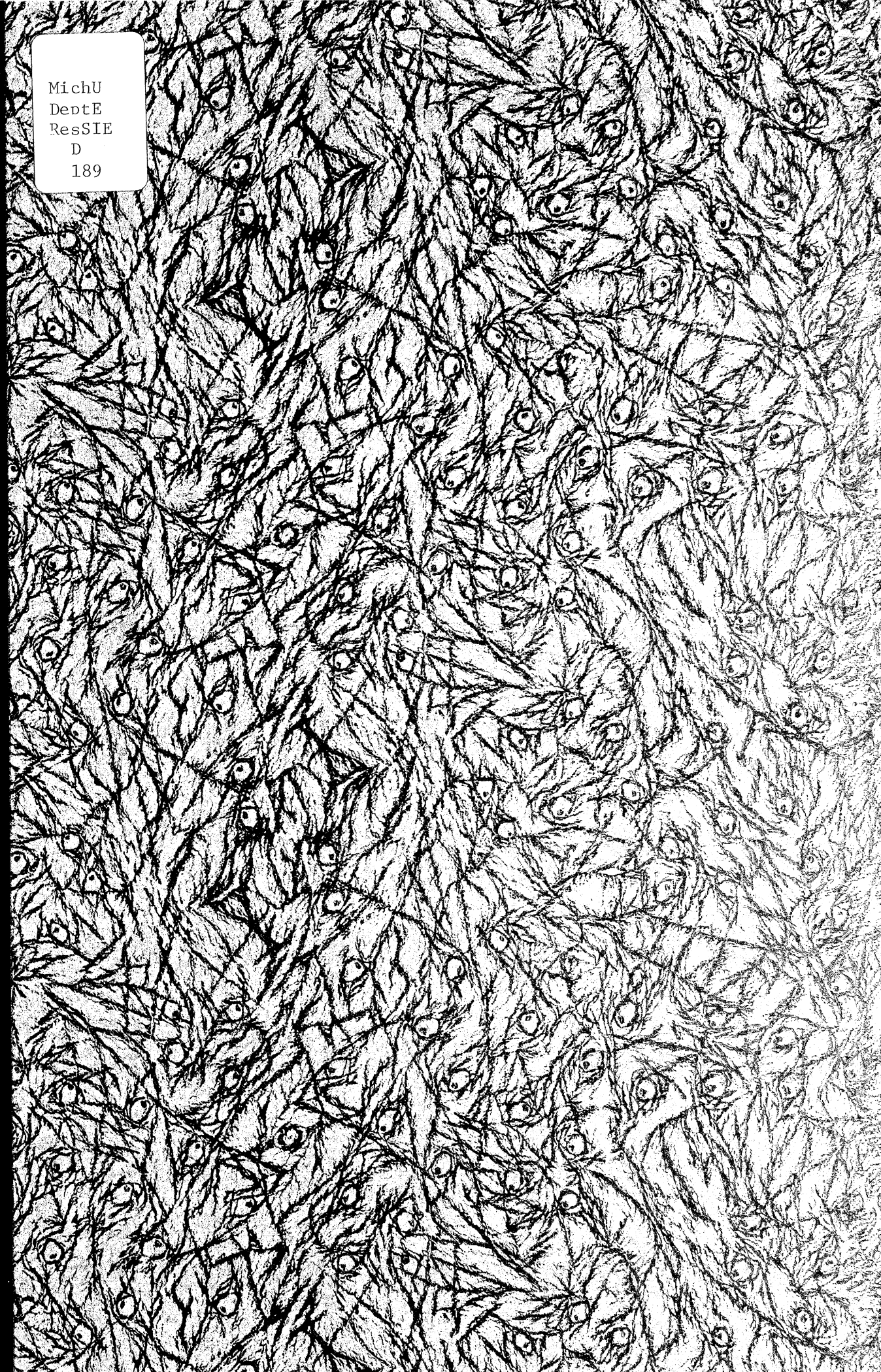
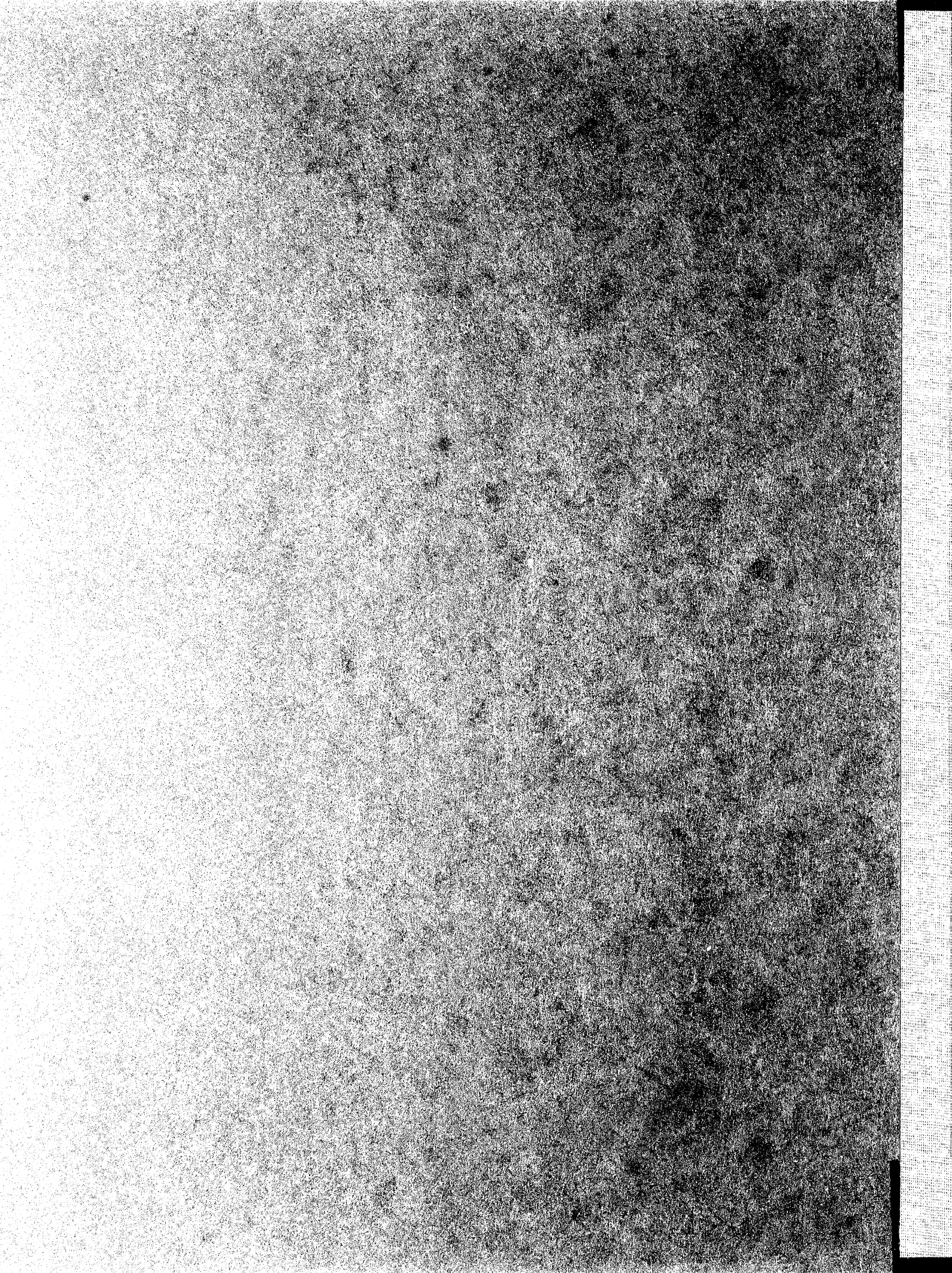


