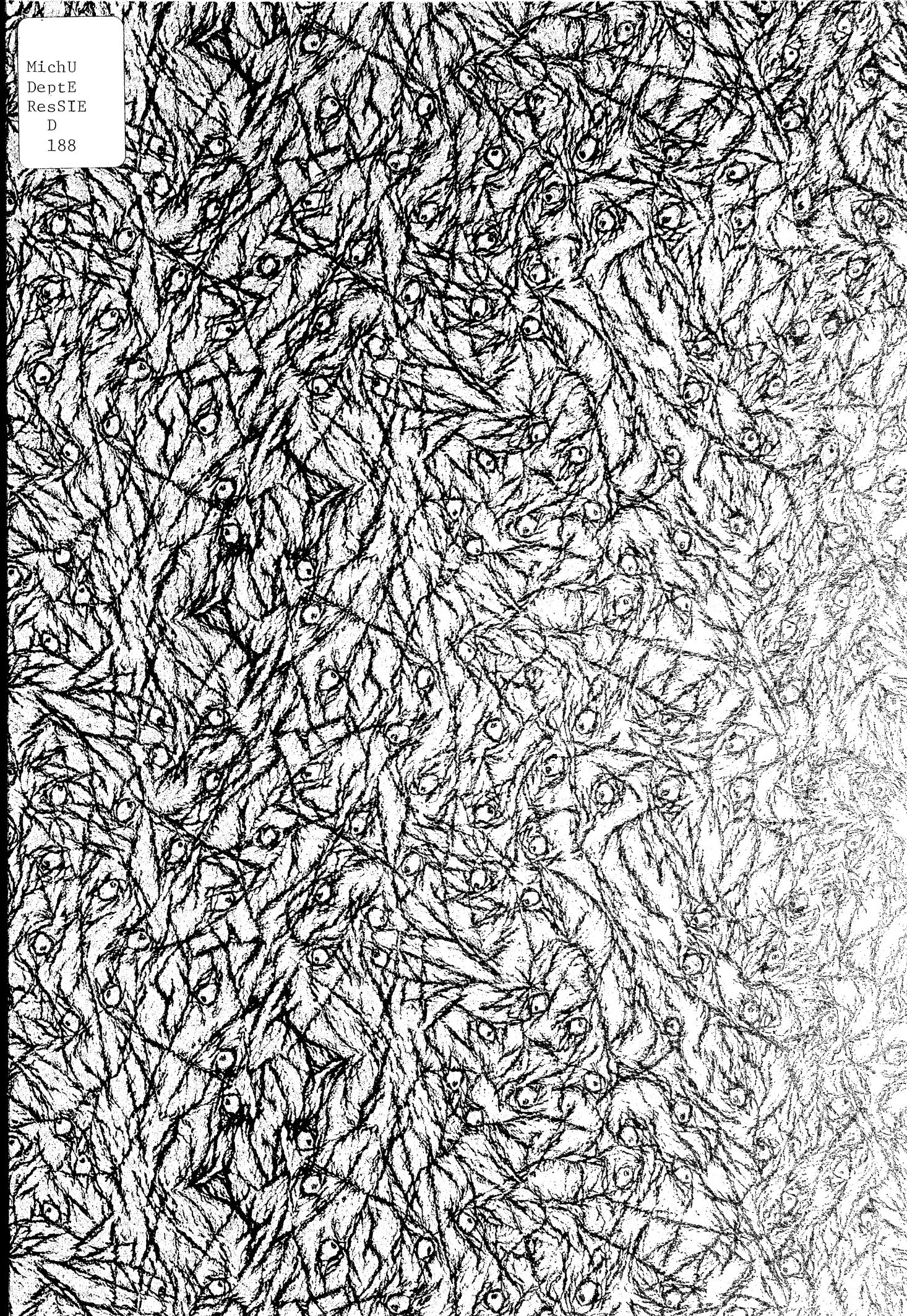
