

1984

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Citation of this paper:

Stern, Robert M.. "Global Dimension and Determinants of International Trade and Investment in Services." Centre for the Study of International Economic Relations Working Papers, 8440C. London, ON: Department of Economics, University of Western Ontario (1984).

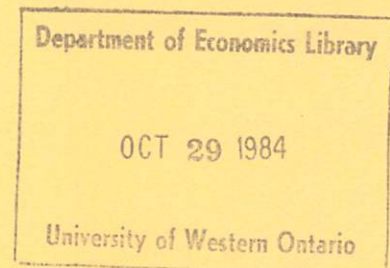
ISSN 0228-4235
ISBN 0-7714-0590-1

CENTRE FOR THE STUDY OF INTERNATIONAL ECONOMIC RELATIONS

WORKING PAPER 8440C

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TRADE AND INVESTMENT IN SERVICES

Robert M. Stern



This paper contains preliminary findings from research work still in progress and should not be quoted without prior approval of the author.

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**CURRENT ISSUES IN TRADE AND INVESTMENT
IN SERVICE INDUSTRIES:
U.S.-CANADIAN BILATERAL AND MULTILATERAL PERSPECTIVES**

THE THIRD ANNUAL WORKSHOP ON U.S.-CANADIAN RELATIONS

Sponsored by the Institute of Public Policy Studies of The University of Michigan and the Centre for the Study of International Economic Relations of the University of Western Ontario, with financial support from the Ford Foundation, Donner Foundation, National Science Foundation, Ontario Economic Council, Bank of Montreal, IBM Canada, and The Fishman-Davidson Center of the University of Pennsylvania.

October 19-20, 1984
Ann Arbor, Michigan

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**Global Dimensions and Determinants of International
Trade and Investment in Services**

**GLOBAL DIMENSIONS AND DETERMINANTS OF
INTERNATIONAL TRADE AND INVESTMENT IN SERVICES¹**

by

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I. Introduction

Largely as a result of U.S. initiative,² issues relating to trade and investment in services have been given an important place on the international policy agenda. The present paper is intended accordingly to assess the available information on services and thus to inform both the positive and normative analysis of service-related issues from the standpoint of individual countries and the world as a whole.

In Section II following, we begin by analyzing the characteristics of services and note especially the many ambiguities which arise in defining and measuring services and distinguishing services from goods. We then consider the various alternatives for classifying services in terms of domestic transactions and output, international transactions in the balance of payments, activities of foreign affiliates, and a variety of analytical classifications of services which have been suggested in the literature. It will be evident from our discussion that services pose many conceptual problems and that the alternative methods of classifying services lack a unifying theme.

With the foregoing as background, we present in Section III a number of tables relating to international transactions in services, based on balance-of-payments classifications for the world as a whole

and for the U.S., Canada, EEC, and Japan. These latter tables are broken down geographically in order to provide a more detailed picture of the origin and destination of traded services. A similar table is presented for the income and employment of U.S. foreign affiliates. This information on the magnitudes of traded and investment-related services is designed to provide perspective on the relative importance of services in the aggregate and by type.

Because the available data on services are inadequate in terms of coverage and detail, there is an evident need for improved data for descriptive purposes and for use in analyzing important economic influences and changes in policies. This includes as well information on restrictions affecting trade and investment in services. These matters are discussed in Section IV.

In Section V, we consider the applicability of models of comparative advantage in analyzing the determinants of trade and investment in services and comment on the comparatively few empirical efforts which have been based on these models. Much remains to be done to assess the costs and benefits of existing restrictions affecting services in order to provide a basis for possible negotiations to reduce or remove these restrictions. Finally, some concluding remarks are made in Section VI.

II. Characteristics and Classifications of Trade and Investment in Services

A. Characteristics

In his especially insightful paper, Hill (1977, pp. 317-18) makes the following distinction between goods and services:

"A good may be defined as a physical object which is appropriable and, therefore, transferable between economic units.

...A service may be defined as a change in the conditions of a person, or of a good belonging to some economic unit, which is brought about as the result of the activity of some other economic unit. ...This definition ... is consistent with the underlying idea which is inherent in the concept of a service, namely that one economic unit performs some activity for the benefit of another. ...Whatever the producer of the service does must impinge directly on the consumer in such a way as to change the condition of the latter. Otherwise no service is actually provided."

It seems clear from the foregoing definitions and from actual experience that service activities are both numerous and diverse in themselves and in the changes which they effect in goods and persons.³ To give an idea of the range and different types of services which exist, the following groupings, as noted in Government of Canada (1982, p. 11), are suggestive:⁴

1. services *complementary* to trade in goods (e.g., transportation, insurance, banking, and advertising);
2. services that *substitute* for trade in goods (e.g., franchising, rental, leasing, and repairs); and
3. services *without a direct relationship* to goods (e.g., banking, life insurance, professional services, real estate, telecommunications, data processing and information services, and travel).⁵

The foregoing definitions, categories and examples are not necessarily exhaustive and mutually exclusive, and it may in fact often be difficult to disentangle what constitutes a good or service. Nonetheless, services do have the distinguishing characteristic that their production and consumption generally take place simultaneously,

and, as Hill (1977, p. 319) notes, services cannot be stored.⁶ In the case especially of services which are embodied in and thus change the condition of goods, the question naturally arises as to whether it is analytically meaningful and practical to separate the two. Much will depend here on the nature of technological change and the ways in which the specialized activities of firms, to use Bhagwati's (1984a) terminology, are "splintered" off into services from goods and goods from services.⁷ Thus, depending on the level of aggregation for recording transactions and particularly the time span involved, it may be quite difficult to distinguish goods from services and vice versa at the industry level.

This difficulty will become more pronounced especially if services which had previously been purchased at arm's length from other firms are subsumed within the firm. That is, intra-firm transactions often cannot be measured accurately to the extent that there is no direct market analogue available to value them. Given the large absolute size and complexities of most large corporations in terms of both their domestic and multinational activities, it seems unlikely that it will ever be possible to identify separately the services embodied in goods within the firm. Thus, the changing relative importance of inter-firm and intra-firm transactions will have a major impact on the measurement of the values of goods and services.

We mentioned above in footnote 5 that some services may be supplied by public as well as private enterprises in certain countries, and, further, that there were a number of collective and pure public services provided by governments. These latter types of services, particularly those involving education, medical care, public

administration, and national defense, raise especially difficult problems of valuation since, as with intra-firm transactions, there may not be any direct market analogues that can be readily used. It is for this reason that input measures commonly serve to represent the value of services in these cases.* Thus, the services provided by public enterprises and government may not be measured commensurately with most private services, and there may be important intertemporal or intercountry differences depending upon the private-public composition. Finally, again as noted above, governments may pursue different regulatory policies vis-à-vis services, and the resulting promotion or restriction could result in national differences in the valuation and significance of particular services.

The preceding discussion was meant to illustrate some of the important characteristics of services and to call attention to the ambiguities encountered in trying to define and measure services and to distinguish services from goods. Inevitably one has to overlook many of these difficulties and deficiencies of measurement and confront the different ways in which services can be classified for reporting and analytical purposes. Let us now consider these matters.

B. Classifications

Data on services are commonly collected in most countries in connection with the compilation of national accounts and classified according to expenditures on final demand as well as industry of origin. Thus, in Table 1, which is adapted from Kravis (1983), we can see that government, housing, and education accounted for about 60 percent of total service expenditures in the U.S. in 1975. When medical care and hotels and restaurants are added, the percentage rises to more than 80

percent. If expenditures are valued in terms of a common set of international prices, service expenditures as a percentage of GDP fall from 49.3 to 38.4. This indicates that the prices of services are lower in other countries, especially those with lower incomes than the U.S.¹⁰ It is also evident that the composition of expenditure changes noticeably when international prices are used.

Data on the shares of services in GDP and employment classified by industry of origin are recorded in Table 2 for the U.S. for 1982. Services in the aggregate were 68.5 percent of GDP, which, as Kravis (1983, p. 5) notes, reflects the relatively high proportion of value added to gross output in services and the importance of services as intermediate inputs. There are noteworthy differences among the sectors in terms of their shares of GDP and employment. Thus, retail trade, other private services, and government services account for a much larger proportion of employment than GDP. The opposite is the case especially for finance, insurance, and real estate.

