted in the United States. Because corporations operating in certain countries could not deduct those expenses, they experienced unduly high foreign taxes. Those corporations found they could take the deduction if the research occurs in those foreign countries, however, and therefore taxpayers were encouraged to shift their research expenditures to those foreign countries whose laws disallow tax deductions for research activities conducted in the United States but allow tax deductions for research expenditures incurred locally. In this way, they could obtain the full foreign tax credit on the income earned in that country.

Congress in the Economic Recovery Tax Act of 1981 (ERTA) temporarily suspended the Treasury's allocation rules on research expenditures. Therefore, ERTA provided that research and experimentation expenditures for activities conducted in the United States are to be allocated or apportioned to sources within the United States for the two taxable years beginning after enactment (August 13, 1981).

ERTA also directed the Treasury Department to study the impact of the research expenditure allocation rules on research conducted in the United States and the impact on the availability of the foreign tax credit, and to forward the study, with recommendations, to Congress.

Price Waterhouse strongly feels that as a matter of national policy U.S.-based research activities must be encouraged, and for that reason we support the thrust of S. 654. In our view, the section 861-8 regulations may encourage the export of U.S. jobs and technology. Accordingly, Price Waterhouse feels that continuing and encouraging U.S.-based research outweighs tax policy implications raised by the suspension of the section 861-8 regulations. It is up to the tax-writing committees and Congress to determine whether the ERTA change should be made permanent or simply extended for an additional period of time.

Price Waterhouse has examined S. 654 and would like to raise the following technical points with the Committee.

The final regulations under Section 861(b) prescribe methodology for allocating and apportioning the expenses and deductions reported in a U.S. tax return against gross income from various sources to arrive at taxable income attributable to those

sources. While these regulations affect several operative sections of the Internal Revenue Code, their most widespread effect has been on the calculation of foreign tax credits and DISC pricing.

Specifically, the expenses, losses, and deductions of a taxpayer, when allocated and apportioned to foreign source gross income, determine the foreign source taxable income used as the numerator of the fraction that is applied to the U.S. tax liability to calculate the foreign tax credit limitation.

With respect to DISC pricing, the regulations provide that expenses are to be allocated and apportioned against profits on DISC sales using the methodology of Regulation 1.861-8 to determine combined taxable income of the DISC and its related supplier. Further, the Regulation 1.861-8 allocation and apportionment methods used for DISC pricing must be the same as those used in computing foreign source taxable income for purposes of the numerator of the foreign tax credit limitation calculation.

Price Waterhouse has assisted hundreds of multinational corporations in performing the calculations mandated by the Section 861 regulations. In so doing, we have developed an appreciation for the complexities of the regulations in general and the R&D provisions of these regulations in particular. These inherent complexities have imposed significant compliance and recordkeeping burdens upon the multinational business community.

One area of continuing confusion has to do with the use of the terms "statutory grouping" and "residual grouping." Depending on the specific calculation under the Internal Revenue Code (i.e., operative section) that the taxpayer is performing,

the items of gross income and taxable income falling into each group will change. When the overall limitation to the foreign tax credit is under consideration, the statutory grouping is comprised of foreign source income subject to that limitation. With respect to the determination of income that is derived partly from within and partly from without the United States (Section 863 (b)), the statutory grouping is comprised of transactions covered by that Code section. Transactions covered by Section 863(b) involve the rendering of services partly within and partly without the United States, and, more importantly for our discussions today, the sale of personal property manufactured in the U.S. and sold (title passed) outside of the U.S. (or vice-versa) and the sale in the U.S. of goods purchased in a U.S. possession. When the combined taxable income of a DISC and its related supplier is under consideration, the statutory grouping is transactions qualifying for DISC treatment. These transactions generally are export sales. Of course, the sum of the statutory grouping and residual grouping, no matter how defined, will always be the total gross and taxable income of the taxpayer.

The regulations call for the same income and expense items (and the same detailed computations) to be done over and over as the taxpayer moves from one operative section to another. Moreover, the taxpayer is required to use the same method of allocation and the same principles of apportionment for all operative sections. That is, there must be consistency between each of the calculations. For example, assume that a multinational corporation manufactures a product, exports such product in a transaction qualifying for DISC treatment, and passes title outside the U.S. on such sale. In this case, which I might add is very common, he is required to allocate and apportion R&D

expense three times using a consistent method: first, to determine combined taxable income for DISC pricing purposes; second, to determine Section 863(b) taxable income; and, finally, to determine foreign source taxable income for purposes of determining his foreign tax credit limitation.

The "one operative section at a time" approach is very cumbersome and, in most cases, unnecessarily compounds the work. Furthermore, it increases the probability that the sum of the parts will not equal the whole when all pertinent calculations are completed or that the consistency requirement will be violated. If carefully approached, it is possible to overcome these problems by doing the calculations under all applicable operative sections simultaneously. In fact, it has been our experience that a simultaneous calculation is the only means to guarantee that more than 100% of the expenses will not be charged against the various components of income.

The provisions of S. 654, however, appear to preclude the heretofore successful approach of performing required calculations under all operative sections simultaneously and consistently, as well as to require differing approaches to the allocation and apportionment of R&D depending upon which operative section calculation is being performed. I would like to bring the specifics of this problem to your attention with the hope that they be addressed during the legislative drafting process.

S. 654 provides that for purposes of determining taxable income from sources within the United States and for purposes of determining taxable income from sources without the United States, all allowable deductions for research and experimental expenditures shall be allocated to income from sources within the

United States. The proposed provision would amend Section 861 of the Internal Revenue Code of 1954 by adding a new subsection.

The bill makes no reference to Section 863(b), relating to income derived partly from within and partly from without the United States. The absence of any specific reference to Section 863(b) in proposed subsection (g) of Section 861 would lead one to conclude that R&D expense can still find its way against foreign source income on transactions covered by Section 863(b). Given the significance of transactions covered by Section 863(b), we strongly encourage clarity in the proposed legislation. Based on the stated intent of the proposed legislation (i.e., encouragement of U.S. R&D via elimination of disincentives imposed by the 861-8 regulations) it would appear that U.S.-incurred R&D should not be offset against the foreign element of Section 863(b) income and, therefore, subsection (g) should make specific reference to Section 863(b).

With respect to DISC pricing, the question is whether S. 654 is designed to deal only with operative sections of the code which require geographic sourcing of income (i.e., foreign tax credit limitation calculations) or to abolish the R&D provisions of Regulation 1.861-8 in their entirety. If the former is the objective, it would appear that the taxpayer in my earlier example would first perform DISC pricing calculations, and in so doing allocate and apportion R&D expenses via the methodology of the 1977 regulations. Then assuming Section 863(b) is included in the sections covered by proposed subsection (g) of Section 861, the taxpayer would determine Section 863(b) income and foreign source taxable income and in so doing, no U.S. incurred R&D would go against the foreign element of Section 863(b) taxable income and/or other foreign source taxable income.

In summary, Price Waterhouse feels additional time is needed to determine whether the suspension of the Section 861-8 regulations should be made permanent, to give the Administration and Congress an opportunity to study the data and determine whether it materially affects business decisions on where research activities should be undertaken. Therefore, we oppose the lapse of the suspension period enacted in ERTA. Whether the suspension period should be extended or the ERTA change made permanent is a decision to be made by Congress.

From a technical standpoint, resolution of the technical issues I raised above is critical to the planning, compliance, and recordkeeping processes carried out by multinational corporate tax departments.

STATEMENT OF WILLIAM KITT, ASSISTANT CONTROLLER, EATON CORP., CLEVELAND, OHIO

Mr. KITT. Good morning, Mr. Chairman. My name is William Kitt, and I am the assistant controller and director of taxes for Eaton Corp. Accompanying me is Dr. Lamont Eltinge, Eaton's director of research.

We appreciate the opportunity to appear before you today to present Eaton's views on S. 654, your bill to make permanent the current moratorium on the R&D portions of the Treasury Regulations 1.861.8.

Eaton Corp. is a worldwide manufacturer of advanced technology products for transportation and industrial markets. Our headquarters is located in Cleveland Ohio, and we have approximately 170 manufacturing and administrative facilities on six continents. Eaton employs approximately 40,000 people, over 26,000 of whom are located in the United States and 150 in Riverton, Wyo.

Eaton has been in business for more than 70 years, and throughout that time has prided itself in being a maker of high quality, internationally competitive products. Consequently, we realized long ago that it was only through a strong corporate commitment to research and development that our products would be able to maintain their competitive value and carve out new positions in emerging markets.

Let me say that because we are a manufacturer which competes internationally, we know firsthand the aggressive competition which exists today among the developed countries of the world to attract private R&D resources. U.S. companies large and small are surrounded by this competition, and the U.S. Government itself must become an active participant in this competition if our industrial economy is to be the world's leader. It is this international competition for R&D resources which underlies Eaton's strong support for S. 654 and S. 738, Senator Danforth's bill to make permanent the 25 percent R&D tax credit.

Eaton believes that the President and the Congress acted wisely in 1981 by enacting both the moratorium on the section 861 regulations and the 25-percent R&D tax credit. Taken together, these two provisions in ERTA represented a rational and coordinated R&D tax policy. The first removed the disincentive from our tax code to conducting R&D operations here in the United States, and the second established an incentive to encourage business to expand their research activities. Unfortunately, the 861 moratorium expires at the end of the year, and the R&D credit terminates in 2½ years.

S. 654 must be viewed and debated from the perspective of what is good U.S. R&D policy. In this light, it must be seen as a tax component of a broader public policy on R&D, a policy which has been articulated by the President and the Congress and which is aimed at making the United States a participant in the world competition for economic preeminence.

At this time I would like to defer to Dr. Eltinge to have him address why we feel the 861 issue is an R&D issue.

Dr. Eltinge?

Dr. ELTINGE. Thank you, Bill.

Mr. Chairman, as Eaton's director of research it is proper that I defer to those who are expert in that field the details of the tax considerations and the details of the legislation. However, I would hope that from the viewpoint of one who is involved day-to-day in the nitty-gritty decisions of R&D that I might perhaps add a little added dimension of how the legislation would impact on those who make those decisions.

We don't necessarily make those decisions primarily or certainly not solely with our tax implications in mind. However, we are strongly influenced by the tax implications as we try to put our R&D in place in the total operation of the company, and therefore they are important. And because of them and those tax considerations on our R&D strategies and decisions, S. 654, which really is a permanent repeal and a degree of certainty about that repeal of the R&D allocation, is and should continue to be a component of the Nation's R&D policy. That, of course, is all consistent with the continued emphasis that we are seeing on helping, encouraging, and stimulating R&D in the country. Almost by definition, that is a call for R&D to be done here in the States.

You have had the data on the Arthur Andersen study, the Wiltron, and on Foxboro, but perhaps I could point out what is very, very important in that, and that is that these are long-term decisions.

Just last month I was with one of my peers who happens to be with a U.S. pharmaceutical company. He commented that about a decade ago they had chosen to put a laboratory in place in Europe. They put it in place there knowing that it would take a decade before it was really functional and productive and carrying its weight. And it has just gotten to that point.

Obviously, if you make that kind of a decision you stay with it a long time, because you have absorbed the costs.

Another part of that is that you are involved with a very special kind of people. And if a man is dedicating his life to carrying out research in a field, and you turn it on and off and on and off for

him or for those who he deals with, he says, "That isn't the lab I want to commit myself to." So there must be that long-term certainty to build up a really productive R&D that we want.

We think, then, that by removing the disincentive to conducting R&D in the United States, that S. 654 recognizes that the location of the R&D is important.

It is important, then, to address the question of why you want to do it here at home. And there has been a trend to doing it overseas. When you do that, there are the things that are obvious—there are the jobs in building the facility, there are the jobs directly in the facility—and there are the less obvious ones like the suggestion that around Austin we will see an emerging of many small companies that just kind of flower out of an R&D activity.

There are two others that are worth being attended to: One is the personal involvement of the researchers in their community. They are not isolated; they are a great bunch. And you will find them when you get down to the working level involved in a great deal of things.

One good example is Explorer Scouts in our own laboratory doing electronic projects, doing computer projects, and doing engine projects with our people, after hours—not because they are paid to do it but because they love do it. You don't do that if your laboratory is overseas, for obvious reasons.

I mentioned earlier that Eaton views the 861 issue as a tax component of a broader R&D policy. I would like to illustrate its undesirability and the need for permanent repeal, and I think that Bill is going to talk about that.

I would just make one comment in closing, and that is that from my standpoint as Eaton's director of research, and probably equally important or really more important I think that you would find, checking with my peers who are in the same position in other organizations, that we feel that the location of R&D is important. It is important that it be in the United States, and it is important that it be there for many reasons.

We should not either intentionally or unintentionally take actions that are likely to drive it out of the country. And S. 654, by removing one such driving force, is a good step in the right direction, and we certainly wholeheartedly support it.

Thank you.

Senator WALLOP. Thank you, Dr. Eltinge.