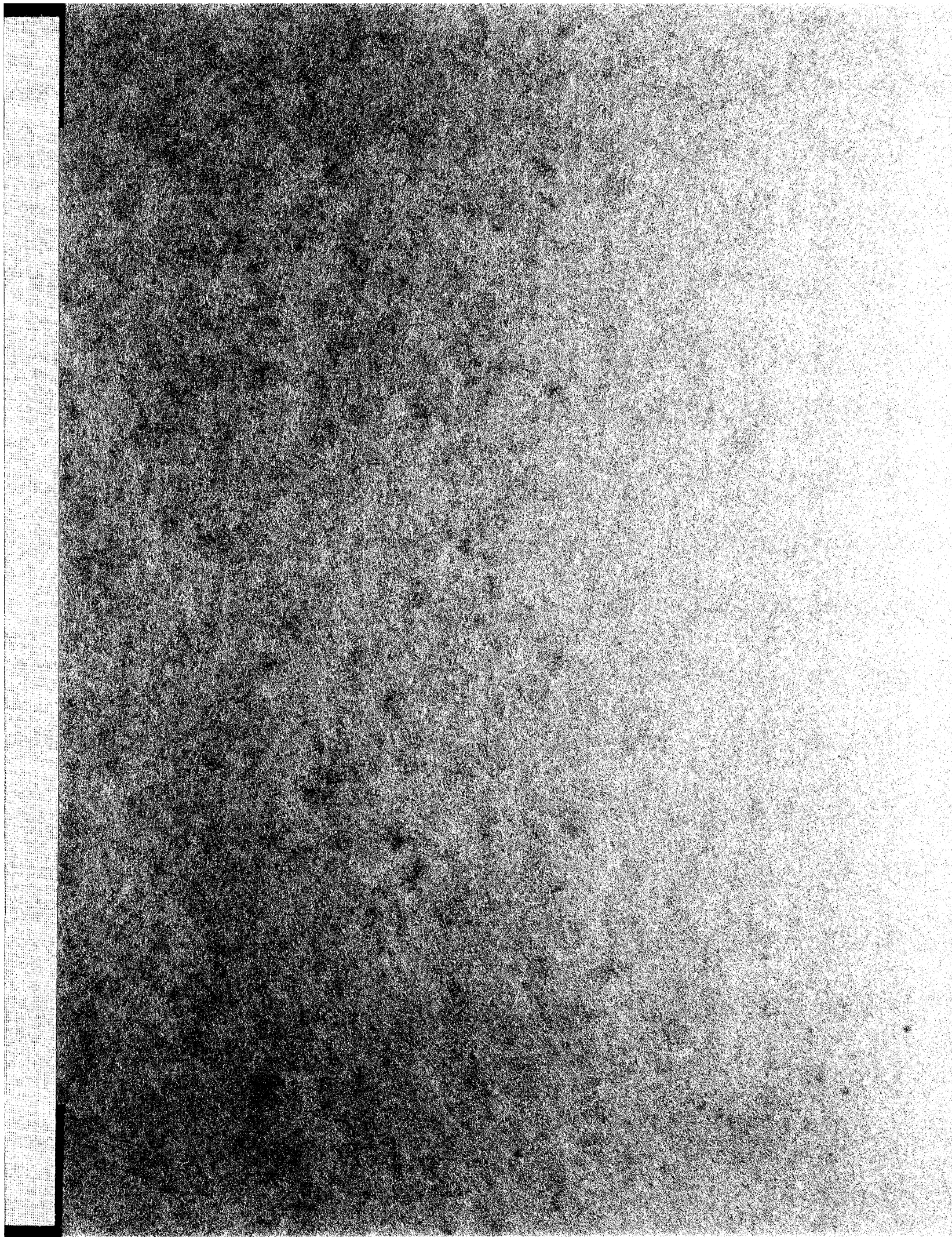