There are obviously many measurement problems which arise in the collection and classification of the expenditure and industry data and in the analysis of the economic factors which determine the levels, shares, and changes in the various services categories for the U.S. and other countries. Since it would take us too far afield to discuss these matters here, we simply refer the reader to the literature.¹¹

When it comes to the recording and classification of international transactions, it would seem natural to follow the separate breakdowns based either on expenditures on final demand or industry of origin. But, as Kravis (1983, pp. 15) notes, the classification of services found in balance-of-payments accounts typically includes both

factor and nonfactor services. The largest elements of factor services involve the payments and receipts of interest and dividends related to the use of foreign capital and wages paid to foreign workers, consultant fees, etc. Nonfactor services, in contrast, are more akin to what is represented in the domestic classifications. But the balance-of-payments classifications used may be a mixture of the domestic classifications or there may be some domestic classifications that are not included in the balance-of-payments classifications.¹²

A further important issue involves the sales and earnings which are generated by foreign affiliates. As noted above, investment income is typically a very substantial element in a country's balance of payments, but it may not reflect the total sales and earnings and the employment generated by the operations of foreign affiliates. To the extent that many service activities are location specific in terms of the close ties that are necessary between the providers and demanders of services, foreign direct investment may be the primary vehicle involved rather than trade itself. This is the case especially for the U.S. as will be noted below. Thus, the recording of domestic transactions involving the production and expenditure relating to goods and services will have an important foreign component depending upon the degree of foreign ownership and control in particular sectors. The balance-of-payments accounts will accordingly not reflect fully these investment-related transactions, except to the extent that they cross national boundaries.¹³

Thus far we have discussed the classifications which are actually used for recording domestic and international transactions in goods and services. It was noted especially that the recording of international

transactions based on balance-of-payments classifications cannot be reconciled easily with the domestic classifications used for expenditures on final demand and for GDP by industry of origin. The recording and classification of services are further complicated by the presence of foreign affiliates whose activities may not be reflected systematically in the accounts of the country of the parent company.

Besides the classifications which are in current use in official, recorded statistics, it may be of interest to consider some other classifications of services which have been suggested in the literature for a variety of analytical and policy purposes. Thus, for example, services are often conceived of broadly as the *tertiary* sector in a developmental sense in relation to agriculture and manufacturing, and at times they have been identified as *nontradables*.¹⁴ Gray (1983, p. 378) has offered the following classification:

1. *services derivative from trade* in tangible goods (e.g., transport, insurance, and related financing);
2. *location-specific* services (e.g., tourism);
3. *location-joining* services (e.g., passenger transportation and communications);
4. *general services* provided usually in all nations (e.g., financial services, professional services, and intranational communications); and
5. *intrafirm transactions*.

An alternative developmental classification has been put forward by Katouzian (1970, pp. 365-72):

1. *new services* (e.g., education, medical services, entertainment) which are sensitive to the growth in per capita income and leisure time;
2. *complementary services* (e.g., banking, finance, transportation, and trade) which are related to the process of industrialization and urbanization; and
3. *old services* (e.g., domestic service) which have been subject to substitution effects related to the increase in per capita income and the availability of durable consumer goods.

Shelp (1981, pp. 101-108) has suggested a breakdown according to the trade and investment orientation of services and the nature of existing national regulations:

1. *investment-related services* (e.g., banking, professional services, employment services, advertising, leasing, and hotel and motel services);
2. *trade-related services* (e.g., air and maritime transportation); and
3. *trade- and investment-related services* (e.g., insurance, communications, computer services, education and health services, motion pictures, construction and engineering, and franchising).

The classifications just noted are interesting because they suggest different frameworks for thinking about and analyzing services. The classification that one chooses will of course depend on the purposes to be served. But inevitably it is necessary to rely on the information which is actually available currently and then to assess

what additional information we would like to have for particular analytical and policy purposes. We turn next therefore to a brief examination of the global magnitudes as reflected in the available data, and subsequently to the need for better data.

III. Global Dimensions of International Trade and Investment in Services

The main source of internationally comparable data on world trade in services is the International Monetary Fund's **Balance of Payments Statistics**. We noted earlier that the balance-of-payments classifications are far from ideal since they do not correspond exactly to the domestic expenditure and industry-of-origin classifications, and, further, they combine nonfactor and factor services. These limitations should be borne in mind in what follows. As indicated in Table 3, total services exports were valued at \$350 billion in 1980 according to USTR (1983). This total includes shipment, other transportation, travel, labor and property income, and a residual "other" category which is comprised mainly of private business and related services of various kinds. Official services and investment income are excluded from the services total shown. Total merchandise exports were \$1,650 billion in 1980, which was nearly five times the total for services and about three and a half times the total for services and investment income combined. It is evident that total services grew somewhat less than merchandise during the 1970s, but both grew significantly more than GDP.

A percentage distribution of the major categories of services exports for the U.S. and other major industrialized countries for 1980 is given in Table 4. Since Other Private Services cover many of the business and related services which figure importantly in current policy

discussions, it is interesting to contrast their importance as compared to the transportation and travel-tourism categories noted. Thus, for the U.S., as noted in the last column, Other Private Services were 28.8 percent of total U.S. services exports. For the other countries listed, the percentages for Other Private Services ranged from 14.9 percent for Norway to 56.4 percent for Belgium. The relative importance of each of the four categories can be gauged for the individual countries from the details given in the table. For the 25 largest services exporters, which include several developing countries as well as the industrialized countries listed, Other Private Services were about one third of the total services exports covered in this compilation.¹⁵ In terms of magnitude therefore, the transportation and travel-tourism categories are the largest for the U.S. and most other industrialized countries.

The percentage shares in world services exports for the U.S. and other major industrialized countries are given in Table 5.¹⁶ It is evident that the U.S. is by no means dominant in any of the services exports categories listed, and that its 9.8 percent share of the total for Other Private Services is less than for Germany, the United Kingdom, and France.¹⁷

In order to provide additional perspective on trade in services, we present in Tables 6-9 a breakdown of total merchandise trade, military sales, the major categories of private and official services, and investment income by geographic area for 1973 and 1983 for the U.S., Canada, and Japan and 1973 and 1980 for the EEC. These are balance-of-payments data and thus reflect the problems of coverage and interpretation already noted. It can be seen in Table 6 that in 1983 the U.S. had a \$10.6 billion merchandise trade deficit with Canada, a

\$1.9 billion surplus on services (item 3), and a \$9.3 billion surplus on investment income. Canada accounted for somewhat more than 20 percent of U.S. exports and imports and for much smaller percentages of the total services and investment income. Western Europe and the rest of world (All Other) accounted for the bulk of U.S. exports and imports of services and investment income. These percentages were typically larger than those for trade. The detailed entries in Table 6 provide an indication of the absolute amounts of exports and imports and the balances for the regions indicated. The entries in the Total columns indicate the absolute and relative importance of the main categories listed.¹⁴

The breakdown for Canada in Table 7 shows the dominance of the U.S. for all the categories listed, with the other OECD countries (mainly Western Europe) next in importance. For Japan, the data in Table 8 indicate a substantial merchandise trade surplus and a smaller services deficit with respect to the U.S. Japan has relatively more merchandise trade with the rest of world (All Other) than the U.S. while its service proportions are about comparable with the U.S. The data in Table 9 refer to the EEC-6 for 1973 and 1980, which was the latest year available. The regional breakdown in this table refers to the EEC-9 and thus excludes Greece, which is contained in All Other. A substantial proportion of trade in merchandise and services as well as investment income evidently is accounted for within the EEC. Services and investment income are relatively more concentrated than merchandise trade vis-à-vis the U.S. as we saw above. As with Table 6, there is sufficient detail in Tables 7-9 for Canada, Japan, and the EEC-6 in case one wishes to analyze further the component entries and totals.

We had occasion above to note the important role which the foreign affiliates of U.S. parent companies play in the production of goods and services around the world. Some of the activities of these affiliates are of course reflected in the trade in merchandise and services and the investment income flows recorded in Tables 3-9. But these international transactions understate significantly the contributions of foreign affiliates to output and employment in the host countries. In Table 10, we present a breakdown by sector and geographic region for 1977 of the income and employment of all foreign affiliates of all U.S. parents. For this purpose, petroleum-related services and construction have been separated from the remaining services categories noted on the grounds that these two sectors seem qualitatively different from the others. Granting the separate listings of the aforementioned sectors, the total income of services affiliates (item 6) was \$171.1 billion in 1977, which is four to five times greater than the international transactions recorded in Table 6 for the U.S.