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**GATT NEGOTIATIONS ON SERVICES:
ANALYTICAL ISSUES AND DATA NEEDS***

by

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October 20, 1986

*Helpful comments on an earlier version of the paper were received from Alan V. Deardorff, participants in a September 1986 National Bureau of Economic Research workshop on data needs for trade negotiations, and members of the Research Seminar in International Economics at The University of Michigan. Financial assistance was provided in part by a grant from the Ford Foundation to support a program of research in trade policy at The University of Michigan.

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I. Introduction

Largely as a result of U.S. initiative, services have been given a prominent place on the international policy agenda. This was demonstrated in September 1986 in Punta del Este by the resolution of the GATT member countries to include services issues in the new (Uruguay) round of multilateral trade negotiations. In preparing for these negotiations, it is important to identify the critical analytical and policy issues that are likely to surface in the area of trade in services, to determine whether sufficient data exist in the United States and elsewhere to permit the requisite analysis, and to identify the main gaps in the existing data and assess what can and needs to be done to overcome these gaps for analytical purposes and for the successful conduct of the negotiations.

In what follows, we discuss each of the foregoing matters in separate sections and conclude with some general observations.

II. Critical Analytical and Policy Issues Involving Services¹

We shall begin by discussing some distinguishing characteristics of goods and services and then consider a typology of services that will provide the framework for our ensuing discussion of analytical and policy issues and data needs.

Distinguishing Characteristics of Services

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 these definitions and from actual experience that service activities are both numerous and diverse in themselves and in the changes that they effect in goods and persons. Three distinctions usually can be made between goods and services: (i) production and consumption of services have to take place simultaneously; (ii) services cannot be stored; and (iii) services are intangible. Although we will return to the empirical problem of how to distinguish a service from a good, we will not address definitional questions in detail.²

For purposes of analysis and discussion, it is useful to consider a typology of the way that services may be provided internationally. This typology is based upon whether the movement of the provider and demander of the service is required between countries. This focus on mobility is useful in our judgment as a way of addressing services issues in the context of international trade theory. We distinguish four types of services, and each type can be further divided by distinguishing services related to goods from services that are independent of goods.

Typology of Services

1. No movement of providers or demanders
2. Movement of providers only

3. Movement of demanders only

4. Movement of providers and demanders

1. *No movement of providers or demanders: "separated" services* — This terminology of "separated" services is attributable to Sampson and Snape (1985), and it is analogous to what Bhagwati (1985) has called "disembodied" or "long distance" services. These can be considered in a sense as "pure" or independent services insofar as they can in principle be traded just like goods, without there being any necessity of a foreign presence. Many of these services will be complementary to trade in goods.

2. *Movement of providers only: demander-located services* — In this case, physical proximity is a necessary condition for the service, and capital and/or labor must move internationally for provision to be feasible. There may thus be foreign direct investment involving movement of physical/financial capital and/or movement of skilled/unskilled labor. There need not be complete movement of all factors, however, in providing the services. Thus, as Deardorff (1985) has noted, there may be an "absent" factor, say management, that resides in the home country but nonetheless can supply its services "telematically" to augment factors of production located abroad. This is a case therefore of "separated factors" as opposed to the separated services discussed in case 1. Thus by means of international movement, factors (separated or not) may provide services in the foreign production of goods or of other services.

3. *Movement of demanders: provider-located services* — Here the services are provided in the country in which providers are located physically. Prime examples would be tourism, education, or medical services.

4. *Movement of providers and demanders: footloose, nonseparated services* — This case is included for logical completeness. It would correspond to a situation in which factors of production and consumers both move to another country where some service is

then performed/purchased. Services provided by absent factors may be relevant here as well.

It should be noted that the relationship between goods and services will often be important when analyzing the importance of international exchange of services and the expected effects of liberalization of barriers to trade in goods and/or services. In general services can: (1) be *complementary* to trade in goods (e.g., transportation or insurance); (2) *substitute* for trade in goods (franchising or leasing); or (3) be *unrelated* to goods (life insurance, tourism, or professional services).³ In practice many services are embodied in and thus change the condition of goods. The question naturally arises then as to whether it is analytically meaningful and practical to separate the two. The answer depends 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.⁴ 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 that previously were purchased at arm's length from other firms are subsumed within the firm. That is, intrafirm transactions often cannot be measured accurately because there is no direct market analogue available to value them. Given the 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 interfirm and intrafirm transactions will have a major impact on the measurement of the values of goods and services.

Whichard (1984, pp. 9–10) provides several examples of the inherent difficulties in distinguishing goods and services. These include: (1) the joint sales of goods and services (e.g., a restaurant meal; sale of a durable good together with a warranty); (2) intrafirm performance of services (e.g., legal; accounting); (3) tangible outputs which may serve as

media for delivery of intangible outputs (e.g., phonograph records; movie films); and (4) differences in packaging or delivery (e.g., a storage battery or direct purchase of electricity from a public utility).