[The prepared statement of Dr. Eltinge follows:]

ADDITIONAL INFORMATION TO ACCOMPANY TESTIMONY
PREPARED AND PRESENTED 17 JUNE 1983

BEFORE: SENATOR MALCOLM WALLOP (R)
CHAIRMAN OF SUBCOMMITTEE ON
TAXATION AND DEBT MANAGEMENT
OF SENATE FINANCE COMMITTEE

BY: LAMONT ELTINGE
DIRECTOR OF RESEARCH
EATON CORPORATION

Several ideas in addition to those presented within the allocated time at the Hearings may be of use to the Committee in its consideration of a permanent moratorium on the Treasury Regulation 861.8.

Tax legislation and regulations can have a particularly significant impact on a country's research-based economic progress. Within a Corporation, individual Research Managers strive to sell long-range programs of research and new product development, and to transmit their enthusiasm to others in the management community. That's tough because the process of creating new knowledge through research and translating it into new products and successful new commercial ventures is an inexact and imprecise art that involves a qualitative, judgmental balancing of a number of factors. Tax considerations are one of the factors; they are significant. Unfavorable tax legislation and regulation, the perception of it and the threat of changes before the research yields commercial success are undesirable factors that the advocate will avoid, if possible. Such avoidance can involve locating research overseas. In the long term that's possible and enduring because researchers are drawn to laboratories with projects employing their specialized knowledge; once located, they tend to stay. One sees them "brain-draining" in substantial numbers across national boundaries to pursue their scientific interests. Thus, tax policies can and do influence research leaders to locate new programs overseas; and that is undesirable in terms of long-term U.S. economic and technological progress.

Location and growth of R&D activity in the United States, rather than in foreign countries is important to the U.S. economy and employment for reasons beyond those directly anticipatable results within the supporting company. Transformation of research results into good business is a difficult and uncertain process. It involves people. Given the other risks involved, they strongly prefer making the transformation without personally making geographical moves and they use contacts that develop where they live and work. Research is unpredictable; its consequences are

varied; individual contact and initiative in transferring research results into commercial activity is crucial; and there is an inverse relationship between geographic distance and such transfer. Furthermore, research generates a local support infrastructure that itself enhances the viability of further research of the same kind and commercial ventures growing out of it. The history of Route 128, Silicon Valley and Research Triangle (and in earlier times, autos in Detroit, meat packing in Chicago, and steel in Pittsburgh) shows the commercial impacts of a technical development extend beyond the initiating company to other venturesome businesses that emerge or are located in the same area.

Location of Research in an area brings additional benefits. The researchers have a natural strong interest in science, mathematics, technology and their industrial application. They serve in the community as role models and examples for all young people. They interact with the local school systems to enhance the teaching of science and mathematics for all of the students in the area. There is a healthy, increasing interaction of industrial scientists and engineers with the U.S. university community. They serve on advisory committees; they have one-to-one interactions and technical collaboration; they stimulate financial and equipment contributions. Those interactions are mutually beneficial and make the U.S. better and stronger. They rarely extend beyond boundaries and over oceans.

For all of these reasons, it's important that U.S. tax legislation and regulation not impose disincentives for location and growth of R&D in the U.S.; in fact, we should provide incentives equal to or greater than those of competing countries. S654 is one part of such an overall expression of U.S. R&D policy and warrants support and passage.

Lamont Eltinge

Mr. KITT. As I mentioned earlier, Eaton views the 861 issue as a tax component of a broader R&D policy. Now I would like to briefly focus on it as a tax policy in order to illustrate its undesirability and need for permanent repeal.

Sections 861 through 863 of the tax code require corporations with overseas operations to allocate general and administrative G&A expenses, losses, and other deductions between domestic and foreign source income. Research and development is included within the definition of G&A, and hence U.S. R&D expenditures must be allocated to a firm's foreign source income regardless of where the actual expenditure is made and whether the product related to that research is sold overseas. Taken alone, it may be consistent to assume that results from R&D flow to all activities of a corporate enterprise and therefore are general in nature. However, R&D is highly speculative. The R&D of today does not produce income of today, and as a result of any attempt to match R&D expense to a corporation's current year income source is at best arbitrary and at worst illogical.

The section 861 R&D allocation process is, consequently, conceptually and practically unworkable because there is no clear relationship between the allocated R&D expense and the alleged income derived from such R&D.

The flaws of the 861 allocation requirements generally, and specifically as they relate to R&D, have been questioned by many studies of the regulations. You mentioned earlier the most recent was the special report on the effect of the 861.8 regs on the location of the R&D activity published Monday in Tax Notes by Christopher Buja.

A 1977 article appearing in Tax Lawyer coauthored by Alan Granwell, the current International Tax Counsel for the Department of the Treasury, observed that the 861 regs first, strain the factual relationships; second, they can cause double taxation with no recourse to the taxpayer; third, the R&D portions of the regs are the most troublesome area of all; and, fourth, the R&D allocation presents major practical and legal problems and can even magnify injustices.

There was a March 1982 report published by the Institute for Research on the Economics of Taxation.

Similar studies released in 1980 and 1982 under the auspices of the Treasury Department's Office of Tax Analysis and the Commerce Department's International Trade Administration yield similar conclusions about the value of the 861 allocation rules.

Section 861 has a serious detrimental tax effect on R&D spending when considered in the context of the foreign tax credit. The result is that section 861 effectively reduces a company's foreign source income by the amount of R&D allocated to it, and consequently denies companies foreign tax credits.

To the extent that 861 places an economic premium on increasing one's R&D in the United States, it seems to work at odds with the objectives of U.S. R&D policy and the intent of the R&D tax credit, which is to encourage more R&D spending.

The 861 issue dramatizes the interaction between our country's R&D policy and our tax policy. If S. 654 is not enacted and the R&D portion of section 861 is not repealed, our tax policy will once

again undermine our national R&D policy by presenting economic disincentives to U.S. R&D activities. Therefore, the real question is whether or not Congress considers our national R&D goals important enough to exclude R&D from the tax definition of general and administrative expenses. I believe you do, and I believe you must. We cannot allow the disincentive posed by section 861 to act as a push to U.S. R&D while foreign governments are aggressively pulling U.S. R&D resources abroad with attractive research incentive programs.

As mentioned, the Wiltron and Foxboro stories are examples of this situation.

To illustrate the array of R&D incentives offered by the major industrialized countries around the world, I have attached to my statement an international comparison depicting this push-pull dynamic. It shows the disparity between what other countries offer for R&D activity and what the United States does.

Time does not permit me to continue now, however, our prepared statement covers the remaining portion of my testimony.

Thank you, Mr. Chairman.

[The prepared statement of William Kitt follows:]

TESTIMONY OF
WILLIAM KITT
ASSISTANT CONTROLLER
EATON CORPORATION

Good morning Mr. Chairman and members of the subcommittee. My name is William Kitt and I am Assistant Controller and Director of Taxes for the Eaton Corporation. Accompanying me is Dr. Lamont Eltinge, Eaton's Director of Research. We appreciate the opportunity to appear before you today to present Eaton's views on S.654, Senator Wallop's bill to make permanent the current moratorium on the R&D portions of the Treasury Regulations 1.861.8.

Eaton Corporation is a worldwide manufacturer of advanced technology products for transportation and industrial markets. Our headquarters is located in Cleveland, Ohio and we have approximately 170 manufacturing and administrative facilities on six continents. Eaton employs approximately 40,000 people, over 26,000 of whom are located in the United States.

Eaton has been in business for more than 70 years and throughout that time, has prided itself on being a maker of high-quality, internationally competitive products. Consequently, we realized long ago that it was only through a strong corporate commitment to research and development that our products would be able to maintain their competitive value and carve out new positions in emerging markets.

We believe Eaton has one of the finest R&D communities in the world. Our three corporate technical centers and 23 supporting laboratories enable us to aggressively pursue new ideas and develop promising concepts into commercially valuable technologies and products. Our R&D strategy is to identify technologies vital to Eaton's industrial capabilities and to make sure those technologies are tightly coupled to our operating groups. Mechanical,

communications and micro-device technologies are just a few of the areas in which we are focusing our research efforts.

Let me say, however, that because we are a manufacturer which competes internationally, we know first hand the aggressive competition which exists today among the developed countries of the world to attract private R&D resources. U.S. companies large and small are surrounded by this competition and the U.S. government itself must become an active participant in this competition if our industrial economy is to be the world's leader. It is this international competition for R&D resources which underlies Eaton's strong support for S.654 and S.738, Senator Danforth's bill to make permanent the 25% R&D tax credit.

As I indicated above, S.654 would make permanent the moratorium on the R&D allocation process under Treasury Regulations 1.861.8. As a result, it would enable companies, like Eaton, with overseas operations to allocate the cost of research conducted domestically against their U.S. source income and the cost of their overseas research to their foreign source income.

Eaton believes that the President and Congress acted wisely in 1981 by enacting both the moratorium on the Section 861 regulations and the 25% R&D tax credit. Taken together these two provisions in ERTA represented a rational and coordinated R&D tax policy. The first removed a disincentive from our tax code to conducting R&D operations here in the U.S., and the second established an incentive to encourage business to expand their research activities. Unfortunately, the 861 moratorium expires at the end of this year and the R&D credit terminates in two and one-half years.

S.654 must be viewed and debated from the perspective of what is good U.S. R&D policy. In this light, it must be seen as a tax component of a broader public policy on R&D; a policy which has been articulated by the President and the Congress and which is aimed at making the U.S. a participant in the world competition for economic preeminence. I would like to defer to Dr. Eltinge now to have him address why we feel the 861 issue is an R&D issue. (Dr. Eltinge)

Mr. Chairman, as Eaton's Director of Research, I am involved everyday with business decisions which concern research and development. I don't necessarily make these decisions with their tax implications in mind. However, I do know what is involved with a research facility and the kinds of things a businessman looks for in a research environment. Because of this, S.654 or a permanent repeal of the 861 R&D allocation, is and should continue to be a component of our country's R&D policy. It is consistent with the national R&D goals articulated by both branches of government. In the last three years, the cry for industry to expand our R&D activities has been louder than perhaps anytime in the last two and a half decades. There is virtually no disagreement that only a major national commitment to expanded research and development will enable our basic and high tech industries to be internationally prominent. Almost by definition this call for increased U.S. R&D means we need this activity to be conducted here at home with American financial and human resources. Yet the trend in R&D spending over the last ten years has been toward making investments overseas. A recent study by the Arthur Andersen & Co., <u>The National Research and Development</u>

Study, a survey of 85 of the nation's top industrial R&D spenders, found that most corporations have increased their foreign R&D expenditures as a percentage of their worldwide R&D expenditures, and showed that the growth on a percentage basis of their foreign to total R&D manpower ratio confirmed the shift of R&D spending abroad.

By permanently removing a disincentive to conducting R&D here at home, S.654 recognizes that the location of R&D is important. It not only removes this counterproductive tax component of our R&D policy but it also sets U.S. R&D policy on a clear and globally accepted R&D course; if R&D is done at home, it's deducted from domestic income, if it is done overseas it is deducted from overseas income.

Should for whatever reasons, this overseas R&D trend continue, the loss of R&D facilities to the U.S. will have social and economic consequences not identifiable by any revenue estimate or forecast. If a U.S. company decides to relocate or start up an R&D facility outside the U.S. because there is a more favorable climate for R&D elsewhere, a number of things are lost to U.S. communities. The capital expenditures and investments necessary to build an R&D structure will be made elsewhere. The jobs affiliated with a research facility, both scientific and administrative, will be lost. This is especially critical in the science and math areas where attractive opportunities are necessary to encourage students to enter these vitally important research disciplines. The interaction between the R&D facility and the surrounding community will not exist. The student training benefits to local colleges and universities, the fostering of a research environ-

ment, and the other social spinoffs connected with this interaction will be lost. Patent and intellectual property rights of new discoveries advanced by the R&D center may well end up as foreign breakthroughs instead of American patents or accomplishments if a center is located outside the U.S. And, perhaps, the most important commercial consideration is the fact that technical breakthroughs or discoveries which are taken to commercialization assimilate more rapidly and predominately into the local market due to the benefits of proximity. A commercial discovery made at an overseas facility denies the local U.S. economy the benefits affiliated with it. Eaton conducted an internal study a couple of years ago to test this dynamic of the commercial assimilation of an R&D discovery. Our study showed that there is indeed a very rapid entry of successful R&D development into the local and domestic market which does not quickly translate into overseas sales. Hence, R&D discoveries taken to commercialization use the domestic market, not an overseas market, as a starting point.

Consequently, the loss of these social and economic aspects of an R&D activity is a consideration which underscores the importance of having a favorable climate for R&D here at home. At the very least, it forcefully argues against any provisions of our tax code or regulatory process which pose as disincentives to U.S. R&D. For this reason, S.654 is a necessary component of our country's R&D policy. One needs only to look at the recent actions of the Wiltron Company, the small California company which is opening an R&D facility in the United Kingdom and The Foxboro Company, the New England firm which in 1980 opened R&D facilities in Europe instead of the U.S. to dramatize the need for legislation

specifically, as they relate to R&D, have been questioned by many studies of the regulations.

The most recent was the Special Report on the effect of the 861.8 regulations on the location of R&D activity published last Monday in Tax Notes by Christopher Buja. This comprehensive analysis of the regulations themselves and the two year moratorium concludes that the reintroduction of the regulations would "undercut certain American economic initiatives" designed to enhance U.S. international competitiveness. It also concludes that a continuation of the current moratorium is necessary.