Income of services affiliates as defined in Table 10 was 25.2 percent of the total for all sectors, and employment was 22.0 percent. The petroleum and manufacturing sectors combined accounted for 71.7 percent of total income and 71.2 of employment. Within services, wholesale and retail trade (item 6a) was by far the most important sector, with banking, other services, and insurance next. The regional breakdowns are unfortunately difficult to interpret because of missing data, but the importance of affiliate operations in Europe especially is clear.

It would appear from the foregoing tables that, while the income of foreign services affiliates is significantly greater than the

magnitude of traded services for the U.S., in both cases the services involved are relatively small compared to the other categories noted.¹⁹ In this light and in view of the attention which has been focused on services, it seems appropriate to ask whether the existing data may understate the true magnitudes of services. For example, it is stated in USTR (1983, p. 108):

"A downward bias probably exists in the statistical estimations of most countries. In fact, international concern over the growing statistical discrepancy in the world balance of payments (\$100 billion in 1982) has focused increasingly on the potential under-reporting of service industry and other invisible transactions."

This contention is not examined further in the USTR study because the requisite data are not available. But my own guess is that unrecorded financial flows rather than services may account for the bulk of the discrepancy. Further, in discussing efforts to improve upon the existing data, the USTR focus (pp. 172-82) is on foreign affiliates whose operations we have already seen are only partially reflected in balance-of-payments transactions. The importance of trade in services may thus be understated in this sense, but it must be borne in mind that most of the services involved are investment related in terms of the presence of foreign affiliates.

It will be recalled from our earlier discussion of the characteristics of goods and services that there is a continuous, dynamic interaction between them which is associated with changes in technology and firm specialization. It may be exceptionally difficult therefore to disentangle or debundle many kinds of goods and services for recording purposes, so that the question of whether services are underreported perhaps can never be answered unambiguously.

Finally, it might be argued that preoccupation with questions of measurement may well divert attention away from the fundamental changes in technology associated with the computer and telecommunications revolution which the world is experiencing currently. If this is the case, the appropriate focus might be on how to assess the importance and ramifications of these changes in technology and to forestall policies which may restrict the production and distribution of the goods and services involved.²⁰

The data presented in Tables 3-10 evidently have many imperfections and gaps, but they suggest that trade and investment in services are relatively much less important in comparison to goods. For the U.S. in particular, transport and travel-tourism receipts and payments are considerably larger than private, business-related services. Also, the U.S. is by no means dominant in world trade in services. While the income from U.S. foreign services affiliated is substantial in absolute terms, it is relatively small in comparison to the affiliate income in manufacturing and other sectors. All of this is not to deny the importance of services, but rather to put them in perspective vis-à-vis all other sectors. The fact remains, however, that the documentation of trade in services is very limited as compared to goods. It may be useful accordingly to review briefly the recommendations for improved data which have been made in the U.S. and Canada especially.

IV. The Need for Better Data

In considering the need for better data on services, there are both positive and normative considerations which must be borne in mind.

In the positive sense, it is evident that much greater attention has been given to the development of classifications and methods for reporting data relating to the production and trade in goods as compared to services. As a consequence, it is difficult to determine the levels and changes in particular types of services with the same kind of accuracy as in the case of goods. This is an important limitation because without such knowledge, the evaluation of policy options is fraught with much uncertainty. In recent years, however, this situation has been remedied somewhat by work being done on services in the U.S., Canada, and elsewhere. A proposed classification for trade in services is outlined in McKellar (1982) and analyzed in relation to the existing system of classification in Canada in Geehan (1982). This classification is reproduced in Appendix Table 1 below.

Two studies, Economic Consulting Services, Inc. (1982) and Lederer et al. (1982), were commissioned in the U.S. These studies recognize the deficiencies in the reporting of services in existing balance-of-payments classifications and the importance of U.S. foreign affiliates in service industries. Several recommendations were made especially in Lederer et al. to improve the services data on foreign affiliates by means of specially designed, more detailed, and more frequent investment surveys. The existing information available in both public and private sources for the major U.S. services sectors was reviewed in the two studies as well as in USTR (1983, esp. pp. 172-82). Efforts currently underway in the U.S. involve close cooperation between the government agencies and the relevant industries for the purpose of effecting improvements in the collection and reporting of data on

services. Presumably the same is true in other countries and in the OECD which has a longstanding interest in services issues.

The increasing attention devoted to services reflects the recognition that there are many existing and potential barriers which may restrict trade and investment in services. As a consequence, to some extent in Canada and much more so in the U.S., each of the major services sectors has been analyzed in depth in an attempt to identify the major characteristics and especially the problems and restrictions which are encountered both in trade- and investment-related services around the world.²¹ One of the desirable next steps clearly would be to coordinate the efforts of the U.S. and the other major countries to standardize the available information and to analyze the costs and consequences of existing restrictive measures affecting services.²²

In designing such analysis, it might be useful to review the important theoretical considerations involved and to assess what we know to date from the available empirical studies. This is the subject of our next section.

V. Determinants of International Trade and Investment in Services

What is the most appropriate theoretical framework to use in analyzing the determinants of trade and investment in services? If the answer is that we should rely on the existing models of comparative advantage and foreign direct investment, are these models adequate for the purpose?

The theory of comparative advantage has of course been explicated at length over the past two centuries, and we currently have well articulated and rigorous theoretical statements of what determines the

composition of trade and the gains from trade. There is also a large empirical literature dating from the early 1950s especially in which stylized versions of the theory of comparative advantage have been "tested."²³ Although traditionally the theory of comparative advantage assumes international factor immobility, the activities of multinational enterprises and the international migration of labor have become too important to be ignored. As a consequence, there have been numerous efforts in recent years to model the behavior and consequences of multinational firms and the international movement of labor.²⁴

Some writers such as Hill (1977) and Herman and van Holst (1981) have argued that services are not amenable to the traditional analysis of exchange relationships because of their special characteristics as compared to goods. However, their contentions are not convincing,²⁵ and it seems reasonable therefore to use the existing models of comparative advantage as a point of departure in analyzing services.²⁶ These models suggest that the composition of trade in services will depend upon a nation's relative factor endowments, technology, realization of scale economies, product differentiation, and government policies. Presumably these same considerations apply to foreign direct investment involving services.

It appears appropriate in this light to adapt to services the empirical framework that has been used to analyze the determinants of trade in goods.²⁷ A notable attempt along these lines is the work by Sapir (1981) and Sapir and Lutz (1980, 1981), who analyzed the determinants of international ocean freight, passenger services, insurance, and "other" services as classified in the IMF balance of payments statistics, based on a cross-section of national data for as

many as 52 industrialized and developing countries. The services trade data were for 1977 and the proxy measures for factor endowments and technology were calculated for reasonably adjacent years. The empirical results indicated the importance of physical capital abundance in explaining trade in ocean freight and passenger services and human capital in insurance and other services. Scale and locational factors were significant in a few instances. Given the usual caveats about the empirical implications of the underlying theory and the crudeness of the data, the results are nonetheless suggestive in lending support to the usefulness of the framework of comparative advantage as applied to trade in services.

Work by Saxonhouse (1983) is also pertinent here. He sought to investigate in a comparative context whether the large size of Japan's distribution system and the small Japanese exports of technology services were unusual by international standards. For this purpose, he used cross-section data for eleven countries for GDP originating in 23 sectors and technology trade in 25 sectors for the years 1965, 1973, 1975, 1977, and 1979. His explanatory variables included national measures of capital stock, labor, educational attainment, distance, petroleum resources, iron ore, and arable land. Country-specific dummy variables were included in the pooled, cross-section regression estimates to allow for characteristics not included in the endowment and other variables. The results were that very few of the Japanese country dummies were statistically significant. Saxonhouse concluded therefore that the size of Japan's distribution system and its trade in technology services were not unusual by international standards compared with other major countries. This is a further example accordingly of the role that

factor endowments and related variables may play in determining the structure of production and trade in services.

Finally we may mention work by Sapir and Schumacher (1984), who attempted to calculate the direct employment effects of changes in the composition of trade in commodities and services for the U.S., Japan, and six of the major European countries for individual years between 1970 and 1981. They used primarily a 16-sector breakdown of manufacturing industries, measures of sectoral labor-gross output ratios for 1977, and trade in constant prices for the individual years. Traded services were represented by only three sectors -- transport, travel, and other private services -- on the basis of IMF balance-of-payments statistics, and the labor-output ratios were calculated from domestic data. The difficulty here was that the labor-output ratios for services were based upon the domestic production data for essentially nontraded services. As Sapir and Schumacher themselves note, the resulting ratios may thus overstate the labor content of trade in services, and it turned out that these ratios for services were in fact larger than for goods. Calculations were made of the employment effects of changes in the value of trade in both goods and services for each of the eight countries globally and with respect to the developing countries. In the latter case, an equal expansion of the export of services and the import of manufactures was shown to be detrimental to employment in the industrialized countries.