The focus on whether the movement of the providers and demanders of services is required is especially pertinent in analyzing the relation between trade and international factor movements involving the provision of services. Thus, in case 1, with separated services there can be international trade in services, but there is no need for any foreign direct investment or movement of labor. In cases 2 and 4, the provision of services requires a foreign presence, and there will thus be foreign direct investment and/or the movement of labor internationally (telematic or physical). In case 3, with consumers only moving, there may, for example, be trade in transportation — a separated service — in addition to the expenditure on goods and provider-located services.

The preceding discussion suggests a need to clarify what is meant by *trade in services*. We define it as occurring when domestic factors receive income from nonresidents in exchange for their services. *Where* the service is performed is not relevant. Our definition of trade in services thus is much broader than the conventional one that usually refers only to separated services. That is, in addition to separated services (case 1), we would include provider-located services (case 3), and demander-located services (cases 2 and 4) insofar as domestic factors receive payments from nonresidents. If demander-located services are provided by a foreign affiliate that employs only local factors, trade in services will not have occurred. This seems rather unlikely, however, since foreign affiliates will usually obtain some inputs from the parent company so that there will in fact be trade in services. How large this trade will be depends on the particular circumstances.

Comparative Advantage and the Gains from Trade and Factor Mobility in Services

The principle of comparative advantage is at the basis of any exchange across borders of goods and presumably services as well. Comparative advantage is also relevant

to the international mobility of labor and capital. In Stern and Hoekman (1986), we concluded, using the standard competitive framework, that comparative advantage was applicable to each of the cases noted in our typology of services.⁵ We saw no reason to alter our conclusion even when various economic and noneconomic distortions were taken into account. That is, the conditions for intervention and the choice of optimal policies are generally well defined for the different distortions, and service industries do not appear in themselves to raise new problems.

It is interesting nonetheless, as Hindley and Smith (1984, pp. 377–81) point out, that service industries are often prime targets of government intervention and regulation to a much greater degree than goods-producing industries. The grounds for government actions generally involve the supposed dangers of destructive competition and the need to protect the interests of buyers who are imperfectly informed especially when purchasing intangible services. The beneficial experiences with deregulation in many countries suggest that the dangers of destructive competition can be exaggerated. Furthermore, when there are scarcity rents at stake, vested interests may have much to gain by maintaining government regulation. Imperfect information may constitute a genuine problem, but it is not unique to services and, even if it were, it is not clear that the nationality of providers should be the basis of government policy.

International trade and factor movements involving services are of course subject to numerous impediments, as we have just mentioned. These impediments may be due to conscious government policies, but there may be natural barriers as well which can make certain kinds of international transactions relatively costly. For example, the market for some services may be limited spatially because of the need for direct contact between provider and demander. But it is possible that, with technological change, transactions costs may fall significantly so that the service can be supplied long distance, in a separated form rather than by direct contact between provider and consumer. The development of computers and satellites is a case in point. In these circumstances, if there were

government imposed barriers which required the physical presence of providers, it might become possible to circumvent these barriers by means of the new technology.

The point here is that the presence or absence of government-imposed and natural barriers will have an effect on decisions involving trade and factor movements, with respect especially to the location and mode of production of the service. This can be illustrated by the various options which may exist for providing architectural design services. Thus, an architect could transmit his drawings abroad by electronic means (case 1a), have a draftsman do the drawings abroad based on instructions transmitted electronically (case 1b), go to the importer's country of residence and do the drawings there (case 2), have the buyer come to the architect's country of residence to obtain the drawings (case 3), or meet with the buyer in a third country (case 4). Cases 1a or 1b would probably be the most efficient way of providing this service, but existing government restrictions may necessitate choosing one of the other options. Many other examples could undoubtedly be constructed to illustrate this point. Presumably, if existing barriers were relaxed or removed, the provision and consumption of the service would correspond to the most efficient of the available alternatives.

If it is granted that comparative advantage is applicable to international transactions in services, there is a strong presumption that countries may realize substantial gains from the liberalization of impediments to trade and factor movements related to services. The gains from liberalization arise from improvements in the efficient allocation of resources within and between countries and the lowering of prices and expansion of choices afforded to consumers and firms. The magnitude of the gains from liberalization will depend on whether barriers are to be lowered only on trade in separated services, keeping restrictions on factor movements intact, or whether trade in separated services *and* factor movements will be liberalized. This point is important because the complete liberalization of both trade and factor movements is rather unlikely to occur in fact in the forthcoming GATT negotiations. We shall have more to say on this below.

Implications for Analysis and Policy

The preceding discussion is directly relevant to the negotiations on services in the new GATT Round. There are of course many issues which will have to be addressed in the course of the negotiations, but it is beyond the scope of this paper to discuss the entire range of issues that may have to be resolved. Nonetheless, there are some particular issues suggested by our previous discussion that we believe merit comment and that have implications for our ensuing discussion of data needs for the new GATT round.

1. A crucial issue concerns the definition of what constitutes a trade as opposed to an investment issue in the context of services. The GATT has traditionally avoided investment-related issues involving goods, and many countries believe that this should extend to services. But, as our earlier discussion has made clear, investment is often a precondition for provision of many services. It thus seems virtually impossible to avoid investment issues in the new GATT round. If the negotiations deal only with the liberalization of traded services, this would be beneficial but not nearly as much if existing restrictions on factor movements related to services remain intact. It may be, in cases where countries have important interests in providing or protecting against a foreign presence in services, that the incentives to participate in multilateral negotiations would be reduced if investment-related issues were kept off the agenda. This suggests that a potentially important question would be to determine the empirical magnitudes of the various kinds of services identified earlier and the stakes that individual countries might have in particular sectors, including the maintenance of impediments both to trade and to services-related factor movements.

