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Chapter Author: Bernard M. Hoekman, Robert M. Stern

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7 Evolving Patterns of Trade and Investment in Services

Bernard M. Hoekman and Robert M. Stern

7.1 Introduction

The purpose of our paper is to discuss and document the usefulness and limitations of existing data on international trade and investment in services. We concentrate especially on the conceptual and measurement issues involved in interpreting and trying to use the available data on international services transactions, and, in the process, identify gaps in the data that need attention.

We begin in section 7.2 with a discussion of the distinguishing characteristics of services, what is meant by trade and investment in services, and what economic theory has to say about how international services transactions may evolve through time. In section 7.3, we set forth a number of hypotheses concerning the evolution of international trade in goods and services and then examine and interpret the available data in the light of these hypotheses. Section 7.4 proceeds along the same lines in analyzing patterns of international investment in goods and services. We then discuss the reliability and accuracy of our main empirical findings regarding trade and investment in goods and services in section 7.5, calling attention to the limitations of existing data on

Bernard M. Hoekman is an economist in the Economic Research and Analysis Unit of the General Agreement on Tariffs and Trade (GATT), Geneva. Robert M. Stern is professor of economics and public policy in the Department of Economics and Institute of Public Policy Studies at The University of Michigan, Ann Arbor.

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international transactions in services. Section 7.6 turns to the type of improvements that are required for further analysis to be feasible. Some concluding remarks are made in section 7.7.

7.2 Conceptual and Measurement Issues

7.2.1 What is Meant by International Trade and Investment in Services?

We can say that international trade in goods or services occurs when there are cross-border transactions carried out between economic units (i.e., consumers, firms, governments) that reside in different countries. This is in contrast to production and sale of goods or services abroad that involves a change in residency from one country to another of certain assets or factors of production. While this distinction seems reasonably straightforward, in practice problems nonetheless arise when it comes to distinguishing cross-border trade from production by foreign-owned firms and separating international transactions in goods from international transactions in services.

Conventions play a large role in the distinction between trade and foreign production. Usually a one-year criterion is employed, in that factors are only considered to change their residence if they move abroad for longer than one year. However, this is not a uniform practice. Once firms are considered to have changed their residence, their sales are no longer registered in the home country's balance of payments.

Turning to the difference between goods and services, there is no generally accepted comprehensive definition of what constitutes a service. Despite efforts by national accounting experts in recent years to arrive at a definition, no acceptable definition has emerged. The general problem is that no one criterion suffices to distinguish goods from services.[1] One could take the view that from an economic perspective what really matters is that products are being produced and sold, and that efforts to break down products into goods and services thus may not be very meaningful. It is interesting to note in this connection that such a "product-based" approach is the one that has been taken by the economic statisticians in designing the new Central Product Classification (CPC) system; it focuses on the universe of products and makes no distinction between goods and services.[2] This reflects their considered judgment of the impracticality of measuring goods and services transactions separately.

The nature of technological change and corporate structure also undermines the practicality of distinguishing goods from services. Bhagwati (1984) has

1. See, for discussion, Drechsler and Hoffman (1988).

2. United Nations (1989). The CPC is a classification of products, as opposed to activities. It allows for much more detailed data to be collected as compared to an activity-based classification such as the International Standard Industrial Classification (ISIC). The CPC distinguishes over 600 service products, compared to only 130 activities in the most recently revised ISIC.

emphasized the ways in which the specialized activities of firms are "splintered" off—services from goods and goods from services. 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 firm or industry level. This difficulty may become more pronounced, especially if services that previously were purchased at arm's length from other firms come to be subsumed within the firm.

The implication of the foregoing discussion is that there is unfortunately no airtight way of identifying and accounting for international transactions in services per se, and doing so may not be very useful. Whatever systems or classifications may be devised are bound to be somewhat arbitrary. It remains the case nonetheless that products with "service" characteristics are often considered to be of interest in their own right, and that certain conventions may be adopted in an effort to distinguish services from goods. In what follows we will take a "residual" approach, in that services will be considered to constitute categories 6–9 of the International Standard Industrial Classification (ISIC): wholesale and retail trade, hotels and restaurants; transport, storage, and communications; finance, real estate, and business services; and community, social, and personal services.

7.2.2 Characterizing International Transactions in Services

In Stern and Hoekman (1988a), we called attention to two distinguishing characteristics of services: production and consumption of services have to take place simultaneously, implying that services usually cannot be stored; and services tend to be intangible. We also noted that services can: be complementary to trade in goods; substitute for trade in goods; or be unrelated to goods. All of these characteristics have implications for how trade can occur.

Because of their intangibility and nonstorability, in order to become tradable services have to be applied to (embodied in) objects, information flow, or persons. Available means of "transportation" must then be employed to move the objects, information, or persons from one country to another (Feketekuty 1988, p. 28). Thus, for trade to occur, the means of transporting the services often have to be able and permitted to cross national frontiers. As a consequence, international transactions in services appear to be more complex conceptually than international transactions in goods.[3] Elsewhere, typologies have been developed characterizing the manner in which trade in services may occur. Usually these break down international transactions in services into three types: cross-border or separated trade analogous to trade in goods; demander-located services, which are transactions requiring the movement of the producer to the location of the demander; and provider-located services,

3. In particular, the issue of market access is much more important for services than for goods. In the sphere of merchandise trade, transportation up to the frontier may be enough to sell a good. In services this is often not sufficient, and either the means of transportation or the provider (factor) may need to be able to cross the border.

which are transactions implying movement of the consumer to the location of the provider (see Sampson and Snape 1985 and Stern and Hoekman 1987).

Such typologies are helpful in that they focus attention on the crucial role that technology plays in the tradability of services. Depending on the type of service, trade may or may not be technically feasible. To the extent that it is, there may be one or more avenues available to firms. These include trade in what Hirsch (1989) has called "service-intensive" goods, embodiment in cross-border information flows (separated services), and movement of provider or demander. We will have more to say on this topic below.

7.2.3 Possible Determinants of the Evolution of Trade and Investment in Services

In trying to understand the evolution of international transactions in services, it is helpful to begin by reviewing the factors that shape the role of services in a country's domestic economic structure.

Broadly speaking, the demand for both goods and services will depend upon the level and rate of increase of per capita real incomes and relative prices. The latter will be a function of changes in factor productivity (technological change), differential income elasticities, and changes in economic structure (urbanization, labor-force participation) and business practices. As services are often said to lag behind goods-producing sectors in terms of productivity improvement and to have income elasticities of demand greater than unity, one might expect that the share of spending on services (reflecting both final and intermediate demand) would rise with increases in per capita income.[4] It is noteworthy in this connection that the share of services in total output and employment especially tends to be higher in the industrialized countries as compared to the developing countries. This may be due in part to differences in the ways that services are measured in the industrialized and developing countries, in particular the difficulties of taking institutional and structural differences into account. But even if allowance is made for these intercountry variations, the importance of services appears to rise with levels of development and per capita incomes.

Table 7.1 records the percentage breakdown of gross domestic product (GDP) measured on a value-added basis in current prices for three major sectors—agriculture (including forestry and fishery), industry (mining, manufacturing, construction, and utilities), and services (wholesale and retail trade; hotels and restaurants; transport, storage, and communication; finance, real estate, and business services; and personal, social, and community services)—for the major industrialized and developing countries and other regions for 1965 and 1986. For convenience, when available, manufacturing is

4. As suggested originally by Baumol (1967) and Fuchs (1968). While the service sector as a whole tends to lag behind goods-producing sectors in terms of productivity growth, certain service activities have experienced very large increases in productivity. As Baumol (1985) has emphasized, there are both "stagnant" and "progressive" service activities.

also reported separately. It can be seen that most countries experienced an increase in the relative importance of services in total output.[5] In most industrialized countries the counterpart of this rise was a decline in the shares of agriculture and industry. In contrast, many developing countries experienced a simultaneous increase in the share of both industry and services. However, the trend in these countries is not uniform, and the share of services declined in a number of economies.

The relative importance of services in terms of employment can be seen in table 7.2 to have increased dramatically in the major industrialized and developing countries in the post-1950 period. In several of the industrialized countries, the share of services in total employment is currently greater than 60 percent. Reasons for the increases in the employment share of services include lagging productivity in services and structural changes such as increased participation rates of female labor, increased urbanization, technological changes, and increased specialization that have led to new service activities, expansion of part-time employment opportunities, and the growth of government services.[6] The relative importance of employment in services tends to be less in developing economies as compared to the industrialized countries.

Table 7.3 provides information on the average contribution of various service activities to GDP in the industrialized and the developing countries. Wholesale and retail trade, hotels, and restaurants tend to contribute most to total value added, followed by finance and business services, transport and communications, and social services. The major difference between developed and developing countries is the relative importance of agriculture and government.

A comparison of low and high income countries shows producer services (finance, insurance, real estate, professional services such as engineering, consulting, and accounting, as well as cleaning and maintenance) to be about three times more important in the high income countries (Park and Chan 1989). This holds for both services- and goods-producing sectors: the relative importance of producer service inputs is twice as large for distribution (transport and wholesale and retail trade), and three times as large for personal, social, and community services in high-income countries, as compared to low-income countries. Limited time-series evidence for specific countries supports the conclusion that producer services tend to become relatively more important over time. Green (1985) has demonstrated that arm's length expenditures on producer services as a proportion of the value of manufacturing

5. Data on regional and country groupings in this and subsequent tables are weighted averages of all the countries in a given group, not just those reported separately in the tables. In cases where country data were not reported or not available, the countries were given a zero weight in the groupings. This will of course tend to bias the weighted average downward, making it difficult to make comparisons among groupings and between years.

6. These issues have been analyzed at length in the literature. For a summary discussion, see Stern and Hoekman (1988b).

Table 7.1 **Distribution of GDP (Valued Added) by Sector and Country or Region, 1965 and 1986**

	GDP (U.S. $ million)		Agriculture (%)		Industry (%)		Manufacturing (%)		Services (%)	
Country or Region	1965	1986	1965	1986	1965	1986	1965	1986	1965	1986
Industrialized Countries	1,373,360	10,451,880	5	3	40	35	29	NA	54	61
Australia	24,050	184,940	9	5	39	34	26	17	51	62
Austria	9,480	93,830	9	3	46	38	33	28	45	59
Canada	45,940	323,790	6	3	40	36	27	NA	53	61
European Community	455,220	3,354,430	7	4	44	38	NA	NA	49	59
Belgium	16,600	112,180	5	2	41	33	31	23	53	64
Denmark	8,940	68,820	8	6	36	28	23	20	55	66
France	99,660	724,200	8	4	39	34	28	NA	53	63
West Germany	114,790	891,990	4	2	53	40	40	32	43	58
Greece	5,270	35,210	24	17	26	29	16	18	49	54
Ireland	2,340	21,910	20	14	30	45	NA	NA	50	41
Italy	72,150	599,920	11	5	41	39	23	22	48	56
Netherlands	19,890	175,330	7	4	44	34	32	18	49	62
Portugal	3,740	27,480	24	10	37	40	NA	NA	39	51
Spain	23,320	229,100	15	6	36	37	NA	27	49	56
United Kingdom	88,520	468,290	3	2	46	43	34	26	51	55
Finland	7,540	62,370	16	8	37	37	23	25	47	55
Japan	91,110	1,955,650	9	3	43	41	32	30	48	56
New Zealand	5,640	26,630	14	11	31	33	NA	NA	55	56
Norway	NA	69,780	8	4	33	41	21	14	59	56
Sweden	19,610	114,470	6	3	40	35	28	24	53	62
Switzerland	13,920	135,050	NA	NA	NA	NA	NA	NA	NA	NA
United States	701,670	4,185,490	3	2	38	31	28	20	59	67

Developing Countries	348,960	2,361,370	30	19	31	36	20	NA	38	46
East/South Asia	151,723	966,050	40	24	29	38	NA	NA	31	38
China	65,590	271,880	39	31	38	46	30	34	23	23
Hong Kong	2,150	32,250	2	0	40	29	24	21	58	71
India	46,260	203,790	47	32	22	29	15	19	31	39
South Korea	3,000	98,150	38	12	25	42	18	30	37	45
Singapore	970	17,350	3	1	24	38	15	27	73	62
Taiwan	2,803	105,700	22	8	35	51	NA	NA	43	41
Latin America	87,240	569,360	17	11	34	38	NA	NA	49	51
Argentina	16,500	69,820	17	13	42	44	33	31	42	44
Brazil	19,450	206,750	19	11	33	39	26	28	48	50
Chile	5,940	16,820	9	6	40	39	24	21	52	56
Mexico	20,160	127,140	14	9	31	39	21	26	54	52
Venezuela	8,290	49,980	7	9	41	37	NA	23	52	54
Middle East/North Africa	18,980	275,130	18	10	40	44	NA	NA	43	46
Egypt	4,550	40,850	29	20	27	29	NA	NA	45	51
Saudi Arabia	2,300	78,480	8	4	60	50	9	9	31	46
Other Europe	18,820	114,260	27	15	35	39	NA	NA	37	46
Turkey	7,660	52,620	34	18	25	36	16	25	41	46
Yugoslavia	11,160	61,640	23	12	42	42	NA	NA	35	46
Subsaharan Africa	26,440	165,990	45	36	19	25	9	10	37	36
Senegal	810	3,740	25	22	18	27	14	17	56	51
Tanzania	790	4,020	46	59	14	10	8	6	40	31
Zaire	3,140	6,020	21	29	26	36	16	NA	53	35
Nigeria	4,190	49,110	53	41	19	29	7	8	29	30
South Africa	10,540	56,373	10	6	42	46	23	22	48	49

Source: World Bank, *World Development Report*, 1988.
Note: NA = not available.

Table 7.2 **Distribution of Employment by Sector and Country or Region, 1950–1980**

Country or Region	Agriculture (%)			Industry (%)			Services (%)		
	1950	1965	1980	1950	1965	1980	1950	1965	1980
Industrialized Countries	NA	14	7	NA	38	35	NA	48	58
Australia	16	10	7	39	38	32	45	52	61
Austria	34	19	9	36	45	41	30	36	50
Canada	20	10	5	36	33	29	44	57	65
European Community	29	17	9	38	42	38	34	41	53
Belgium	12	6	3	51	46	36	37	48	61
Denmark	26	14	7	34	37	32	41	49	61
France	31	18	9	35	39	35	34	43	56
West Germany	23	11	6	43	48	44	34	41	50
Greece	55	47	31	19	24	29	26	29	40
Ireland	40	31	19	25	28	34	35	48	48
Italy	44	25	12	31	42	41	25	34	48
Netherlands	18	9	6	36	41	32	46	51	63
Portugal	50	38	26	24	30	37	26	32	38
Spain	50	34	17	25	35	37	25	32	46
United Kingdom	6	3	3	50	47	38	45	50	59
Finland	35	24	12	35	35	35	30	41	53
Japan	49	26	11	24	32	34	28	42	55
New Zealand	19	13	11	35	36	33	47	51	56
Norway	26	16	8	37	37	29	37	48	62
Sweden	21	11	6	41	43	33	38	46	62
Switzerland	17	9	6	46	49	39	37	41	55
United States	12	5	4	37	35	31	51	60	66

Developing Countries	NA	70	62	NA	12	16	NA	18	22
East/South Asia	83	75	69	6	13	16	11	13	15
China	88	81	74	5	8	14	7	11	12
Hong Kong	12	6	2	56	27	38	32	41	47
India	78	73	70	8	12	13	14	15	17
South Korea	77	55	36	6	15	27	17	30	37
Singapore	8	6	2	20	27	38	71	68	61
Taiwan	56	46	20	17	22	42	27	31	38
Latin America	53	44	32	20	22	26	27	34	42
Argentina	25	18	13	32	34	34	43	48	53
Brazil	60	49	31	17	20	27	23	31	42
Chile	34	27	17	30	29	25	36	44	58
Mexico	60	50	37	17	22	29	23	29	35
Venezuela	43	30	16	21	24	28	36	47	56
Middle East/North Africa	55	63	47	16	14	20	29	23	33
Egypt	60	55	46	13	15	20	27	30	34
Saudia Arabia	76	68	48	9	11	14	15	21	37
Other Europe	82	68	49	9	16	22	9	15	28
Turkey	87	75	58	6	11	17	7	14	25
Yugoslavia	73	57	32	14	26	33	13	17	34
Subsaharan Africa	84	79	75	6	8	9	10	13	16
Senegal	85	83	81	5	6	6	10	11	13
Tanzania	87	92	86	4	3	5	9	6	10
Zaire	27	82	72	7	9	13	6	9	16
Nigeria	77	72	68	8	10	12	15	18	20
South Africa	34	32	17	29	30	35	37	39	49

Source: International Labour Organization
Note: NA = not available.