While the work by Sapir and Schumacher is highly suggestive, it has several limitations. As mentioned, it considers only direct employment effects, uses labor-output ratios for nontradable services to represent tradable services, and implicitly assumes that goods and

services are substitutes in trade for each other.²⁸ In principle, these limitations could be dealt with by using a more general model which allowed for both direct and indirect effects in terms of an input-output structure and the associated imports and exports of goods and services for the individual sectors.²⁹ This would of course necessitate disaggregated data on the production and trade involved, which may be difficult to obtain for reasons mentioned earlier. But only if such data become available, will it then be possible to make more systematic calculations of the economic effects of changes in trade in goods and services.

None of the aforementioned studies dealt explicitly with the determinants of foreign direct investment involving services, which we have seen above to be especially important in the case of the U.S. There is reason to believe, however, on the basis of work by Baldwin (1979) that the same types of factor endowment and related variables which may serve to explain the composition of trade in goods can be applied to foreign direct investment. This finding should carry over presumably to investment in services, although whether it does in fact remains to be seen.³⁰

If it can be granted that international trade and investment in services are governed by the conventional economic and policy-related variables which determine comparative advantage, this in turn will establish the basis for analyzing the effects on economic welfare of the existing structure of trade and investment in services and possible changes in this structure. As mentioned above, considerable attention has been given especially in the U.S. to documenting the foreign restrictions faced by U.S. firms engaged in trade and investment in

services. In this connection, it would be interesting to review the restrictions on services which exist around the world in light of the models of the political economy of protection and lobbying which have been developed in recent years in order to determine if the same considerations apply to services as to goods. Off hand, I would not expect any important differences to emerge in such an analysis.³¹

Further, restrictions on trade and investment in services can be analyzed using the same kind of cost-benefit analysis that is used for goods. That is, it should be possible to determine what effects existing restrictions have on consumers and producers and the return to factors and how these might change if restrictions were reduced or removed altogether. Again, the data requirements may be an important limiting consideration, but this should not controvert the applicability of determining how economic welfare may be affected in given circumstances.

This leads to a final point of whether and why there should be concern over existing and possibly new restrictions on trade and investment in services. The data on trade and investment in services presented earlier suggest that the magnitudes are relatively small compared to goods. Further, it can be argued that the restrictions affecting trade and investment in goods are far more important and damaging, and that the GATT system seems rather fragile and increasingly unable to cope with the situation.³² It is not surprising therefore that there has been reluctance in many countries to support the U.S. initiative on services. It would be useful in this light if calculations could be made of the costs of existing or potentially new restrictions on services. We would then have a more firm foundation on

which to base judgments and to consider the desirability and feasibility of seeking changes in policies for individual nations and groups of nations.

VI. Summary and Conclusions

Our discussion suggests a number of conclusions, which are noted below.

1. Services come in a variety of forms and in the manner by which they change the condition of goods and persons. There is a continuous interaction between goods and services due to changes in technology and resulting changes in the activities carried on within and between firms. Intrafirm services and collective and pure public services provided by government involve difficult problems of measurement because of the absence of market analogues.
2. Existing classifications of services in domestic transactions and international transactions used in balance-of-payments accounts involve many incompatibilities. The activities of foreign affiliates engaged in service industries are not reflected systematically in either of the foregoing classifications. It is difficult therefore to obtain an accurate indication of the level and changes in the values of services for particular sectors and overall. There is an obvious need accordingly for improved and more detailed data on services and for concordances among the various systems of classification which are used.

3. Given the existing data, it appears that transportation and travel-tourism are the major categories of traded services in the U.S. and other major industrialized countries. While the income generated by U.S. owned foreign affiliates in service industries is substantial, manufacturing and other sectors are relatively much more important. It is not obvious therefore how large the benefits might be if existing restrictions on trade and investment in service industries were reduced or removed entirely and potential new restrictions avoided. More substantial gains might be realized accordingly by concentrating on the liberalization of restrictions affecting goods, while at the same time preparing the groundwork for liberalization efforts involving services.
4. Trade and investment in services presumably are determined by the same influences which shape comparative advantage in goods. These influences include factor endowments, technology, and government policies. The same normative considerations involving economic welfare will apply to trade and investment in both goods and services. This reinforces the need already noted for better data in order to permit more effective analysis of alternative policies relating to services.

Footnotes

¹The research underlying this paper was made possible in part by assistance from the Ford Foundation and the Donner Foundation. Helpful comments on an earlier draft were received from Alan V. Deardorff, Partha Sen, and graduate-student members of the Research Seminar in International Economics at The University of Michigan. Bernard Hoekman and Judith Jackson are to be especially thanked for their assistance respectively in organizing some of the data and in the typing and revisions of the paper.

²See, for example, Brock (1982), Diebold and Stalson (1983), Gray (1983), Grey (1983a), IMF (1984), Sapir (1982), Schott (1983, 1984), Stalson (1983), and USTR (1983).

³In his conception and examples of services to persons, Hill (1977) apparently has households and individual consumers in mind. However, as will be evident from our ensuing discussion, there may be many kinds of services rendered to businesses which are only indirectly reflected in the goods being produced. Perhaps one can consider the entity of a business firm as a person in this light.

⁴The Government of Canada report includes services *embodied* in goods as a separate category, but there is no clear way of distinguishing the services involved as we note below. It might be argued nonetheless, as Michael Leidy has suggested to me, that using Lancaster's framework of product attributes, we could think of goods in terms of the services which they provide, and that there may be some services which exist independently of goods.

⁵The examples given here relate primarily to traded services, and no distinction is made as to whether the services are provided by

private or public enterprise. Hill (1977, pp. 331-36) discusses the provision of collective and pure public services (e.g., education, public health, roads, etc.; public administration and national defense) which involve important elements of externalities and can be characterized as "unsolicited" services. The provision of collective and pure public services may have an important bearing upon a nation's domestic economy and external trade by affecting the cost and availability of many private services. This will be the case, as well, if governments undertake regulatory policies which may limit or protect the activities of its service sectors.

⁶Thus, as Herman and Van Holst (1981, p. 9) point out, one can think in terms of a stock of service-rendering capacity which must be available to meet demand. This may in turn clarify Hill's contention (1977, p. 318) that services cannot be analyzed in terms of conventional market exchange because they cannot be transferred like goods between economic units. Hill may be correct in a narrow sense, but surely firms and households will be sensitive to price differences among the entities which offer services for sale.

⁷Bhagwati's conception is that as specialization emerges owing to economies of scale, service activities will be splintered off and become part of inter-firm transactions. He views this as technically progressive. On the other hand, when goods are splintered off from services due to technological progress, we may be left with relatively unprogressive service sectors as conventionally measured.

⁸See Kravis, Heston, and Summers (1982, pp. 133 seq.) for a careful empirical analysis of alternative measures of these types of services.

⁹For more details, see Kravis (1983, esp. pp. 6-8).

¹⁰See Bhagwati (1984b) for a theoretical analysis of why services are cheaper in poor countries.

¹¹See especially Bhagwati (1984a, b), Economic Consulting Services, Inc. (1981), Government of Canada (1982), Hill (1977), Katouzian (1970), Kravis (1983), Kravis, Heston, and Summers (1982, 1983), Krommenacker (1984), Saxonhouse (1983), Shelp (1981), Summers (1983), and USTR (1983).

¹²Thus, Kravis (1983, pp. 15-16) cites transportation as a standard category in the industry-of-origin classification while the component involving passenger fees reflects a final-demand category. He notes further that trade is an important domestic service industry in its own right, but that distributive services are considered part of the value of the goods or services when they are traded internationally. . The reason is that nonfactor services are measured based on gross sales revenue or purchase values when they are involved in international transactions, while in domestic transactions they are measured in terms of value added.

¹³If foreign affiliates trade with third countries, these transactions will of course not be included directly in the accounts of the country of ownership of the affiliates.

¹⁴As Katouzian (1970, pp. 363-65) notes, the primary, secondary, and tertiary categorization was popularized especially by the writings of A.G.B. Fisher and Colin Clark. The treatment of services as nontradables reflects the manner in which industry-of-origin and trade data are organized. In particular, services may be treated as nontradable according to conventions of national income accounting.