2. If it can be granted that international trade and factor movements involving services are governed by the conventional economic and policy-related variables determining comparative advantage, this in turn will establish the basis for analyzing empirically the effects on economic welfare of the existing structure of trade and factor

mobility in services and possible changes in this structure. This will require documenting the foreign restrictions faced by firms engaged in trade and investment in services in the major countries. In this connection, it would be interesting to review the restrictions on services around the world in light of the models of the political economy of protection and lobbying that have been developed in recent years in order to determine if the same considerations apply to services as to goods.⁶ Furthermore, since restrictions on trade and factor movements involving services can be analyzed using the same kind of cost-benefit analysis that is used for goods, 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. Data requirements may be an important limiting consideration here, but this should not controvert the applicability of determining how economic welfare may be affected in given empirical circumstances.

3. Differences in factor endowments and technology have an important bearing on the relative prices of services and returns to factors in the advanced industrialized and developing countries. It has been observed that many services are relatively more expensive in rich than in poor countries, and that the real price of services relative to goods tends to rise with higher levels of per capita income.⁷ This suggests that some developing countries may have a structural advantage in the provision especially of labor-intensive services. If so, it is important to identify the sectors involved and to determine the factors, including the removal of impediments, which may be crucial in the efficient expansion of these sectors through time. The fortunes of some developing countries may thus lie in service industries as well as in goods. The mix between a country's actual and potential comparative advantage in goods *and* services is obviously important in charting future development and identifying the interplay of different types of trade barriers and the possible benefits and costs of different patterns of liberalization.

4. Another interesting question is the relationship between international trade in goods and services. Thus, we have noted that some services may be complementary to goods, in which case liberalization of services-related transactions may lead to increased trade in goods. This is in contrast to the case in which factor mobility substitutes for trade in goods, so that liberalization of impediments to services could actually reduce the volume of trade in goods. Related to the foregoing is the impact of technical change on the volume and pattern of trade in goods and services. As noted earlier, technical change might result in services changing categories, as in the case of separated services (case 1) which no longer require physical proximity. Technical change may also result in increased trade in new goods which are “splintered” off from services and vice versa, as Bhagwati’s analysis (1984a) suggests. Bhagwati (1985) has also noted that organizational innovations may result in separated services that no longer require a foreign presence. Multinational enterprises may play a leading role in these developments, and it would be interesting accordingly to analyze the important features in corporate decision making which shape the pattern of intrafirm specialization and the geographic location of foreign subsidiaries providing services. The factors affecting barriers to the entry of competitors and the ability of firms to sustain their competitive edge are also worthy of investigation.

The foregoing list of issues is by no means exhaustive. No doubt others will be able to suggest additional issues that may be worthwhile investigating and that will have implications regarding the requisite data.

III. Data Needs and Availability

The foregoing issues raise questions about the needs and availability of data, to which we now turn. We focus attention especially on those considerations that are likely to be important in the forthcoming negotiations.

*Data Needs*⁸

If there are to be GATT negotiations involving services, ideally it would be desirable for reference purposes to construct a global data base that would include: (1) the domestic production of services; (2) trade in separated services; and (3) services which are provided by foreign firms and foreign labor in individual countries. This would make it possible to assess the importance of services in domestic economies and the value of trade in separated services by major category and country as well as the value of services produced abroad by a nation's multinational enterprises and labor. In addition, information is needed on the existing government-imposed barriers and regulations which may impede traded services and/or the right of establishment of foreign firms and the employment of foreign, nonimmigrant labor.

The construction of the aforementioned data base would provide much needed information on the magnitudes and composition of services in the international economy, and it would permit a descriptive analysis of the stakes that particular countries and sectors have in the existing structure of trade and the foreign provision of services. Linking the data on services with comparable data on goods would be a logical next step. This would furnish a comprehensive view of the different components of international transactions in both goods and services, and, in turn, make it possible to analyze the important interrelationships involved.

In the same vein, it would be desirable to merge the available data for goods and services relating to impediments to trade and to foreign production in order to be able to estimate the expected effects of liberalization. This is bound to be exceptionally difficult, however, since the restrictions affecting services are typically more akin to nontariff rather than tariff measures. It may therefore not be possible to express these nontariff measures in a standardized form that is susceptible to quantitative analysis as in the case of tariffs. Of course, this problem arises as well for nontariff restrictions on goods, but at least here we know what the relevant magnitudes of trade are by country and commodity.

In the case of services, presumably a first step would be to devise an inventory of the important restrictions. While such an inventory does not reflect how effective particular restrictions may be, it is nonetheless useful in helping countries to identify which restrictions are believed to affect them adversely and might be the object of negotiations.

Assuming that the reference data on services can be assembled, this would permit analytical background and assessment studies to be conducted. These studies could in principle be oriented towards the kinds of research issues that we described above. A first step would be to analyze the effects of existing tariffs and nontariff measures on trade and the foreign production of goods and services. The simplest approach here would be to use a partial equilibrium analysis focused on trade only. This would require information on the production and trade of given sectors, the size of existing barriers, and estimates of the relevant elasticities of demand and supply. A more ambitious undertaking would be to imbed this information for all sectors in the major developed and developing countries into a general equilibrium framework like the one provided by the Michigan Model of World Production and Trade — see Deardorff and Stern (1986). The object in either case would be to obtain estimates of the trade, employment, price, and welfare effects of existing restrictions and to determine how these effects would be altered if the restrictions were reduced or eliminated altogether.

Since a foreign presence is essential in providing a wide variety of services and in view of the substantial foreign production of goods as well, the type of analysis just mentioned would have to be extended to take international factor mobility into account. This raises many new complexities which to date have not been addressed systematically to any great extent in a computational framework.⁹ It is nonetheless essential to think in these broader terms, for otherwise some of the most important relationships and potential effects of liberalization of restrictions could be overlooked.

Studies of comparative advantage, complementarities and substitution between goods and services, the impact of technical change and the determinants of the behavior of

multinational enterprises, and the political economy of restrictions and liberalization would require additional special data to be constructed for each purpose.

We are aware that construction of a data base of the type that we have suggested may not be completely feasible. Indeed, some may consider it hopelessly utopian. Nonetheless, it provides us with a benchmark for which to aim. On a more practical level, however, there are two issues which need to be addressed in the light of the forthcoming negotiations: (1) how adequate are available data for the creation of something like the data base described above; and (2) do we really need such a comprehensive data base in order to conduct successful negotiations? It may well be, for example, that many of the questions which require information of the kind incorporated into an ideal data base may not be crucial for the negotiations themselves. We will discuss these issues below. First, however, it is useful to review briefly what kinds of data are presently available.