Table 7.3 **Average Percentage Share in GDP (Total Value Added) by Activity, 1980–84**

Activity	Developed Countries	Developing Countries
Goods-related		
Agriculture, forestry, and fishing	6	16
Mining	3	8
Manufacturing	24	21
Electricity, gas, water	3	2
Construction	7	6
Total Goods	43	53
Services		
Wholesale and retail trade, hotels and restaurants	15	17
Transport and communications	7	6
Finance, insurance, real estate, business services	14	10
Community, social, and personal services	7	7
Subtotal market services	43	40
Government	14	7
Total services	57	47

Source: Calculated from data reprinted in United Nations, *National Accounts Yearbook*, 1988.

output increased about 20 percent on average in West Germany, Italy, and the United Kingdom between 1975 and 1981. In the recent past, most service subsectors have been growing faster than manufacturing output in the United States, but this is the case especially for producer services such as telecommunications, brokerage, business, and miscellaneous professional services (Adams and Siwaraksa 1987; Duchin 1988).

Possible reasons for the growth of producer services include the increasing scope for arm's length sourcing due to innovations in information technology, as well as increasing specialization and product differentiation, driven in part by emerging economies of scale and scope and in part by demand for a larger variety and higher quality of services. It is often hypothesized that an important change in business practices has occurred involving firms shifting from in-house to arm's length sourcing of service inputs (also called unbundling or externalization). However, Kutscher (1988) demonstrates that unbundling has not taken place to any great extent in the United States, as the relative in-house employment of people engaged in producer service activities has remained constant or even increased. Thus, the increase in output and employment of business services apparently reflects increasing demand for these services, and not a shift in sourcing.

It can be expected that the various factors mentioned relating to a country's domestic economic structure will also operate internationally. As real per capita incomes rise, one would expect an increase over time in the share of services in international transactions. Thus, the presumption exists that both the level and the pattern of trade and investment in services will be in part a func-

tion of the level of economic development. In addition, familiar factors such as endowments, technologies, tastes, culture, and location will be important. Most trade theorists agree that the standard "toolbox" is applicable to trade in services (i.e., the principle of comparative advantage, predictions as to the factor content of trade).[7] The limited empirical evidence available supports the view that standard approaches can be fruitfully used to analyze trade in services (see, e.g., Sapir and Lutz 1980, 1981, Sagari 1988, and Langhammer 1989).

Government policies, of course, play an important role. The regulatory, trade, and investment policy regime of a country may encourage, deter, or change the mix between international transactions in goods and services (e.g., see Kaspar 1988, Noyelle and Dutka 1988, White 1988, and Yeats 1989). Many services require the physical proximity of the provider and recipient. This means that services provided by means of foreign direct investment and the international movement of workers and consumers may often be of considerable importance in comparison to services traded directly across international borders in a manner similar to trade in goods. Governments may require establishment (e.g., in the insurance sector), even though separated trade may be feasible. The opposite also occurs (e.g., retail banking) in that only cross-border trade is allowed, so in practice sales by foreign-owned firms are prohibited as these need to be established abroad.

The conclusion to be drawn is that the evolution of trade and investment in services will depend on differences in per capita incomes, variations in factor endowments, distances from markets, technology and technological gaps, the degree to which capital, labor, and demanders are mobile, government policies, and firm strategies (market structure). These are, of course, the same factors that shape trade in goods. But, trade in services is more complex because of the need to determine the tradability of services. Thus, analysis should also focus on the technological and regulatory considerations that determine the relative costs associated with alternative ways of providing services. Two questions then need to be answered: Is trade possible? If so, what means will be preferred? As noted above, options include temporary physical movement of either provider or recipient, embodiment in an information flow (phone calls, faxes, electronic data, and mail), and embodiment in a good.

7.2.4 Availability of Statistics

There are three main sources of available data relating to international transactions in services: the balance of payments; input-output tables; and industry- or sector-specific information collected by government agencies or the private sector. Current balance-of-payments (BOP) data are highly aggre-

7. There is not complete agreement, of course. Furthermore, while in principle standard theories remain valid, their application is made more difficult because there are multiple modes through which international transactions in services may occur.

gated, often inaccurate, difficult to compare across countries or time, only available on a value basis, and very rarely reported by origin and destination.[8] The classification of services found in BOP accounts is by type of activity and includes both nonfactor services (e.g., travel, transport, other private services) and what would be regarded as factor services in the national accounts (e.g., royalties and fees for intangible property, investment income, and labor income). The factor payments and receipts typically do not distinguish income from goods-related as opposed to services-related investment (production). Also workers' remittances are generally included under transfers in the BOP accounts, although they can be considered to be a component of factor services. BOP data are the only global source of services trade data currently available.

An alternative source of data on international transactions in services is national input-output (I-O) tables. These are especially useful in assessing the interindustry relations involving goods and services. However, depending on the country, I-O tables will employ different nomenclatures and have varying levels of aggregation and disaggregation, making cross-country comparisons difficult. More importantly, international transactions in services are often not clearly identified, making it difficult to determine how such transactions relate to domestic transactions. Furthermore, I-O data are rarely up to date and are often only available at five- or ten-year intervals. Large discrepancies exist between measures of trade in services based on I-O tables and the balance of payments (Hoekman 1988). For this reason we will not make use here of I-O data.

A third important source of data is surveys of foreign direct investment (FDI) by government agencies or financial flows monitored by central banks. However, these data are not often broken down geographically, may focus only on financial flows instead of sales by affiliates, and rarely identify services as separate activities. Finally, there are studies by official bodies, private organizations, and individuals that contain a great deal of information for a variety of services sectors. For example, data exist on construction contracts awarded, on trade in insurance, and on the largest firms in service sectors such as hotels and restaurants, accounting, and advertising. These data are very useful for sectoral studies, but less so for global analyses.

In line with the theme of this volume, the two sections that follow focus on what the available BOP and stock data on FDI in services can tell us. We discuss the reliability and accuracy of the data we use in section 7.5. To focus the discussion, some broad hypotheses or questions concerning the evolution of international trade and investment in goods and services are suggested in

8. For more detailed analyses of the deficiencies of data on international trade in services, see Ascher and Whichard (1987), U.S. Congress, Office of Technology Assessment (1986), Drechsler and Hoffman (1988), and Stern and Hoekman (1987). We will return to data issues in sections 7.5 and 7.6.

the next two sections. We then investigate the extent to which available data allow the analyst to answer.

7.3 Patterns of International Trade in Goods and Services

7.3.1 Hypotheses

1. *Shares.* The previous section indicated that there is reason to believe that the share of services in domestic transactions rises in response to increases in per capita income. Has a similar phenomenon occurred for international transactions in services? Have rates of change in output and trade in services been similar? Finally, have growth rates for trade in services been greater or smaller than for trade in goods?[9]

2. *Variety.* The variety of both intermediate and final services can be expected to increase, due especially to changes in demand and technology that allow increasing specialization to occur at the level of the firm in particular industries. Can such a development be observed in trade flows?

3. *Separated trade.* The relative importance of trade in separated services (i.e., taking place via telecommunications media as opposed to mobility or embodiment in goods) can then be expected to increase, and changes in the composition of services trade may reflect the increasing importance of technological developments. That is, given government policies, has trade in separated services grown faster than trade via the temporary mobility of providers and demanders?

4. *Comparative advantage.* Economic theory leads one to expect that, depending on patterns of comparative advantage, countries will specialize in the production of specific types of products. Are there any discernible trends to this effect for services?

5. *Producer services.* As per capita incomes rise, the relative importance of producer services can be expected to rise, while that of personal and distribution services declines. Can a similar phenomenon be observed in trade flows? Does this imply that trade in producer services will be mostly between developed nations? As developing economies grow, does the relative importance of developing regions in global trade in producer services rise?

9. The answers to the last two questions will depend in part on the respective income and price elasticities of demand and whether goods and services are complements or substitutes. While such information is not currently available, the answers may provide some indication of the relationship between goods and services.

7.3.2 Evidence and Analysis

Table 7.4 records average annual growth rates of sector contributions to GDP at constant prices for 1965–80 and 1980–86 for the major industrialized and developing countries. For most countries, growth rates of GDP dropped dramatically in the 1980–86 period, major exceptions including China and India. It is noteworthy that growth rates in agricultural output have recently risen substantially in both the industrialized and the developing regions. Indeed, in the European Community, Australia, and the Middle East/North Africa, agriculture was the most rapidly growing sector in the 1980–86 period.[10] This is in marked contrast to the 1965–80 period, when agriculture was the slowest growing sector in all regions. In general, growth rates of service sector output have not been significantly greater than growth in GDP.

Table 7.5 reports data on the nominal value of world exports of merchandise and "invisibles" for the period between 1970 and 1987. Invisibles comprise all the nonmerchandise components of the current account, while "private services" include travel, transport, and the private components of the IMF category "other goods, services, and income."[11] It can be seen that merchandise exports grew slightly faster than private services during the 1970s, whereas the opposite was the case in 1980–87. The relative importance of private services was more or less unchanged between 1970 and 1987. The largest changes were apparently recorded for investment income and account for the increase in the relative importance of invisibles in world trade. However, to a large extent these income flows are related to portfolio investment, not FDI. Furthermore, labor income flows and worker remittances are excluded. We will return to this topic in the next section.

Tables 7.6 and 7.7 focus respectively on the percentage shares of world exports and imports of merchandise and services for 1970 and 1987. They show that the share in world trade of merchandise held by the industrialized countries declined somewhat between 1970 and 1987, as did the share in total exports of private services. The share in world exports of maritime and air transport (shipment and passenger services) of these countries declined significantly, by about 10 percentage points, while shares in world exports of other transport, travel, and other private services (OPS) fell by approximately 5 percentage points. It is interesting to note that the decline in the shares in exports of service categories was larger than the decline in the share in world merchandise exports. The share of industrialized nations in world imports of

10. As was the case for the earlier tables, the weighted averages for country and regional groupings have a zero weight to countries for which data are not reported or not available.

11. The major categories employed by IMF are shipment (transport of freight, including insurance); passenger services (air fares); other transport (charters and port services); travel (expenditures and receipts associated with temporary stays of nonresidents); other goods, services, and income (labor and property income, as well as all other types of services). The last category includes both official and private transactions. For our purposes, the term "other private services" (OPS) will be used to denote the private component of this category, excluding labor and property income.

OPS remained virtually unchanged between 1970 and 1987. This fact supports the presumption that demand and supply of producer services are likely to be concentrated in high-income countries. The share in global imports of OPS by the dynamic Asian economies has doubled, in contrast to the much slower growth in the share of developing countries as a whole. Again, this is in line with the broad hypothesis noted above.

Many developing countries apparently experienced an increase in the relative importance of exports of private services after 1970, while the opposite was the case for most industrialized countries. This can be seen from table 7.8. Only 4 out of the 20 industrialized countries listed in table 7.8 saw an increase in the relative importance of private services, as compared to 18 out of 29 developing economies. This suggests that service exports grew faster than merchandise exports for many developing countries. This is, of course, the counterpart to the finding discussed above that the developing-country share in world exports of private services has increased.

Table 7.9 reports average annual growth rates of total exports and imports of merchandise and services for five-year intervals starting in 1967 for the major industrialized and developing countries. There are a number of interesting details. In the industrialized countries, exports of merchandise grew faster than exports of private services for all periods except 1977–82. In general, growth rates of exports and imports for the various categories tend to be quite similar. Developing countries demonstrate an opposite pattern. Thus, exports of services tended to grow faster than exports of merchandise, except during the 1972–77 period. For the period as a whole, services exports appear to have outperformed merchandise exports, while the opposite holds for developed countries.[12] Developing economies show a tendency for growth rates of service imports to exceed those of merchandise during 1967–82. During 1982–87, when growth rates were negative, this pattern persists, in that service imports fell faster than merchandise imports.

As is to be expected, regional and country experiences varied widely over time. Middle-income countries that export manufactures (such as Brazil, Ireland, Spain, and Yugoslavia) generally reported that imports of services grew faster than exports. Countries such as South Korea and Singapore started by having higher growth rates for exports of services than for imports, but reported the opposite for the 1982–87 period. The same is true for Asia as a whole. Latin American countries, in contrast, saw their imports of services grow faster than their exports from the late 1960s to the early 1980s. However, during the 1982–87 period growth rates of imports plummeted for most nations. Finally, it is noteworthy that the decreases in the growth rates of exports

12. Growth rates for the period 1967–87 are not reported, since the absence of data for many developing countries in 1967 implies that calculated growth rates would be inaccurate. It bears repeating that figures reported for country groupings will be biased due to nonreporting. This is especially the case for the 1967–72 period.