Thus, for example, in their computational model of world production and trade, Deardorff and Stern (1981) classify ISIC sectors 2 and 4-9 as nontradables.

¹⁸See USTR (1983, p. 114) for the complete list of countries. The 25 countries combined accounted for more than 90 percent of the world totals.

¹⁶As indicated in the table and in the preceding footnote, the totals refer to the 25 largest services exporters.

¹⁷This point is made also by Kravis (1983, p. 25).

¹⁸The sum of fees and royalties (item 3d) and other private services (item 3e) presumably corresponds to the category of Other Private Services in Tables 4 and 5 above.

¹⁹This is the conclusion reached also by Kravis (1983, pp. 23 and 29) in terms both of the relative importance and growth experiences of most services for the U.S.

²⁰In this connection, see Feketekuty and Aronson (1984), Frazee (1983), Grey (1983b), and Sauvant (1984).

²¹See, for example, Government of Canada (1982), Krommenacker (1984), Schott (1983), Shelp (1981), U.S. Department of Commerce (1980), USITC (1982), and USTR (1983).

²²For some recent analyses of particular sectors and countries, see Feenstra (1984), Grubel (1984), OECD (1983), and Tucker et al. (1983).

²³See the various chapters in Jones and Kenen (1984) for in-depth analyses and surveys of the important recent theoretical and empirical developments in international trade theory and policy.

²⁴Caves (1982) is a useful source on foreign direct investment. See the May 1983 issue of the *Journal of International Economics* for a symposium on international factor mobility.

²⁵See footnote 5 above for a comment on Hill's contention. Herman and van Holst maintain that it is necessary to "disentangle the causality chain" in order to understand the basis for comparative advantage, but they are not explicit in how to accomplish this.

²⁶In this connection, see Bhagwati (1984b), Deardorff (1984), and Hindley and Smith (1984).

²⁷Some work has been done to develop forecasting equations for trade in services, but these efforts usually stress financial determinants as in the case of investment income or the effects of changes in relative prices and income on the demand for particular types of services. See, for example, Proctor (1982).

²⁸See USITC (1982) for some estimates of the amount of U.S. merchandise exports related to the activities of selected service industries, and what the effects on exports might be if existing barriers to trade in services were reduced.

²⁹It might also be useful to allow for intercountry effects in a multilateral setting, as, for example, in the Michigan model of world production and trade. See Deardorff and Stern (1981).

³⁰Deardorff (1984) has some theoretical reservations on this matter which suggest that comparative advantage may not apply when considering some of the activities of multinational firms.

³¹See Kravis (1983, p. 30) for a classification of service industries involved in current U.S. trade liberalization efforts, classified by the motivations of foreign restrictions. These

motivations include: cultural identity; financial stability, national sovereignty or security; and the protection of the public from monopoly power, fraud, or other undesired practices not easily discerned by consumers.

³²This view is expressed forcefully in Grey (1983a).

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Table 1

Shares of Services in Expenditures on
Final Demand in the U.S. in Own
Prices and International Prices, 1975

Expenditure Category	Shares in Own Prices	Shares in International Prices
Housing	24.1%	27.4%
Gross rent	20.3	22.6
Medical care	14.2	9.3
Education	12.9	8.7
Hotels and restaurants	7.2	8.6
Other	18.8	19.3
Public transport	1.1	0.9
Communication	2.6	3.0
Recreation	3.0	2.8
Barber and beauty shops	0.7	0.5
Government	22.8	26.7
Total	100.0	100.0
Service expenditures as % of GDP	49.3	38.4

Source: Adapted from Kravis (1983, p. 7).

Table 2

Shares of Service Industries in
GDP and Employment in the U.S., 1982

Industry Category	Share of GDP in Current Prices	Share of Total Persons Engaged ^a
Transportation	5.1%	4.4%
Communication	4.1	2.0
Electricity, gas, etc.	4.3	1.3
Wholesale trade	10.2	8.1
Retail trade	13.5	20.8
Finance, insurance and real estate	24.4	8.6
Other private services	20.9	30.3
Government services	17.5	24.5
Total	100.0	100.0
Services as % of total	68.5	70.6

^aTotal of full-time equivalent employees plus self employed.

Source: Adapted from U.S. Department of Commerce, Survey of Current Business, July 1983, pp. 68 and 74.

Table 3

Total World Exports of Services and Merchandise,
Investment Income, and GDP for 1980 and Growth Rates for 1970-80

	Value (\$U.S. Billions)	Average Annual Growth, 1970-80
Services exports	350	18.7%
Merchandise exports	1,650	20.4
Investment income	225	22.4
Gross domestic product	9,389	14.2

Source: Adapted from USTR (1983, p. 110).

Table 4

Percentage Distribution of Major Categories of Services Exports in 1980 for the U.S. and Other Major Industrialized Countries

Country	Shipment	Other Transportation and Passenger Services	Travel and Tourism	Other Private Services	Total	
					%	\$Billion
United States	9.9%	34.55	26.8%	28.8%	100.0	37.5
Canada	11.0	10.1	41.1	37.8	100.0	7.0
Japan	38.2	31.4	3.3	27.1	100.0	19.4
United Kingdom	15.5	30.1	18.6	35.8	100.0	37.1
France	4.0	32.3	25.0	38.7	100.0	33.0
Germany	15.6	19.3	19.4	45.7	100.0	33.8
Italy	14.2	14.6	38.0	33.2	100.0	23.5
Netherlands	19.6	38.6	9.0	32.8	100.0	18.6
Belgium	16.1	15.3	12.2	56.4	100.0	14.9
Switzerland	4.8	na	48.5	46.7	100.0	8.4
Sweden	22.2	23.3	12.0	42.4	100.0	8.0
Norway	54.1	22.8	8.2	14.9	100.0	9.2
25 Largest Services Exporters ^a	14.5	25.4	25.8	34.4	100.0	320.0

^aIncludes the 12 industrialized countries above plus 13 developing countries.

Source: Adapted from USTR (1983, p. 114).

Table 5

Percentage Shares in World Services Exports in 1980
for the U.S. and Other Major Industrialized Countries^a

Country	Shipment	Other Transportation and Passenger Services	Travel and Tourism	Other Private Services	Total ^b
United States	7.9%	15.9%	12.2%	9.8%	11.7%
Canada	1.6	0.9	3.5	2.4	2.2
Japan	16.0	7.5	0.8	4.7	6.1
United Kingdom	12.4	13.8	8.4	12.1	11.6
France	2.8	13.2	10.0	11.6	10.3
Germany	11.3	8.0	8.0	14.1	10.6
Italy	7.2	4.2	10.8	7.1	7.3
Netherlands	7.8	8.8	2.0	5.6	5.8
Belgium	5.2	2.8	2.2	7.7	4.7
Switzerland	0.9	na	5.0	3.6	2.6
Sweden	3.8	2.3	1.2	3.1	2.5
Norway	10.7	2.6	0.9	1.2	2.9
Other countries ^a	12.4	20.0	35.0	17.0	21.7
Total ^b					
%	100.0	100.0	100.0	100.0	100.0
\$Billion	46.5	81.2	82.4	109.9	320.0

^aRefers to 13 developing countries.

^bBased on totals for the 25 largest services exporters in 1980.

Source: Adapted from USTR (1983, p. 114).