*Data Availability*¹⁰

There are three main sources of available data relating to services: (1) national accounts; (2) balance of payments; and (3) industry or sector specific information collected by government agencies and/or the private sector.

The national accounts are the primary source for data on the share of services in gross domestic product (GDP) and employment. For reporting purposes, services are classified according to expenditure on final demand and/or industry of origin. In the former case, intermediate (business) services are not included in final demand. While national accounts data are useful for gaining insight into the relative importance of the services sectors in the domestic economy, data on international transactions in services are obtained primarily from a country's balance-of-payments accounts and (in the United States) from surveys of foreign direct investment. As noted in Stern (1985, p. 131), the classification of services found in balance-of-payments accounts is by type of activity and includes both nonfactor services (e.g., travel, transport, other private services) and factor services (e.g., royalties and fees, investment income). The factor services typically do not

distinguish income from goods-related investment and services-related investment. Also, workers' remittances are generally included under transfers in the balance-of-payments accounts although they are a component of factor services.¹¹

Some illustrative data for 1984 and rates of growth for 1970–1980 for total world exports of services and merchandise, investment income, worker remittances, and GDP are given in Table 1. The percentage distribution of the major categories of services exports and percentage shares in world services exports for the major industrialized countries for 1980 are presented in Tables 2 and 3. While it would take us too far afield to discuss the details in these tables, they are nevertheless indicative of the information which is available on a global basis for the major balance-of-payments categories.¹² However, it is almost certainly the case that balance-of-payments data substantially underreport the importance of the international exchange of services. We shall return to this below.

The third important source of data on international transactions in services is based on surveys of foreign direct investment by government agencies or on financial flows monitored by central banks. In the United States, there are periodic benchmark surveys (e.g., for 1977 and 1982), and since 1982 there have been annual updates. An indication of the 1977 sales of services by the foreign affiliates of U.S. parent companies broken down by country is given in Table 4. Table 5 combines data on direct sales of goods and services with sales through affiliates for the United States for 1983. There are noteworthy differences between the magnitudes and composition of services that are directly exported (traded) and the services that require the foreign presence of U.S. firms. The latter are substantially higher in total than the former. Even though not too much should be made of this, given the inaccuracy of balance-of-payments data, it is certainly the case that a more comprehensive view of U.S. interests and involvement could be obtained by merging both types of data in a rigorous fashion, using the framework suggested in Whichard (1984, pp. 43–50).

Besides the benchmark surveys and annual updates in the United States, there are U.S. Census survey data that cover selected industries. But, as Ascher and Whichard (1986, pp. 40–41) note, these data are not broken down geographically, and the industry classification does not account clearly for services provided as a secondary activity. Finally, there are studies which have been done for a variety of services sectors by official bodies, private organizations, and individuals.¹³

If there are to be negotiations in services, it is obviously important to know what the important barriers are that restrict traded services and affect international factor mobility in services. In the case of the United States, this kind of information has been compiled by sector and country in machine readable form by the Office of the U.S. Trade Representative (USTR). Sectors covered by the USTR reporting system include: accounting; advertising; banking; building, construction; data processing; engineering; franchising; hotels and motels; information services; insurance; leasing; legal services; motion pictures; telecommunications; tourism; air transportation; and maritime transportation. The difficulty that arises in using the kind of information being gathered by the USTR is to determine whether all the items listed constitute genuine barriers, and, if so, how important the individual barriers may be and whether or not their reduction or removal may be negotiable.

IV. Adequacy of Existing Data

It is useful now to return to the issues posed at the end of our discussion of data needs in the preceding section. These issues concerned the adequacy of available data for purposes of constructing an ideal data base and whether a comprehensive data base is necessary for successful negotiations.

Feasibility of Creation of a Data Base

For purposes of discussion, we shall organize our remarks around the typology of services considered above. Minimally, an ideal data base would have to contain

information on the value of production and trade for particular services (and goods) sectors, estimates of the size of existing barriers, and estimates of the relevant elasticities of demand and supply. This information would be needed for services of all four types distinguished in our typology.

Separated services such as transport, insurance, legal and financial services, and so forth should, in principle at least, be captured completely by existing balance-of-payments data. But realistically, the value of these services may in part be subsumed under the value of goods to which they are related, or they may be misclassified, over- or underreported, or not reported at all.¹⁴ An important additional question for research would therefore be to determine what proportion of separated services that are traded internationally are reported in the balance-of-payments accounts.¹⁵ Both ECS (1981) and the U.S. Congressional Office of Technology Assessment (OTA) (1986) have concluded that balance-of-payments data substantially underreport the significance of trade in what we call separated services. OTA (1986, pp. 38–41), for example, has estimated that U.S. balance-of-payments data may be anywhere from 45% to 100% too low, depending on the definition of trade in services used and if one takes the “low” or “high” estimate. Similar estimates would be useful for other countries.

Data on demander-located services will be more difficult to generate than data for separated services. In this case factors will have to move either physically or “telematically”. In the case of separated factors the service may often not be recorded in the balance of payments at all. Even if (physical) factor movement is recorded, presumably in the investment income category, it is usually not possible to distinguish between goods- and services-related factor income.¹⁶

Insofar as one is interested in *trade* in services, it should be emphasized that what is needed are measures of income accruing to domestic factors of production. A measure of sales or revenues resulting from foreign direct investment in service industries will usually not be an appropriate measure of trade in services unless the services in question are

separated services. For pure demander-located services, by definition the only trade involved is of factor services. In the U.S. balance of payments, income accruing to domestic factors as a result of factor movements of some kind can be found in various accounts: (1) 'Royalties and fees from and to affiliated and unaffiliated foreigners' (which includes fees for some management, professional, and technical services); (2) 'Other private services' (which includes U.S. workers' earnings abroad); and (3) 'Direct investment income' (which measures U.S. parent companies' shares in the net income of their foreign affiliates, less withholding taxes plus net interest). However, these accounts may not reflect accurately the income accruing to domestic factors. There are various reasons for this, among which we can mention: (1) transfer pricing practices; (2) strategic reporting of income due to the existence of differential tax rates; (3) the existence of exchange restrictions or investment performance requirements; and (4) variations in the degree to which firms (are forced to) reinvest earnings.¹⁷ Obviously there will exist interdependencies among these reasons. Additionally, insofar as income accruing to (separated) factors is not reported in the balance of payments at all, inaccuracies will be compounded.