A 1977 article appearing in Tax Lawyer, coauthored by Alan Granwell, the current International Tax Counsel for the Department of Treasury, observed that the 861 regs., 1) "strain factual relationships," 2) they can cause double taxation with no recourse to the taxpayer, 3) the R&D portions of the regs are "the most troublesome area of all," and 4) the "R&D allocation presents major practical and legal problems...and can even magnify injustices."

A March, 1982 report published by the Institute for Research on the Economics of Taxation (IRET) similarly concluded that the "allocation rules do more harm than good." The rules suffer from a number of serious flaws: 1) "they are an administrative nightmare," 2) their non-neutral economic impact affect R&D decisions to the detriment of the U.S. economy, and 3) "they are an undesirable and incorrect attempt to match domestic R&D expenses to current foreign source income."

Similar studies released in 1980 and 1982 under the auspices of the Treasury Department's Office of Tax Analysis and the

Commerce Department's International Trade Administration yield similar conclusions about the value of the 861 allocation rules.

In addition to the question of the allocation process itself, section 861 has a serious detrimental tax effect on R&D spending when considered in the context of the foreign tax credit. Foreign taxes are paid in accordance with the laws of the country where an operation is located and, therefore, do not include deductions for U.S. R&D expenditures. No other country in the world has an 861 allocation and, hence, no country recognizes the allocated U.S. R&D amount as a deductible expense.

The result is that section 861 effectively reduces a company's foreign source income by the amount of R&D allocated to it and, consequently, denies companies foreign tax credits. When a firm is forced to comply with the 861 allocation rules, an increase in its R&D spending can restrict or diminish its ability to use foreign tax credits.

To the extent that 861 places an economic premium on increasing one's R&D in the U.S., it seems to work at odds with the objectives of U.S. R&D policy and the intent of the R&D tax credit which is to encourage more R&D spending. For a firm caught in this undesirable situation there is an advantage to transferring or establishing new R&D operations abroad in order to avoid tax penalty. This works effectively as a disincentive to U.S. R&D and is analogous to a "pushing" of U.S. R&D abroad.

The 861 issue dramatizes the interaction between our country's R&D policy and our tax policy. If S.654 is not enacted and the R&D portion of section 861 is not repealed, our tax policy will once again undermine our national R&D policy by presenting economic

disincentives to U.S. R&D activities. Therefore, the real question is whether or not Congress considers our national R&D goals important enough to exclude R&D from the tax definition of general and administrative expenses. I believe you do. I believe you must.

We can not allow the disincentive posed by section 861 to act as a "push" to U.S. R&D while foreign governments are aggressively "pulling" U.S. R&D resources abroad with attractive research incentive programs. The Wiltron and Foxboro stories are examples of this situation. To illustrate the array of R&D incentives offered by the major industrialized countries around the world, I have attached to my statement an international comparison depicting this "push-pull" dynamic. It shows the disparity between what other countries offer for R&D activity and what the U.S. does.

Mr. Chairman, Eaton's commitment to research and development is strong. Research and development is investment in tomorrow. Our aggressive commitment to a high quality, competitive tomorrow for Eaton customers and shareholders is clearly evident by the fact that despite the national recession and 14 successive quarters of declining sales, Eaton has increased its R&D efforts by 42%. Since 1978, only five years ago, we have more than doubled our level of R&D spending to where today we will spend approximately $105 million in 1983 on R&D. However, this strong commitment to innovation underscores more than ever the need to have a coordinated U.S. R&D policy which assists American business in becoming truly innovative and at the same time removes R&D obstacles, like section 861, from our ability to meet the

nation's R&D objectives. The effects of the 861 disincentive are perhaps felt more acutely by Eaton than some other companies. Our excess foreign tax credit position in 1982, and possibly again this year, causes the 861 R&D allocation to deny us the full benefits normally affiliated with our U.S. R&D increase. If the 861 moratorium is left to expire or the R&D allocation rules for R&D are not repealed as proposed by S.654, we will be placed in the situation where in order to avoid a U.S. tax penalty for increasing our R&D efforts, we would have to shift some of this increase elsewhere. While we have no current plans to do so, we have in the past assessed the world climate for R&D with these kinds of problems in mind.

Let me also say that while a temporary continuation of the moratorium would be preferable to the reimposition of the 861.8 R&D regs., permanent repeal is the most desirable course to take. A mere continuation of the moratorium would just postpone the policy question before Congress and continue the uncertainty of the situation for the individual companies and tax practitioners.

We, therefore, fully support S.654 because we feel permanent repeal of the 861 R&D disincentive is necessary and rational. Any minimal revenue gain to the Treasury by reimposing the allocation process on U.S. R&D is heavily outweighed by the adverse consequences it has on domestic R&D activities and the undermining of the R&D tax credit. Eaton urges this committee and Congress to swiftly enact S.654 to prevent the counterproductive effects of section 861.8 from being reinstated.

Thank you. Dr. Eltinge and I will be happy to answer any questions you may have of us.

COMPARATIVE RESEARCH INCENTIVES

	U.S.	AUSTRL.	BELG.	CANADA	DENM.	FRANCE	GERMANY	IRELAND	ITALY	JAPAN	NETH.	UK
IMMEDIATE DEDUCTION FOR R&D EXPENSE EXCLUDING CAPITAL ASSETS	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
IMMEDIATE DEDUCTION OR SPECIAL ACCELERATED DEPRECIATION FOR R&D CAPITAL ASSETS	yes	YES[1]	YES[2]	YES	YES	YES[7]	YES[9]	YES	YES[10]	NO	NO	YES[13]
DIRECT GRANTS	NO	YES	YES	YES[5]	NO	YES	YES[9]	YES	YES	YES	YES	YES
** FOREIGN TAX CREDIT NOT REDUCED BY R&D (REGS. SEC. 1.861-8)	NO	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
CHEAP LOANS	NO	NO	YES	NO	NO	NO	NO	NO	NO	YES	YES	YES
SPECIAL TAX CREDITS	yes[14]	NO	NO	YES[4]	NO	NO	NO	NO	NO	YES[11]	NO	NO
DEDUCTION FOR PAYMENTS TO RESEARCH INSTITUTES	NO	YES	YES	YES	?	YES	?	YES	?	YES	YES	YES
EXEMPTION FROM WITHHOLDING TAX ON FOREIGN LOANS USED TO FINANCE R&D	NO	NO	YES	NO	NO	NO	YES	NO	NO	NO	NO	NO
PROPERTY TAX EXEMPTIONS ON R&D FACILITIES	NO	NO	YES[3]	NO	NO	NO	NO	NO	NO	NO	NO	NO
TAX EXEMPTIONS FOR R&D BUSINESSES	NO	NO	YES[3]	NO	NO	YES[8]	NO	NO	NO	NO	NO	NO
GAINS ON DISPOSITION OF R&D CAPITAL ASSETS EXEMPT	NO	NO	YES[3]	NO	NO	NO	NO	NO	NO	NO	NO	NO
SUBSIDY FOR R&D EMPLOYMENT	NO	NO	YES	NO	NO	NO	NO	NO	NO	NO	YES	NO
TAX DEDUCTIBLE R&D INVESTMENT RESERVE	NO	NO	NO	NO	YES[6]	NO	NO	NO	NO	YES[12]	NO	NO

NOTES

1. 3-year 150% declining balance depreciation on R&D equipment; 3-year depreciation on buildings.
2. 3-year declining balance depreciation for R&D equipment; a choice of double the ordinary straight line on buildings or the generally available double declining balance method.
3. [illegible] development
4. 10% investment tax credit plus 150% deduction for R&D expense in excess of average at last 3 years.
5. 50% grant of amounts invested in R&D.
6. Up to 25% of profits.
7. 50% first-year writeoff.
8. If technical personnel own 40% or more of the R&D business, it is tax exempt.
9. 20% subsidy up to DM 500,000 — 7.5% on excess. These subsidies replace special accelerated depreciation which was available until 1975.
10. 50% in first year, balance capitalized if project successful. If unsuccessful, balance written off in next year.
11. 20% of excess of R&D expenditures over those in the highest year since
12. If related to overseas market development, small firms may establish a tax deductibility reserve which is restored to income over 5 years.
13. 100% first-year writeoff.
14. A temporary credit sunsetting in 1985.

Senator WALLOP. Thank you, Mr. Kitt.
Mr. Allen?

STATEMENT OF CHARLES R. ALLEN, EXECUTIVE VICE PRESIDENT, CHIEF FINANCIAL OFFICER, TRW, INC., CLEVELAND, OHIO

Mr. ALLEN. Mr. Chairman, I will summarize my written testimony and ask that the full text be included in the official record.

Senator WALLOP. By all means. Everyone's full text will be in the record.

Mr. ALLEN. I am Chuck Allen, executive vice president and chief financial officer for TRW, Inc. TRW is a multinational company engaged in the manufacture and service of high-technology products. Our annual sales are in excess of $5 billion. In 1982 our company-sponsored research and development was about $109 million.

We believe that the United States should promote a tax environment which allows high technology growth and competitiveness in the world marketplace. In short, TRW supports tax incentives for research and development.

Specifically, we believe that the section 861 moratorium should be made permanent.

We are keenly aware, Mr. Chairman, of the importance of research and development both to our own organization and to the U.S. economy. As an investment in high technology and future job creation, we believe it is an investment worthy of special protection.

Consistent with this goal, the Economic Recovery Tax Act of 1981 made specific provisions to foster technological innovation through U.S.-based R&D. This included both the R&D tax credit and the 2-year moratorium on the allocation of R&D expense under the 861 regulations for foreign tax credit purposes.

By combining these two provisions in one bill, the Congress met a principal objective of good legislation, and that is coordination. Since that moratorium period is coming to a close this year, the Congress must consider whether or not to extend the moratorium and thus the coordinated tax support of U.S. R&D.

Among the 19 or so countries where TRW does business, the United States is unique in allocating R&D and thereby effectively denying a deduction for R&D through the foreign tax credit mechanism. Many countries fully support R&D through tax and fiscal incentives, and this difference in treatment gives non-U.S. companies a competitive advantage and encourages a transfer of research and development outside the United States.

The allocation of expense under the 861 regulations prior to the moratorium was clearly a disincentive to research and development. It forced an arbitrary percentage of R&D expenditures to be allocated against foreign earnings, and the foreign tax credit limitation was reduced, which equates to a loss of deduction. Under those conditions, a worldwide company approaching its foreign tax credit limitation would find that each dollar of increased R&D expenditure would reduce some portion of its foreign tax credit. Under some circumstances the lost foreign tax credits could actual-

ly exceed the benefit of the R&D credit. The calculations are complex; the results are often absurd.

While the allocation of R&D under 861 regulations is an immediate problem because of the pending end of the 2-year moratorium, let me just add a word on the related topic, and that is the R&D tax credit.

The legislation as enacted is for 5 years and is scheduled, as we know, to expire at the end of 1985. It is difficult to recognize the benefits of this tax credit in long-term investment analysis when there is a lack of certainty about its future.

We believe that investment in high technology is critical to the future economic well-being of our country and requires a long-term capital investment in R&D, particular vis-a-vis other countries. As such, we would hope the Federal Government would nurture and protect this investment. The allocation of research and development against foreign source income is counterproductive; therefore I urge that the moratorium be made permanent, and, further, we urge that the R&D tax credits also be made permanent.

Thank you very much, Mr. Chairman.

Senator WALLOP. Thank you very much, Mr. Allen.

[The prepared statement of Charles Allen follows:]

STATEMENT OF

CHARLES R. ALLEN

ON BEHALF OF TRW INC.

SUMMARY OF CHARLES R. ALLEN'S - TESTIMONY BEFORE THE SENATE FINANCE COMMITTEE, SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT RESEARCH AND DEVELOPMENT INCENTIVES

JUNE 17, 1983

1. TRW supports tax incentives for research and development.

2. The United States is unique in imposing a tax penalty on R&D through the allocation mechanism.

3. The 861 regulations prior the two year moratorium of ERTA was a disincentive to United States R&D.

4. The two year moratorium should be made permanent.

5. A permanent R&D tax credit is also important for encouraging long-term R&D investment.

I am Charles R. Allen, Executive Vice President and Chief Financial Officer for TRW Inc., a worldwide company engaged in manufacture and service of high technology products with annual sales in excess of $5 billion. In 1981 and 1982 our company-sponsored research and development was about $91 million and $109 million, respectively. We believe that the United States should promote a tax environment which allows high technology growth companies to be competitive in the world marketplace. Specifically, TRW supports tax incentives for research and development.

We are keenly aware of the importance of research and development both to our organization and the U.S. economy. As an investment in high technology and future job creation, it is an investment worthy of special protection. Consistent with this goal, the Economic Recovery Tax Act of 1981 made specific provision to foster technological innovation through U.S. based R&D. This included both the research and development tax credit and the two year moratorium on allocation of research and development expense under the 861 regulations for foreign tax credit purposes. By combining these two provisions in one tax bill, Congress fulfilled a principal objective of good legislation, and that is coordination. Since the moratorium period is coming to a close this year, the Congress must consider whether or not to extend the moratorium and thus the coordinated tax support of U.S. research and development.