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**CONCEPTUAL ISSUES RELATING TO SERVICES
IN THE INTERNATIONAL ECONOMY***

By

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The University of Michigan**

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I. Introduction

Largely as a result of U.S. initiative, issues relating to trade and international factor movements involving services have been given a prominent place on the international policy agenda. This was reenforced by the resolution of the GATT member countries in Punta del Este in September 1986 to include services issues in the new round of multilateral trade negotiations. While a considerable amount of data and descriptions of individual service sectors and their problems have become available, economists have begun only recently to address the important conceptual issues relating to services. The purpose of our paper is to review some of these conceptual issues and, in the process, our hope is to stimulate discussion and further analysis of services in the international economy.

The plan of the paper is as follows. In Section II, we address a variety of theoretical issues concerning services. Some empirical considerations are treated in Section III, and in Sections IV and V, we consider implications for research and policy.

II. Theoretical Considerations

Distinguishing Characteristics of Goods and 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 the foregoing 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.¹ To give an idea of the range and different types of services that exist, the following groupings, as noted in Government of Canada (1982, p. 11), are suggestive:²

- services *complementary* to trade in goods (e.g., some forms of transportation, insurance, banking, and advertising).
- services that *substitute* for trade in goods (e.g., franchising, rental, leasing, and repairs).
- services *unrelated* to goods (e.g., banking, life insurance, professional services, real estate, telecommunications, data processing and information services, and travel).³

The foregoing definitions, categories, and examples are not necessarily exhaustive or mutually exclusive, and in fact it may 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.⁴ Additionally, it is the case that services are intangible. Especially in the case of services that are embodied in and thus change the

condition of goods, the question naturally arises 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.⁵ 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 come to be subsumed within the firm.⁶ 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.

We mentioned above in footnote 3 that some services may be supplied by public as well as private enterprises in certain countries and, further, that a number of collective and pure public services are 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 are used to represent the value of services in these cases.⁷ 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. 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.

A Typology of Services

As noted above and also in Stern (1985, pp. 129–33), there are many different types of services and methods of classifying them for statistical reporting and for analytical purposes. Since our interest here is to consider services in the context of the theory of international trade, we will use a typology of the way that services may be provided internationally, based upon consideration of whether the movement of the provider and demander of the service is required between countries. This focus is therefore on “mobility” or “presence” considerations. This typology is based especially on the works of ECS (1982), USTR (1983), Bhagwati (1984a, 1985), and Sampson and Snape (1985). We distinguish four types of services, as noted below. 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. We can also think of certain of these services as being complementary to trade in goods. Examples of complementary services include some forms of transportation, insurance, banking, and advertising while independent services include many similar types of transactions as well as professional services, information services, and travel.

2. *Movement of providers only: demander-located services* — In this case, physical proximity to the consuming households and firms is a necessary condition for the service, and capital and/or labor must move internationally to provide it. There may thus be foreign direct investment involving some movement of physical/financial capital and movement of skilled/unskilled labor. These international factor movements may provide services in the foreign production of goods or of other services. 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. The separated factors, it should be noted, can produce services to be used abroad as inputs into the production of goods or of other services. Examples include financial information, product design, and other inputs which can be transmitted electronically.

3. *Movement of demanders only: provider-located services* — Here, the services are provided in the country in which the providers are located physically. Prime examples would be tourism (including business travel), education, and 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 providers and demanders both moved to another country where some service was then

performed/purchased. The services provided by absent factors may be relevant here as well.

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. In these cases, there may also be absent factors that provide inputs telematically for use abroad. In case 3, with demanders only moving, there may, for example, be trade in transportation — a separated service — while the foreign expenditure will in general involve purchases of both goods and 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.⁸

It should be evident from our discussion that each of the cases in our typology has some unique features that have important implications for analysis and policy. From an analytical perspective, it is especially interesting to consider the usefulness of the

conceptual framework of comparative advantage as applied to the individual cases included in our typology of services. This question is also of interest from the standpoint of policy, since if comparative advantage is applicable to services, the insights from normative trade theory become relevant. Thus, all parties may gain from the liberalization of the international exchange of services.

Comparative Advantage and International Trade and Factor Mobility Involving Services

The principle of comparative advantage is at the basis of any exchange across borders of goods and presumably services as well. According to this principle, under conditions of competition and abstracting from changes in technology, countries will export, on average, those goods and services in which they have a comparative advantage as measured by their relatively low autarky prices. Using this criterion of comparative advantage, it is interesting to apply it to each of the aforementioned cases.

1. *Separated services* — Services that are complementary to goods can be regarded as intermediate goods. Deardorff (1985) has referred to them as “trade services,” and he has shown that in a world of n countries, m goods, and s complementary separated services, the value of trade in goods and related services measured in autarky prices is less than or equal to zero. Thus, on average, countries will tend to export those goods and complementary services which are worth less to them in autarky than the goods and complementary services that they import.

We have already noted that separated services that are unrelated to goods can for all intents and purposes be treated as if they were goods since they can be traded directly. In principle, autarky prices will exist and trade in these separated services will be well defined insofar as there are market transactions across borders. Comparative advantage should therefore apply here as much as it does to trade in goods.