Nevertheless a substantial amount of information exists regarding income accruing to U.S. firms and to non-U.S. firms from foreign direct investment abroad and in the United States. Though incomplete, these data could be merged with balance-of-payments information as Whichard (1984, pp. 43-50) has suggested. But there is a problem, however, since for most other GATT members it is often the case that data on foreign direct investment are not collected systematically or at all. Thus, major data gaps exist regarding the services associated with foreign direct investment.

Services requiring movement of demanders only appear partially in the balance of payments, primarily under the heading of tourism. Data for other services of this type, such as medical and educational services, while often not reported in the balance of payments, may in fact exist. It would be useful accordingly to make an effort to determine

the orders of magnitude involved. In the United States, for example, OTA (1986, pp. 70-72) has estimated that expenditure by nonresidents on U.S. based health services was only about \$100 million in 1983. Revenues from overseas hospital management and consulting activities were substantially greater, \$2.1 to \$3.6 billion in 1983. Expenditure by nonresidents on U.S. educational services were estimated to be between \$1.6 and \$2.4 billion in 1983 (OTA, 1986, p. 64).

Information on the existence of barriers to trade and factor movements involving services exists primarily in the United States, as noted above. However, little is known regarding their importance and effect. Much remains to be done here, especially at the sectoral level.

Apart from the problems and issues discussed above, other considerations will also have to be addressed. We will only call attention to some of the more important issues. For a more extensive discussion, the reader should consult Ascher and Whichard (1986) or OTA (1986).

1. The available detail on international transactions in services is minute compared to the multitude of categories of goods identified in the existing trade and industry classifications. Because services are intangible, they are inherently more difficult to measure when compared to goods that cross national boundaries and are cleared through customs procedures. Data on many services are typically derived from periodic surveys or censuses of service industries, and it may therefore be very burdensome and costly to achieve more detailed coverage.

2. Trade in services between domestic and foreign *unaffiliated* firms may not be adequately represented in the balance-of-payments data. There has been an effort in the United States to expand the coverage of industries here according to Ascher and Whichard (1986, pp. 39-40), but there are still major gaps. This situation is much more severe outside the United States in countries where data on foreign direct investment are limited in availability and coverage. It is also the case, as mentioned above, that the purchase of

certain provider-located services (e.g., education, medicine) by foreign residents may not be recorded at all. The consequence again is an understatement of the significance of traded services in the balance-of-payments accounts. We have already noted the studies by ECS (1981) and OTA (1986) which concluded that, on average for the United States, underreporting is at least 50%.

3. Some part of the trade in goods reported in the balance-of-payments data may actually be trade in services, but it is often not possible to separate the two because of accounting conventions within firms. Moreover, as mentioned earlier, it may be difficult to value services which are derived from tangible outputs. Unfortunately, there does not seem to be any easy way to resolve these types of issues without some elements of arbitrariness.

4. Some services may be reported as net rather than gross flows, which will then understate the trade involved. For countries which rely on information from their central banks regarding trade in services, this may be an important problem because cash-flow registration by banks will usually be on a net basis.

5. Consistency of services data is a problem due to the existence of different types of data reported by various industries. Although, in general, revenues, sales, or value added are what may be needed for purposes of comparability, these measures are often not reported. For example, the advertising industry reports total billings, which include costs. The insurance industry reports total insured values and total premiums, not revenues. Banks report total loans and deposits rather than the value of their intermediation services.

6. Some services may be supplied by public as well as private enterprises in certain countries and a number of collective and pure public services will often be 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 intrafirm 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.¹⁸ Thus, 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. Also 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.

7. It may also be the case that some services are provided outside of existing market arrangements and thus are not recorded at all. Examples include informal or underground transactions that are widespread in many countries.

8. There exist inconsistencies between bilateral export and import data as reported by individual countries.¹⁹ This may make it difficult to assess the importance of particular services transactions in the context of negotiations.

Our discussion of data problems and gaps is by no means complete, but it provides some indication of the vast amount of effort needed to provide more basic and comprehensive information on international transactions in services. It is clear that we are a long way from the ideal data base described earlier. Nonetheless, a substantial amount of data does in fact exist and, in principle, it should be possible to take steps to merge these data in a comprehensive manner for as many countries and sectors as may be feasible.

Data Needs and GATT Negotiations

While from an analytical standpoint we would like to have as much information as possible, a comprehensive data base may not be required for negotiations on services to be successful. It is noteworthy that relatively little quantitative information on the extent and effect of nontariff barriers (NTBs) existed to guide negotiations of the various codes addressing NTBs during the Tokyo Round. Nevertheless, the NTB discussions, except in the case of safeguards, led to the creation of various GATT codes. Thus there may be

grounds for arguing that, so long as GATT members feel that there are sufficient joint gains to be made from negotiating an agreement on services, negotiations are feasible and may be fruitful.

Many of the Tokyo Round codes did not necessitate extensive quantitative information primarily because they did not focus on the liberalization of trade as such, but rather on the environment in which trade takes place. Thus, for example, the codes relating to Standards, Customs Valuation, Import Licensing, Subsidies, and Antidumping all established more specific "rules of the game" — see Stern, Jackson, and Hoekman (1986). This observation would also apply in large part to an umbrella type of agreement covering services.

An umbrella agreement would address conceptual issues primarily. That is, it would presumably establish objectives and principles that would apply to the international exchange of services generally. Detailed data of the sort described above may not be necessary for an agreement of this type, just as in the case for many of the Tokyo Round codes. However it should be noted that lack of data may lead to limited participation in the services negotiations. If little is known regarding both the current state of the world and the expected effects of liberalization, a country may feel that it is not in its interest to participate. Thus negotiations may "fail" insofar as participation could be limited to those that believe, rightly or wrongly, that they have something to gain.

In our view, while availability of a comprehensive data base may not be a precondition for successful negotiation of an umbrella agreement, efforts to establish such a data base should nevertheless be made. In addition to the point made in the preceding paragraph, the information contained in such a data base will be crucial to any evaluation of the effects of an agreement and will also be needed if more sector specific agreements are sought. International organizations such as the GATT, IMF, OECD, UNCTAD, and the World Bank could play beneficial roles in the creation of a data base. A recent proposal by the World Bank to provide staff assistance to developing countries in the new

GATT round is laudatory in this regard, especially if efforts were to be expended in helping to create a data base that would be generally accepted.