The allocation of expense under the 861 regulations prior to the moratorium was clearly a disincentive to research and development. It effectively forced an arbitrary percentage of research and development expenditures to be allocated against foreign earnings. The foreign tax credit limitation was thus reduced, which equates to a loss of deduction. A worldwide company approaching its foreign tax credit limitation would find that each dollar of increased research and development expenditure would reduce some portion of its foreign tax credit. Under some circumstances the lost foreign tax credits could actually exceed the benefit of the research and development credit.

A basic purpose of the 861 regulations is to match revenue and expense by geographic source, that is, foreign versus U.S.--admittedly a difficult task. An implicit assumption of the allocation process is that research and development expense is incurred to generate royalty income both currently and in the future. Accordingly, prior to the moratorium, research and development expense was allocated on that basis. This concept does not conform to TRW's business practice. Research and development is incurred to generate sales income; royalty income represents marginal profit. In other words, royalties represent a way to reduce the cost of research and development, but are not the primary purpose of research and development. To deny a deduction for such expenditures through the foreign tax credit mechanism not only undermines our effort to encourage U.S. technological exploration, but seems to lack basis in equity. To the extent that nonU.S. subsidiaries take undue advantage of a U.S. parent company's technology (through insufficient royalties or expense reimbursement), Internal Revenue Code section 482 is available to remedy the abuse.

Among the countries where TRW does business, the United States is unique in allocating research and development and thereby denying a deduction for research and development through the foreign tax credit mechanism. Many countries fully support research and development through tax and fiscal incentives. Particularly noteworthy are the arrangements in Canada and Japan. This both gives nonU.S. companies a competitive advantage and encourages a transfer of research and development outside the United States. While TRW has not consciously transferred major research and development projects to other countries to escape the detrimental tax impact, the lower costs outside the U.S. are not likely to be ignored over time.

While true of the 861 regulations in general, computations for research and development are particularly onerous. The calculations are complex; the results are often absurd. For example, assume a U.S. company performs research and development on ballistic missiles. All of this research is performed within the United States. The only revenue reasonably anticipated from this research is also U.S. source. Various foreign subsidiaries of the same company produce an array of automotive engine parts (valves, pistons, etc.). Since both the missiles and the engine parts fall within the same two digit Standard Industrial Class (SIC) code, transportation equipment, the regulations force the following: U.S. ballistic missile research is allocated against the dividend income from the foreign subsidiaries producing engine parts. To a knowledgeable observer it is not clear how the missile research can possibly benefit engine parts production.

The regulations do provide for certain alternative computations to the broad grouping of missiles and engine parts. Unfortunately, the alternative computations are so cumbersome and complicated as to make their application extremely difficult. We have discussed this with other companies and are not aware of any which are able to avail themselves of this alternative computation. Attached is a simplified computation of the research and development allocation to demonstrate how the allocation process acts to reduce the deduction for research and development.

As part of the Economic Recovery Act of 1981, Congress instructed the Treasury Department to conduct a study of the impact of the 861 regulations on domestic research and development spending and the availability of the foreign tax credit. That study has not been released in time for written comments to be submitted.

Several large private organizations have commissioned a study by Arthur Andersen & Co. (the international CPA firm) to examine large corporations research and development investment over the 1972-1981 period. The Arthur Andersen study encompassed 85 corporations with sales of almost $400 billion, 3.5 million employees, and research and development spending of more than $12 billion in 1981.

Emerging from the study were several findings:

1. The research and development Section 861 allocations do in fact increase the overall tax liability of U.S. multinational corporations by creating excess tax credits.

2. Management frequently reviews research and development decisions in light of long-term competitiveness or factors leading to a favorable research and development environment. Factors such as government incentives or disincentives play a significant role in the decisions.

3. Most corporations have increased their foreign research and development spending as a percentage of their worldwide research and development spending over the past ten years.

4. The growth in total research and development manpower abroad confirmed the shift of research and development abroad. Employment of skilled research professionals increased faster abroad than in the United States.

5. Most managements surveyed believe that a lifting of the moratorium will encourage future investment in foreign research and development.

While the allocation of research and development under 861 regulations is an immediate problem because of the pending end to the two year moratorium, let me add just a few words on a related topic--the R&D tax credit. The legislation as enacted is for five years and is scheduled to expire at the end of 1985. It is difficult to recognize the benefits of this tax credit in long-term investment analysis when there is a lack of certainty about its future. The closer we get to 1986 the greater the impact of the termination date on our financial review. A permanent credit is more likely to generate the long-term capital that successful research and development requires.

Investment in high technology is critical to the future economic well being of our country and requires a committed long-term capital investment in research and development, particularly vis-a-vis other countries. As such, we would hope the federal government would nurture and protect this investment. The allocation of research and development against foreign source income is counterproductive. In addition, its administration is wasteful of resources and arbitrary in result. An additional short-term extension of the existing moratorium against the allocation of research and development against foreign source income fails to provide the necessary certainty required for long-term capital commitment. Therefore, we strongly urge the members of this subcommittee to support Senate Bill 654 which will make the moratorium on allocation permanent. Further, to reap the maximum benefits through long-term investment, I urge that the R&E tax credit also be made permanent.

Attachment
Foreign Tax Credit and Double Taxation

	$10 of U.S. R&D Deductions Apportioned to Foreign Source Income (Present Law)			No U.S. R&D Deductions Apportioned to Foreign Source Income		
	U.S. Source	Foreign Source	Total	U.S. Source	Foreign Source	Total
Taxable Income before R&D	$200	$100*	$300	$200	$100	$300
U.S. R&D Deductions	20	10	30	30	-0-	30
Taxable Income	$180	$ 90	$270	$170	$100	$270
U.S. Tax on $270 at 46 percent rate			$124.2			$124.2
Foreign Tax Paid on $100 at 50 percent rate			50			50
Foreign Tax Credit Allowable by U.S. Authorities (46 percent U.S. Rate x Foreign Source Taxable Income)	$90 at 46 percent =		(41.4)	$100 at 46 percent =		(46)
Total Taxes Paid			$132.8			$128.2

*Includes $50 Foreign Tax Paid

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STATEMENT OF JON E. BISCHEL, PROFESSOR OF LAW, COLLEGE OF LAW, SYRACUSE UNIVERSITY, SYRACUSE, N.Y.

Mr. BISCHEL. My name is Jon Bischel, and as indicated I hold a dual appointment at Syracuse University College of Law and at the Boston University graduate tax program. In addition, I have taught at two other schools, including one other graduate tax program. I have spend 15 years writing in the area of technology taxation, including 3 books and approximately 20 articles.

Most importantly, however, I have an extensive practice outside of teaching, and I specialize in working with small high-technology companies. In addition, I serve as consultant to the Internal Revenue Service Regional Counsel Office on technology tax matters.

Since no one else has had the opportunity, let me review the bidding just a bit as to the background of this particular regulation.

This has really been going on for about 10 years. These regulations were first proposed back in 1973. At that time a number of us took very strong issue with the arbitrary allocation of current R&D expenditures for potential new products to current sales of present products.

We wrote to the Treasury and indicated that there were a number of concerns. First we pointed out there was really no difference between research and development and any other current deduction whose benefit might extend into the future. For instance, advertising—there is no allocation of current U.S. advertising expense to foreign source income despite the fact, I suppose, that some types of current U.S. advertising expenditures may become useful someday abroad.

In addition, there are other sorts of future benefit expenses—intangible drilling costs, et cetera.

The reason for all of this, of course, is the fact that the research and development deduction, as we all know, is an incentive deduction, and essentially what it allows one to do is to currently deduct what otherwise would have to capitalized. And the reason for it, of course, is that R&D is a very, very high risk proposition.

I can cite instances to you in which the probability of successful research and development in certain areas is less than 1 million to 1. That's the reason we allowed the incentive in the first place.

Second, we pointed out to the Treasury, amongst other things, that the definition of research and development costs includes such things as patent attorneys fees for the filing of U.S. patents, which couldn't conceivably be allocated to foreign source income.

Another big problem is unsuccessful research and development. This problem was not dealt with. Apparently it is assumed that unsuccessful research and development, which is generally a high proportion of the total cost, applies equally to foreign as well as to U.S. sales; but in reality this is simply not so, since generally R&D is first done for the domestic market.

Therefore, it seems only appropriate to offset unsuccessful R&D costs and to allocate successful R&D costs, if at all—if at all—on the basis of the relative value of the markets for which it is developed; and then, second, to allocate it, allocations to be made only if sales in those markets actually take place. Or you could allocate, I

suppose, research and development costs if they are specifically designated for foreign markets.

Third, on the basis of allocating current research and development costs to current sales, a critical assumption is made that research and development will remain about the same percentage of sales over the years. And this assumption I take real exception to, because it is fatal to heavy R&D startup operations, which in particular are the small high-tech companies which are the backbone, I think, of t industry.

As a practical matter, the small high-tech companies get four to five times the bang off of their R&D dollars that the big companies get, and it is these companies, regardless of what the dollar value may be involved, even if it is only 15 percent—the remaining 15 percent—that may be allocated, that are really hurt by this particular regulation.

I can show you what the response of the various companies has been over a period of time—it is on page 2 of my written statement. Down at the bottom of the second last paragraph it is indicated that a number of the small companies which I deal with have been very discouraged from the prospect of exporting. In at least one case a smaller company with only about $5 million in sales, which has an interest in a foreign affiliate abroad, is seriously considering selling this affiliate because of the fact that it has been put in a heavy excess foreign tax credit position primarily because of the effects of 861.8 with respect to R&D.

There is another situation which came to my attention yesterday just before I came down here of a small high-tech company in western Massachusetts which has been placed in a position because of the R&D regs of incurring an extremely heavy tax burden with respect to exporting to another country. We suggested instead to them that they set up operations in Canada, and that we have reorganized a company, and we can do this via some limited partnership arrangement; so it is possible to avoid the effects of 861.8 in the R&D area for small high-tech companies. But the fact of the matter is that generally speaking it will mean exporting jobs. In this case it will mean they have to export 200 jobs to Canada.

The Treasury response to all of this in the 1973 regulations was that in 1975 in October they asked their agents not to develop any issues on the R&D regulations because they felt there were substantial problems with them.

In addition, as you know, in the 1977 regulations they came out with an exclusive allocation formula, some delayed application, a Government exclusionary formula; but they never responded to the basic problem. And the basic problem is how to allocate what is basically a tax incentive, if at all, on a fair basis instead of an artificial basis.

What the Government or the Treasury is actually using in this area, it seems to me, is in reality a formula ratio sort of proportionment; whereas the United States in almost every other area has always used factual apportionment. And the reason that they have to use formula apportionment is because of the fact that they cannot come up with a realistic manner of using factual apportionment in this particular area. So they have come up with an artificial structure which has not worked; they have had 10 years to

make it work; they have not come up with any alternative in their study.

To my knowledge I know of and have seen seven other studies, none of which supports their method of allocation, the present method of allocation, and the Treasury study itself doesn't support their present method of allocation.

It seems to be high time, if indeed we believe that there ought to be excellence in education, it seems to be high time that we ought to look for excellence in technology as well, so that we have a place to put all of those fine people who we are going to put through colleges.

And indeed, as a practical matter, the United States is not in a position where we can sell shoes to Italy or Korea, or steel to Japan, or automobiles or something of that nature. We have two things to sell: No. 1, natural resources, as developing countries have to sell—and we can go back to the status, I suppose, of being a developing country—or we can sell our high technology.

Now, if we are going to sell our high technology, we have to be in a position to be able to do it. And it seems to me we ought to, in this area in particular of high technology, we ought to give extreme importance to international trade. We ought to remove any artificial impediments at all which are based upon what is essentially an R&D tax on high-technology companies.

I can tell you from my experience with small high-tech companies, despite what the Treasury's view may be on their effect, that psychology it has a very, very negative effect on them. And with respect to about a third of my clients who are involved in foreign exporting, this is a very, very serious concern, and it impacts very negatively. It is confusing to them in light of the "incentives" that they are supposed to have received in the 1981 ERTA with respect to the R&D tax credit.

Thank you, Mr. Chairman.

Senator WALLOP. Thank you very much, Mr. Bischel.

[The prepared statement of Jon E. Bischel follows:]

STATEMENT OF JON E. BISCHEL
PROFESSOR OF LAW, SYRACUSE UNIVERSITY
AND BOSTON UNIVERSITY

Mr. Chairman and Members of this distinguished Subcommittee:

My name is Jon E. Bischel; I presently hold a dual academic appointment as a Professor of Law at Syracuse University and in the Graduate Tax Program at Boston University.

Mr. Chairman, I want to express my appreciation for the opportunity to testify before the Subcommittee and present my views on important issues of tax revision.

The primary thrust of any continuing tax revision should center on incentives for capital formation, especially for the purpose of modernizing plant and equipment to make American business more efficient and competitive, both domestically and internationally. Thus, my statement will be confined to the area of improvement in the tax climate surrounding research and development embodied in S.654 and S.738.

CONTINUED RESEARCH AND DEVELOPMENT MEASURES URGED

Mr. Chairman, the ability of American industry to create the needed capital and meet the economic challenges of the future is surely one of the most important questions facing the country today. Efficient production of more goods and services is essential to achieve any increase in the standard of living and this requires investment in research and development. In turn, successful research and development activity is a prerequisite for growth and profitability.