2. *Movement of providers only* — In this case where physical movement of factors is a precondition for services to be produced abroad, Deardorff (1985, p. 51) has noted that

this is compatible with comparative advantage in the sense that both the goods and the factors exported will, on average, have been cheaper in autarky than those that are imported. This result will hold both for the services related to goods as well as for the services made possible by the factor movements that are unrelated to transactions involving goods. A formal treatment of this case is provided in Deardorff (1980) and Ethier and Svensson (1986).

As mentioned above, not all factors need to move in this case. That is, there may be absent factors which remain in the parent country and provide their services by electronic means. The most thorough analysis of absent factors is by Deardorff (1985, esp. pp. 53–68), who concluded that comparative advantage may not apply in all circumstances. For purposes of analysis, Deardorff used a traditional $2 \times 2 \times 2$ Heckscher-Ohlin (H-O) model, with one good and a service being produced and traded and with labor and “management” being the factors of production. Management has the characteristic of an “absent” factor, which means that it can provide its services without the need to move abroad. The chief exception to comparative advantage arises in the case of differences in technologies between countries. Thus, if country *A* has a Hicks-neutral technological advantage for producing services and services are management intensive, the return to management in *A* could be higher than in *B*, but by less than the full extent of *A*’s technological advantage. *A* will then export services in the sense of sending part of its stock of management telematically to *B*, thus augmenting production there and decreasing it in *A*. This seemingly contradicts the principle of comparative advantage since the autarky price of management is higher in *A* than in *B*.

In a comment on Deardorff’s paper, Jones (1985, pp. 72–76) contended that the foregoing difficulty could be resolved by adjusting the returns to management for differences in quality. However, Deardorff (1985, pp. 70–71) in turn has questioned Jones’ contention on the grounds that the differences in management quality between countries may not be well defined, the technological advantage is assumed to be specific to

A's service industry, and it is not appropriate in a general sense to redefine factors in an effort to salvage the principle of comparative advantage.

An alternative way of looking at this issue is to ask if it makes any difference conceptually whether or not factors physically move between countries. Jones (1985, p. 73) states that the formal structure of models with international factor mobility does not require a factor to move physically. That is, whether or not factors move, there will be an inward shift of the production possibility frontier in one country and an outward shift in the other country. Of course, there may be other ramifications arising from the physical movement of a factor that should be taken into account. What may be concluded from this discussion of absent factors is that there may be situations in which the principle of comparative advantage is violated. But even though this may happen, it will still be the case that trade will be beneficial to the countries involved.

It is interesting to note that Mundell's (1957) result that factor movements may substitute for trade in goods continues to hold for trade in services. Mundell showed that, if the necessary conditions are met, factor mobility will lead to factor price equalization which in turn leads to equalization of goods prices, even though goods do not move. But in the present context, factor movements do not substitute for trade in services. Instead, they are a necessary condition. Nevertheless, it can be shown, using a standard H-O model with at least one tradable good, a local (nontraded) service, and a mobile factor, that there will be a tendency to equalize unit costs and thus factor rewards. There will accordingly be a tendency for the prices of services to be equalized, as noted by Bhagwati (1984b), which in the limit will eliminate trade in services.

3. *Movement of demanders only* – The international movement of demanders of goods or services is not often encountered in the economics literature, except perhaps in the case of tourism. Nonetheless, comparative advantage will have to hold almost by definition here. That is, in the absence of barriers to mobility and trade, individuals and

firms will be motivated to move when there are services that are relatively cheaper abroad than domestically.⁹

4. *Movement of providers and demanders* — This case combines the two preceding ones. Although the context is somewhat more complicated, it seems reasonable to conclude that if comparative advantage applies when providers or demanders are mobile, it should also hold for the two combined.

The preceding discussion was premised on the traditional theory of comparative advantage, with the usual assumptions of competition, given technology, and the absence of distortions. We also did not consider impediments to trade and factor movements. It is interesting to discuss what qualifications apply when these matters are taken into account.

Distortions and Impediments to Comparative Advantage

To consider distortions first, there is no reason to believe that the standard theoretical analysis needs particularly to be revised when dealing with services. The major kinds of economic distortions which have been analyzed at length in the literature include the exploitation of national monopoly power by means of the optimal tariff, production and consumption externalities, operation off of the efficient production possibility frontier due to wage rigidities or other types of factor market imperfections, and such dynamic considerations as the realization of the infant-industry benefits of learning-by-doing and improvements in technology. Policies to implement various kinds of noneconomic objectives may also lead to the introduction of distortions. 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.¹⁰

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 that many countries have had with deregulation suggests that it is easy to exaggerate the dangers of destructive competition. The fact of the matter is that 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 consumer. But it is possible that, with technical 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 demander. 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 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 1), have a draftsman do the drawings abroad based on instructions transmitted electronically (case 2 with separated factors), go to the importer's country of residence and do the drawings there (case 2 with physical factor mobility), 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). The first two options 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.