V. Conclusion

Our purpose in this paper has been to identify the important analytical and policy questions that are likely to emerge in connection with multilateral negotiations in services in a new GATT round and, in this light, to assess the need and availability of data in the United States and elsewhere.

There is a presumption on theoretical grounds that liberalization of barriers to trade in services and to international factor mobility would increase economic welfare by fostering greater efficiency in resource allocation, lowering prices, and increasing the variety of options for consumers and firms. This has been a guiding principle in previous GATT rounds, and there is no reason that it should not apply in a new round of negotiations.

Ideally, it would be desirable to construct a global data base for services to be used as the basis for negotiations in a new GATT round. This may be difficult, however, because international transactions in services embrace both traded services and services which require the international movement of factors of production and demanders of certain specialized services. At present the data on traded services come primarily from balance-of-payments accounts and are available annually in total and by country and type. But the number of categories included in the balance-of-payments accounts is very limited and what is recorded may not be accurate.

We reviewed briefly the availability of data on services provided by foreign affiliates of U.S. parent companies and noted that it should be possible in principle to merge these data with data on traded services from the balance-of-payments accounts. The evidence suggests, for the United States at least, that services provided by the foreign affiliates of U.S. multinational enterprises are larger in total than traded services and

have a much different composition. There are some notable gaps and inconsistencies in the two types of data, but it would nonetheless be useful to attempt to combine the existing data in order to determine the orders of magnitude, composition, and geographical breakdown of U.S. international transactions in services. There is some question, however, about whether enough data exist for the other major trading countries that can be merged in the same fashion. If not, then surely more effort must be devoted in these countries to obtain the basic data for the services provided by foreign affiliates of domestically based parent companies.

A crucial question in the forthcoming GATT negotiations is whether it will be possible to include both traded services and services which involve a foreign presence in the form of direct foreign investment and the movement of labor. In our view, the negotiating agenda for services must be broadened in this way in order to reflect the interests and potential welfare of both the major industrialized and developing countries. When it comes to the liberalization of existing barriers to traded services and the services associated with international factor mobility, it is obviously important that we know what the important barriers are and what the effects of their reduction or elimination would be. Presumably the industry groups in each country should be able to identify their major concerns in terms of the domestic barriers that protect the interests of some of them and the foreign barriers which they deem detrimental. It will undoubtedly be extremely difficult to quantify the existing barriers affecting services, so that it may not be possible to determine the impact of liberalization in a precise manner. This should not stand in the way of the negotiations, however, provided the major negotiating countries can be convinced that the liberalization of barriers to international services transactions is in their mutual interest.

If the negotiations are focused on an umbrella agreement covering services, a comprehensive data base may not be crucial for the success of the negotiations. This is borne out by the experience of negotiating the various NTB codes during the Tokyo Round.

But once the new round of negotiations gets down to specific sectors and tradeoffs, data needs will become more pressing. Work to increase available data on international transactions in services thus needs to be greatly encouraged.

Footnotes

¹Much of what follows in this section is based on Stern and Hoekman (1986).

²Those interested in this topic may consult Hill (1977) and Stern (1985) and the references cited therein.

³This distinction is due to Government of Canada, 1982, p. 11.

⁴Bhagwati's conception is that as specialization emerges owing to economies of scale, service activities will be splintered off and become part of interfirm transactions, as, for example, when a firm decides to purchase transportation services from outside that used to be supplied internally. He views this as technically progressive. On the other hand, when goods are splintered off from services as a result of technological progress, we may be left with relatively unprogressive service sectors as conventionally measured. An example here would be the invention of the phonograph and records and a "musical services" sector that now appears technically unprogressive.

⁵The most complete theoretical analysis of the applicability of comparative advantage to trade and factor movements involving services is to be found in Deardorff (1985).

Deardorff's analysis demonstrates that comparative advantage may not hold in all cases. He constructs one example (pp. 53–68) which seemingly violates the principle of comparative advantage. Jones (1985, pp. 72–76) has taken issue with this example, however, although Deardorff (1985, pp. 70–71) in turn did not find Jones' argument convincing.

⁶See Kravis (1985) 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.

⁷See Bhagwati (1984b, 1985) for a theoretical analysis of why services are cheaper in poor countries.

⁸For excellent and authoritative statements and discussion of the needs and availability of data on services, see especially ECS (1981), Whichard (1984), OTA (1986), and Ascher and Whichard (1986).

⁹See Brown and Stern (1986) for a computational model of the United States and Canada which they have used to analyze the possible effects of a U.S.-Canadian free trade agreement on trade and foreign direct investment.

¹⁰The reader is urged to consult the references in footnote 8 for more detailed information on data availability.

¹¹For some developing countries — for example, Egypt, Pakistan, Portugal, Turkey, and Yugoslavia — workers' remittances are of great importance. According to the IMF (Balance of Payments Statistics Yearbook, 1985), these countries received a total of \$12.8 billion in remittances in 1984.

¹²These data can be broken down geographically as well. For some commentary on these tables, see Stern (1985, pp. 138-44).

¹³For some references, see Stern (1985, pp. 157-62).

¹⁴For example, overreporting of banking services occurs in the balance of payments as the data include gross interest receipts and payments on loans as well as fee-based services. Usually, however, underreporting of services is more likely to occur. For a discussion of the problem of measuring banking services, see OTA (1986, p. 40).

¹⁵It should be mentioned that the concept of separated services is, of course, not used in the balance-of-payments accounts. Thus, separated services are to be found under various headings. For example, the category "other private services" includes separated services such as insurance not related to transport, marketing services, and certain professional and technical services (e.g., research).

¹⁶In the benchmark surveys of U.S. foreign direct investment investment after 1982, total sales of U.S. parents and *majority owned* nonbank foreign affiliates are disaggregated to show sales of services separately from goods. According to Whichard and Shea (1985, p. 89), when the two cannot be unbundled, the total sale is classified as service- or goods-related depending on which was the most important. While this is a substantial improvement over previous procedures, it does not cover all foreign affiliates or identify the type of services provided.