Yet, the preeminance of the United States in research and development activities has seriously eroded during the past decade. For instance, ten percent of every sale in Japan is poured back into research and development activity. The United States lags far behind with an average of two to three percent. In fact, the only United States industry which does put ten percent of sales back into research is the computer industry. However, even here the Japanese are outspending the United States almost two to one and within two to three years will be challenging American industry for supremacy in this field, especially in the new fast-growing area of miniature computers.

An even more stunning statistic is the fact that in the past few years almost half of all important patent applications received by the United States Patent Office have been filed by foreigners. Clearly, the United States has been placed in an imminent crisis position of losing its prime and, perhaps, only advantage in world trade, technological superiority.

Moreover, the resulting inefficiency in the domestic economy has been a prime cause in fueling the fires of inflation. From a

tax posture two specific causes bear major responsibility for the recent United States R & D posture.

TREASURY REGULATION SECTION 1.861-8 REGARDING R & D

In 1977 the United States finalized expense allocation and apportionment regulations pursuant to Section 861 of the Internal Revenue Code which constitute a major discentive to research and development (R&D) activities in the United States. The thrust of the regulations is to arbitrarily allocate current R & D expenditures for potentially new products to current sales, both domestic and foreign. Such allocation and apportionment is made without any casual cost-benefit relationship between the R & D effort, whether successful or unsuccessful, and current sales of products by a taxpayer.

Due to the arbitrary pecularities in the structure of the regulations and the general reluctance of most industrialized countries (including the United States) to permit deduction of R & D expenses incurred abroad, the ultimate result is a special United States "R & D tax."

The R & D tax is essentially triggered by an artifical partial reduction or total elimination in the credit for foreign taxes paid by United States taxpayers engaged in R & D activities in the United States. During the effective period of the regulations, some American businesses were, as a result, subjected to taxation on foreign source income at overall rates in excess of 100%.

The response of larger corporations has been three fold: (a) A few corporations have formed a research and development holding company structure which tends to be operationally complicated and thus not suited to most industry; (b) Some companies have moved as much research as possible out of the United States, thus putting the U.S. in a position of having to make outbound royalty payments on technology which could instead have been an income source; (c) Other corporations have simply terminated their internal research and development programs, relying instead on the direct or indirect purchase of new technology from smaller firms. In turn, smaller businesses have been discouraged from the prospect of exporting profitably and thoroughly confused by what appears to be mixed signals coming from Washington with respect to the importance of technology development. In at least one case, a smaller United States high technology company proposed to dispose of a highly profitable foreign affiliate due to the effects of the R & D tax.

There exists convincing and overwhelming evidence that the Section 1.861-8 R & D regulations frustrate the intent of Congress with respect to the tax treatment of R & D and cause far more harm than good. The regulations yield only a minimal amount of revenue and suffer from serious flaws in both concept and administration. For instance, administration of the R & D allocation and apportionment regulations has proved a nightmare for both taxpayers and the Internal Revenue Service. Small, high technology businesses, the

most productive factor in the American economy are particularly hard pressed in complying with an extraordinarily complex regulation for which they cannot afford expensive outside assistance to interpret. Additionally, the regulations are non-neutral in their economic impact taxing United States based R & D intensive international businesses at a higher effective rate than other taxpayers, thereby discouraging United States based R & D activity and adversely affecting the United States balance of payments.

Given the extreme importance of R & D and high technology to the United States in international trade and economic world leadership, any artificial impediment to United States based R & D activities imposed by tax rules ought to be removed. No other country, industrial or developing, imposes burdens on domestic based R & D with tax rules such as the Section 1.861-8 regulations. The justification for the misallocation of R & D resources caused by the regulations has never been made. S. 654 should be strongly supported to permanently suspend the Section 1.861-8 R & D regulations and encourage United States based international businesses to regain their competitive edge.

PERMANENT R & D INCENTIVE CREDIT

Another area of concern with regard to R & D tax structures pertains to the Section 44F credit for research and experimental wage expenditures dealt with by S. 738. In originally indicating the desirability of such a credit incentive, the Senate Finance Committee report noted that the United States had fallen behind other industrialized countries in R & D effort. For instance, the Federal Republic of Germany expended 50% more per dollar of GNP on civilian R & D in 1980 than did the United States. The Committee believed that the decline in this country's R & D activity has adversely affected economic growth, productivity gains and our competitiveness in world markets. Enactment of the incentive credit for R & D activity was clearly a critical signal to American industry that Congress was intent on encouraging a reemergent preeminence of American technology.

Unfortunately, the Section 44F legislation has only a five year life which began in 1981. By contrast, assembly of a research team and the conduct of a major research project may often involve four to seven years of effort. All other industrialized countries with a similar provision in their tax laws have recognized the practicality of planning for research projects by allowing an ongoing incremental credit (Japan) or an initial 10 year effective period for the legislation (Canada).

The reluctance of United States industry to commit large amounts of capital to high risk ongoing research efforts is not surprising in light of the transitory nature of the R & D incentive credit legislation. If the United States wishes to reestablish its position of international technological preeminence, the R & D credit incentive must become a permanent part of United States taxation policy. Moreover, a strong statement of the scope of research and experimental expenditures ought to be included in the legislation to preclude an unduly narrow interpretation of the legislation by the Treasury department through its regulation making procedure.

Senator WALLOP. I hear what you are saying about the allocation of current R&D expenses against current income, but I would hope we wouldn't slide off into that world until we get S. 654 passed. There are complications enough in doing what is a rather simple thing, and I am not certain in my mind that I would know at what time we ought to, from an accounting standpoint, begin to allocate those expenses. And I don't think that it would be fruitful for us now to do anything except to have them as current expenses against current income. There would be a time perhaps when we could get into that, but until we get S. 654 and the 861 regs solved, I clearly don't want to get into that argument with the Treasury Department.

Mr. Allen, let me ask you: Are there other disincentives to domestic R&D which would exist after the passage of S. 654?

Mr. ALLEN. I am not personally aware of them, Mr. Chairman. I think it is the allocation of R&D against foreign source income that is the largest disincentive to R&D at the moment.

Senator WALLOP. Mr. Desmond, do you know of any that would be sort of basically on the table?

One of the things that would not be particularly fruitful is to pass this and find still that a major chunk of domestic R&D was being transferred.

Mr. DESMOND. I think the underlying question is, do you want to abolish the impact, the negative impact from what everybody said, of the 861-8 regulation on R&D incentive in the United States? If the answer to that is yes, we should get rid of the large negatives as well as the small negatives in the area of DISC pricing, principally, and perhaps some other sections of the code, perhaps in the area of possessions corporations—but that hasn't been ferreted out because there is no guide for the new rule.

You definitely have negatives with respect to R&D being allocated against these other types of income. I certainly admit it is not as large a negative as the foreign tax credit; but if you pass this bill focusing on foreign tax credits, all the multinational tax departments still have to go through this extremely complex calculation under the current regulations to allocate and apportion R&D, to DISC income, and perhaps to possessions income.

So if the underlying intent is to abolish it entirely, I think it would be best in the interest of tax policy that can be implemented to cover all sections of the code that deal with R&D allocation and apportionment calculations.

Senator WALLOP. And that's your suggestion on 863(b)?

Mr. DESMOND. 863(b) and DISC pricing. I think 863(b) is different. If you don't amend this bill for 863(b), you still have a negative impact on foreign tax credits. If you don't amend this bill for DISC pricing and perhaps possessions corporations, then you have a less negative impact than you have in the foreign tax credit area, but nonetheless a negative impact and, as I said earlier, the need for all these corporate tax departments to continue to make this extremely complex calculation in the R&D area.

Senator WALLOP. Mr. Kitt, would passage of S. 654 have a substantial impact on your R&D program and present plans?

Mr. KITT. I believe that long term it will have continued effects—not of a nature that you can get down and precisely state, because

the nature of research is such that you weigh a number of factors; yet removing it, making the certainty that there will not be that tax disincentive, would incline us to do more of our R&D here, and probably, net, to do more R&D.

Senator WALLOP. Mr. Allen?

Mr. ALLEN. May I just respond to that, Mr. Chairman? I think that the passage of S. 654 would not have, for TRW an impact on our total research and development program. We have over the last several years been increasing our company-sponsored R&D on the order of 10 to 15 percent a year as a long-term commitment, and we will continue to do that.

I think the continuation of the allocation, the failure to pass S. 654, would have an effect on the locus of those activities. One couldn't ignore indefinitely the advantage of doing the research and development abroad.

So I think our total program would be about the same, but its location would gradually shift overseas, I believe.

Senator WALLOP. Well, I guess that was implicit in my question as to whether it would have an effect on your domestic R&D program.

Well, I want to thank you all very much for coming the distance that you have come to lend your credibility to the efforts. We will see if we can't get it done for you.

Thank you very much.

[Whereupon, at 9:55 a.m., the hearing was concluded.]

[By direction of the chairman the following communications were made a part of the hearing record:]

Air Products

Air Products and Chemicals, Inc.
Box 538, Allentown, PA 18105
(215) 481-7070

C. P. Powell
Vice President
Taxes

29 June 1983

Mr. Roderick A. DeArment,
Chief Counsel
Committee on Finance
SD-221 Dirksen Senate Office Bldg.
Washington, D.C. 20510

Re: Senate Bill No. 654

Dear Mr. DeArment:

The Treasury Department has recently reported on its study of the impact of the allocation of research and development expense against foreign source income for the purpose of computing foreign tax credit limitation. Of necessity, the study was based upon somewhat dated data and disclosed that while many taxpayers had foreign tax credit limitation problems, most did not.

It is believed that a study based upon current data would indicate a very sharp rise in 1982 and 1983 in the number of U.S. companies experiencing difficulty in absorbing available foreign tax credits. This is largely due to the fact that the dollar has risen dramatically in relation to most foreign currencies and at the same time the foreign currency sales of most licensees have flattened out or have declined. These factors combine to reduce foreign source royalty income when expressed in dollar terms. For most taxpayers, however, expenses allocable against foreign source income, including research and development, have remained constant or have increased in dollar terms.

Air Products has not previously experienced serious difficulty in absorbing foreign tax credits. However, the Company is now projecting an inability to use 1983 foreign tax credits, even though the Company will continue to benefit from the R&D moratorium for its fiscal year 1983.

Air Products

Air Products projects a 22% decline in the dollar value of anticipated royalties from foreign sources for the fiscal year 1983 as compared with fiscal 1982. This reduction is attributable to the increase in the value of the dollar, as the foreign currency sales of licensees have remained relatively constant. This decline in foreign source income will be compounded in 1984 and subsequent years if the R&D allocation is required because the Company will have increased R&D expense by 25% during the two-year moratorium period.

With the rise in the dollar relative to the currencies of other competing industrial countries, it becomes increasingly important to encourage domestic R&D expenditures, so as to permit the dollar cost U.S. product to compete. Since the U.S. cost is greater, the U.S. supplier must seek to compete through technologically-based improvements in costs or products. It is difficult to justify increased domestic R&D when it triggers an immediate reduction in both financial income and cash flow in the form of a reduction in foreign tax credit.

The U.S. Government needs to pull together a consistent policy without internal inconsistencies. Renewal of the R&D allocation is clearly inconsistent with the policy of (a) encouraging increased domestic R&D, (b) containing inflation, and (c) otherwise helping American companies to compete in the international marketplace.

Very truly yours,

C. P. Powell
Vice President - Taxes

CPP/pe

STATEMENT OF ARTHUR ANDERSEN & CO. ON S. 654

Presented at Hearings Before
The Senate Finance Committee

June 17, 1983

My name is Darwin Broenen. I am a tax partner, Regional Coordinator of the International Tax Services Specialty Team, for Arthur Andersen & Co. We welcome the opportunity to testify before this Committee today concerning the allocation of research and experimental expenses as contained in S. 654.

The Arthur Andersen & Co. Worldwide Organization conducts an international accounting practice. We have many clients that will be effected by this proposal; however, we do not represent them in this testimony and the views expressed are those of the Firm itself.

The amendment to Section 861 of the Internal Revenue Code of 1954 as contained in S. 654 will eliminate a regulatory disincentive to research and development activities in the United States. This change is significant in light of maintaining the strength and vitality of U.S. industry through research and development. S. 654 will supplement other efforts to reestablish technology leadership in U.S. industry and enhance the ability of U.S. industry to compete in the world marketplace. We, therefore, support early consideration and passage of this bill.

A. Introduction

America's high technology industries are an important source of our future economic growth and competitiveness in the international market. The continued vitality of these industries depends in large part on their willingness to assume the risk of investing in research and development (R&D). A new product may take several years at great expense to develop, and unless there are expectations of a reasonable return on the investment, such investments will likely not occur. Government policies which have the effect of increasing risks or reducing expectations of a reasonable return can act as a disincentive for undertaking R&D and can encourage companies to invest their money and expertise in foreign markets.