Table 7.4 **Average Annual Percentage Growth Rates of Real GDP by Sector and Country or Region, 1965–80 and 1980–86**

	GDP		Agriculture		Industry		Manufacturing		Services	
Country or Region	1965–80	1980–86	1965–80	1980–86	1965–80	1980–86	1965–80	1980–86	1965–80	1980–86
Industrialized Countries	3.6	2.5	0.9	2.5	3.2	2.5	3.7	NA	3.6	2.6
Australia	4.0	3.1	2.6	6.1	2.9	2.0	1.2	NA	5.4	3.5
Austria	4.3	1.8	2.2	1.2	4.5	1.6	4.7	2.1	4.4	1.9
Canada	4.4	2.9	0.7	2.8	3.4	2.9	3.8	3.6	5.5	2.9
European Community	3.6	1.5	1.4	2.7	3.4	0.8	NA	NA	3.9	2.0
Belgium	3.9	0.9	0.5	3.1	4.4	0.5	4.8	1.6	3.8	1.1
Denmark	2.7	2.8	0.9	4.6	1.9	2.6	3.2	2.9	3.1	2.4
France	4.4	1.3	0.8	2.8	4.6	0.6	5.3	NA	4.6	1.6
West Germany	3.3	1.5	1.4	3.1	2.9	0.7	3.3	0.8	3.7	2.1
Greece	5.6	1.5	2.3	0.3	7.1	0.4	8.4	0.2	6.2	2.5
Ireland	5.1	0.7	NA	−6.2	NA	−1.1	NA	NA	NA	3.8
Italy	3.9	1.3	0.8	0.5	4.2	0.2	5.1	−0.2	4.1	2.1
Netherlands	3.7	1.0	4.3	4.5	3.6	0.5	4.3	NA	4.0	1.9
Portugal	5.5	1.4	NA	0.1	NA	1.4	NA	NA	NA	1.7
Spain	5.2	1.8	3.0	2.8	5.8	0.8	6.7	0.3	4.6	2.3
United Kingdom	2.2	2.3	1.7	4.1	1.2	2.0	1.1	1.2	2.9	2.6
Finland	4.1	2.7	0.1	0.2	4.4	2.8	5.0	3.0	4.8	2.4
Japan	6.3	3.7	0.8	1.0	8.5	5.0	9.4	7.8	5.2	2.9
New Zealand	3.1	2.6	NA	2.1	NA	3.8	NA	NA	NA	2.0
Norway	4.4	3.5	−0.4	3.0	5.6	3.8	2.6	0.3	4.2	3.4
Sweden	2.8	2.0	−0.2	2.5	2.2	2.5	2.3	2.3	3.3	0.5
Switzerland	2.0	1.5	NA	NA	NA	NA	NA	NA	NA	NA
United States	2.8	3.1	1.1	3.1	1.9	3.2	2.7	4.0	3.4	3.0

Developing Countries	6.1	3.8	3.1	3.6	7.2	4.6	8.0	5.9	7.1	3.4
East/South Asia	5.6	6.8	3.1	4.5	7.7	8.2	NA	NA	6.0	6.9
China	6.4	10.5	3.0	7.9	10.0	12.5	9.5	12.6	7.0	9.4
Hong Kong	8.5	6.0	NA	NA	NA	NA	NA	NA	NA	NA
India	3.7	4.9	2.8	1.9	4.0	7.1	4.3	8.2	4.6	6.0
South Korea	9.5	8.2	3.0	5.6	16.5	10.2	18.7	9.8	9.3	7.2
Singapore	10.4	5.3	3.1	−3.5	12.2	4.4	13.3	2.2	9.7	6.1
Taiwan	13.1	6.8	NA	NA	NA	NA	NA	NA	NA	NA
Latin America	5.7	1.0	2.9	2.0	6.1	0.4	NA	NA	6.3	1.4
Argentina	3.4	−0.8	1.4	2.3	3.3	−1.7	2.7	−0.4	3.9	−0.8
Brazil	9.0	2.7	3.8	2.0	9.9	1.6	9.6	1.2	10.0	3.8
Chile	1.9	0.0	1.6	3.1	0.8	0.7	0.6	−0.2	2.7	−0.9
Mexico	6.5	0.4	3.2	2.1	7.6	−0.1	7.4	0.0	6.6	0.4
Venezuela	5.2	−0.9	3.9	2.3	3.4	−0.8	5.8	2.0	6.5	−1.2
Middle East/North Africa	6.7	1.3	4.5	5.2	7.6	−0.9	NA	NA	9.0	4.0
Egypt	6.7	4.7	2.8	1.9	7.0	6.3	NA	NA	9.5	4.4
Saudi Arabia	10.9	−3.4	4.1	10.3	11.6	−10.4	8.1	6.1	10.5	4.4
Other Europe	6.1	2.9	3.1	2.2	7.6	3.5	NA	NA	6.4	2.9
Turkey	6.3	4.9	3.2	3.1	7.2	6.4	7.5	8.0	7.6	4.7
Yugoslavia	6.0	1.2	3.1	1.4	7.8	1.1	NA	NA	5.5	1.4
Subsaharan Africa	5.6	0.0	1.6	1.2	9.4	−1.6	8.5	0.3	7.5	0.1
Senegal	2.1	3.2	1.4	2.3	4.8	4.0	3.4	4.1	1.3	3.2
Tanzania	3.7	0.9	1.6	0.8	4.2	−4.5	5.6	−4.6	6.9	2.9
Zaire	1.4	1.0	NA	1.7	NA	2.7	NA	−0.7	NA	−0.7
Nigeria	8.0	−3.2	1.7	1.4	13.4	−5.1	14.6	1.0	8.8	−4.0
South Africa	4.0	0.8	NA	−1.3	NA	−0.5	NA	−1.7	NA	2.4

Source: World Bank, *World Development Report*, 1988.
Note: NA = not available.

Table 7.5 **World Exports of Merchandise and Invisibles, 1970–87**

Category	Value (US $ billion)		Share in Total (%)		Average Annual Change (%)		
	1970	1987	1970	1987	1970–79	1980–87	1970–87
Merchandise exports	269	2,194	71	67	20.5	2.5	13
Invisibles exports	115	1,099	29	33	21	5	14
of which:							
Private services	64	525	17	16	19	5	13
Investment income	26	415	7	13	25	6.5	17.5
Other official goods, services, and income	8	45	2	1	17	2	10.5
Unrequited transfers	12	114	3	4	22	4	14
Total	379	3,270	100	100	20.5	3	13

Source: IMF, *Balance of Payments Yearbook*, and national sources.
Notes: Figures have been rounded. Private services include labor and property income (about 5% of total).

experienced by many countries and regions in the post-1982 period were concentrated in merchandise rather than in private services. This suggests that the merchandise terms of trade may be considerably more volatile than the services terms of trade. Alternatively (or additionally), it may reflect increased competition in industrialized countries.

Tables 7.10 and 7.11 indicate respectively the average annual growth rates of exports and imports for various categories for 1967–87. Growth rates in general tended to be much lower during the 1977–87 period than during 1967–77. Industrialized countries' exports and imports of OPS were the fastest growing component of private services trade during 1967–77. While OPS continued to be the most dynamic component of exports during 1977–87, passenger services and travel became the fastest growing services on the import side. As far as the developing countries are concerned, no component dominated. During 1967–77, exports of OPS and passenger services grew fastest, as opposed to imports of other transport, followed by OPS. During 1977–87, passenger services and shipment were the most rapidly growing categories on the export side, while OPS was the fastest growing import. Again, country experiences varied widely. The growth rate of exports of OPS by South Korea and Singapore was very high during 1967–77, but fell below the developing-country average during 1977–87. Construction exports by South Korea fell dramatically during the 1980s. India, Taiwan, and Egypt substantially outperformed the developing-country average for exports of OPS.

Turning to imports of the developed countries, the largest import growth

rates for OPS were registered by Ireland, Finland, Japan, and the United States. Developing economies reported a varied pattern of import growth rates. Growth rates of imports of all categories were substantial for Asian economies. Imports of OPS for most Asian countries (but not South Korea), as well as for Argentina, Chile, Mexico, Egypt, Turkey, and Yugoslavia, grew rapidly. However, rates of growth for these countries were not noticeably different from those of the more dynamic industrialized countries. Nevertheless, as mentioned above, imports of OPS were the fastest growing category for developing countries as a whole during 1977–87.

Great care must be taken when drawing conclusions based on the foregoing tables. As will be discussed in greater detail in section 7.5, data on trade in services are neither comprehensive nor very reliable. Thus, the following conclusions should be considered to be tentative.

What, then, are the answers suggested by the data for the questions noted at the beginning of this section?

1. *Shares.* There is a tendency among developing countries for the share of private services in total trade to increase. Thus, domestic trends appear to be reflected in international trade statistics. However, this is not the case for industrialized countries. If one compares growth rates of service sector output reported in table 7.4 with the growth rates of exports and imports, one can conclude that industrialized countries with higher-than-average service sector output growth are not necessarily the most dynamic traders of services. Developing countries on average experienced higher growth rates of services output than industrialized countries, and for much of the period under review developing-country growth rates of exports of private services tended to be higher than those of the industrialized nations. Developing countries with relatively high services output growth rates (including South Korea, Singapore, Brazil, Egypt, Saudi Arabia, and Turkey) tend to be high-growth exporters of services. No such pattern emerges on the import side.

2. *Variety.* No quantitative information is available with respect to the question of whether the variety of traded services has increased over time. The existing data are too highly aggregated.

3. *Separated trade.* The question of whether separated trade has become more important relative to trade via temporary mobility of provider or consumer also cannot be answered readily. BOP data are not broken down by mode of delivery. It is clear that travel data reflect a mix of provider- and consumer-mobility, whereas transport tends to comprise separated trade. The main problem is that OPS are a mix of the three major modes of delivery, and that the value of reported OPS for most industrialized countries is understated. One reason for this understatement is that virtually no information exists on the volume and value of transborder data flows. This issue will be discussed in the following section.

4. *Comparative advantage.* As for specialization, it is clear that on an aggregate

Table 7.6 **Percentage Shares in World Exports of Merchandise and Services by Country or Region, 1970 and 1987**

Country or Region	Merch.		Ship.		Travel		Pass.		OT		OPS		Total PS		Prop. Inc.		Lab. Inc.	
	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987
Industrialized Countries	81.1	77.9	92.8	81.2	82.7	78.2	91.3	81.2	83.3	78.4	86.9	84.6	87.7	81.6	99.6	99.4	83.5	76.5
Australia	1.7	1.2	0.4	0.6	0.6	1.2	4.5	3.2	4.3	2.0	1.1	0.3	1.3	1.0	0.3	0.7	1.1	1.5
Austria	1.0	1.2	0.6	1.6	0.7	0.6	NA	NA	0.1	0.2	1.6	2.7	2.1	2.8	0.2	0.3	NA	NA
Canada	6.2	4.5	2.0	0.8	6.4	3.0	NA	NA	1.9	0.6	4.4	2.7	3.5	2.0	NA	NA	NA	NA
European Community	41.8	41.7	54.6	46.8	46.6	43.8	57.2	42.7	39.3	42.6	56.3	53.1	50.9	47.5	26.5	36.8	78.7	66.3
Belgium	3.4	3.5	2.2	4.3	1.9	1.9	1.5	2.1	1.8	2.2	7.7	5.7	3.5	3.6	3.6	2.1	8.2	4.7
Denmark	1.3	1.2	2.4	2.9	1.7	1.4	0.2	0.3	2.8	1.6	1.6	1.5	1.7	1.5	NA	NA	NA	NA
France	6.7	6.4	8.9	10.2	7.3	7.4	NA	NA	NA	13.8	11.1	13.0	8.6	10.1	2.1	5.1	7.2	13.7
West Germany	12.8	12.7	9.9	7.0	7.3	4.8	13.5	10.4	5.7	5.5	6.7	9.8	7.9	7.9	3.9	6.3	20.6	25.6
Greece	0.2	0.3	0.2	0.2	1.1	1.4	NA	0.1	1.6	0.2	0.6	1.0	0.7	0.8	NA	NA	0.4	0.5
Ireland	0.4	0.7	NA	NA	1.0	0.5	0.7	0.8	0.5	0.9	0.1	0.2	0.5	0.4	NA	NA	NA	NA
Italy	4.9	5.3	5.5	8.1	9.0	7.6	11.1	4.6	3.9	1.4	6.5	5.1	7.4	6.2	3.6	10.5	35.6	15.7
Netherlands	4.0	4.0	5.8	5.6	2.4	1.7	6.7	4.5	10.0	8.5	4.6	4.2	4.9	4.1	3.0	4.1	6.8	3.9
Portugal	NA	0.4	NA	0.2	NA	1.3	NA	0.4	NA	0.7	NA	0.2	NA	0.6	NA	NA	NA	0.8
Spain	0.9	1.5	0.7	1.8	9.2	9.3	4.0	5.5	1.9	2.8	1.7	1.2	3.6	4.1	NA	0.2	NA	1.5
United Kingdom	7.2	5.9	18.9	6.1	5.7	6.4	18.5	14.0	11.0	5.5	15.7	11.2	12.1	8.2	10.3	8.5	NA	NA
Finland	0.9	0.9	1.1	0.8	0.7	0.5	0.3	1.2	0.6	0.8	0.4	0.7	0.7	0.7	NA	0.2	2.0	0.5
Japan	7.0	10.2	7.3	11.9	1.3	1.3	4.5	3.1	6.9	7.7	4.3	6.2	4.1	5.3	1.5	7.4	NA	1.6
New Zealand	0.5	0.3	0.8	0.3	0.2	0.6	NA	1.1	NA	0.6	0.2	0.2	0.3	0.4	NA	NA	NA	NA
Norway	0.9	1.0	12.5	6.3	0.9	0.8	NA	2.0	1.1	1.0	1.2	0.9	3.4	1.6	NA	0.4	NA	0.1
Sweden	2.5	2.0	3.8	3.0	0.8	1.3	3.8	2.5	2.7	1.7	2.2	1.6	2.1	1.7	0.5	1.7	NA	0.3

Switzerland	2.0	2.5	0.7	0.7	5.0	3.4	NA	4.7	NA	NA	5.1	3.7	2.8	2.7	NA	NA	NA	4.3
United States	15.8	11.4	8.1	7.1	12.8	14.8	17.3	19.0	25.8	20.8	8.7	10.9	15.1	14.5	70.6	51.9	NA	1.8
Developing																		
Countries	18.3	21.6	6.2	18.0	16.9	21.3	8.7	17.9	16.7	21.7	11.3	14.7	12.4	18.3	0.4	0.6	16.5	23.2
Asia	7.8	12.6	1.5	11.4	2.3	10.5	0.5	4.3	5.4	11.5	2.6	7.4	2.6	9.1	NA	NA	2.0	14.2
China	0.9	1.6	NA	1.8	NA	1.1	NA	0.5	NA	0.5	NA	0.5	NA	0.9	NA	NA	NA	0.3
Hong Kong	1.1	2.2	NA	1.3	2.1	2.1	NA	NA	0.6	4.8	NA	0.9	0.7	1.6	NA	NA	NA	NA
India	0.7	0.5	0.6	0.8	0.2	0.8	NA	NA	0.9	0.3	0.6	0.7	0.4	0.6	NA	NA	NA	NA
Singapore	0.5	1.2	0.1	1.3	0.4	1.3	NA	NA	2.9	3.2	0.0	1.4	0.6	1.4	NA	NA	NA	NA
South Korea	0.3	2.1	0.3	2.8	0.1	1.5	0.2	2.3	0.2	0.4	0.4	1.8	0.3	1.6	NA	NA	1.9	2.9
Taiwan	0.5	2.4	0.2	1.7	0.5	1.0	NA	NA	0.5	1.2	0.4	0.7	0.3	0.9	NA	NA	NA	NA
Latin America	5.6	4.2	2.1	3.0	10.5	6.2	4.9	5.2	5.5	4.3	4.5	3.1	5.7	4.3	0.4	0.3	11.1	3.7
Argentina	0.7	0.3	0.3	0.5	0.4	0.4	0.7	0.8	1.0	0.6	0.2	0.1	0.4	0.4	0.3	NA	0.4	0.2
Brazil	1.0	1.2	0.7	1.2	0.2	NA	0.5	0.5	0.7	0.8	0.6	0.3	0.5	0.4	NA	NA	0.5	NA
Chile	0.4	.0.3	0.3	0.3	0.3	0.1	NA	0.3	0.2	0.2	NA	0.3	0.2	0.2	NA	NA	NA	NA
Mexico	0.5	0.9	NA	NA	6.4	2.2	NA	NA	0.1	0.4	1.1	1.3	2.3	1.4	NA	NA	7.2	2.4
Venezuela	1.0	0.5	0.2	0.2	0.3	0.2	NA	0.3	0.9	0.2	0.2	NA	0.3	0.1	NA	NA	NA	NA
Middle East/																		
N. Africa	4.3	3.0	0.7	2.3	2.6	3.5	2.5	5.2	2.1	4.3	1.9	3.5	1.5	3.4	NA	NA	NA	NA
Egypt	0.3	0.1	NA	NA	NA	0.4	NA	1.1	0.1	2.8	0.8	0.5	0.2	0.7	NA	NA	NA	NA
Saudi Arabia	0.8	1.1	NA	NA	0.6	NA	NA	NA	1.5	0.1	NA	1.6	0.3	0.6	NA	NA	NA	NA
Other Europe	0.8	1.0	NA	1.7	1.8	2.0	2.5	1.2	0.5	1.4	1.2	1.4	NA	1.5	NA	NA	NA	NA
Turkey	0.2	0.5	NA	1.0	0.3	1.0	0.4	0.0	0.2	0.2	0.4	0.8	NA	0.7	NA	NA	NA	NA
Yugoslavia	0.6	0.5	1.7	0.7	1.5	1.0	2.1	1.2	0.3	1.2	0.8	0.7	NA	0.8	NA	NA	NA	NA
Subsaharan																		
Africa	2.4	1.2	0.8	0.5	1.0	0.7	0.9	1.7	NA	0.7	1.3	0.5	1.2	0.7	NA	NA	NA	NA

Source: IMF, *Balance of Payments Yearbook*, and national sources.