Changes in Technology and Comparative Advantage

We have just indicated how technological change may affect the transactions costs associated with the mode and location of production of services. Thus, with the advent of computers and satellites, it has become possible to provide a variety of information, financial, and other services in a separated form rather than by means of the physical presence of the provider in the country of consumption. Technological change will thus affect the relative costs and prices of services (and goods) and the resulting pattern of production and trade. Trade flows and factor movements should nonetheless still conform to comparative advantage, although there may be differences between the situations before and after the technological change takes place.

Realistically, of course, technological change may be an ongoing process, and one should think in terms of the dynamics of comparative advantage rather than comparative statics which is the basis for much of the analysis of trade theory. This distinction between statics and dynamics is of course well known, and there is nothing unique about it when applied to services. The difficulty is that we are incapable of modeling endogenous technological change in a comprehensive and general manner. This should not be taken to mean, however, that the principle of comparative advantage ceases to be valid.

Imperfect Competition

There has been a rapidly growing interest in recent years in the effects on a nation's trade and trade policies when there are imperfectly competitive firms at home

and/or abroad. While most of the analysis to date has dealt with production and trade in goods, in principle the issues should carry over to services. In this connection, Grossman and Shapiro (1985) have analyzed trade in technology services, and they stress the critical nature of market structure especially when there is foreign direct investment and the multinational enterprises involved seek to maintain exclusive control over the production and dissemination of their know-how. The implication for trade policy with imperfect competition is that government intervention may enable a country to capture benefits that would otherwise accrue to other countries.

The assumptions and conclusions of trade models with imperfect competition have been criticized by Deardorff and Stern (1986), Dixit (1986), and Krugman (1986), among others, on a variety of grounds,¹¹ and it seems clear that more work needs to be done to determine how robust these models may be to changes in their theoretical structure and the degree to which they may be applicable empirically for given industries and countries. It should also be mentioned, as McCulloch (1985) has argued in her comment on Grossman and Shapiro, that governments may not necessarily be in a good position to recognize and to design appropriate policies to capture the benefits of intervention when there is imperfect competition. Furthermore, there is the issue of foreign retaliation that governments must consider when contemplating intervention.

Effects of Liberalization of Trade and Factor Movements Involving Services

The preceding discussion dealt for the most part with the applicability of the principle of comparative advantage to trade and factor movements involving services. The analysis clearly suggests that there is a strong presumption that countries may realize significant 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 existing restrictions on factor movements intact, or whether trade in separated services and factor movements will be liberalized. This latter 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.

III. Empirical Considerations

Our discussion to this point has been theoretical in nature, and it seems appropriate to ask what the facts show. In undertaking empirical studies of services, the existing models of comparative advantage can serve as a useful point of departure. These models suggest that the composition of trade in services and factor movements will depend on a nation's relative factor endowments, technology, realization of scale economies, product differentiation, and government policies.

Some noteworthy work on services has been done by Sapir (1981) and Sapir and Lutz (1980), based on the empirical framework used to analyze trade in goods. An effort was made in these studies to analyze 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 abundance in explaining trade 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 (1985) 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.¹²

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 United States, Japan, and six of the major European countries for individual years between 1970 and 1981. They used primarily a sixteen-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 — based on the classifications in the IMF balance-of-payments statistics; the labor-output ratios were calculated from domestic data. The difficulty here was that the labor-output ratios for services were based on the domestic production data for essentially nontraded services. As Sapir and Schumacher (1984) 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.¹³

None of the aforementioned studies dealt explicitly with the determinants of foreign direct investment involving services. There is reason to believe, however, on the basis of work by Baldwin (1979) that, at least for the United States, 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 if it does in fact remains to be seen. We are not aware of any empirical studies which have explicitly addressed the determinants of the international movement of labor used in providing services. To the extent that such movement occurs in response to market forces, differences in national labor endowments which in turn would reflect wage differences seem obviously important.