In recognition of these realities and evidence that U.S. corporations have greatly expanded research and development activities overseas, Congress in 1981 reexamined domestic economic policy and undertook to remove disincentives to domestic technology development. Subsequently, in the Economic Recovery Tax Act of 1981 ("ERTA"), specific steps were taken to spur technological innovation and to increase productivity of U.S. companies. ERTA contained a major overhaul of U.S. depreciation rules and provided a 25% tax credit for incremental increases in research and development expenditures. In addition, the Congress imposed a two year moratorium on the allocation requirements of Section 1.861-8 of the Income Tax Regulations. Section 1.861-8 requires U.S. companies to apportion part of their domestic R&D

expenditures to their foreign operations. The apportionment may result in a denial of tax benefits either through loss of tax deductions or expired foreign tax credits which can effectively discourage domestic R&D investments.

As the expiration date of the moratorium approaches, Congress must reconsider Section 1.861-8, and decide whether or not to continue to encourage domestic R&D investments by extending the suspension. To assist it in this determination, Congress requested the Treasury Department to conduct a study of the impact of Section 1.861-8 on domestic R&D and on the availability of the foreign tax credit.

This Firm was commissioned to conduct a similar study that encompassed a survey of the major R&D spenders in the United States. The objectives of this study were to: 1) analyze the impact of Section 1.861-8 on corporate taxes and R&D investments; 2) analyze the factors affecting management decisions to locate R&D in the U.S. or abroad; and 3) examine trends in R&D investments over the past decade. The National R&D Study represents a companion effort to the Treasury Department's report and is intended to expand the information required for Congress to decide on a permanent suspension of the Section 1.861-8 R&D allocation requirements.

B. Summary of Survey Findings

Questionnaires were completed by 85 corporations selected from among the largest R&D spenders in U. S. industry.

The companies surveyed had aggregate sales in 1981 of almost $400 billion, employed over 3.5 million people, and had combined R&D expenditures in excess of $12 billion. The questionnaire sought detailed financial and personnel data and other information quantifying the impact of various factors, such as tax laws and government regulation, on R&D investment decisions. The primary findings of the survey are:

1. The R&D allocation requirements of Section 1.861-8 increase the overall tax liability of U. S. multinational corporations by generally placing firms in an excess foreign tax credit position.

2. Respondents to the survey considered pre-ERTA tax rules as a disincentive to conducting R&D in the U. S. and Regulation Section 1.861-8 was singled out as a detriment to domestic R&D operations by a significant group.

3. The United States is the only nation requiring the allocation of domestic R&D expenditures. In fact, other developed nations have instituted a variety of incentives to attract and stimulate R&D activities within their borders.

4. Management most frequently reviews R&D decisions in light of long-term competitiveness, or is influenced by factors leading to a favorable R&D environment. Characteristics like a sufficient supply of skilled manpower, adequate R&D facilities and various government incentives or disincentives played a significant role in these decisions.

5. Most corporations have shown an increase in their foreign R&D expenditures as a percentage of their worldwide R&D expenditures over the past ten years. Those companies with less than $2.5 billion in sales exhibited the greatest percentage increase in foreign to total R&D.

6. The percentage increase in respondents' foreign to total R&D exceeded the percentage change in the ratio of foreign sales to total sales. Thus, R&D investment occurred independently of expanding operations (as measured by sales). A significant reallocation of R&D abroad took place over the ten year period studied.

7. The growth on a percentage basis of respondents' foreign to total R&D manpower confirms the shift of R&D abroad. Employment of highly skilled scientists and engineering professionals increased faster abroad than in the U.S.

8. Most respondents believe that lifting the moratorium will encourage an expansion of foreign R&D investments in the future. In fact, 44% of the respondents stated that if the suspension was lifted, it would contribute to an excess foreign tax credit position in future years.

Conclusion

The survey results indicate that R&D investment in foreign markets by U.S. companies is in fact increasing faster than in U.S. markets. Companies considered a variety of factors including Section 1.861-8 in deciding where to locate R&D operations, and often concluded that their best choice for R&D investments is in operations abroad. A significant number of survey respondents felt that the enactment of the R&D incentive provisions of ERTA, if made permanent, represented an important step in rebuilding technological superiority in U. S. industry and in reversing the trends evidenced in this Study. We are introducing the results of this study by addendum to these written comments.

S.738

As an addendum to our views on S. 654, we would like to make a statement in support of the legislation that would make the R&D credit permanent. As previously noted, the 25% tax credit for incremental increases in research and development expenditures was included with ERTA. The credit is a key element

in the effort to encourage investments in domestic R&D. Because the credit is due to expire on amounts paid or incurred after January 1, 1986, Congress should focus on the effect of this incentive in the decision-making process of R&D spendors. The inherent nature of R&D involves relatively long-term commitments by industry to improve or develop products and services. The planning process for R&D expenditures is already being refined for years beyond 1986. To assure that industry can plan with certainty the costs and benefits of R&D expenditures in the not to distant future, we urge Congress to hasten consideration of the Bill to make permanent the R&D credit. We support the early passage of such a bill.

STATEMENT OF RONALD L. DANIELIAN
EXECUTIVE VICE PRESIDENT AND TREASURER
INTERNATIONAL ECONOMIC POLICY ASSOCIATION
ON S-654
SUBMITTED TO THE
SUBCOMMITTEE ON TAXATION AND DEBT MANAGEMENT
U. S. SENATE FINANCE COMMITTEE

June 17, 1983

Mr. Chairman:

The International Economic Policy Association is a nonprofit, business-supported, research group based in Washington. Since 1957 we have analyzed public policy issues in the international economic arena. These have included international trade, investment and balance of payments issues, problems of natural resource vulnerability, and international tax questions that affect the competitiveness of U.S. firms. The health of American firms abroad and at home is a key to competing in the world today.

The ability of U.S. business to retain capital and reinvest it for future growth is vital to remaining competitive in new product areas, to revitalizing traditional product areas, and to providing increased employment for the U.S. workforce. For a U.S. multinational company, total net investable funds consist not only of those amounts earned in the United States, but also those earned abroad from assets located in foreign nations. These foreign assets are an integral part of the U.S. employment chain, since one third of U.S. exports go to American subsidiaries and affiliates abroad and investable funds flow back into the United States from dividends, branch earnings, and royalties. In fact, from 1948 through 1982, U.S. investments abroad returned (net of capital outflows associated with the investments) $186.8 billion. The

figure would be higher if royalty returns from unaffiliated foreigners are included. These returns are funds that can be used here in the United States to increase employment and maintain our competitive edge as we become more interdependent in the world today.

In an effort to maintain equitable tax treatment, U.S. companies operating abroad receive a credit for taxes paid to a foreign country. This, in essence, eliminates the imposition of double taxes on the same income, an objective that has been unquestioned by liberals and conservatives alike. Now, however, this principle is in jeopardy along with the worthy goal of encouraging research and development and increased employment at home.

On Friday, May 27, Assistant Secretary of the Treasury for Tax Policy John Chapoton testified about extending the 25 percent tax credit for increased research spending that the Congress adopted in the Economic Recovery Tax Act of 1981. He said that this credit is of significant benefit to the United States because it encourages experiementation that may lead to innovations that enhance national productivity. He further indicated that the need for such activities cannot be disputed because innovation is essential if the United States is to retain and improve its competitive position in the world economy. We agree wholeheartedly with this view and believe strongly that that is the exact intent of S. 654 and H.R. 1887, both of which make permanent the moratorium on the arbitrary allocation rules established under Section 861 of the Internal Revenue Code, as amended.

When the cost of research and development here in the United States must be apportioned to foreign income, it reduces normally allowed

credits for foreign taxes paid to foreign governments. Since foreign governments frequently will not recognize the validity of the allocation required by the Section 861 regulations, this raises the possibility of double taxation on the same income. It also reduces the available after-tax monies for further research and development expenditures and helps in shifting research and development offshore. At the same time that we are encouraging domestic R&D through the Economic Recovery Tax Act of 1981, we discourage it by an allocation of R&D expenditures to foreign-source income. For the lack of a consistent and coherent foreign economic policy, we have managed to create a curious "Catch 22" position. Finally, if companies are forced to revert to the regulations, the results will produce allocations that defy logic. For instance, when a company performs U.S. ballistic R&D here at home and automotive parts R&D abroad, the U.S. costs must be allocated to the foreign automotive parts income because both activities are in the same SIC code. There are some alternative computations that can be used to try and alleviate these kinds of conundrums but we understand that they are so complicated as to virtually negate their application.

This committee has already heard about the National Research and Development Study conducted by Arthur Andersen & Company which looks into the effects of lifting the moratorium on the Treasury Department's proposed 861 regulations. A significant finding of the study was that "lifting the moratorium will encourage an expansion of foreign R&D investments in the future." We understand that some companies have decided to undertake new R&D activities overseas, at least in part because of the possible effect imposition of the 861 regulations would

have once the moratorium lapses. We do not believe this is good public policy.

While the R&D share of the U.S. gross national product has turned up slightly in 1982, at 2.7 percent it is still below the 1964 high of 3 percent. Business Week has noted that "the proportion of civilian spending /on R&D/, exclusive of defense and space research, probably still trails...competing nations" such as Japan or West Germany. A country that fails to maintain or in fact inhibits its R&D investments for the future, reduces its ability to compete and increase employment. We urge the committee to make permanent the moratorium under the 1981 act by passing S-654.

MACHINERY and ALLIED PRODUCTS INSTITUTE

1200 EIGHTEENTH STREET, N.W. WASHINGTON, D.C. 20036 202-331-8430

June 17, 1985

The Honorable Bob Packwood
Chairman
Subcommittee on Taxation and
Debt Management

and

The Honorable Malcolm Wallop
Chairman
Subcommittee on Energy and Agricultural
Taxation
Committee on Finance
United States Senate
SD-221 Dirksen Senate Office Building
Washington, DC 20510

Dear Chairmen Packwood and Wallop
and Members of the Subcommittees:

Allocation and Apportionment of U.S. Research and Development to U.S.-Source Income Under Income Tax Regulation 1.861-8: Public Hearings on S. 654

Introduction

The Machinery and Allied Products Institute (MAPI) is pleased to have this opportunity to present its views to the Subcommittee on Taxation and Debt Management and the Subcommittee on Energy and Agricultural Taxation concerning S. 654, as sponsored by Senators Wallop, Packwood, and others.

In brief, the bill would amend the Internal Revenue Code of 1954 to treat deductions for research and experimental (R&E) expenses attributable to activities conducted in the United States as allocable to income from sources within the United States. This would continue indefinitely a practice that was mandated for a two-year period by Section 223 of the Economic Recovery Tax Act (ERTA) of 1981. Section 223 of ERTA also directed the Treasury Department to conduct a study of, and provide recommendations to the Congress with respect to, the impact that the R&E allocation provisions of Income Tax Regulation (Regs.) Section 1.861-8 has on research activities conducted in the United States and on the availability of the foreign tax credit.

As the subcommittees may know, MAPI is the national organization of producers of capital goods and allied products. In

that capacity, the Institute represents industries manufacturing and marketing the facilities of production, distribution, transportation, communication, and commerce. MAPI's membership includes corporations in a number of the most research-intensive industries in the United States, such as, machinery, including computers; electrical and electronic equipment; professional and scientific instruments; motor vehicles and related equipment; aircraft and missiles; and, to some extent, chemicals and allied products. The Institute's member companies produce highly engineered--often state-of-the-art--goods that are marketed worldwide, and their technological achievements and competitive positions are largely a function of their continuing commitment to R&E.

It may be recalled that we have commented to the Subcommittee on Taxation and Debt Management in favor of S. 738 which would extend indefinitely the tax credit for increasing R&E activity. We also have supported in principle two other bills (S. 1194 and 1195) intended to bring about several tax changes that would benefit educational institutions through donations of certain equipment and other means. At the time, we noted--using the most recent National Science Foundation (NSF) and certain other studies--that (1) civilian U.S. R&E is lagging behind that of certain other major trading nations; (2) there is a large and growing gap between the demand for and supply of engineers in this country; and (3) our school system suffers from curriculum, facility, faculty, and other deficiencies, especially in mathematics and the sciences. In our opinion, these are interrelated phenomena and are leading indicators of economic deterioration in the absence of corrective measures. While we do not feel that the federal income tax should be called on to remedy every ill, U.S. R&E is a high priority matter and public policy should facilitate such activity rather than impede it.

S. 738, 1194, and 1195 are proposals that would establish or continue public policy to facilitate U.S. R&E. S. 654 would continue a temporary policy enacted in ERTA to facilitate U.S. R&E by negating existing Regs. 1.861-8 as it pertains to R&E, and by requiring an exclusive apportionment of U.S.-performed R&E to U.S.-source income. In requiring such an apportionment, ERTA Section 223 avoids imposition on taxpayers of additional costs resulting from operation of the foreign tax credit limitation in respect of a domestic cost (i.e., R&E) that should not be related to foreign-source income as a general matter. Although a foreign tax credit limitation is designed to be operative in a system of worldwide taxing jurisdiction, the rules implementing the limitation should be reasonable, and be designed to interface smoothly with other taxing systems. MAPI supports S. 654 as being conducive to these ends, and urges adoption by Congress in the current Session for the following (summarized) reasons:

1. Existing U.S. R&E allocation rules--currently in suspense--raise the cost of domestic R&E and to some extent discourage such activity, contrary to the national interest.