Notes: NA = not available; Merch. = merchandise; Ship. = shipment (i.e., freight and insurance on freight); Pass. = passenger services (primarily air fares); OT = other transport (mainly charters and port services); OPS = other private services; total PS = total private services (includes property income and labor income); Prop. Inc. = property income; Lab. Inc. = labor income.

Table 7.7 **Percentage Shares in World Imports of Merchandise and Services by Country or Region, 1970 and 1987**

Country or Region	Merch.		Ship.		Travel		Pass.		OT		OPS		Total PS		Prop. Inc.		Lab. Inc.	
	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987	1970	1987
Industrialized Countries	81.1	79.7	74.6	69.4	83.7	85.9	81.8	84.9	89.8	79.6	78.1	77.6	81.8	80.0	96.3	95.2	95.1	88.1
Australia	1.6	1.3	2.8	2.0	1.2	1.6	NA	3.4	3.8	1.1	1.1	0.8	2.1	1.5	5.3	2.9	1.3	1.3
Austria	1.4	1.5	0.6	1.1	1.7	3.6	NA	NA	0.1	0.2	1.8	1.6	1.1	1.8	1.5	1.2	NA	NA
Canada	5.4	4.1	2.6	1.1	7.7	4.3	NA	NA	2.0	0.6	8.0	4.7	4.7	2.9	NA	NA	NA	NA
European Community	42.7	40.5	43.4	40.7	40.6	41.7	34.3	35.3	46.0	41.5	46.8	43.4	47.7	42.7	61.9	57.9	75.0	58.6
Belgium	3.4	3.5	1.5	2.0	2.8	2.5	1.5	1.8	1.2	2.1	5.2	5.1	2.8	3.2	7.0	4.5	4.2	3.5
Denmark	1.6	1.2	1.5	1.2	1.5	1.8	NA	NA	1.8	2.7	0.7	1.0	1.2	1.4	NA	NA	NA	NA
France	6.9	6.8	9.5	8.8	6.3	5.4	NA	NA	NA	12.3	7.1	8.7	7.9	8.0	8.0	8.7	18.5	18.6
West Germany	11.2	9.5	10.1	7.1	15.8	14.9	13.5	12.3	7.1	5.6	13.9	12.6	12.1	12.0	13.6	13.5	39.4	28.9
Greece	0.6	0.5	0.4	0.6	0.3	0.4	0.4	0.4	0.3	0.2	0.4	0.2	0.4	0.3	NA	NA	1.0	0.4
Ireland	0.6	0.6	0.4	0.6	0.5	0.5	NA	NA	0.4	0.7	0.1	0.5	0.3	0.5	NA	NA	NA	NA
Italy	5.3	5.3	7.3	7.4	4.1	2.9	2.7	2.8	3.4	2.7	6.7	5.7	5.6	5.0	14.1	15.7	4.7	4.0
Netherlands	4.6	3.8	5.3	5.5	3.4	4.1	5.3	3.3	3.2	2.6	4.7	3.8	4.3	4.1	4.6	6.1	7.3	3.0
Portugal	NA	0.6	NA	1.0	NA	0.3	NA	NA	NA	0.3	NA	0.3	NA	0.4	NA	0.5	NA	0.1
Spain	1.7	2.1	1.7	1.8	0.8	1.2	1.1	1.4	0.9	2.0	1.4	1.7	1.2	1.6	3.3	2.1	NA	NA
United Kingdom	7.6	6.7	5.5	4.3	5.2	7.6	9.8	13.0	27.8	10.1	6.6	3.9	9.3	6.3	11.3	6.8	NA	NA
Finland	1.0	0.9	0.7	0.9	0.5	1.0	0.3	1.0	0.8	0.6	0.4	0.9	0.6	0.9	0.6	1.1	1.6	NA
Japan	5.9	5.9	9.1	8.0	1.8	6.9	5.7	12.7	11.6	13.3	8.2	11.6	7.1	9.8	16.4	21.1	NA	3.1
New Zealand	0.5	0.3	1.2	0.5	0.4	0.4	NA	1.0	NA	0.5	0.6	0.4	0.5	0.5	NA	NA	NA	NA
Norway	1.4	1.1	0.4	0.5	1.4	2.1	NA	NA	6.7	5.7	0.8	1.5	1.7	1.8	NA	1.1	NA	0.3
Sweden	2.5	1.8	1.8	0.7	2.7	2.4	1.8	2.0	5.1	2.2	2.5	2.2	2.6	2.0	1.8	2.5	1.0	0.9

Switzerland	2.5	2.8	0.8	1.4	2.4	2.8	NA	2.9	NA	0.1	1.6	1.1	1.5	2.2	NA	NA	16.2	19.7
United States	15.6	18.7	9.7	11.5	22.5	18.7	40.8	26.3	11.8	11.9	5.8	6.7	13.5	12.7	8.8	7.4	NA	4.1
Developing Countries	18.7	18.2	26.0	29.5	16.9	13.3	17.8	14.2	10.2	18.6	20.7	23.2	18.4	19.4	3.7	4.8	3.9	11.9
Asia	7.1	11.8	7.9	15.1	3.7	5.3	2.8	3.7	2.4	8.1	4.1	8.7	3.8	8.0	NA	NA	NA	NA
China	0.9	1.7	NA	1.4	NA	0.3	NA	NA	NA	0.8	NA	0.1	NA	0.5	NA	NA	NA	NA
Hong Kong	1.3	2.2	NA	1.5	0.4	1.6	1.6	1.8	0.5	0.4	NA	0.8	0.2	1.1	NA	NA	NA	NA
India	0.8	0.8	1.5	2.1	0.1	0.2	NA	NA	0.8	1.2	0.9	0.9	0.7	0.9	NA	NA	NA	NA
South Korea	0.7	1.8	0.8	0.9	NA	0.4	0.2	0.5	0.1	3.2	0.7	1.3	0.4	1.0	NA	0.3	NA	0.1
Singapore	0.9	1.4	0.9	2.0	NA	0.6	NA	NA	0.3	NA	0.3	1.4	0.3	0.9	NA	NA	NA	NA
Taiwan	0.5	1.5	0.7	1.7	0.1	1.0	NA	NA	1.6	2.4	0.6	2.0	0.4	1.7	NA	NA	NA	NA
Latin America	5.7	3.3	8.0	4.7	9.4	4.2	10.5	5.0	5.0	6.5	7.5	3.6	7.4	4.3	3.4	3.5	2.2	1.5
Argentina	0.6	0.4	0.7	0.2	0.7	0.6	2.5	1.0	0.6	0.8	0.4	0.2	0.8	0.5	2.8	1.5	NA	0.1
Brazil	1.0	0.7	0.9	0.7	0.9	0.2	1.0	0.4	1.7	2.5	1.2	0.8	1.0	0.7	NA	0.2	0.1	NA
Chile	0.3	0.2	0.4	0.2	0.5	0.2	0.7	0.5	0.5	0.5	0.3	0.3	0.4	0.3	NA	0.2	NA	NA
Mexico	0.9	0.6	0.7	0.6	4.3	1.6	1.8	0.8	NA	1.0	1.7	0.7	1.7	1.0	NA	1.0	NA	NA
Venezuela	0.7	0.4	1.1	0.9	0.8	0.3	0.6	0.2	0.5	0.4	0.9	0.3	0.8	0.4	NA	NA	NA	NA
Middle East/ N. Africa	2.5	3.1	4.8	6.6	2.5	3.1	1.1	2.9	NA	2.6	NA	6.7	3.6	4.7	NA	NA	NA	NA
Egypt	0.4	0.3	0.7	0.9	NA	0.1	NA	0.2	0.1	0.3	NA	0.9	0.3	0.5	NA	NA	NA	NA
Saudi Arabia	0.3	0.8	0.5	2.6	0.6	NA	NA	NA	0.2	NA	NA	4.9	0.3	1.7	NA	NA	NA	NA
Other Europe	1.3	1.1	1.7	1.6	0.9	0.4	NA	NA	1.5	1.9	0.8	2.6	1.1	1.4	NA	NA	NA	NA
Turkey	0.3	0.6	0.5	0.4	0.2	0.3	0.2	NA	0.1	0.4	0.2	0.3	0.3	0.3	NA	NA	NA	NA
Yugoslavia	1.0	0.5	1.2	1.2	0.7	0.1	NA	NA	1.4	1.6	0.6	2.3	0.8	1.1	0.2	NA	NA	NA
Subsaharan Africa	2.2	1.0	4.4	3.0	2.0	1.4	3.4	1.7	2.0	0.7	3.3	1.8	2.7	1.5	NA	NA	0.1	0.4

Source: IMF, *Balance of Payments Yearbook,* and national sources.
Note: For key to abbreviations, see note to table 7.6.

Table 7.8 **Ratio of Exports of Private Services to the Sum of Merchandise and Private Services Exports, Selected Countries, 1970 and 1987**

Country	1970	1987
Developed economies with a constant or declining share of private services		
Australia	16	16
Austria	32	36
Belgium/Luxembourg	20	20
France	23	28
Canada	12	10
Greece	42	44
West Germany	13	13
New Zealand	12	23
Denmark	25	23
Finland	16	16
Ireland	12	11
Italy	23	22
Japan	12	11
Netherlands	22	21
South Africa	24	11
Spain	48	39
Sweden	17	17
Switzerland	25	21
United Kingdom	28	25
United States	18	18
Developed economies with an increasing share of private services		
Austria	32	36
France	23	28
Greece	42	44
New Zealand	12	23
Developing economies with a constant or declining share of private services		
Algeria	8	6
Brazil[a]	10	7
Cameroon	18	17
Colombia	21	17
Iran[b]	6	2
Israel	38	29
South Korea	17	15
Mexico[c]	53	24
Nigeria	5	4
Taiwan	12	7
Venezuela	6	6
Developing economies with an increasing share of private services		
Chile	10	17
Ivory Coast	8	10
Egypt[d]	13	53
India[a]	13	23
Indonesia	1	5
Kenya	33	40
Malaysia	4	12
Morocco	26	32
Peru	15	16

Table 7.8 (continued)

Country	1970	1987
Philippines	14	32
Saudi Arabia	9	11
Senegal	25	27
Singapore	20	21
Sudan	9	35
Thailand	20	24
Tanzania[a]	20	23
Zaire	2	9
Zambia	1	5
World	20	20

Source: GATT (1989).
[a]1986 rather than 1987.
[b]1984 rather than 1987.
[c]When exports of maquiladoras are included, the share of private services in merchandise exports declined from 111 to 24 percent between 1970 and 1987.
[d]Exports of travel were not included in Egypt's reported exports of commercial services in 1970, resulting in a significant understatement of their value. In 1977, the first year for which travel was reported, exports of private services amounted to 77 percent of merchandise exports.

level this is reflected in this increasing developing-country shares in world exports of all categories of services. Private services have become relatively more important in their total trade. However, apparently several developed nations did become more specialized in certain types of services: OPS for Austria, France, West Germany, Japan, and the United States; travel for the United Kingdom and the United States; and shipment for Japan and Italy.

5. *Producer services.* There is some support for the hypothesis that trade in OPS will be an affair between industrialized nations. The highest share of these countries in world exports of services is in OPS. Although the share has dropped slightly, shares in world exports of other categories of services have fallen much more since 1970.

7.4 Patterns of International Investment in Goods and Services

7.4.1 Hypotheses

We have already noted that the provision or sale of a service frequently requires a physical proximity between provider and receiver. This implies that either establishment by the foreign provider in the consuming country or movement of the demander is required for provision to occur. Thus, either temporary or permanent factor movement may be necessary. Building again on the discussion in section 7.2, the following hypotheses suggest themselves:

1. *Services FDI concentration.* Given that the role of services tends to rise as per capita incomes increase, foreign direct investment in services will tend to

Table 7.9 **Average Annual Percentage Growth Rates of Total Exports and Imports of Merchandise and Services by Country or Region, 1967–87 (current prices)**

Country or Region	1967–72				1972–77				1977–82				1982–87			
	Merch.		Services		Merch.		Services		Merch.		Services		Merch.		Services	
	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.
Industrialized Countries	14.7	14.7	13.9	14.6	19.6	21.1	17.8	17.5	10.1	9.9	10.6	10.4	8.3	8.2	7.7	8.7
Australia	13.1	5.1	12.8	11.6	16.0	23.2	14.1	20.0	9.5	13.9	13.6	10.5	5.1	2.7	5.2	2.0
Austria	16.4	16.9	21.0	17.8	20.4	22.2	21.3	27.6	9.6	6.8	11.5	8.0	11.5	10.9	9.1	12.8
Canada	13.9	12.9	5.5	13.7	15.5	16.1	12.3	15.5	10.3	6.7	10.2	6.9	6.8	9.9	7.1	8.4
European Community	15.6	14.9	14.6	16.1	19.7	20.6	18.9	17.5	9.3	9.6	9.4	10.2	9.6	8.0	8.2	8.3
Belgium	18.4	16.4	14.5	16.3	19.5	23.3	27.7	24.8	8.1	7.7	6.2	8.1	10.5	9.0	8.8	8.9
Denmark	11.7	10.1	12.5	9.4	18.1	21.6	18.5	20.0	9.4	5.3	5.5	9.1	10.4	8.6	7.9	10.0
France	18.3	17.8	19.5	22.5	18.8	21.0	24.5	20.0	8.4	10.7	9.6	10.2	8.8	6.8	7.1	7.0
West Germany	15.5	17.0	14.3	18.0	20.4	20.8	20.9	18.7	7.9	8.5	10.9	9.0	10.9	8.1	6.1	7.9
Greece	13.0	16.0	20.7	16.8	24.8	21.3	22.4	17.0	10.4	9.4	10.2	14.1	6.2	4.5	4.9	1.5
Ireland	13.3	12.9	3.1	8.5	21.8	20.9	16.2	22.4	13.4	12.5	10.6	13.2	14.4	7.3	10.9	12.9
Italy	16.4	16.3	9.8	10.6	19.4	19.5	15.2	13.0	10.2	12.7	10.2	10.7	9.8	7.3	10.6	12.7
Netherlands	18.2	15.6	21.9	23.9	20.7	21.5	19.6	20.5	8.7	6.9	8.0	9.7	7.5	7.8	6.8	8.4
Portugal	NA	NA	NA	NA	14.1	17.3	4.0	10.2	10.3	14.7	14.3	14.5	17.3	6.9	14.9	6.8
Spain	22.5	14.3	18.6	20.8	21.9	21.8	11.8	16.9	15.1	12.8	13.4	16.6	9.4	8.7	13.3	7.3
United Kingdom	10.2	9.6	12.2	10.8	18.7	18.5	14.1	11.1	11.8	9.4	8.7	11.7	6.1	9.6	8.3	7.7
Finland	14.0	13.4	18.0	13.4	21.7	19.1	20.5	21.3	6.0	12.0	13.6	12.9	14.9	6.9	4.9	12.6
Japan	22.3	16.0	23.1	17.2	23.1	26.6	22.6	21.5	11.7	14.0	13.1	14.1	10.3	1.4	5.9	8.5
New Zealand	14.6	10.7	28.5	15.6	10.6	16.4	20.9	16.6	10.4	12.0	9.9	12.3	6.4	3.9	12.4	5.1