Table 6

United States Exports and Imports of Merchandise and Services
by Type and Geographic Area, 1973 and 1983
(Billions of U.S. Dollars)

Type	Year	Canada		Japan		Western Europe		All Other ^a		Total			
		Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.		
1. Merchandise	1973	16.7	17.7	-1.0	8.4	9.7	-1.3	21.2	19.8	1.4	71.4	70.5	0.9
	1983	43.8	54.4	-10.6	21.7	41.3	-19.6	54.9	53.9	1.0	200.3	261.3	-61.0
2. Military Sales	1973	0.06	0.2	-0.14	0.05	0.8	-0.75	0.6	2.5	-1.9	2.3	4.6	-2.3
	1983	0.1	0.2	-0.1	0.4	1.3	-0.9	3.0	7.0	-4.0	12.7	12.2	0.5
3. Total services ^b	1973	2.1	1.8	0.3	1.7	0.8	0.9	4.7	6.0	-1.3	5.9	5.7	0.2
	1983	5.7	3.8	1.9	4.8	2.7	2.1	12.6	13.9	-1.3	19.1	17.5	1.6
3a. Travel	1973	1.1	1.2	-0.1	0.3	0.1	0.2	0.6	1.8	-1.2	1.4	2.4	-1.0
	1983	3.2	2.2	1.0	1.1	0.3	0.8	2.2	4.0	-1.8	4.9	7.5	-2.6
3b. Passenger fares	1973	na	na	na	0.3	0.1	0.2	0.3	1.4	-0.9	0.4	0.3	0.1
	1983	na	na	na	0.7	0.2	0.5	1.1	4.1	-3.0	1.2	0.9	0.3
3c. Other transportation	1973	0.3	0.3	0.0	0.5	0.5	0.0	1.8	1.9	-0.1	1.8	1.9	-0.1
	1983	0.8	0.7	0.1	1.9	2.1	-0.2	3.9	3.9	0.0	6.2	5.6	0.6
3d. Fees and royalties ^c	1973	0.4	0.1	0.3	0.4	0.01	0.4	1.5	0.3	1.2	0.9	0.0	0.9
	1983	1.0	0.4	0.6	0.9	-0.1	1.0	3.9	0.5	3.4	2.1	-0.3	2.4
3e. Other private services	1973	0.3	0.2	0.1	0.1	0.05	0.05	0.4	0.4	0.0	1.2	0.5	0.7
	1983	0.6	0.4	0.2	0.2	0.1	0.1	1.3	0.9	0.4	4.4	2.2	2.2
3f. U.S. govt. misc. services	1973	0.01	0.01	0.0	0.07	0.03	0.04	0.1	0.2	-0.1	0.2	0.7	-0.5
	1983	0.05	0.1	-0.05	0.01	0.05	-0.04	0.2	0.5	-0.3	0.34	1.55	-1.21
4. Investment income, incl. U.S. govt.	1973	2.7	0.7	2.0	0.8	1.1	-0.3	3.2	5.4	-2.2	7.3	1.6	5.7
	1983	11.7	2.4	9.3	4.5	4.4	0.1	22.1	23.9	-1.8	38.7	22.8	15.9
5. Percentage distribution a. Merchandise	1973	23.4	25.1		11.8	13.8		29.7	28.1		35.2	33.0	
	1983	21.9	20.8		10.8	15.8		27.4	20.6		39.9	42.7	
b. Total services	1973	14.6	12.6		11.8	5.6		32.6	42.0		41.0	39.9	
	1983	13.5	10.0		11.4	7.1		29.9	36.7		45.3	46.2	
c. Investment income	1973	19.3	8.0		5.7	12.5		22.9	61.4		52.1	18.2	
	1983	15.2	4.5		5.8	8.2		28.7	44.7		50.3	42.6	

^aTotal minus the sum of Canada, Japan, and Western Europe.

^bFor Canada this item will be understated due to the fact that data on 3b were not available.

^cThe presence of a minus sign in an import column implies a negative import, i.e., a receipt instead of a payment.

Source: Adapted from U.S. Department of Commerce, Survey of Current Business, June 1984, pp. 43 and 66-68; June 1976, pp. 33 and 52-53.

Table 7

Canadian Exports and Imports of Merchandise and Services
by Type and Geographic Area, 1973 and 1983
(Billions of U.S. Dollars)

Type	Year	U.S.		Japan		Other OECD		All Other		Total						
		Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.					
1. Merchandise	1973	17.3	16.1	1.2	1.8	1.0	0.8	3.3	0.6	2.5	2.3	0.2	25.5	22.7	2.8	
	1983	54.1	42.8	11.3	3.7	3.6	0.1	6.8	6.4	9.0	6.6	2.4	73.7	59.3	14.4	
2. Total services	1973	2.8	3.7	-0.9	0.16	0.11	0.05	1.1	1.5	-0.4	0.34	0.59	4.4	5.9	-1.5	
	1983	6.2	11.7	-5.5	0.6	0.4	0.2	2.8	4.4	-1.4	2.8	1.5	1.3	12.4	17.9	-5.5
2a. Travel	1973	1.2	1.1	0.1	0.02	0.01	0.01	0.2	0.5	-0.3	0.1	0.1	0.0	1.45	1.75	-0.3
	1983	2.2	3.2	-1.0	0.1	0.05	0.05	0.6	1.5	-0.9	0.24	0.16	0.08	3.1	4.9	-1.8
2b. Freight and shipping	1973	0.8	0.8	0.0	0.1	0.07	0.03	0.4	0.4	0.0	0.2	0.3	-0.1	1.5	1.6	-0.1
	1983	1.7	1.7	0.0	0.35	0.14	0.2	0.6	0.5	0.1	0.6	0.4	0.2	3.2	2.8	0.4
2c. Other services	1973	0.8	1.8	-1.0	0.04	0.03	0.01	0.5	0.6	-0.1	0.2	0.2	0.0	1.5	2.6	-1.1
	1983	2.3	6.8	-4.5	0.1	0.2	-0.1	1.6	2.4	-0.8	2.1	0.8	1.3	6.1	10.3	-4.2
3. Interest and dividends	1973	0.5	1.7	-1.2	0.01	0.01	0.0	0.1	0.3	-0.2	0.1	0.1	0.1	0.8	2.1	-1.3
	1983	0.9	5.2	-4.3	0.0	0.2	-0.2	0.6	3.2	-2.6	0.1	0.3	-0.2	1.6	8.9	-7.3
4. Percentage distribution a. Merchandise	1973	67.8	70.9		7.0	4.4		15.3	14.5		9.8	10.1		100.0	100.0	
	1983	73.4	72.2		5.0	6.1		9.2	10.8		12.2	11.1		100.0	100.0	
b. Total services	1973	63.6	62.7		3.6	1.9		25.0	25.4		7.7	10.0		100.0	100.0	
	1983	50.0	65.4		4.8	2.2		22.6	24.6		22.6	8.4		100.0	100.0	
c. Interest and dividends	1973	62.5	81.0		1.3	0.5		12.5	14.3		25.0	4.8		100.0	100.0	
	1983	56.3	58.4		0.0	2.2		37.5	36.0		6.3	3.4		100.0	100.0	

Source: Statistics Canada, Balance of Payments Division, Quarterly Estimates of the Canadian Balance of International Payments, First Quarter 1976, pp. 96, 100, 104, 108, 112, and First Quarter 1984, pp. 64, 68, 69, 72, 73.

Table 8

Japanese Exports and Imports of Merchandise and Services
by Type and Geographic Area, 1973 and 1983
(Billions of U.S. Dollars)

Type	Year	U.S.		EEC ^a		Other OECD		All Other		Total						
		Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.					
1. Merchandise	1973	9.4	8.1	1.3	3.8	2.8	1.0	5.3	6.3	-1.0	17.7	15.3	2.4	36.3	32.6	3.7
	1983	43.1	21.8	21.3	18.3	7.2	11.1	13.4	13.8	-0.4	70.7	71.0	-0.3	145.5	114.0	31.5
2. Total services	1973	2.6	3.9	-1.3	1.3	2.4	-1.1	0.6	1.1	-0.5	1.4	2.4	-1.0	5.9	9.8	-3.9
	1983	8.3	11.4	-3.1	2.8	5.6	-2.8	1.6	2.6	-1.0	9.2	14.5	-5.3	22.0	34.1	-12.1
2a. Transportation	1973	1.3	2.2	-0.9	0.8	1.2	-0.4	0.4	0.55	-0.15	1.0	1.2	-0.2	3.5	5.2	-1.7
	1983	3.9	4.4	-0.5	1.7	2.0	-0.3	1.0	1.1	-0.1	5.7	8.0	-2.3	12.2	15.5	-3.3
2b. Travel	1973	0.1	0.3	-0.2	0.02	0.27	-0.25	0.02	0.2	-0.2	0.04	0.4	-0.4	0.2	1.2	-1.0
	1983	0.3	1.7	-1.4	0.1	0.8	-0.7	0.06	0.3	-0.24	0.3	1.7	-1.4	0.8	4.4	-3.6
2c. Other private services	1973	0.5	1.4	-0.9	0.46	0.87	-0.4	0.17	0.31	-0.14	0.3	0.75	-0.45	1.4	3.3	-1.9
	1983	2.7	5.2	-2.5	1.0	2.8	-1.8	0.5	1.2	-0.7	2.5	4.7	-2.2	6.7	13.9	-7.2
2d. Official services	1973	0.7	0.01	0.7	0.0	0.01	-0.01	0.0	0.01	-0.01	0.02	0.04	-0.02	0.8	0.1	0.7
	1983	1.4	0.1	1.3	0.02	0.04	-0.02	0.03	0.03	0.0	0.7	0.1	0.6	2.3	0.3	2.0
3. Investment income	1973	1.3	1.0	0.3	0.2	0.5	-0.3	0.07	0.1	-0.03	0.9	0.5	0.4	2.5	2.1	0.4
	1983	4.3	3.0	1.2	3.1	4.6	-1.5	1.2	0.8	0.4	7.1	4.1	3.0	15.6	12.5	3.1
4. Percentage distribution a. Merchandise	1973	25.9	24.8		10.5	8.6		14.6	19.3		48.8	46.9		100.0	100.0	
	1983	29.6	19.1		12.6	6.3		9.2	12.1		48.6	62.3		100.0	100.0	
b. Total services	1973	44.1	39.8		22.0	24.5		10.2	11.2		23.7	24.5		100.0	100.0	
	1983	37.7	33.4		12.7	16.4		7.3	7.6		41.8	42.5		100.0	100.0	
c. Investment income	1973	52.0	47.6		8.0	23.8		2.8	4.8		36.0	23.8		100.0	100.0	
	1983	27.6	24.0		19.9	36.8		7.7	6.4		45.5	32.8		100.0	100.0	