2. Such allocation rules generally are not applied by foreign jurisdictions to their taxpayers, and the rules fail to take into account that foreign jurisdictions normally will not allow deductions locally for U.S.-performed R&E.

3. Such rules are contrary to the thrust of other tax policy favorable to U.S. R&E.

4. Allocating current U.S. R&E to foreign-source income does not reflect the tenuous connection between the two.

5. The existing allocation procedure is unnecessarily complex.

ERTA Section 223--as already mentioned--called for a special Treasury Department study and recommendations on this subject, and we note that the Treasury project has been completed in time for this hearing. Although a detailed analysis of the study is beyond the scope of this presentation, it is reassuring that Treasury recognizes the exposure entailed in allowing the ERTA provision to lapse, and has supported a two-year continuation. More specifically, the study concludes with the following recommendation:

> The Treasury Department recognizes that the reduction in R&D may adversely affect the competitive position of the United States. Accordingly, the Treasury supports a two-year extension of the present moratorium. This will provide Congress with an opportunity to consider the findings of this report while Congress and the Administration work to develop a coherent national program of R&D incentives.

Our more detailed comments in favor of S. 654 constitute the remainder of this presentation.

Background

Under Code Section 862(b), taxpayers with foreign-source income are instructed to deduct from the same the expenses, losses, and other deductions properly apportioned or allocated thereto, along with a ratable part of any expenses, losses, or other deductions that cannot definitely be allocated to some item or class of gross income. The remainder, if any, is to be treated in full as taxable income from sources within the United States.

This cost accounting procedure is significant in computations of taxable income under several provision of the Code, but seems to arouse the most concern in connection with the foreign tax credit limitation under Section 904(a). Under that provision, the foreign tax credit is not to exceed an amount equivalent to the U.S. tax on worldwide income (before credits) multiplied by a limiting fraction, the numerator of which is foreign-source taxable income and the denominator of which is worldwide taxable income. To the extent that the numerator of the limiting fraction is reduced by apportionments of U.S.-incurred expenditures to foreign-source income, the foreign tax credit limitation is lowered, in some cases leaving taxpayers with unused credits and higher effective tax rates.

Allocation Under the Regulations

In 1966, IRS began an 11-year project to rewrite the regulations governing the allocation and apportionment of deductions to foreign-source income. This controversial project was completed in January 1977 with the promulgation of

rather complicated amended regulations (i.e., Regs. 1.861-8) that generally have attributed more deductions to foreign-source income than in the past. As to R&E, amounts deducted under Code Section 174 ordinarily are considered to give rise to deductions which are definitely related to all income reasonably connected with the relevant product categories of the taxpayer, determined by the two-digit categories of the Standard Industrial Classification. Consequently, the deductions are allocable to all items of gross income as a class (including income from sales, royalties, and dividends) related to such categories. Where R&E is not clearly identified with any product category, it is considered conducted with respect to all the taxpayer's product categories.

An exception applies for legally required R&E, which is to be allocated to gross income from the geographic area within which the requirements apply. This result follows if the R&E in question was undertaken solely to meet the legal requirements and if the results would not reasonably be expected to generate gross income (beyond de minimis amounts) outside of the geographic area where the requirements apply.

Apportionment by Sales Method

Apportionment of R&E via the "sales method" begins with an "exclusive apportionment" to the appropriate grouping of gross income from that geographic source where more than 50 percent of the R&E was performed. If the 50-percent test cannot be met, there is no exclusive apportionment. This exclusive apportionment is 50 percent in the case of a taxable year beginning during 1977; 40 percent for a taxable year beginning in 1978; and 30 percent for a taxable year beginning in 1979 and thereafter. Taxpayers may demonstrate to IRS that their exclusive apportionments should be higher, based on either very limited or long-delayed application of domestic R&E abroad. Limited application must be shown on the basis of commercial production of manufactured goods at the seven-digit SIC level by the taxpayer and certain controlled and uncontrolled persons. The long-delayed application test involves a comparison of the commercial introduction of the taxpayer's own products and processes in U.S. and foreign markets, not limited to those listed in the SIC, made by itself and certain controlled and uncontrolled parties.

The remaining apportionment to "statutory" and "residual" groupings of income—generally foreign-source income under Code Section 862 and domestic-source income under Section 861—within income classes after the exclusive apportionment involves a prorationing on a sales-to-sales basis. Amounts received from equipment leases during a taxable year are to be regarded as sales receipts for that year. Generally speaking, sales of uncontrolled parties must be taken fully into account where the sales involve intangible property licensed or sold by the taxpayer to them. In the case of controlled parties, there is a provision for the elimination of intercompany sales. Also, a controlled party participating in a bona fide cost-sharing arrangement for the purpose of developing intangible property is not expected to benefit from the taxpayer's share of the research expense.

Apportionment by Gross-Income Method

As an option to the "sales method" of apportionment for R&E, a taxpayer meeting certain conditions can apportion on a gross-income basis. However, the amount of R&E apportioned to the statutory and residual groupings, respectively, cannot, in each instance, be less than 50 percent of the amount which would have been apportioned by the sales method.

ERTA and S. 654

According to Section 223 of ERTA, U.S.-based R&E must be allocated to domestic-source income for all purposes for the taxpayer's first two taxable years beginning after August 13, 1981. Treasury was instructed to study and report back to the congressional tax-writing committees with recommendations concerning the R&E allocation provisions of Regs. 1.861-8. S. 654, now before the subcommittees, would extend indefinitely the requirement that U.S.-performed R&E be allocated and apportioned to domestic-source income. As indicated earlier, Treasury has recommended an additional two-year extension of the current moratorium pending efforts of Congress and the Administration to develop a coherent national program of R&E incentives.

More Detailed Views in Favor of S. 654

We believe that S. 654 should be reported favorably by the subcommittees, and that the Congress should require that U.S.-performed R&E be allocated to domestic-source income for the additional reasons stated below.

Foreign Tax Credit Limitation

As the subcommittees may know, the R&E portion of Regs. 1.861-8 is placing more and more taxpayers in excess foreign tax credit positions. By frequently denying U.S. corporations a full allocation of domestic R&E expenses against domestic-source income and by assigning some portion to foreign-source income, even though it typically is not allowed as a deduction under foreign law, the regulation operates to reduce foreign tax credits because it reduces the numerator in the foreign tax credit limitation fraction under Code Section 904(a). Depending on the taxpayer's circumstances, the smaller fraction may mean that some portion of the taxpayer's income taxes paid abroad will not be creditable against its U.S. federal income tax liability. When this occurs, there is overlapping taxation because the same income has been subject to both U.S. and foreign taxation. The extent of R&E activity and the amount apportioned to foreign-source income may be such that a taxpayer's effective worldwide tax rate will exceed the maximum U.S. statutory rate, even if the statutory rates elsewhere do not exceed those here.

It is difficult to rationalize an R&E allocation that raises effective tax rates by means of a cost accounting exercise that customarily is not performed by other countries with worldwide taxing jurisdictions; that disregards prevalent foreign government practices with respect to the nonallowability of deductions locally for costs incurred in the performance of R&E elsewhere; that puts

taxpayers to extraordinary effort for the sake of an arbitrary allocation; and that, then, subjects taxpayers to higher liabilities for having done so. Consequently, we support enactment of S. 654.

Policy Conflict

In our opinion, Congress owes some attention to cross-currents that have evolved in tax policy with respect to R&E, and should eliminate the conflicts. For example, the current Administration and Congress seem genuinely aware of the need for competitive commitments of national resources to capital formation and R&E activity for the maintenance and improvement of the country's economic well-being. In that connection, we applaud such recent tax-policy initiatives as the Accelerated Cost Recovery System and the tax credit for increasing research activity. A modernized industrial base with more product and process innovations will go far toward restoring U.S. leadership in production and technology, and bring about the improvements in employment, income, and opportunity that always accompany such progress. There has been a "reawakening" in this context, but the R&E apportionment issue remains as a conspicuous and contradictory item of unfinished business.

More specifically, the R&E apportionment rule harks back to the mid-1970s when federal tax policy reached its apogee of severity in a well-meaning but unenlightened effort to generate revenues for unprecedented federal-spending growth. Regs. 1.861-8 was one of the most controversial tax-administrative projects ever undertaken by the federal government, and it culminated in a harsh promulgation partly because the issues were too arcane to attract general public interest and partly because of perceived "abuses" involving the foreign tax credit. In the short period of six to seven years since promulgation, attitudes have changed considerably, both as to tax burdens generally and--as already mentioned--policy with respect to capital formation and R&E in particular. Also, IRS has rearticulated the rules of foreign tax creditability in such a way as to lessen any susceptibility of the U.S. Treasury to unintended loss through the credit mechanism.

In our opinion, the legislation before the subcommittees (i.e., S. 654) would eliminate an anachronistic tax-policy drag on U.S. R&E, and should be reported favorably.

Beneficial Relationships

One fundamental reason for confining the deduction for U.S.-performed R&E to domestic-source income is the fact that any income likely to arise from such R&E within a foreseeable timeframe is much more likely to be domestic-source than foreign-source. If the principle of matching of income and expense is to be followed and expense is to be attributed to income to which it is causally or beneficially related, then attributions to foreign-source income during the period of cost incurrence are almost an exercise in metaphysics. This is not to say that U.S.-based R&E cannot or does not ever give rise to foreign-source income. Rather, the point is, (1) that there is only a chance that research will give rise to any income; (2) that research cost incurred anywhere in one period generally will not give rise to any income until future periods; and (3) that U.S.-performed R&E is likely to produce income--if any--here before it yields income abroad.

Other Accounting Considerations

One of the first projects undertaken by the Financial Accounting Standards Board (FASB) was accounting for research and development. The result, FASB Statement No. 2, has the stature of "generally accepted accounting principles," and independent accountants who countenance departures from such principles without full and adequate justification are subject to censure. Although FASB deals in financial accounting rather than cost accounting, there are parallels that should be instructive in this instance. Put in the simplest terms, the question before FASB was whether R&E should be charged to income as a cost of the period when incurred or should be capitalized and written off against income arising from it in future accounting periods. The final decision was in favor of the former approach because of the futility of attempting to relate with any certainty R&E costs incurred in one period and future income streams—if any—associated with such costs.

Although IRS does not attempt under Regs. 1.861-8 to relate R&E cost to future periods, it undertakes the equally difficult task of partitioning R&E and assigning it currently to income from different sources for limitation purposes. The assignment is arbitrary, and fails to reflect the tenuous connection between current U.S.-based R&E and foreign-source income. Accordingly, we favor an exclusive apportionment of the entire amount to domestic-source income, as provided by S. 654.

Complexity

Regs. 1.861-8 is a very complicated regulation, as borne out by the summary description of the R&E portion earlier in this statement, and we can say without exaggeration that the rule is a challenge to read and understand. Moreover, in order to comply, a taxpayer should know, among other things, (1) eligible R&E, where it is performed, in what amounts, and for what purposes; (2) product categories by two-digit—and, in some cases, seven-digit—categories of the Standard Industrial Classification; (3) ranges of foreign product applications; (4) lag-times in foreign product introduction; (5) domestic and foreign sales by two-digit SIC categories; (6) data on certain intracorporate transfers from the parent company to subsidiaries or branches; (7) sales by purely wholesale or foreign affiliates; (8) various classifications of income, including sources; (9) growth income by income class and by statutory and residual groupings; and (10) factual relationships between deductions and income, taking into consideration at least six factors. Once this information is in hand, the taxpayer must carry out fairly detailed computations to determine the foreign tax credit limitations.

The overhaul of Regs. 1.861-8—of which the R&E allocation is simply the most controversial portion--was completed in 1977 and spanned 11 years. As promulgated in 1977, the amended regulation has been estimated by one commentatory to be 70 times longer than the one it replaced. In our opinion, S. 654 would simplify an unnecessarily complex area of tax administration, and should be viewed favorably in that light in addition to substantive grounds.

This concludes our comments on S. 654. We thank the subcommittees for the opportunity to present views on a matter of mutual interest, and hope that our thoughts on the subject will be useful.

Respectfully,

Charles Stewart

President

MOTOROLA INC.

June 17, 1983, Hearing
on S. 654, the Research
and Development bill.

June 23, 1983

The Honorable Bob Packwood, Chairman
Subcommittee on Taxation and
Debt Management
Committee on Finance
United States Senate
Room SD 221
Washington, D.C. 20510

Dear Senator Packwood:

We are writing to urge your support and that of the Subcommittee on Taxation and Debt Management for S. 654, a bill that repeals the portion of the Section 861-8 Treasury regulations that requires United States companies to allocate their domestic research and development (R & D) expenditures against both U.S. and foreign source income. In essence, S. 654 accords U.S. companies a federal income tax deduction for all R & D expenditures they incur in the U.S. The bill is of vital importance to Motorola as well as to other U.S. high-technology, state-of-the-art companies which have extensive international operations.

As you know, Treasury regulations require U.S. companies to allocate part of their domestic R & D expenditures against foreign source income. (Treasury Regulations Section 1.861-8(e)(3)). Deductions that are allocated against foreign source income reduce a U.S. corporation's foreign tax credit limitation and, in so doing, reduce the amount of the foreign tax credit to which a corporation is entitled. The net effect is to deny U.S. corporations a full deduction against U.S. income for R & D expenses which are purely domestic in nature. (Domestic R & D expenses are not deductible against foreign taxable income: Understandably, foreign tax authorities do not view R & D incurred in the U.S. as a deductible cost of doing business in a foreign country.)