Norway	13.5	9.8	10.1	9.0	22.6	25.0	12.9	26.4	14.1	3.0	9.3	8.0	3.7	7.5	1.2	5.8
Sweden	14.0	11.5	14.7	15.1	16.8	20.1	14.9	17.1	7.0	7.5	11.1	6.5	10.6	8.0	5.7	8.3
Switzerland	14.3	15.7	13.1	16.0	20.2	16.2	11.3	16.8	8.2	9.9	10.4	13.5	16.1	16.5	14.1	12.5
United States	10.0	15.7	9.8	10.3	19.6	22.2	14.5	12.3	11.8	10.3	14.8	9.8	3.4	10.6	6.2	11.3
Developing Countries	11.5	10.8	15.3	12.9	26.7	24.5	20.1	25.5	8.5	9.2	14.1	12.3	0.6	−1.0	3.0	−1.6
Asia	17.3	10.9	20.8	14.4	24.2	22.2	39.8	22.8	9.5	11.7	13.1	17.8	7.1	5.5	5.1	7.2
China	NA	NA	NA	NA	17.2	17.9	NA	NA	9.1	5.5	NA	NA	10.5	16.6	9.8	4.6
Hong Kong	NA	NA	NA	NA	19.1	18.5	NA	NA	12.4	13.1	5.5	NA	16.4	14.2	13.7	11.4
India	7.5	−1.8	4.8	0.9	21.5	18.3	33.0	19.2	8.1	21.5	18.1	22.6	4.3	3.9	2.4	3.9
South Korea	38.0	19.9	36.7	21.0	43.0	36.1	57.9	44.2	15.8	17.5	19.7	15.4	17.2	10.4	4.8	5.6
Singapore	14.0	18.2	40.7	31.3	30.6	25.5	24.4	21.4	20.2	21.9	25.8	23.1	7.0	2.6	−4.9	6.4
Taiwan	NA	NA	NA	NA	29.9	23.7	21.6	17.4	14.8	13.8	13.9	20.4	16.1	10.2	10.7	15.5
Latin America	9.1	11.0	13.4	13.5	23.6	23.5	17.3	18.9	13.0	11.1	11.0	15.2	−1.2	−3.8	2.5	−5.7
Argentina	5.8	11.7	7.4	3.7	23.8	17.6	24.2	12.3	6.1	5.0	14.5	18.5	−3.5	2.1	2.6	4.5
Brazil	19.0	23.8	23.0	24.1	24.8	23.5	21.9	21.9	11.1	10.0	10.9	12.8	5.3	−5.0	1.7	−5.6
Chile	−0.7	9.2	3.8	9.7	20.8	16.3	27.6	17.0	11.1	11.1	18.5	17.1	7.1	1.9	3.3	0.9
Mexico	8.3	8.2	13.9	17.9	21.8	16.6	11.0	7.5	35.8	20.6	7.1	21.2	−0.6	−3.2	7.3	−3.2
Venezuela	NA	10.2	7.1	11.5	24.8	35.6	24.4	35.2	11.3	5.9	15.0	15.2	−8.3	−7.3	−10.4	−19.6
Middle East/ North Africa	14.5	14.8	14.0	14.8	43.8	39.3	28.0	40.7	6.7	8.9	10.1	13.5	−16.1	−10.6	0.6	−7.8
Egypt	6.4	6.1	−4.9	NA	19.4	28.1	38.5	NA	15.3	13.9	12.2	NA	−5.0	−0.8	5.2	NA
Saudi Arabia	20.8	14.2	23.1	16.8	59.5	65.1	42.1	69.5	12.9	18.6	19.0	27.6	−20.7	−12.4	−10.8	−11.4
Other Europe	11.9	14.9	21.4	19.6	17.3	27.3	14.4	21.4	18.7	7.7	19.5	17.8	5.8	3.4	3.7	1.9
Turkey	10.8	17.9	27.6	17.2	14.6	32.1	9.2	15.7	27.4	9.1	33.1	8.9	11.8	9.6	13.0	10.3
Yugoslavia	12.3	13.6	19.9	20.7	18.3	24.8	15.7	23.4	15.0	6.8	15.8	19.7	1.8	−1.9	−1.4	0.1
Subsaharan Africa	12.0	11.2	11.5	11.0	27.3	27.3	19.5	26.9	1.9	7.5	8.4	5.3	−5.9	−12.6	−7.1	−11.5

Source: IMF, *Balance of Payments Yearbook,* and national sources.
Note: NA = not available.

Table 7.10 **Average Annual Percentage Growth Rates of Exports of Services and Other Invisibles by Contry or Region, 1967–77 and 1977–87**

Country or Region	Ship.		Travel		OT		Pass.		OPS		Total PS		Prop. Inc.		Lab. Inc.		Inv. Inc.	
	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87
Industrialized Countries	14.1	5.7	14.2	10.5	16.5	6.4	13.9	11.0	19.6	10.5	15.6	9.2	12.7	8.7	13.4	8.7	18.1	16.6
Australia	28.2	3.6	16.4	16.0	12.6	2.6	NA	14.5	9.8	11.4	13.5	9.3	9.7	23.9	26.4	9.5	14.6	18.0
Austria	22.2	10.5	19.8	9.0	21.5	10.6	NA	NA	25.6	13.3	21.2	10.3	20.4	8.3	NA	NA	29.4	20.0
Canada	7.5	0.4	4.5	9.6	11.9	−1.4	NA	NA	16.8	10.3	8.9	8.6	NA	NA	NA	NA	14.7	12.0
European Community	15.1	5.6	14.7	10.7	15.4	5.9	12.9	10.3	19.2	9.6	16.0	8.8	11.8	11.2	12.9	9.3	20.6	17.1
Belgium	21.1	7.7	17.0	9.8	18.4	5.5	NA	14.0	22.0	6.8	20.6	7.5	5.6	10.6	13.9	5.2	30.9	18.7
Denmark	16.6	5.2	15.4	9.0	NA	4.9	NA	8.6	NA	6.8	15.2	6.7	NA	NA	NA	NA	21.0	21.9
France	24.7	6.4	14.3	10.5	NA	8.5	NA	NA	NA	8.0	18.5	8.4	NA	12.2	NA	7.7	20.0	16.9
Germany	12.9	4.2	15.3	9.2	14.5	9.5	15.5	9.6	24.1	9.4	17.5	8.5	13.4	12.1	20.0	12.6	22.5	16.8
Greece	12.0	5.8	22.7	8.8	18.8	−14.0	1.6	23.3	27.0	14.4	21.6	7.5	NA	NA	34.8	6.2	29.3	3.7
Ireland	1.6	14.7	5.4	10.0	17.4	13.4	9.1	9.6	25.0	9.9	9.5	10.7	NA	NA	NA	NA	10.5	11.3
Italy	10.5	13.1	12.8	9.8	11.1	−0.1	9.2	7.2	NA	12.1	11.8	10.4	NA	14.8	7.9	8.3	15.0	16.8
Netherlands	51.4	5.5	13.4	9.3	NA	4.6	NA	8.5	NA	9.8	19.6	7.4	NA	12.0	NA	5.5	20.6	12.6
Portugal	NA	13.1	NA	18.0	NA	6.9	NA	12.3	NA	11.8	NA	14.6	NA	10.7	NA	16.6	NA	20.7
Spain	24.6	9.1	12.7	14.0	24.9	11.4	23.4	15.8	19.6	11.7	15.2	13.3	NA	3.5	NA	16.2	37.1	15.0
United Kingdom	8.3	−0.6	20.2	9.6	14.7	2.2	11.9	10.4	13.6	12.7	13.2	8.5	12.7	7.2	NA	NA	19.0	17.9
Finland	9.4	8.1	22.1	8.2	22.8	6.3	32.5	13.1	23.1	10.5	19.2	9.1	NA	22.7	15.6	4.9	25.9	27.7
Japan	23.7	6.7	16.7	17.4	21.7	3.0	NA	9.8	22.6	15.5	22.8	9.4	NA	19.9	NA	10.2	29.1	29.4

New Zealand	29.1	−8.7	22.8	19.6	NA	NA	NA	NA	14.7	14.7	24.7	11.1	NA	NA	NA	NA	12.5	12.9
Norway	8.0	3.4	16.8	10.0	16.2	8.4	NA	5.3	21.1	6.3	11.5	5.2	NA	3.5	NA	6.3	15.9	26.3
Sweden	4.6	10.8	15.1	16.4	14.3	6.9	15.4	8.1	24.8	4.5	14.8	8.4	25.0	14.4	31.3	−3.2	16.7	20.2
Switzerland	12.8	6.7	10.9	10.7	NA	NA	NA	8.8	NA	15.3	13.2	12.2	NA	NA	NA	4.9	22.2	19.1
United States	10.5	6.9	14.1	9.1	NA	9.7	NA	14.6	NA	14.4	12.8	10.4	NA	6.3	NA	3.2	14.9	12.4
Developing																		
Countries	18.0	11.6	16.2	9.4	19.0	5.6	23.6	12.1	23.8	10.0	18.7	10.2	54.5	−4.2	18.1	11.3	30.9	10.0
Asia	23.9	25.4	21.5	16.2	18.8	6.2	13.1	16.3	26.4	16.3	22.5	11.0	10.3	20.3	16.2	16.6	24.5	25.7
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hong Kong	NA	NA	NA	14.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
India	14.1	6.6	31.2	10.0	4.4	5.6	NA	NA	18.1	13.5	18.1	10.2	NA	NA	NA	NA	26.6	5.0
South Korea	39.3	19.4	36.9	19.5	47.5	5.3	43.0	19.9	54.2	6.4	46.9	12.1	NA	NA	11.4	15.6	55.9	10.2
Singapore	44.4	16.1	31.3	13.5	20.7	8.1	NA	NA	78.8	6.1	32.3	9.3	NA	NA	NA	NA	27.7	20.0
Taiwan	NA	30.6	NA	11.7	NA	13.4	NA	NA	NA	13.3	NA	14.2	NA	NA	NA	NA	NA	NA
Latin America	22.5	6.5	11.2	6.9	12.9	3.3	23.6	11.6	22.6	7.3	15.3	6.7	53.1	−27.3	24.1	2.6	31.8	12.0
Argentina	17.0	7.5	16.3	11.2	10.9	6.3	22.6	8.2	17.4	7.0	15.5	6.7	21.5	0.2	NA	NA	25.5	5.0
Brazil	28.8	8.0	13.8	6.4	16.5	9.7	8.9	17.5	25.2	0.7	22.4	6.2	NA	−27.3	NA	−5.7	35.0	4.4
Chile	NA	5.5	6.1	8.7	−3.3	13.2	5.8	37.2	40.2	11.7	15.1	10.7	NA	NA	NA	NA	NA	25.6
Mexico	NA	NA	8.2	5.1	NA	9.6	NA	15.0	55.5	10.0	4.8	14.4	NA	NA	34.5	3.9	21.5	27.1
Venezuela	32.4	6.3	17.7	6.3	12.5	−5.7	NA	11.0	10.9	−13.3	15.4	1.5	NA	NA	NA	NA	38.1	6.1
Middle East/																		
North Africa	12.7	6.8	22.1	2.8	27.0	−0.2	23.2	6.3	8.3	11.2	19.6	5.2	NA	13.4	15.1	7.8	38.9	9.3
Egypt	NA	NA	NA	0.1	NA	10.5	NA	12.7	7.2	16.5	14.8	8.6	NA	NA	NA	NA	5.8	29.3
Saudi Arabia	NA	NA	29.3	NA	34.8	−25.9	NA	NA	NA	NA	32.3	3.3	NA	NA	NA	NA	55.9	10.2
Other Europe	14.2	5.7	21.2	10.9	30.2	6.3	9.8	11.7	13.1	19.8	17.8	11.3	NA	NA	NA	NA	33.3	18.1
Turkey	27.4	21.2	31.8	21.8	27.7	−4.8	NA	NA	NA	NA	18.0	22.6	NA	NA	NA	NA	NA	58.6
Yugoslavia	13.0	−1.4	19.7	6.2	32.2	10.1	12.0	11.7	18.4	11.1	17.8	6.9	NA	NA	NA	NA	32.7	1.4
Subsaharan																		
Africa	16.9	−2.3	15.8	5.6	16.6	−5.7	11.8	12.7	17.3	−3.4	15.8	−0.3	NA	−4.5	NA	7:5	17.6	−4.0

Source: IMF, *Balance of Payments Yearbook*, and national sources.

Note: For key to abbreviations, see note to table 7.6; Inv. Inc. = investment income.