¹⁷Attempting to supplement balance-of-payments information with firm-specific data may not be very fruitful (and would certainly be very labor intensive), given that depreciation and write-off practices, inventory valuation, and capital costs will vary widely among firms. Of course, in practice it may not be possible to obtain data from the relevant firms at all. Thus, (aggregated) data from official sources will usually be the best one can hope for.

¹⁸See Kravis, Heston, and Summers (1982, pp. 133 seq.) for a careful empirical analysis of alternative measures of these types of services.

¹⁹See, for example, Riddle (1986, pp. 112-14) and the sources cited therein.

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Table 1

**Total World Exports of Services and Merchandise, Investment
Income, Worker Remittances, and GDP for 1984;
Growth Rates for 1970-80**

Category	Value \$U.S. billions (1984)	Average annual growth, 1970-80
Services exports	357	18.7%
Merchandise exports	1,545	20.4
Investment income	244	22.4
Worker remittances	24	n.a.
GDP	11,891	14.2

Source: IMF, Balance of Payments Statistics Yearbook, Part 1, 1985; USTR (1983, p. 110); Business International Corporation, *Worldwide Economic Indicators*, New York, 1985.

Table 2

**Percentage Distribution of World Services Exports
in 1980 for Major Industrialized Countries**

Country	Shipment	Other Transport and Passenger Services	Travel and Tourism	Other Private Services	Total	
					%	\$U.S. billions
United States	9.9	34.5	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	n.a.	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 exporters ^a	14.5	25.4	25.8	34.4	100.0	
Total (\$U.S. billion)	46.5	81.2	82.4	109.9		320.0

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

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

Table 3

**Percentage Shares in World Services Exports
in 1980 for Major Industrialized Countries**

Country	Shipment	Other transport and passenger services	Travel and Tourism	Other Private Services	Total	
					%	\$U.S. billions
United States	7.9	15.9	12.2	9.8	11.7	37.5
Canada	1.6	.9	3.5	2.4	2.2	7.0
Japan	16.0	7.5	.8	4.7	6.1	19.4
United Kingdom	12.4	13.8	8.4	12.1	11.6	37.1
France	2.8	13.2	10.0	11.6	10.3	33.0
Germany	11.3	8.0	8.0	14.1	10.6	33.8
Italy	7.2	4.2	10.8	7.1	7.3	23.5
Netherlands	7.8	8.8	2.0	5.6	5.8	18.6
Belgium	5.2	2.8	2.2	7.7	4.7	14.9
Switzerland	.9	n.a.	5.0	3.6	2.6	8.4
Sweden	3.8	2.3	1.2	3.1	2.5	8.0
Norway	10.7	2.6	.9	1.2	2.9	9.2
25 largest exporters ^a	100.0	100.0	100.0	100.0	100.0	
Total (\$U.S. billion)	46.5	81.2	82.4	109.9		320.0

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

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

Table 4

Sales by U.S. Foreign Affiliates, Industry of Affiliate
by Country of Affiliate, 1977 (\$U.S. billions)

Industry	All countries	Developed Countries						Developing Countries					Inter-national
		Total	Canada	EC(9)	Other Europe	Japan	Australia New Zealand South Africa	Total	Latin America	Other Africa	Middle East	Other Asia & Pacific	
All Industries	673.7	464.1	95.6	237.5	51.5	52.9	26.6	193.8	80.5	16.9	67.7	28.7	15.7
Service industries:													
Petroleum services	96.7	42.3	3.2	21.2	6.7	8.3	2.8	40.4	18.4	4.1	14.3	3.5	14.0
Construction	10.0	5.9	2.6	2.2	.3	.02	.8	4.1	.7	.7	2.1	.5	0.0
Transportation	3.4	.9	.5	.3	.07	d	d	.7	.3	-	.3	.06	1.7
Communications	d	d	d	.03	d	-	0.0	d	d	-	d	d	0.0
Electric, sanitary, and gas services	d	d	d	d	d	-	d	d	d	-	d	d	-
Banking	23.2	13.5	.5	11.0	.7	.9	.4	9.8	6.6	.1	1.1	1.9	0.0
Finance excl. banking	4.2	2.9	1.0	.8	.2	.4	.5	1.2	1.0	.03	d	d	0.0
Insurance	10.1	6.4	3.1	2.2	.6	.2	.2	3.7	3.5	.03	.05	.05	0.0
Real estate	.2	.1	.05	.04	.01	-	.03	.06	.02	-	d	d	0.0
Holding companies	2.5	1.6	.3	.7	.4	-	.1	.9	.8	.03	-	.1	0.0
Hotels	d	.9	d	.4	.1	-	d	d	d	d	.1	.07	0.0
Advertising	1.4	1.2	.1	.8	.1	.03	.2	.2	.1	-	-	.06	0.0
Motion pictures	1.0	.9	.2	.5	.02	.04	.09	.1	.1	-	-	.01	0.0
Engineering, surveying, and architectural services	3.1	1.9	.2	1.3	.2	.03	.1	1.3	.3	-	.1	.03	0.0
Accounting services	.4	.3	d	d	.02	d	d	.5	.4	-	-	.01	0.0
Other services	4.8	3.9	.8	2.1	.5	.3	.2	.9	.3	.07	.4	.1	0.0
Total service industries	161.0	82.7	12.55	43.57	9.92	10.22	5.42	63.86	32.52	5.06	18.45	6.39	15.7

Notes: d - Suppressed to avoid disclosure of data of individual countries. A dash (-) implies sales are negligible. Some industries with negligible total sales have not been reported. Wholesale and retail trade has been excluded. Totals for service industries are understated due to nondisclosure of various services sales.

Source: Whichard, (1984, p. 69).

Table 5

**Direct Exports and Sales of Goods and Services through
Affiliates of U.S. Parents, 1983
(\$U.S. Billion)**

Type of provision	Total	Goods	Services
Direct Exports	230	188	42
Sales by majority-owned foreign affiliates	714	646	68
To U.S. parents	68	61	7
To unaffiliated U.S. persons	13	11	2
To other foreign affiliates	102	92	10
To unaffiliated foreigners	531	482	49
Sales by minority-owned foreign affiliates	188	n.a.	n.a.
Total sales by foreign affiliates	902	n.a.	n.a.

Source: Ascher and Whichard (1986, pp. 46-47).