^aFor 1973 the EEC comprises the original six plus the U.K. and for 1983, the present 10 member countries. The 1973 data are thus not strictly comparable with 1983.

Source: Bank of Japan, Foreign Department, Balance of Payments Monthly, April 1975, pp. 63-68 and April 1984, pp. 69-72.

Table 9

EEC-6 Exports and Imports of Merchandise and Services
by Type and Geographic Area, 1973 and 1980
(Billions of U.S. Dollars)

Type	Year	Canada			U.S.			Japan			EEC-9			All Other			Total		
		Exp.	Imp.	Bal.	Exp.	Imp.	Bal.	Exp.	Imp.	Bal.	Exp.	Imp.	Bal.	Exp.	Imp.	Bal.	Exp.	Imp.	Bal.
1. Merchandise ^a	1973	1.3	1.4	-0.1	11.0	12.0	-1.0	1.2	2.7	-0.6	92.2	87.6	4.6	59.5	48.3	11.2	166.1	152.0	14.1
	1980	2.7	4.1	-1.4	25.1	40.4	-15.3	4.7	12.1	-7.4	264.6	258.4	6.2	200.5	208.3	-7.8	497.6	523.3	-25.7
2. Total services ^a	1973	0.4	0.3	0.1	6.9	5.6	1.3	0.5	0.4	0.1	16.1	17.3	-1.2	13.6	17	-3.4	37.5	40.6	-3.1
	1980	1.2	1.0	0.2	17.6	17.4	0.2	1.5	1.2	0.3	52.4	48.8	3.6	46.8	54	-7.2	119.5	122.4	-2.9
2a. Transport ^b	1973	0.13	0.14	-0.01	1.8	2.1	-0.3	0.3	0.3	0.0	5.1	5.3	-0.2	5.0	5.2	-0.2	12.3	13.0	-0.7
	1980	0.35	0.53	-0.18	5.2	5.8	-0.6	0.8	0.7	0.1	16.4	15.1	1.3	19.1	19.6	-0.5	41.8	41.7	0.1
2b. Travel	1973	0.13	0.06	0.07	1.4	0.7	0.7	0.08	0.02	0.06	4.8	5.2	-0.4	2.6	6.0	3.4	9.0	12.0	-3.0
	1980	0.23	0.25	-0.02	3.2	2.9	0.3	0.2	0.1	0.1	15.8	16.5	-0.7	7.9	16.9	-9.0	27.3	36.7	-9.4
2c. Official	1973	0.06	0.03	0.03	1.9	0.2	1.7	0.0	0.01	-0.01	1.1	0.6	0.5	0.8	1.0	-0.2	3.9	1.9	2.0
	1980	0.17	0.04	0.13	3.8	0.6	3.2	0.0	0.02	-0.01	3.5	1.4	2.1	1.5	2.3	-0.8	9.0	4.4	4.6
2d. Other private services	1973	0.07	0.08	-0.01	1.9	2.6	-0.07	0.14	0.1	0.04	5.1	6.1	-1.0	5.1	4.7	0.4	12.3	13.6	-1.3
	1980	0.44	0.19	0.25	5.4	8.1	-2.7	0.5	0.3	0.2	16.7	15.8	0.9	18.4	15.1	3.3	41.4	39.5	1.9
3. Investment income	1973	0.13	0.06	0.07	4.9	3.8	1.1	0.1	0.03	0.07	3.6	3.7	-0.1	4.4	3.8	0.6	13.1	11.4	1.7
	1980	1.0	0.3	0.7	19.9	17.3	2.6	0.8	0.5	0.3	23.6	24.5	-0.9	21.4	19.7	1.7	66.6	62.3	4.4
4. Percentage distribution a. Merchandise	1973	0.8	0.9	-0.6	7.9			1.3	1.8		55.5	57.6		35.8	31.8		100.0	100.0	
	1980	0.5	0.8	5.0	7.7			1.0	2.3		53.2	49.4		40.3	39.8		100.0	100.0	
b. Total services	1973	1.0	0.7	18.4	13.8			1.3	1.0		42.9	42.6		36.4	41.9		100.0	100.0	
	1980	1.0	0.8	14.7	14.2			1.3	1.0		43.8	40.0		39.2	44.1		100.0	100.0	
c. Investment income	1973	1.0	0.5	37.4	33.3			0.8	0.3		27.5	32.4		33.6	33.3		100.0	100.0	
	1980	1.5	0.5	29.8	27.8			1.2	0.8		35.4	39.3		32.1	31.6		100.0	100.0	

^aItalian data have been estimated.
^bIncludes insurance on transport.

Source: Statistical Office of the European Communities (Eurostat). Balances of Payments, Geographical Breakdown, 1976, pp. 112-131 and 1982, pp. 100-117.

Appendix Table 1

PROPOSED CLASSIFICATION FOR
INTERNATIONAL TRADE IN SERVICES

SECTION 1 - SERVICES DIRECTLY RELATED TO PEOPLE

- 11 Health Services for People
- 111 Consulting, diagnostic and therapeutic services, medical, dental and similar
- 115 Hospital and similar patient care services
- 119 Other health services directly related to people
- 12 Education Services
- 121 General programs of elementary education
- 122 Programs of vocational education at the primary level
- 124 General programs of secondary education
- 125 Programs of vocational education at the secondary level
- 127 General programs of post-secondary education
- 128 Programs of vocational education at the post-secondary level
- 129 Programs of education not definable by level
- 13 Cultural and Recreational Services
- 131 Live performances, theatrical and similar
- 133 Sports events, live
- 134 Film rental service
- 135 Performance and broadcasting rights
- 139 Other cultural and recreational services
- 14 Food and Accommodation Services for People
- 141 Food and beverage services
- 143 Accommodation services for those not requiring special services
- 144 Accommodation for those requiring special services
- 15 Correctional Services
- 150 Correctional services
- 17 Employment Services
- 171 Employee recruitment and employment placement services
- 172 Personnel services except recruitment and placement
- 179 Other services related to employment

Table 10

**Income and Employment of All Foreign Affiliates of All U.S. Parents
by Industry and Country, 1977
(Billions of U.S. Dollars, Thousands of Employees)**