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. Considerable attention has been given, especially in the United States, 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 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. We would not expect any important differences to emerge in such an analysis.¹⁴

Further, restrictions on trade and factor movements involving 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. 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.

IV. Implications for Research

There are several interesting questions relating to the international aspects of services that are deserving of further study from both a theoretical and policy perspective. Some suggestions follow.

1. We noted above that there may be an effort in the context of the forthcoming GATT negotiations to abstract from services issues that involve foreign direct investment and the international movement of labor. 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 also be, in cases where countries have important interests in providing or protecting against a foreign presence in services, that the incentives to participate in international negotiations will be reduced. 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 to trade and services-related factor movements.

2. 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. This suggests that some

developing countries may have a substantial advantage in the provision especially of labor-intensive services. If so, it may be 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.

3. 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. In a recent paper, Djacic and Kierzkowski (1986) have shown that, in some circumstances, the liberalization of factor mobility in services might actually bring about a reversal in the pattern of trade in goods. They assume in their model that exporters of goods may also export servicing contracts (maintenance), which will require a physical presence in the consuming country. If there are restrictions on servicing contracts, this would have an adverse effect on trade in goods. They show that the pattern of trade may be reversed upon the removal of the restrictions. It should also be noted that, in cases where services substitute for trade in goods, as for example when a firm decides to franchise, lease, or rent abroad, liberalization of impediments to services would actually reduce the volume of trade in goods.

4. Related to the foregoing is the impact of technical change on the volume and pattern of trade in goods and services. Thus, 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.

V. Implications for Policy

Our discussion of conceptual and empirical issues relating to the internationalization of the service sector is directly relevant to the ongoing effort to bring services into the GATT. There are several questions which are pertinent here that we have not addressed, including the choice of negotiating strategies, the feasibility of extending existing GATT rules and NTB codes to cover services, the applicability of such concepts as fair and unfair trade in relation to services, and the treatment of regulatory frameworks and government monopolies in services. While it would take us too far afield to discuss policy issues in a comprehensive manner, there are nonetheless some particular issues that we believe are worthy of brief comment, especially in light of our foregoing discussion.

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 exclusion 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 future GATT discussions on services. The question of the right of establishment is of central importance here. Depending on whether a country's regulatory system requires a physical presence as a condition for doing business, the right of establishment could be interpreted as a trade issue in the case of services. As noted by Aronson (1986, p. 32), this is essentially the U.S. position.¹⁵

2. Some developing countries such as India, while opposing bringing investment-related issues into the GATT, have argued that services requiring labor mobility be subject to discussion. This view has been articulated forcefully by Bhagwati (1985) since, as we have noted, it may well be that certain developing countries have a comparative advantage in labor-intensive services. The issue of labor mobility is obviously an extremely sensitive one for all countries concerned, given the stringent restrictions that exist everywhere on the movement of nonimmigrant labor. Nonetheless, the failure to deal with this issue in some form could lessen the incentives for certain developing countries to participate in negotiations involving services.

3. A further important issue involves possible linkages between goods and services. As noted in Stern (1985, p. 154), it can be argued that the restrictions affecting trade and investment in goods are far more important and damaging than in the case of services, and that the GATT system seems rather fragile and increasingly unable to cope with the situation. Perhaps by linking issues involving goods and services that are of interest to the advanced industrialized and developing countries, some mutually beneficial bargains could be reached in the course of a new round of negotiations.¹⁶

4. The exact form that an agreement covering services might take remains to be determined. There are many issues that must be resolved in extending the GATT rules and the NTB codes to services and clarifying the various aspects of national treatment in the context of regulatory frameworks and government monopolies in services. The

relevant issues can most likely best be addressed in the form of an umbrella code covering services, and details applicable to particular sectors can presumably then be worked out thereafter.

5. A final point worth mentioning is the adequacy of existing data on services. As noted in Stern (1985, p. 149), 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.¹⁷ As a consequence, it is difficult to determine the levels and changes in particular types of services with anywhere near the same kind of accuracy as in the case of goods. This situation is being remedied to some extent, but there are still major gaps in the availability especially of information on the effects of existing barriers to trade and investment in services.¹⁸ Thus, before an attempt can be made to address some of the important research questions mentioned above, more and better data will have to become available. Lack of data is an important limitation because, without knowledge as to the levels and expected changes in particular types of services, the evaluation of policy options involving services is fraught with much uncertainty. In the context of the GATT negotiations on services, lack of information may hamper the attainment of agreement or possibly lead to a situation where only a limited number of countries decide that it is in their interest to participate in an agreement.