Table 7.11 **Average Annual Percentage Growth Rates of Imports of Services and Other Invisibles by Country or Region, 1967–87**

Country or Region	Ship.		Travel		OT		Pass.		OPS		Total PS		Prop. Inc.		Lab. Inc.		Inv. Inc.	
	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87	67–77	77–87
Industrialized Countries	15.1	7.6	15.4	11.0	14.3	5.3	18.6	12.5	18.6	10.8	15.9	9.5	13.3	11.6	17.5	11.7	20.8	17.8
Australia	12.3	4.6	21.8	7.6	5.0	3.3	NA	5.7	18.6	8.8	15.7	6.2	11.5	7.7	26.4	9.5	14.1	15.5
Austria	22.0	9.0	25.4	10.2	22.8	9.1	NA	NA	18.1	11.3	22.6	10.4	17.9	7.7	NA	NA	28.3	17.6
Canada	15.5	1.5	15.4	11.1	5.5	0.7	NA	NA	14.8	10.5	14.6	7.6	NA	NA	NA	NA	14.1	11.5
European Community	16.4	7.6	16.7	10.8	11.4	5.2	15.8	12.6	18.7	9.8	16.4	9.3	12.9	11.1	17.6	11.3	23.9	17.1
Belgium	22.0	4.6	17.8	7.4	19.7	7.4	NA	11.3	21.4	10.4	20.5	8.5	8.8	12.7	23.8	8.8	30.3	19.9
Denmark	11.6	7.8	15.2	11.8	NA	8.1	NA	NA	NA	8.9	20.5	8.5	NA	NA	NA	NA	28.0	22.3
France	29.1	6.5	13.0	8.0	NA	10.0	NA	NA	NA	9.9	18.9	8.6	NA	11.3	NA	12.5	28.4	18.6
West Germany	13.7	6.8	20.7	8.9	14.3	5.0	17.4	10.3	19.6	9.0	18.3	8.5	16.3	9.4	18.9	11.4	18.7	13.9
Greece	18.5	6.9	14.8	12.0	17.8	−0.8	16.7	11.7	16.1	6.6	16.9	7.6	NA	−1.8	17.4	3.4	17.5	21.4
Ireland	16.5	9.4	10.9	13.1	13.4	14.3	NA	NA	28.5	16.0	15.2	13.0	NA	NA	NA	NA	23.1	20.8
Italy	9.7	10.5	11.6	17.6	12.6	4.8	12.8	15.6	NA	11.8	10.8	11.7	NA	13.4	5.9	16.3	21.4	18.3
Netherlands	21.3	6.9	20.0	10.1	NA	5.3	NA	7.5	NA	11.3	22.3	9.0	NA	12.0	NA	6.6	23.4	13.9
Portugal	NA	10.6	NA	11.2	NA	8.7	NA	0.3	NA	11.6	NA	10.6	NA	15.9	NA	−2.6	NA	18.7
Spain	13.0	10.2	18.3	13.9	31.0	10.6	28.9	16.3	20.3	11.7	18.8	11.8	7.8	11.3	9.5	14.4	26.1	14.8
United Kingdom	12.1	8.5	10.6	19.2	8.8	2.0	13.4	16.9	14.5	7.1	11.0	9.7	11.3	7.9	NA	NA	24.6	16.9
Finland	14.1	11.8	17.2	14.9	16.4	2.3	27.5	13.7	19.5	15.4	17.3	6.9	17.2	14.5	−8.4	2.9	25.9	15.1
Japan	8.8	11.2	30.5	17.5	26.1	1.9	NA	15.4	17.2	15.2	19.3	11.2	NA	14.5	NA	15.8	22.9	24.5
New Zealand	16.4	−2.3	20.3	10.3	NA	NA	NA	NA	12.3	9.6	16.1	8.6	NA	NA	NA	NA	17.9	16.0
Norway	17.3	7.9	18.6	11.7	12.0	5.7	NA	NA	31.6	3.9	17.3	6.9	NA	12.9	NA	16.4	21.9	13.6
Sweden	16.3	−2.7	15.8	11.7	13.0	0.8	21.5	11.1	19.4	10.3	16.1	7.4	14.9	13.0	15.4	14.1	30.3	19.5

Switzerland	16.1	13.1	14.1	14.6	NA	4.0	NA	12.2	NA	10.1	16.6	13.0	NA	NA	NA	14.5	21.5	32.3
United States	14.9	8.2	8.8	10.6	NA	9.2	NA	12.3	NA	14.5	11.4	10.5	NA	10.1	NA	5.2	17.9	19.4
Developing Countries	20.0	2.8	17.6	6.2	24.8	6.3	18.6	3.6	20.6	9.6	20.0	6.3	16.7	3.9	29.1	13.1	16.1	9.5
Asia	12.7	11.7	23.7	17.2	22.3	14.4	61.0	9.8	18.9	10.8	18.5	15.7	12.7	13.2	28.1	13.3	20.3	18.4
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hong Kong	NA	NA	NA	19.7	NA	NA	NA	5.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
India	8.0	11.2	9.9	21.2	10.7	12.0	NA	NA	11.7	16.4	9.7	13.9	NA	NA	NA	NA	3.2	NA
South Korea	19.2	8.2	29.1	19.7	57.8	14.2	23.4	15.7	37.5	6.7	32.1	10.4	NA	32.2	NA	27.2	50.9	17.1
Singapore	20.5	13.5	41.8	14.9	NA	NA	NA	NA	43.4	15.1	23.3	14.4	NA	NA	NA	NA	42.3	14.1
Taiwan	NA	15.3	NA	18.8	NA	14.7	NA	NA	NA	23.0	NA	14.3	NA	NA	NA	NA	NA	NA
Latin America	13.4	1.7	13.0	5.2	32.9	5.7	12.7	6.1	16.4	6.7	15.4	4.8	15.5	3.1	20.1	5.8	15.4	13.3
Argentina	9.0	−2.7	4.2	16.9	15.1	11.7	10.8	9.3	11.2	8.9	9.0	10.5	−0.8	18.0	NA	NA	15.5	18.3
Brazil	14.0	4.4	16.7	2.3	66.7	3.5	22.4	−0.4	16.9	4.7	22.2	3.8	NA	−13.1	NA	−5.7	28.3	11.1
Chile	4.6	3.0	17.8	5.5	39.9	5.4	6.1	16.0	8.7	20.1	13.0	8.6	NA	7.8	NA	NA	6.8	17.3
Mexico	16.0	6.1	8.5	7.1	NA	24.3	8.1	−4.4	36.7	11.4	12.6	8.8	NA	NA	NA	NA	16.9	14.5
Venezuela	21.5	−1.9	26.1	−9.6	NA	2.4	3.3	−0.1	22.4	−2.2	22.7	−3.7	NA	NA	NA	NA	NA	14.9
Middle East/ North Africa	30.5	−2.8	26.8	0.9	25.9	0.6	21.4	−2.8	19.9	9.5	26.8	2.0	14.6	3.9	41.1	12.1	14.3	−0.4
Egypt	18.0	6.3	21.9	−5.6	18.5	5.1	NA	5.8	26.8	9.3	21.9	6.8	NA	NA	NA	NA	21.0	12.0
Saudi Arabia	47.8	−2.4	32.9	NA	40.6	NA	NA	NA	34.7	24.7	40.7	6.3	NA	NA	NA	NA	21.0	−16.6
Other Europe	16.3	6.7	16.2	4.3	18.8	6.9	16.7	NA	29.3	13.1	20.6	9.5	NA	NA	NA	NA	17.6	19.4
Turkey	10.7	8.7	27.7	5.8	21.2	14.5	16.7	NA	11.7	16.2	16.4	9.6	NA	NA	NA	NA	17.9	16.0
Yugoslavia	18.7	6.1	5.8	−0.8	18.6	5.7	NA	NA	34.6	12.8	22.1	9.5	NA	NA	NA	NA	17.5	16.4
Subsaharan Africa	20.0	−3.1	14.6	−3.8	15.0	−6.1	8.1	−0.6	22.5	−5.3	19.3	−4.2	NA	−5.2	NA	21.5	17.0	4.8

Source: IMF, *Balance of Payments Yearbook,* and national sources.

Note: For key to abbreviations, see note to table 7.6; Inv Inc. = investment income.

be concentrated in markets with relatively high per capita incomes and relatively liberal foreign investment policies. Furthermore, the share of FDI in services will tend to increase as per capita incomes rise (given no change in government policies) and as FDI regulations are relaxed.

2. *Services FDI share.* As many services cannot be traded in a manner analogous to trade in goods, one might expect that FDI in services should, on average, be greater than FDI in manufacturing.

3. *Services FDI/services trade.* Because trade in goods is less constrained than trade in services, all other things equal, FDI in service activities will be more important relative to trade in services than relative to trade in merchandise (i.e., primary and manufactured products).

4. *Intrafirm services trade.* The relative importance of intrafirm trade in services will increase over time as technological advances allow disembodied (long-distance) provision to occur more cheaply. This can be expected to hold for any given level of FDI and will be strengthened to the extent that FDI increases over time.

7.4.2 Evidence and Analysis

Global data on FDI are unfortunately rather scanty, and to the extent that countries report data at all, it is usually at a high level of aggregation. The basis for FDI stock and flow figures varies widely, and statistics are usually not readily comparable across countries. It is important to recognize, moreover, that breakdowns of FDI between goods and services sectors are made by only a limited number of countries and that stock data are often biased due to the widespread use of historical cost valuation methods, the distorting effects of exchange-rate fluctuations, exclusion of retained earnings, the treatment of divestment, and measures that are drawn on commitments or approvals rather than actual investment flows.

Table 7.12 contains data on the book value of the stock of inward FDI in total and the portion in services for selected host countries for various years. FDI in services can be seen to vary between 25 percent and 50 percent of the total stock of FDI in most host countries. According to Sauvant and Zimny (1987, p. 30), as of the mid-1980s about 40 percent of the world stock of FDI and 50 percent of the annual new flow of FDI was in services. In countries that report data, FDI in services has almost invariably become more important over time. The rise in the relative importance of FDI in services occurs in both industrialized and developing countries, although the increase is more marked for the industrialized countries. Much of services FDI in developing countries appears to be either investment in offshore financial centers and tax havens or investment in flags of convenience. However, as noted in UNCTC (1988), even when the foregoing investments are excluded, the share of services in total FDI in developing countries has increased over time. All of this suggests that the increasing relative importance of services in terms of domestic production and employment that we noted in our earlier discussion appears to

Table 7.12 **Inward Stock of Foreign Direct Investment in Services, by Selected Host Countries, Various Years**

Country	Year	Value (billions)		Share of Services in total FDI (%)
		Total FDI	FDI in Services	
Industrialized Nations (national currency)				
Australia	1975	7.0	3.1	43
	1983	18.1	8.5	47
Austria	1975	33.5	17.1	52
	1981	46.0	20.5	44
Canada	1975	37.4	9.2	25
	1984	81.8	23.6	29
EEC				
Belgium	1970	113.8	11.1	10
	1981	238.8	41.3	17
Denmark[a]	1983	7.7	2.8	37
France[b]	1980	89.7	33.1	37
	1985	129.0	81.7	63
West Germany	1976	78.9	26.3	33
	1985	119.1	54.9	46
Italy	1974	5,449.0	1,723.0	32
	1985	31,769.0	11,752.0	40
Netherlands	1973	20.7	5.8	28
	1984	58.3	24.9	43
Portugal	1974	7.7	3.1	40
	1983	38.4	16.4	43
Spain	1975	142.8	31.2	22
	1984	1,097.8	339.2	31
United Kingdom	1971	5.6[c]	0.6[c]	11
	1984	38.5	13.3	35
Finland[d]	1975	0.9	0.7	76
	1986	4.6	1.9	46
Japan (U.S. $)	1975	1.5	0.3	18
	1986	7.0	2.0	29
United States	1974	26.5	11.5[c]	43
	1986	209.3	111.2	53
Latin America (U.S. $)				
Argentina[e]	1981	2.4	0.6	25
	1985	3.1	0.9	26
Bolivia[f]	1981	0.46	0.05	11
	1986	0.53	0.06	11
Brazil	1971	2.9	0.5	16
	1985	25.7	5.6	22
Chile	1973	0.4	0.1	27
	1983	2.0	0.7	33
Colombia[g]	1975	0.6	0.2	29
	1986	2.7	0.4	13
Ecuador[g]	1981	1.0	0.5	48
	1986	1.3	0.6	44
Mexico	1971	3.0	0.6	19
	1981	13.5	3.2	23

(*continued*)

Table 7.12 (continued)

Country	Year	Value (billions)		Share of Services in total FDI (%)
		Total FDI	FDI in Services	
Panama	1975	0.3	0.1	32
	1983	0.4	0.2	48
Peru	1978	0.8	0.2	25
	1986	1.4	0.4	30
Venezuela	1981	1.8	0.6	34
	1986	2.4	0.65	27
Asia (U.S. $)				
Hong Kong	1981	3.8	2.4	55
Indonesia[h]	1977	2.9	0.3	11
	1985	6.4	0.7	10
Malaysia[i]	1972	0.7	0.2	37
	1984	2.9	1.2	40
Philippines	1976	0.5	0.2	34
	1983	2.0	0.5	26
Singapore	1970	0.6	0.3	55
	1981	8.2	4.2	51
South Korea	1980	1.1	0.3	23
	1986	2.2	0.7	27
Sri Lanka[j]	1985	0.7	0.4	57
Taiwan	1986	5.9	1.4	23
Thailand[k]	1975	0.5	0.3	56
	1985	2.0	0.9	47
Africa (U.S. $)				
Egypt[l]	1979	7.0	4.0	57
	1984	14.9	6.7	45
Morocco	1975	0.2	0.1	48
	1982	0.7	0.4	54
Nigeria	1975	3.0	0.6	20
	1982	4.3	1.6	37
Zimbabwe	1982	1.9	0.7	34

Source: UNCTC (1988, pp. 378, 380–81).
Note: Shares were calculated before rounding of the stock data.
[a]Cumulative flows for 1974–83.
[b]Cumulative flows during 1975–80 and 1975–85.
[c]Excluding banking and insurance; services include agriculture and mining.
[d]Cumulative flows since 1967.
[e]Cumulative approved FDI since March 1977.
[f]Based on approvals.
[g]Excluding oil.
[h]Cumulative flows since 1977.
[i]Paid-up value of equity shares held by foreign residents in limited liability companies incorporated in Malaysia as of the end of 1972 and 1984, respectively.
[j]Cumulative flows since 1977 based on approvals.
[k]Cumulative flows since 1971.
[l]Cumulative flows 1974–79 and 1974–84 associated with projects established under the Investment and Free Zones Law.

have gone hand in hand with an increase in the relative importance of services in global flows of FDI.

Data on the sectoral composition of FDI in service activities are quite limited, as is evident from table 7.13. Where comparable sectoral data are available, it appears that FDI in wholesale and retail trade and financial services is especially important. However, most FDI in financial services apparently relates to offshore banking. There is reason to believe that maybe half of the stock of existing FDI in services reflects the establishment of service affiliates by firms whose primary activity is industrial (i.e., goods-related) in nature. In large part these investments appear to be directed toward financial and distribution-related activities and are intended to support parent-firm production and sales. Thus, much of the investment in finance and distribution is not independent. To illustrate this point further, according to the *CTC Reporter* (1987, p. 19), for West Germany service multinational enterprises (MNEs)

Table 7.13 **Composition of FDI in Services and Construction for Selected Host Countries (latest available year; in percentages)**

Country	Wholesale and Retail Trade	Finance and Insurance	Transport and Communications	Construction	Other Services
Industrialized Countries					
Canada	27.1	55.9	NSA	NSA	16.8
Belgium	35.1	NSA	NSA	NSA	64.9
France	30.3	55.5	1.2	NSA	8.7
West Germany	36.2	53.3	2.5	0.7	5.1
Italy	12.3	64.5	4.1	NSA	19.1
Netherlands	42.2	24.5	2.8	2.8	27.7
United Kingdom	24.1	43.3	1.5	1.5	1.5
Japan	43.7	35.2	2.9	2.9	15.4
United States	41.3	46.9	2.1	6.4	3.3
Latin America					
Brazil	17.7	65.9	NSA	NSA	16.2
Mexico	33.3	58.4	NSA	6.1	2.3
Peru	40.1	36.6	4.2	0.9	18.0
Asia					
Indonesia	44.9	NA	8.2	9.3	37.5
South Korea	NSA	12.7	4.0	18.9	64.4
Malaysia	17.2	64.3	NSA	2.0	16.5
Philippines	19.9	55.0	6.1	4.0	14.9
Singapore	32.1	57.8	6.6	2.6	0.7
Thailand	39.1	16.1	8.9	28.2	7.8
Taiwan	2.1	20.3	NSA	9.2	68.5
Africa					
Egypt	NSA	39.0	NSA	21.3	39.7
Nigeria	43.3	7.5	NA	46.4	NA

Source: UNCTC (1988), p. 593.
Note: NSA = not separately available; NA = not available.

controlled 29 percent of the total outward stock of FDI in 1984, while service affiliates represented 60 percent of the total number of affiliates and 45 percent of the total assets of all affiliates of German-based MNEs. The same phenomenon holds for the United States, where the figures were 55 percent and 68 percent respectively, given a share of services in the total stock of FDI of only 37 percent.