The Section 861-8 R & D regulations adversely affect the competitiveness of American firms in the world market place. No other industrial country requires its taxpayers to allocate R & D expenses incurred in the home country against foreign source income for purposes of calculating the amount of an allowable foreign tax credit.

It is no surprise that the Section 861-8 regulations serve as an incentive for transferring R & D offshore. By transferring R & D abroad, a U.S. company avoids double taxation and, at the same time, benefits from generous R & D incentives that are often not available in the U.S.

Many major U.S. companies are now shifting their R & D (and the thousands of jobs that go with it) to Canada where companies are allowed to deduct all current R & D expenses plus all expenditures for R & D facilities. Canada also allows a ten percent tax credit on these amounts and an additional 50 percent deduction to the extent current R & D expenses and capital expenditures exceed the prior three-year average.

Arthur Andersen & Co., (Arthur Andersen) an international firm of public accounts, recently issued a comprehensive study which concludes that U.S. companies are increasing their offshore investments in R & D at a much faster pace than they are increasing their R & D expenditures in the U.S. The study notes that in the last decade, the percentage increase in R & D which U.S. companies have conducted offshore has far exceeded the percentage change U.S. companies have experienced in the ratio of their foreign sales to total sales. (National Research and Development Study, Arthur Andersen & Co., January, 1983, p. I-4).

It seems paradoxical that the U.S. subjects companies to double taxation with respect to a portion of their R & D expenditures at a time when there is widespread concern over the inadequate levels of R & D being performed in the U.S., over declining U.S. productivity in the face of foreign competition, and over very attractive incentive programs which many foreign countries offer in order to attract R & D from abroad.

The cost of remedying this situation is relatively small. We understand that prior to the enactment of the Economic Recovery Tax Act of 1981, the Joint Committee on Taxation estimated that the moratorium on the Section 861-8 regulations would result in a revenue loss of only $61 million in fiscal year 1981, increasing gradually to $144 million in 1986. This loss to Treasury is rather insignificant when one considers the potential loss of R & D investment to other countries, the millions of dollars U.S. companies spend in order to comply with the exceedingly complex Section 861-8 R & D regulations, and the enormous sums the government spends in auditing corporate compliance with this one section of the law.

The Arthur Andersen study says revenues lost as a result of the Section 861-8 R & D regulations may actually exceed revenues gained. The study concurs with a recent Department of Commerce report that details now the transfer of R & D offshore has decreased the employment base in the U.S. and, in so doing, has reduced the U.S. tax base. (National Research and Development Study, p. III-8; Dr. Anita Benvignati, "Impact of American Tax Policy on the Level and Location of Industrial Research and Development," Department of Commerce, Office of International Services, March 1982, pp. 18-20.)

The time has come for Congress to eliminate the Section 861-8 R & D allocation requirements on a permanent basis: The devotion of resources to R & D is a long-term investment which requires a stable economic environment. High-technology companies such as Motorola cannot continue to commit enormous sums to domestic R & D if it appears the tax treatment accorded this R & D investment is to be altered by each new Congress or by each new Commissioner of Internal Revenue.

We genuinely appreciate the fact that you and your subcommittee are taking the time to review thoroughly this matter which is so vital to the future of Motorola, to its 44,000 domestic employees, and to the communities in which they reside. We trust that you will conclude, as we have, that the Section 861-8 R & D regulations serve as an unnecessary impediment to the growth of high-technology R & D in the U.S. and that, as such, they should be repealed.

Sincerely,

David Schulman

David Schulman
Tax Counsel

c: John Hatfield
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Donald R. Jones
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Pharmaceutical Manufacturers Association

July 15, 1983

The Need To Make Permanent the Moratorium
on Allocating Domestic R&D Spending
to Foreign Source Income
Regulation 1.861.8 of the Internal Revenue Code

The Pharmaceutical Manufacturers Association endorses S. 654, which would make U.S. research a charge exclusively against domestic source income for U.S. tax purposes. It is felt that such a change will act as a stimulant for research conducted in the United States.

The Problem

For the purpose of computing U.S. tax liability, Treasury Reg. Section 1.861.8 requires corporations with foreign operations to allocate or apportion expenses, losses, or other deductions between domestic and foreign source income. This regulation, promulgated by the Treasury Department in 1977, requires that a portion of U.S. R&D expenditure be allocated to foreign source income. Foreign governments do not recognize this allocation as a deduction in computing their income tax. The effect, as noted in the Treasury Department's June 1983 report on "The Impact of the Section 861-8 Regulation on U.S. research and Development", is to increase the over-all, U.S. plus foreign tax, liability of U.S. companies engaged in research and development in the United States.

The allocation rule is a disincentive to U.S. research. To the extent U.S. companies increase their U.S. research, for example in response to tax credits for incremental research, they are faced with the prospect of creating unusable excess foreign tax credits. The company increasing its worldwide business and its U.S. research is caught by this conflicting result. Given the incentives provided for research and development by foreign nations, this regulation makes U.S. R&D investment relatively less attractive to U.S. companies than conducting such activity abroad.

Recognizing the inequities created by the 1977 regulations, Congress in the Economic Recovery Tax Act of 1981 placed a two-year moratorium on the R&D allocation requirements of Section 1.861.8. This moratorium expires this year.

To avoid reimposition of this regulation, Congress must enact legislation in this session to eliminate permanently such allocation requirements.

The Honorable John E. Chapoton, Assistant Secretary of the Treasury for Tax Policy, at the hearings on S. 654 held June 17, 1983 by the Senate Finance subcommittee on Taxation and Debt Management, stated Treasury support for an additional two-year moratorium. Mr. Chapoton testified:

> "The Administration firmly believes that continued growth in domestic R&D activity is crucial to the long run strength and international competitive position of the American economy. Since S. 654 would encourage the performance of R&D in the United States, the Treasury Department supports the general objective of the proposed legislation."

Because investment in R&D is a long-term commitment requiring confidence in a stable investment climate, an extension of the moratorium will not be sufficient. If companies are to commit necessary resources to research and development, they must be confident that their tax treatment will not be adversely altered in another two years.

PMA is hopeful that S. 654 will be promptly enacted and end the uncertainty that surrounds this issue.

DISCUSSION

Declining Rate of R&D Investment

By a variety of measures, the U.S. has experienced a slowdown in growth in R&D activities. The National Science Foundation (NSF) reports that average annual growth in U.S. R&D spending in constant dollars was 4.7 percent between 1960-1969, and 2.3 percent between 1970-1981.

The NSF also calculates that basic research as a percentage of total industrial R&D expenditures has gradually declined from 8 percent in 1960 to 4.5 percent in 1982.

Compared to other countries, U.S. R&D spending increases have been less:

Civilian R&D Expenditures as a Percent of GNP

YEAR	Country U.S.	JAPAN	WEST GERMANY
1969	1.5	1.6	1.8
1975	1.5	1.9	2.2
1981	1.6	2.1	2.5

Source: National Science Foundation

A recent survey of 85 major companies by Arthur Andersen & Co., the worldwide accounting firm, found that:

- Most corporations have shown an increase in their foreign R&D expenditures as a percentage of their worldwide R&D expenditures over the past ten years. Those companies with less than $2.5 billion in sales exhibited the greatest percentage increase in foreign to total R&D.
- The percentage increase in foreign to total R&D expenditures exceeded the percentage change in the ratio of foreign sales to domestic sales.
- Employment of highly skilled scientists and engineering professionals increased faster abroad than in the U.S.
- Various government incentives and disincentives were a major factor in the allocation of R&D resources in the industries studied. Forty-four percent of the respondents noted that if the moratorium on Section 1.861.8 were lifted, the regulation would contribute to an excess foreign credit position in coming years. Thirty-five percent said that this had been the case in 1977 through 1980. The study notes that the Regulation tends to "impede R&D expansion in the U.S. by increasing the cost of R&D and reducing cash flow available for R&D investment as a result of greater corporate tax liabilities."

The Impact of R&D on Productivity and Trade

Technological innovation exerts a strong, positive influence on economic growth.

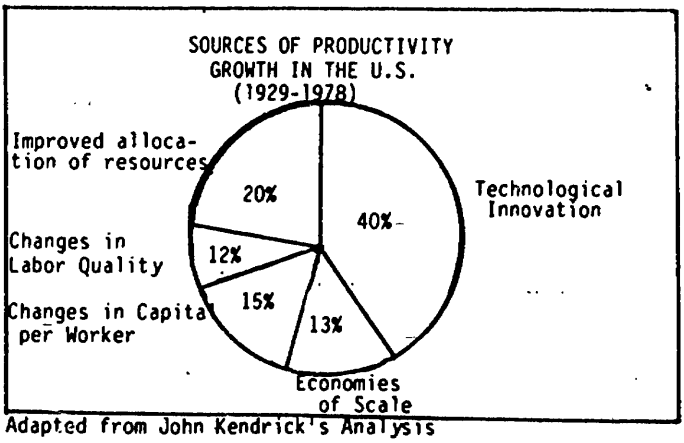
High technology industries -- pharmaceuticals, advanced electronics, chemicals-- have experienced more growth, sustained higher productivity and employment rates, and have been more competitive internationally than have industries with low technological activity.

According to the Committee for Economic Development, "Firms that have invested heavily in developing technology and carrying it forward into commercial products have been shown to have about twice the productivity rate, three times the growth rate, nine times the employment growth, and one-sixth the price increases of firms with relatively low investment in these activities."

Economist John W. Kendrick of George Washington University notes, "In modern economies the most important force behind productivity growth is technological progress resulting from cost-reducing innovations in the ways and means of production."

Kendrick's analysis of productivity inputs between 1929 and 1978 indicates that fully 40 percent of productivity growth during that period was due to "advances in knowledge" or technological innovation attributed to:

- formal R&D programs;
- informal inventive and innovative activities of individuals and groups included in R&D statistics; and
- the rate of diffusion of new process and producers' goods throughout the economy.



Adapted from John Kendrick's Analysis

There is compelling evidence that increased R&D leads to a stronger trade position. Economist D. B. Kessing attributes 88 percent of the variation in export share to variation in R&D levels in 18 U.S. manufacturing industries.

U.S. Trade Balance (Exports Less Imports) in R&D-Intensive and Non-R&D-Intensive Manufactured Products Groups
(in millions of dollars)

Years	R&D-Intensive	Non-R&D-Intensive
1977	$ 27,627	-$ 24,378
1975	29,344	-9,474
1973	15,101	-15,370
1971	11,727	-11,698
1970	11,722	-8,285
1965	8,148	-2,027
1960	5,891	-179

(R&D-intensive industries are defined as having at least 2.5 percent of their work force employed as scientists or engineers engaged in R&D and making R&D expenditures equal to at least 3.5 percent of net sales.)

Foreign Tax Advantages and Other Incentives

High technology companies are facing increasingly intensive competition from their Western European and Japanese counterparts. Those countries that have been our most successful competitors have solid government policies to stimulate and support technological development and trade.

As the recent Arthur Andersen study on "National Research and Development" notes, many of our major foreign competitors provide significant tax incentives for R&D activity, including additional deductions and tax credits of incremental research and for the acquisition of assets used for research, as well as providing significant non-tax incentives. In some countries, outright cash grants are provided for construction of research facilities.

Impact on U.S. Pharmaceutical Industy

The effect of Regulation 1.861.8 leads to an increase in a U.S. company's over-all tax liability. The Arthur Andersen study points out that research-intensive companies are particularly adversely affected by this regulation. U.S. pharmaceutical companies which conduct about 80 percent of their R&D in the U.S., although they derive about 50% of sales from abroad, feel a significant additional tax burden and a dampening of R&D investment incentive as a result of this regulation.

The pharmaceutical industry is highly research-intensive. The industry consistently spends about 11 percent of its sales on R&D, compared to two percent for industry generally. In 1980, Pharmaceutical Manufacturers Association members spent about $1.5 billion on research and development in the U.S.

In 1982, the U.S. pharmaceutical industry contributed $1.7 billion to our balance of trade.

However, the research efforts and innovational output of U.S. pharmaceutical firms have deteriorated relative to their Western European and Japanese competitors. The annual growth rate in constant dollars for R&D in the U.S. from 1973 to 1979 was 1.1 percent. In the United Kingdom, it was 13.1 percent; in West Germany, 7.9 percent; and in Japan, 8.1 percent.

According to the Organization for Economic Cooperation and Development, the U.S. pharmaceutical industry has suffered a significant deterioration in its international competitive position. Even more troubling, the study predicts that, in light of the declining rate of growth in this country's R&D, this deterioration will probably continue.

Conclusion

Considering the vital link between R&D investment and economic growth, the U.S. requires a tax program that stimulates rather than dampens technological development. Passage of a law permanently lifting the regulation that a portion of U.S. research and development spending be allocated to foreign source income would be a significant stimulus to domestic R&D investment by U.S. companies. S. 654 would support this crucial activity and enhance the competitive position of those high technology companies on which the United States depends for economic growth.