Footnotes

¹In 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 that 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.

²The 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 us, that using Lancaster's framework of product attributes, we could think of goods in terms of the services or attributes they provide.

³The examples given here relate primarily to traded services, and no distinction is made between the services provided by private or public enterprise. Hill (1977, pp. 331-36) discusses the provision of collective and pure public services (for example, education, public health, roads, 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 on 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 that may limit or protect the activities of its service sectors.

⁴While services cannot be stored, Herman and van Holst (1981, p. 9) point out that one can think in terms of a stock of service-rendering capacity that must be available to meet demand. Hill (1977, p. 318) contends that services cannot be analyzed in terms of conventional market exchange because they cannot be transferred physically like goods between buyers and sellers. While this latter consideration may be correct in a literal

sense, the existence of a service-rendering capacity will involve prices for the service to be sold. And surely firms and households will be sensitive to price differences among the entities offering services for sale.

⁵Bhagwati'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.

⁶This point also applies to goods that are produced within the firm.

⁷See Kravis, Heston, and Summers (1982, pp. 133 seq.) for a careful empirical analysis of alternative measures of these types of services.

⁸There is a difficult empirical issue here since profit remittances may not be an accurate indication of income accruing to domestic factors because of transfer pricing practices and differential tax rates, exchange restrictions, and variations in reinvested earnings. For further discussion, see Stern and Hoekman (1986).

⁹One has to be careful here, however, in specifying what service is actually being provided to demanders. In general, but especially in the case of tourism, a bundle of services will be consumed. This bundle will have to have a lower *average* price than in the consumer's home country. As pointed out to us by Alan Deardorff, many, if not most, of the individual services in this bundle will be more expensive than at home (think of the prices of food and lodging at a ski resort), while the services that *are* appreciably *cheaper* will often not be measurable (the view, the quality of the skiing). Trivially, *prices* of these

services will be much higher in the consumer's home country, if not infinite due to nonavailability. The nonobservability of the (autarky) prices of these services may thus pose some difficulty in determining comparative advantage.

¹⁰See Krugman (1986) for an interesting analysis of the identification of "strategic" sectors when there are externalities that are country- or location-specific. He points out that, to the extent the products involved can be traded, it may not matter to a country where an industry is located. There is no necessary connection therefore between the availability of technology and the production of goods (and presumably also services) in a given country. It seems doubtful accordingly that governments have much to gain by seeking to identify and capture the returns associated with strategic sectors, whether these sectors produce goods or services.

¹¹The most critical assumptions are whether firms compete in terms of price rather than quantity, factors of production are in inelastic supply, there is a significant degree of competition among domestic firms and substantial exports, and entry barriers are potentially or actually low. Further, the possible gains from government intervention may be limited insofar as the excess profits of firms may not translate into large gains for a nation.

¹²The determinants of Japanese technology trade have been analyzed in a factor-endowment context in Vestal (1985).

¹³See Stern (1985, esp. pp. 152-53 and 158) for some critical comments on the methodology used by Sapir and Schumacher.

¹⁴See 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.

¹⁵It should be noted that the United States has already introduced investment issues into bilateral discussions and negotiations. Thus, for example, a recent Section 301 case directed against South Korea focused on the liberalization of access to the South Korean insurance market. For more details, see Allgeier (1986).

¹⁶Again, as in the investment case just noted, the United States has already linked goods and services issues in its bilateral negotiations with the newly industrializing countries (NICs). A case in point is the linking of the degree of U.S. preferences for eligible countries under the Generalized System of Preferences (GSP) with commitments to liberalize their market access in services. Brant Free of the U.S. Department of Commerce brought this example to our attention in his comment on Stern and Hoekman (1986). We should note that the developing countries were able to get the services negotiations on a separate track in the new GATT Round. This does not rule out, however, the possibility that some linking of goods and services will occur in the course of the negotiations.

¹⁷This is perhaps due in large part to the intrinsic difficulty of monitoring trade in services because of their intangible nature as compared to goods which physically cross national boundaries. Also, historically, services were primarily nontraded and thus not a potential source of tariff revenue compared to goods.

¹⁸Data needs for services in the new round of multilateral trade negotiations are discussed in Stern and Hoekman (1986).

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