Some data pertaining to the distribution of total FDI by country or region of origin are contained in table 7.14. It is clear that Western Europe and the United States are the major sources of FDI, followed by Japan. Japan is important especially in the Asian region, as is reflected in its share of total FDI in Indonesia, South Korea, and Thailand. However, Japanese FDI has been of declining relative importance in the reported countries, reflecting in part increases in its share of FDI in industrialized nations. A weak tendency can be observed for Western Europe to become more important as a source of FDI. As one would expect, intraregional FDI is of some importance. Thus, Asian countries tend to invest in Australia, Indonesia, Japan, South Korea, and Thailand, while Latin American countries invest in Brazil, Colombia, Chile, Peru, and Venezuela.

While the data in table 7.14 do not permit a comprehensive breakdown by sector of FDI according to the country or region of origin, such information is available for outward stocks of FDI for a limited number of major industrialized countries and is presented in table 7.15. Two interesting facts emerge from this table. First, the share of FDI in services has tended to increase in most countries, but especially in industrialized ones. Second, most FDI is in developed nations. The implication is that FDI tends to be an intraindustrialized-nation affair. Also, the share of FDI in services, especially in the developed countries, has been increasing. Both of these observations are in accordance with the first hypothesis noted at the beginning of this section.

Table 7.12 indicates that inward FDI in services is less than half of total FDI in many countries. Data pertaining to the question of whether FDI in services tends to be higher than FDI in goods (i.e., manufacturing) are unfortunately not readily available as far as stocks of inward investment are concerned. Statistics on the sectoral breakdown of inward FDI reported in Stern and Hoekman (1988b, pp. 50–51) indicate that FDI in services is larger than FDI in manufacturing only for a number of the industrialized countries in the sample (Australia, New Zealand, and the United States). FDI in manufacturing was larger than FDI in services for all of the developing countries discussed.

Data reported in table 7.15 contradict this picture somewhat, as they show that as far as *outward* flows of FDI of major home countries are concerned, FDI in services in developing countries tends to be more important than FDI in manufacturing. However, in part this reflects a recent shift towards FDI in services; Table 7.15 also indicates that most of the major home countries reported the opposite in 1975. Of course, a general implication of the rising

share of services in total FDI that one observes in the statistics is that FDI in primary and secondary activities will decline. It is interesting to observe, however, that while some source countries increased their FDI in primary activities, virtually all of them experienced a decline in the relative importance of FDI in manufacturing.

What can be said regarding the relative importance of trade versus FDI for services and merchandise, respectively? If ratios of FDI to trade for each of these two categories are calculated, one finds that ratios of FDI in nonservice activities to merchandise trade are usually lower than the comparable ratios for services. This is the case for many of the 39 countries included in table 7.12. In six, the latter ratio (not reported) is on average at least twice as large as the former. A corollary of this is that to the extent that ratios of stocks of FDI to trade are greater than one, this occurs for services, and not for merchandise.[13]

To be able to discuss the hypothesis that intrafirm trade in separated services will increase over time, data are required on the value and volume of transborder data flows (TDF). As noted in section 7.3, such data do not exist because of conceptual and technical measurement problems. Survey data, however, suggest that TDF have become increasingly important for many firms in the last decade and are expanding rapidly. Over 85 percent of multinationals in a sample survey conducted by Business International (1983) reported that they depended on TDF for at least one key aspect of their international operation. Important tasks for which TDF were used included financial management, marketing and distribution, and inventory control.

In conclusion, the data indicate that services-related FDI has been increasing in relative importance recently, mostly reflecting intraindustrialized-country flows. On average, it appears that FDI in services has been increasing relative to FDI in manufacturing. The available statistics also show that because merchandise trade flows are much larger, the ratio between merchandise exports and FDI in manufacturing is much higher than the ratio between exports of services and FDI in services.

7.5 Data Problems and Analytical Implications

While we have not dwelled on the reliability of the data discussed in the previous sections, we have noted that BOP statistics and stock data on FDI have a number of weaknesses. While we are of the opinion that many of the trends reported in the foregoing sections reflect "reality" as far as the direction of change is concerned for broad categories of services, comparisons across specific components of services must be made with the utmost caution. It thus

13. The ratio of FDI stock in services to trade in services was greater than one for ten of the countries included in table 7.12 (calculated for the most recent year).

Table 7.14 **Book Value and Percentage Distribution of Inward Stock of FDI by Host Country and Country or Region of Origin**

Host Country	Year	Total All Countries[a]	Percentage Distribution by Country or Region of Origin						
			Western Europe	Japan	U.S.	Other Developed Countries	Latin America	Asia	Less Developed Countries
Industrialized Countries									
Australia	1975	7,036	43.9	4.2	33.9	3.7	NA	NA	NA
	1984	20,274	35.3	10.0	36.7	2.8	NA	6.4	NA
Canada	1975	37,389	18.3	0.7	79.3	0.8	0.6	0.1	0.2
	1985	83,941	19.4	2.1	75.5	1.5	0.6	0.6	0.3
European Community									
West Germany	1976	63,531	52.7	2.2	40.9	0.9	1.1	0.2	0.9
	1985	88,256	48.8	6.0	38.6	1.6	1.6	0.4	1.4
Netherlands	1975	26,382	50.9	1.1	34.5	4.0	7.5	0.3	1.6
	1984	58,255	43.7	2.8	33.3	4.5	14.3	1.3	0.1
United Kingdom	1974	6,566	28.6	*	55.8	11.1	1.6	3.1	*
	1984	38,477	37.4	1.7	51.2	4.6	2.3	2.1	NA
Japan (U.S. $)	1975	1,500	21.1	—	60.0	2.5	0.7	0.9	1.9
	1986	7,007	23.4	—	48.6	1.8	NA	4.1	6.1
United States	1975	27,661	67.2	*	—	19.5	NA	1.2	NA
	1986	209,328	67.6	11.2	—	11.8	0.6	2.7	NA

Developing Countries									
Brazil (U.S. $)	1975	7,305	42.0	11.5	32.8	6.3	6.6	0.2	5.8
	1985	25,664	42.9	9.3	31.4	5.9	6.9	0.6	3.0
Chile (U.S. $)	1985	7,613	11.0	0.8	66.8	10.4	5.3	NA	NA
Colombia (U.S. $)	1979	957	25.1	NA	53.0	3.4	17.2	1.2	NA
	1985	2,231	21.6	NA	64.1	2.8	9.7	1.8	NA
Indonesia (U.S. $)	1975	5,518	12.8	40.7	12.4	5.1	0.9	20.0	0.0
	1986	16,154	20.1	33.0	6.8	6.5	1.3	18.5	0.0
South Korea (U.S. $)	1976	675	4.5	64.8	20.2	1.5	5.4	0.6	0.6
	1985	1,829	11.2	47.5	32.1	1.1	2.2	2.4	1.3
Peru (U.S. $)	1977	791	33.7	2.2	44.7	4.2	14.3	0.1	0.4
	1985	10,359	14.0	26.7	16.6	3.0	0.5	24.0	0.2
Thailand	1975	3,714	9.9	41.6	14.5	0.5	0.9	23.0	2.2
	1985	10,359	14.0	26.7	16.6	3.0	0.5	24.0	0.2
Venezuela	1979	6,552	15.4	0.6	57.7	8.8	11.5	NA	3.5
	1985	11,075	23.1	3.1	54.1	5.9	10.0	NA	2.2

Source: UNCTC (1988).
Note: Total values in millions. Denomination is the national currency unless otherwise indicated.

Table 7.15 **Percentage Distribution and Book Value of Outward Stock of FDI by Home Country and Sector for the Industrialized and Developing Countries, 1975 and latest available year**

Home Country	Year	Industrialized Countries			Developing Countries			Total
		Pri.	Manuf.	Serv.	Pri.	Manuf.	Serv.	
Canada	1975	16.1	46.2	14.3	4.9	4.2	14.1	10,526
	1983	15.8	43.1	25.8	7.1	3.1	5.1	37,793
West Germany	1975	1.5	35.3	37.1	2.6	13.0	4.7	49,081
	1985	2.4	34.6	43.6	1.4	8.4	4.7	147,794
Japan	1975	10.9	8.8	26.5	17.2	23.6	13.0	15,942
	1986	4.0	12.8	37.1	8.9	13.8	23.4	10,970
Netherlands	1973	40.5	33.7	9.5	7.1	5.5	3.7	44,173
	1984	49.3	18.7	16.7	6.4	3.6	5.3	143,736
United Kingdom	1974	7.0	49.3	22.4	4.3	11.5	8.0	10,117
	1984	27.5	27.3	26.9	5.9	4.5	8.0	75,715
United States	1975	19.9	36.6	14.4	3.8	8.4	7.0	124,212
	1986	14.3	31.6	26.6	6.4	7.2	7.8	276,075

Source: UNCTC (1988).
Notes: Total values in millions of national currency with the exception of Japan, for which data are in U.S. dollars. Pri. = Primary (i.e., agriculture and mining).

seems fitting at this point to call attention to some of the most glaring data deficiencies that confront the analyst.

Because of their intangibility, data for trade in services are typically derived from central bank information on flows of foreign exchange or from periodic surveys of censuses of service industries. Banking data pertain to payments, not transactions, and thus this source can only give an incomplete picture of trade in services. Registered flows of foreign exchange often cover only part of a transaction, or, alternatively, may apply to a number of transactions. Only payments that are made via resident banks may be registered. Furthermore, some payments do not go through a financial intermediary. Finally, central bank cash-flow information sometimes is reported on a net basis and thus is useless in determining exports and imports.

Surveys of enterprises focus explicitly on transactions, not payments, so that in principle the foregoing problems do not arise. However, surveys lead to other potential problems. Imports by households and the government are sometimes not captured, nor are transactions made by firms that are not registered. Thus, it is crucial that an up-to-date registry of the universe of services providers be established.

In practice, services such as transport, insurance, and legal, financial, or professional services may in part be subsumed under the value of the goods to which they are related, or they may be misclassified, over- or underreported, or not reported at all. Most problems occur with respect to the reporting of

OPS. Overreporting may occur for categories such as merchanting (transactions of goods between residents and nonresidents where the goods stay in one country) and advertising. Some countries measure merchanting so as to include the value of the goods traded; others measure only the service component, that is, the trade margin.[14] Advertising is sometimes overreported, as a result of including establishment and operating costs. Misclassification may occur, as a result of reporting payments for services as payments for goods or factors, or vice versa. Also, labor and property incomes are often included indistinguishably in OPS. In part, these problems may be due to data-collection and reporting procedures.

This is certainly the case with respect to the registration of transactions between affiliates. The existence of differential tax rates, exchange restrictions, or investment performance requirements, and variations in the degree to which firms are forced to reinvest earnings lead to transfer-pricing strategies that bias reported trade figures. Separate statistics on transactions between affiliates do not exist on a global basis. This is regrettable, because it is likely that much of the trade that occurs between affiliates consists of intangibles. This is one reason to believe that total reported OPS is biased downward. Telecommunication and postal services are often the carrier (transportation technology) used to move services from the point of production to the point of consumption. The virtual nonexistence of data on the volume and value of services transported by these media constitutes another source of downward bias for OPS. Also, to the extent that trade data are reported, such data often are a function of accounting conventions and do not reflect actual payment flows.

Provider- and demander-located services appear only partially in the BOP, primarily under the heading of travel. Data for some services of this type, such as medical and educational services, are often not reported, even though the amounts may at times be substantial. For example, expenditures by nonresidents on U.S.-based health and education services in 1987 were estimated respectively at $518 million and $3,800 million (Ascher and Whichard, ch. 6 in this volume).

In the BOP, financial flows resulting from factor movements of some kind can be found under the following account headings: investment income; labor income not included elsewhere (n.i.e.); property income n.i.e.; worker remittances; and migrant transfers. The difference between remittances and labor income is that in the case of the former, the factor is considered to have changed residency. However, the one-year criterion for residency that is used in BOP statistics is rather arbitrary, and in practice it is often very difficult for statisticians to allocate financial flows to the two categories accurately. Indeed, the IMF tends to correct much of the data it receives. For example,

14. In the IMF statistics, merchanting is registered on a net basis. However, in national sources, merchanting is sometimes recorded on a gross basis.

about $5 billion of what countries reported as labor income in 1983 was reclassified as remittances (IMF 1987). In general, the five accounts noted above are unlikely to measure accurately payments accruing to domestic factors. There may be some strategic reporting of income, for reasons mentioned above, involving transactions between affiliates. Also, what is reported as factor income may at times be a flow associated with trade in a service. This is possible in those cases where demander-located services are provided via the physical movement of factors of production, since in practice it may often be difficult to distinguish factor inputs from service outputs.

By definition, services that are traded informally or in the underground economy are not recorded, nor are many services produced by firms whose primary activity is in the goods sector. In the latter case, which is likely to be more important, part of the value of trade in goods will actually be trade in services. Furthermore, nations differ substantially in terms of the composition of the aggregates reported to the IMF, as well as the methodologies employed to collect and estimate data.

Comparability across countries and time is also limited because coverage and methods of data collection may change (e.g., countries may improve the sectoral coverage of their data collection efforts). An example pertains to current U.S. collection of trade statistics for many service activities that had never been reported before (such as exports of health services). It is difficult to determine to what extent an increase in recorded trade in services for a specific time period is "real," and to what extent it may simply be an artifact of improvements in data-collection techniques.[15]

Another problem is that at virtually any level of aggregation, some nations may not report information on a certain item. For example, shipment exports are not reported by certain major ship-owning countries (e.g., Greece). Passenger services are often not reported separately by many countries but are included instead in travel or other transport. As already mentioned, this results in biased figures when data are added across countries to arrive at regional totals, the total for developing countries, and so forth. Discrepancies also arise when comparing world imports for a category with world exports, which is another indicator of the nonreporting problem. For certain countries, publicly available statistics on trade in services do not appear to exist. While Eastern European countries and the USSR report merchandise trade statistics, there is no readily available source, with the exception of Poland, Hungary, and Romania for certain nonmerchandise items, for their nonmerchandise trade with each other and with the rest of the world.

The foregoing considerations suggest that it is very likely that the relative importance of services in the total trade of a nation will be underestimated. Research has indicated that in the early 1980s aggregate balance-of-payments

15. This may be the case, for example, in many of our tables where country data were reported for some but not all years.

data for the United States should have been anywhere from 40 percent to 100 percent higher than reported, depending on the definition of trade in services that is used (U.S. Congress, Office of Technology Assessment 1986). One implication is that calculations regarding the distribution of world trade across regions will be biased. Growth rates will, of course, also be biased, as will be conclusions regarding changes in the specialization of particular countries. However, we do not believe that the numerous data problems invalidate the trends that emerge. One of these trends is that the relative importance of services in the trade of developing countries has been increasing. The fact that there is a downward bias in the services statistics strengthens this conclusion. Also strengthening this conclusion are the possibly upward-biased growth rates of OPS, as the latter are primarily exported by industrialized countries. However, this bias could be a problem insofar as growth rates of OPS were compared to other categories of services or to merchandise.