Type	Canada		Japan		Europe		All Other		Total	
	Income	Employees	Income	Employees	Income	Employees	Income	Employees	Income	Employees
1. Mining	3.7	38.0	0.0	0.0	0.2	2.8	5.9	147.0	9.8	187.8
2. Petroleum	17.7	58.4	23.2	21.4	67.4	117.8	130.0	172.3	238.3	369.9
3. Agriculture, forestry, and fishing	(D)	0.8	(D)	(D)	0.2	2.9	*	*	1.5	131.0
4. Manufacturing	50.2	615.0	16.8	185.5	126.8	2349.0	55.9	1705.5	249.3	4855.0
5. Construction	2.7	31.7	0.02	0.4	(D)	40.7	*	106.6	10.1	179.4
6. Services	20.1 ^a	323.3	12.9 ^a	183.7 ^a	81.0 ^a	658.0	33.0 ^a	414.4 ^a	171.1	1612.8
6a. Wholesale and retail trade	13.6	199.9	11.4	169.9	63.2	408.4	16.2	213.0	104.4	990.6
6b. Banking	0.5	2.8	0.9	2.8	11.8	59.6	10.0	69.8	23.3	135.0
6c. Finance, excl. banking	0.9	9.7	0.4	1.9	1.2	8.1	1.7	7.5	4.2	27.2
6d. Insurance	3.1	22.7	0.2	3.3	3.2	22.9	3.9	13.1	10.4	62.0
6e. Real estate; holding companies	0.4	0.4	0.01	(D)	1.2	2.2	1.2	1.0	2.8	1.6
6f. Transportation	(D)	12.4	(D)	(D)	0.4	(D) ^b	*	*	3.5	48.2
6g. Communications and public utilities	(D)	23.8	0.002	(D)	(D)	(D) ^b	*	*	9.9	40.0
6h. Other services	1.6	51.6	0.4	6.4	6.7	140.2	3.9	110	12.6	308.2
7. Total	96.3	1067.8	53.4	392.3	292.7	3171.2	237.7	2710.7	680.1	7342.0
8. Percentage distribution										
8a. Mining	37.8	20.2	0.0	0.0	2.0	1.5	60.2	78.3	100.0	100.0
8b. Petroleum	7.4	15.8	9.7	5.8	28.3	31.8	54.6	46.6	100.0	100.0
8c. Agriculture, forestry, & fishing	na	0.6	na	na	13.3	2.2	na	na	100.0	100.0
8d. Manufacturing	20.1	12.7	6.7	3.8	50.9	48.4	22.3	35.1	100.0	100.0
8e. Construction	26.7	17.7	0.2	0.2	na	22.7	na	59.4	26.9	100.0
8f. Services	11.7 ^a	20.0	7.5 ^a	11.4 ^a	47.3	40.8	19.3 ^a	25.7 ^a	85.8	97.9

(D) - Data in the cell have been suppressed to avoid disclosure.

* - computation was impossible due to the presence of cells with suppressed data.

^aThis figure will be biased downwards due to the presence of cells with suppressed data.
^bThe sum of 6f and 6g is 16.5.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, U.S. Direct Investment Abroad, 1977, Apr-11 1981, pp. 35 and 39.

19 Other Services Directly Related to People

- 191 Personal grooming services
 192 Personal counselling and guidance services
 193 Religious services
 199 Other services directly related to people, n.e.s.

SECTION 2 - SERVICES FOR THE PROPAGATION AND CARE OF PLANTS
 AND ANIMALS

21 Consulting Services Related to Plants and Animals

- 210 Consulting services related to plants and animals

22 Health and Nutrition Services for Plants

- 221 Applications of plant pesticides
 223 Nutrition services for plants
 229 Other health services for plants.

23 Services for Plant Propagation and Harvesting

- 231 Services related to logging
 233 Soil preparation, seeding, planting and related services
 239 Other services for the harvesting and management of
 vegetation

25 Health Services for Animals

- 250 Veterinary and related services

29 Food, Accommodation, Propagation and Miscellaneous Services
 for Animals

- 291 Food and accommodation services for animals
 299 Other services related to animals and animal care

SECTION 3 - SERVICES RELATED TO LAND, WATER, AIR AND MINERALS

- 31 Surveying, Consulting and Mapping Services, Land and Resources
- 311 Consulting services related to land and other natural resources
- 312 Laboratory services related to land, water, air and mineral resources
- 313 Mapping, surveying and weather forecasting services
- 32 Renting, Buying and Selling of Land and Natural Resources
- 320 Renting, buying and selling of land and resources
- 34 Mining and Well Drilling Services
- 341 Petroleum field exploration, development, and operating services
- 344 Ore milling services
- 349 Other mining and earth moving services
- 39 Other Services Related to Land and the Environment
- 390 Other services related to land and the environment

SECTION 4 - SERVICES RELATED TO BUILDINGS AND OTHER FIXED ASSETS

- 41 Architectural, Engineering, Design, Decoration and Appraisal Services for Buildings and Other Fixed Assets
- 411 Architectural, engineering, and design services for buildings and other fixed assets
- 419 Decoration, appraisal and other services related to the construction of buildings and other fixed assets
- 42 Renting, Buying and Selling of Buildings and Other Fixed Assets
- 421 Rental services for buildings, residential or non-residential
- 423 Rental services for fixed assets except buildings
- 425 Buying and selling services, buildings and other fixed assets
- 44 Repair, Renovation and Related Construction Services, Buildings and Other Fixed Assets
- 441 Repair services, buildings and other fixed assets
- 443 Renovation and construction services, buildings and other fixed assets

45 Management and Maintenance Services, Buildings and Other Fixed Assets

- 451 Management services, buildings and other fixed assets
453 Maintenance services, buildings and other fixed assets

49 Other Services Related to Buildings and Other Fixed Assets

- 491 Services of transportation terminals and facilities
493 Other services related to buildings and other fixed assets,
n.e.s.

SECTION 5 - SERVICES RELATED TO THE MANUFACTURE AND MARKETING OF GOODS, EXCEPT TRANSPORTATION

51 Design and Manufacturing Services for Transportable Goods

- 511 Designing and preparing drawings for goods to be manufactured
513 Custom manufacture of goods from others' materials

52 Storage of Goods Except Live Storage of Vehicles

- 521 Food storage, refrigerated or not, not bonded
523 Non-food storage, refrigerated or not, not bonded
525 Bonded storage services

54 Marketing and Rental Services, Transportable Goods

- 541 Services of purchasing and sales agents
542 Rental of transport equipment with or without operators
544 Rental of industrial machinery and equipment except transport equipment
548 Rental of transportable goods, n.e.s.
549 Franchising services

56 Maintenance, Repair and Servicing of Manufactured Goods

- 561 Maintenance, repair and servicing of household and personal equipment
562 Maintenance, repair and servicing of transport equipment
569 Maintenance, repair and servicing of other manufactured goods

59 Services Related to the Manufacture and Marketing of Transportable Goods, n.e.s.

- 590 Services related to the manufacture and marketing of transportable goods, n.e.s.

SECTION 6 - TRANSPORTATION SERVICES

- 61 Air Transport Service
- 611 Air transport, passenger
- 613 Air transport except passenger
- 62 Water Transport Service
- 621 Water transport, passenger
- 623 Water transport except passenger
- 63 Rail Transport Service Except Urban Transit
- 631 Rail transport, passenger, except urban transit
- 533 Rail transport service except passenger
- 64 Urban Transit and Other Passenger Transport Services
- 641 Urban transit service
- 643 Bus transport service except urban transit service
- 645 Other passenger transport services
- 649 Services incidental to passenger transport
- 66 Truck Transport Services
- 660 Truck transport services
- 67 Pipeline Transport Service
- 670 Pipeline transport service
- 69 Other Non-Passenger Transport and Services Incidental to Transport
- 691 Other non-passenger transport services
- 695 Services incidental to transport, n.e.s.

SECTION 7 - SERVICES RELATED TO RECORDS AND INFORMATION

- 71 Information Originating Services
- 711 Research services, basic and applied
- 712 Writing services, verbal
- 713 Composing and arranging services, musical and choreographic
- 715 Photographing (including video taping) services
- 716 Sound recording services
- 719 Other information originating services

72 Information Processing Services

- 721 Computer services
- 722 Accounting, auditing and bookkeeping services
- 729 Other information processing services

73 Communication Services

- 731 Information transmission, postal, telegraph and cable
- 733 Information transmission, broadcasting
- 735 Information transmission, n.e.s.
- 737 Communication equipment, circuit and channel services

74 Publicity Services

- 741 Advertising services
- 744 Sales promotion and publicity services except advertising

79 Other Services Related to Records and Information

- 790 Other services related to records and information

SECTION 9 - SERVICES OF GENERAL APPLICATION91 Management and Administrative Services, n.e.s.

- 911 Management and administrative services, except public administration
- 915 Public administration and management services, n.e.s.

92 Legal, Judicial and Legislative Services

- 921 Legal services
- 925 Judicial and legislative services

93 Protective Services

- 931 National defence services
- 932 Police and crime prevention services
- 934 Fire protection services
- 939 Protective services n.e.s.

94 Insurance Services

- 941 Health and accident insurance
- 942 Life insurance
- 945 Insurance services except health, accident and life

96 Financial Services

961 Deposit and loan services

963 Money transfer and foreign exchange services

965 Security and commodity exchange and brokerage services

969 Other financial services

99 Miscellaneous Services n.e.s.

991 Consulting services n.e.s.

999 Other miscellaneous services n.e.s.

Source: McKellar (1982, pp. 1-7).

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1983

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1984

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