As far as the statistics on FDI are concerned, to our knowledge there is no reason to believe that there are major differences between the accuracy of data pertaining to FDI in services and FDI in primary activities and industry. Some of the problems mentioned briefly in section 7.4—valuation based on historical cost, the distorting effects of exchange-rate fluctuations—affect all investment comparably, not just services. These problems should not bias our findings in section 7.4, as our main interest there is to compare services-related FDI with FDI in other sectors.

7.6 Data Needs and Priorities

There is obviously great scope for improvement of data on international trade and investment in services. Many of the questions (or hypotheses) suggested in our earlier discussion cannot be answered or investigated satisfactorily because the coverage of international transactions in services is inadequate. Thus, the absence of any data on the value and volume of transborder data flows and interaffiliate transactions in services makes it very difficult to determine what has been happening insofar as modes of delivery are concerned. It also makes it difficult to have confidence in any statement regarding the absolute and relative importance of services in world trade. We can say fairly confidently that even though the value of trade in services is currently underreported, in broad terms the trends suggested by existing data reflect actual developments. It is clear nonetheless that the current situation is less than satisfactory.

There are three groups of potential users of better data: policymakers, businesses, and analysts.[16] All three groups are likely to be interested in the same kind of improvements in the statistics. Arguably, what is needed is for data to

16. Policymakers include negotiators. For a review of data requirements from the point of view of negotiators in the Uruguay Round of multilateral trade negotiations, see Hoekman (1989).

be generated on a comparable country basis covering: the domestic production of services; trade in services on both a volume and a value basis by origin and destination; outward and inward FDI by sector and country; and the share of services production that is provided by firms and labor having ties to other countries. (The last should include only production by entities that have decided on longer-term establishment, because services provided via a short-term presence constitute trade.) It would also be desirable if: production and trade data could be reported on the basis of compatible nomenclatures; and the data on services could be linked with comparable data on goods.

Current BOP data are often not consistent with domestic statistics and classifications. It is difficult to relate trade data to the classifications used to report domestic data (such as the ISIC), so that one cannot relate trade to domestic production. This problem pertains to all the BOP service categories. For example, transport services in the BOP (i.e., shipment, passenger services, and other transportation) cannot be compared to domestic transportation data because part of traded transportation services is embodied in the value of traded goods.[17] Each item reported under the OPS heading consists of multiple items in the ISIC (or CPC), so that it often is not clear what the domestic counterpart of an item in the IMF category is. A related problem is that travel expenditures and receipts in the BOP are often not broken down by product or activity; very few countries currently do this.[18] Without this type of information it will always be very difficult to determine how trade in services via provider or consumer mobility has been evolving relative to separated trade.

In addition, information is needed on the existing government-imposed barriers and regulations that may impede trade in services or the right of establishment of foreign firms and the employment of foreign (nonimmigrant) labor. Much more information is required on what types of services are tradable in principle and what the relative costs are of alternative forms of trade for specific services. This type of information would allow the universe of services to be broken down into tradable and nontradable services (the latter requiring both long-term establishment abroad by the provider and the impossibility of movement of the consumer). It would help the analyst focus on

17. Currently, the IMF recommends that imports and exports be valued on a free-on-board (f.o.b.) basis. The implication of this is that there will be imputed imports (exports) of transportation (and other distribution) services if the invoice value of an import (export) transaction is greater (less than) the f.o.b. value. The use of the f.o.b. valuation convention for merchandise requires that gross flows of freight (shipment) services between countries be estimated. The convention recommended by the IMF is: to treat as credits all services performed by a country's residents on its exports once these have passed the border; and to treat as debits all services performed by nonresidents on a country's imports once these have been loaded on the carrier at the frontier of the country of export.

18. An exception is the United States, for which it was estimated that in 1984 visitors spent 26 percent of their total expenditures on lodging, 22 percent on gifts and other purchases, 21 percent on food and beverages, 16 percent on local transport, 9 percent on entertainment, and 6 percent on "other" items (OTA 1986). Note, incidentally, that these categories cannot be related unambiguously to ISIC categories.

substitution possibilities between alternative forms of trade. Thus, for some services the choice would be between embodiment in a good and separated trade, for others the choice would be between short-term or long-term mobility, and so forth.

All the foregoing data would provide information on the magnitude and composition of services in the international economy and 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. It would become possible to analyze the effects of existing impediments on trade and (foreign) production of both goods and services, using either a partial or a general equilibrium computational framework. 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, such analysis would need 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 empirical work.[19]

However, budgets are limited, so that the question arises as to where the priorities should lie. A first priority is to improve the consistency and the comparability of the statistics. It would be a major improvement if data reported to and by IMF using its *existing* classification system were comparable across countries. In principle this could be achieved in a relatively short period of time and should not require a major outlay of financial resources.

Another short-run improvement that should be feasible is to inform the user of service statistics how "good" trade and investment data are, on both a sector and country basis. Obviously, some service figures will be reasonably accurate; statisticians may have a fair amount of confidence that the reported figure is within x percent of the "real" number. However, for other items the confidence in the number reported in the BOP should be much lower. Currently, there is no way for a user to determine this. Furthermore, wide discrepancies often exist between different sources. For example, travel exports for some countries as reported by the World Tourism Organization differ significantly from those reported by the IMF. In such a case, which figure should be considered to be more reliable?

From a longer perspective, the goal should be to improve on what is currently available. This would require the construction of a generally acceptable nomenclature for services allowing for a more detailed reporting of specific service activities or products. It should either be consistent with classification

19. It should be reemphasized that improved information is not of interest only to the analyst. Policymakers, such as negotiators involved in multilateral discussions, desire as much information as possible so as to be able to determine what the status quo is, and to be able to pursue tradeoffs and linkages.

systems used in the national accounts or be easily concorded. Fortuitously, in part thanks to the efforts of the Voorburg Group on Service Statistics, the basis for such a nomenclature is currently available in the form of the provisional CPC. The CPC has been used by the GATT Secretariat as the basis for a list of the universe of service products requested by negotiators. Work is ongoing in the EEC, OECD, UNSO, and IMF to develop a classification of international services transactions that is consistent with the CPC and the revised ISIC.

Given a nomenclature, data will have to be collected, preferably on an origin-and-destination basis. This will require more extensive use of sample survey techniques by many countries to augment central bank sources. Such procedures are probably the only way to obtain a good impression of the magnitude of intrafirm transactions, many professional services, and computer and communication services. Ideally, methodologies should be developed that allow trade data to be collected on a volume basis as well as a value basis. Currently, the absence of such data makes it very difficult to determine issues like the proportion of growth in a given year due to inflation and the role of changes in quality.

Developing countries will obviously face greater constraints, of both a technical and a financial nature, in attempting to improve their statistics. Three avenues, none of which is mutually exclusive, can be taken to deal with this problem. First, there could be assistance by industrialized nations and multilateral institutions. Second, as more disaggregated data become available from industrialized nations on an origin-and-destination basis, they will already provide an indication of developing-country trade. Third, data-collection efforts could be focused primarily on aggregates. Often there may be more interest in having an accurate picture of total trade rather than in having a detailed breakdown.

7.7 Conclusion

We have made an effort in this paper to identify and discuss important conceptual and measurement issues involving international transactions in services and to present and analyze available global data on services, to the extent feasible. Several hypotheses or questions were posed with regard to the evolution of trade and foreign direct investment in goods and services. While we are fairly confident in interpreting some of the changes that can be observed in the broad aggregates, more detailed analysis of services components unfortunately rests on a much shakier foundation.

There is obviously great scope for improving the accuracy and comparability of the existing data on services and for disaggregating the components, especially of OPS, which have been growing rapidly. However, because of resource constraints and especially because of the inherent difficulty of measuring many intangible services transactions, data improvements are bound to

be slow in coming. In view of the fact that services have been given a prominent place on the Uruguay Round negotiating agenda, the need for better data has been underscored. Since interest in services issues in both domestic and international transactions is bound to grow, it will be important to maintain the momentum for national governments and international organizations to gather and report better and more detailed data on services.

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Comment Samuel Pizer

This paper is unusually broad in scope; it ranges from relatively philosophical questions about the definition and meaning of "services" to more mundane considerations of the quality and relevance of the data that are available. It is indeed thought-provoking to test whether various hypotheses about the evolution of the service sectors of different economies can be substantiated by reference to a wide array of statistical information assembled on a global scale. Like others, I have tried to set down a positive definition of "services," but there always seem to be exceptions. Pending an agreed-upon definition, however, the authorities are close to reaching agreement on a list of activities that should be covered in the service sector of the balance of payments accounts. These lists are fairly short—partly out of regard for the feelings of balance of payments compilers, but also because it seems sensible to organize the data for this purpose in terms of the main functional economic relationships among countries. These functional relationships, such as travel, shipping, or government, military, or economic programs, are measured as a blend of goods and services. This, of course, does not fit into the data cells that are considered to be necessary for analysis of the economies of the countries in which the payments occur. The gaps in the coverage of the data on international trade and services are also an indication of how recently an interest in some of the newer modes of international servicing has taken shape.

I have the greatest sympathy for researchers trying to educe significant trends and implications from the body of data on international trade and investment in services as it now exists. We certainly owe a debt to the authors of this paper for their heroic efforts in compiling the sweeping sets of statistics that underlie their thesis. To some extent we probably all have an ambivalent reaction to such statistical material. On the one hand, we would like to believe that it is good enough to sustain some line of argument that we are convinced is plausible. On the other hand, we are inclined to deplore the quality of the data and its failure to fit into the compartments necessary for our arguments. In the present instance, the authors believe they can find broad support for their propositions about patterns of trade and investment in services. I do not disagree with that judgment, provided it is limited to the observation that activities defined as services appear to have an increasing role in the economies of both developed and developing countries. I would be somewhat more cautious in making judgments about the significance of this development, especially as it applies to developing countries, and especially given the character of the services being measured for those countries. Another caveat, mentioned by the authors, is the need to refer to PPP-adjusted prices in comparing the relative shares of services between developed and developing countries.

Samuel Pizer is a consultant at the International Monetary Fund and former adviser at the Federal Reserve Board.

There is some consideration in the paper of hypotheses to be tested, mainly involving the link between the level and rate of growth of per capita income and the relative weight of service in the economy. It seems to me that the framework of this analysis is still very unsettled, and one of the reasons is the difficulty of deciding how and where to start measuring services in the economy. This is a well-known problem; perhaps the only measure reasonably invariant to structural shifts would be employment by occupation. While it is not within the purview of this paper to really tackle the problem, we should realize that it becomes particularly acute in comparing the economic structures of industrial and developing countries. Perhaps the term "industrial" is also becoming obsolete.

Turning to the statistical aspects of the paper under discussion, the sets of data that have been assembled are employed in a broad-brush manner as the basis for propositions about the growth of the service sector in international trade and investment and the development of economies in general. To do this, the data on services are sometimes combined, though the authors have also provided breakdowns by type of service whenever that is possible. My question is whether the constituent parts of the service sector—at least as they are summed up in data on international transactions or stocks of investment—add up to a functional whole. It seems to me that combining the data for the so-called service transactions produces a total that is not at all comparable to the result of combining all the data on exports or imports of goods. The latter yields consistent and comparable quantities that can be fitted into an analytical framework. The component parts fit along a spectrum of technical complexity and stages of production that can be compared across time or across countries. The component parts of the service sector (even if factor services are eliminated) do not fit along a spectrum in that way, though there are services that require advanced technology or training and others that require mainly a warm, sandy beach. Consequently, while there are types of services that can be analyzed comfortably in the standard framework of comparative advantage, I am not so sure that bundles of services can be dealt with in that way.

As noted in the paper, the problems of dealing with the service categories are made even more acute by the fact that, unlike goods, there are many kinds of services such as banking, commercial property, food services, and retail trade, that are important in home economies but cannot readily be traded between countries. In such cases the solution is often to establish locations abroad for delivering the services. Any analysis of international economic connections requires taking into account these offshore establishments. The same comment can be made about goods producers, but with the important difference that most goods producers have the alternatives of export or foreign production, while some producers of services have no practical exporting alternative. This may change as communication technology advances, with the interesting result that as the flow of information becomes swifter and deeper,

the locus of production of either goods or services becomes increasingly detached from the locus of ownership or executive authority. Economies that are very poorly developed may well have foreign-owned enclaves of relatively high-technology goods or services. It will be difficult to know where to place these countries on the scale of development.

Much of what we see in the statistics as an upsurge in international service activity, or investment, in developing countries reflects the importance of a few developing countries as low-cost havens for financial, shipping, or insurance activities. Such developments should not be averaged across developing countries as a whole, nor should their economic significance for the populations of their host countries be exaggerated. In the paper under review, there are caveats about such interpretations of the data. Nevertheless, the picture conveyed of the rising share of service activities is certainly a key insight into the prospects of the evolution of international trade in the years ahead.

Without belaboring complaints about the available data in this field beyond the point already reached by the authors of the paper, a few additional observations on this aspect of the subject may be in order—particularly given that measurement issues are the central theme of this conference.

1. Much of the data used is drawn from the IMF yearbooks on balance of payments data. A few years ago the IMF commissioned a working party to study why the world balance on current account had a discrepancy of $75 billion (U.S.), including $79 billion in the service accounts in 1983. The working party recommended some steps to improve the situation, but by 1988 the total discrepancy was still $59 billion, and the discrepancy on services was $89 billion. If all the sectors of the current account—trade, services, and transfers—are added without regard to sign, the sum of discrepancies was $145 billion in 1983 and reached $200 billion by 1988. My point is not so much that the basic data are in difficulty, but to emphasize that remedial action is extremely difficult to achieve. Thus, one may be allowed a little skepticism in reaction to the statement in the paper: "It would be a major improvement if data reported to and by the IMF using its *existing* classification system were comparable across countries. In principle this could be achieved in a relatively short period of time and should not require a major outlay of financial resources."

2. On the other hand, there are grounds for optimism in the data for the OECD countries published in May 1989, which show extensive breakdown of service transactions, as well as in the new data now available in the U.S. balance of payments. It would seem that there is considerable momentum in measures to improve these data and their nomenclature, including a lively interest at IMF in this sector of the accounts—partly because it is in this sector that major discrepancies are found.

3. The authors comment that while there is a great deal of information for a

variety of service sectors, these data are not very useful for global analyses. My prejudice would run in the other direction. We know from the assembled data how dominant among the service sectors in international investment are two sectors, finance (including insurance) and wholesale and retail trade. We also know that some of the more abrupt shifts in imports or exports of goods and services are related to particular historical episodes (such as the debt crisis in Latin American countries), rather than to some change in the stage of development. This suggests that there may be quite a lot to be learned from somewhat narrower, yet global, studies, with rather more reference to historical circumstances.

4. With regard to the data on transportation and shipping, it is quite likely that much of the shift in the share of transactions from developed to less-developed countries represents the flagging-out of the major fleets to flag-of-convenience countries. This has little to do with the economic development of these countries, and is not a real shift in the center of economic interest of the owners or operators.

5. One of the relatively minor points noted in the paper is that as shown by table 7.11, Chile, Mexico, Egypt, and Yugoslavia had relatively fast growths of OPS (other private goods, services, and income) in the 1977–87 period. The issues here are that OPS is a quite vague category in the IMF's compilations and is often a catch-all category, and that, as the authors point out in their later discussion, there are difficulties with growth rates when it is not known how regular the data series may be. It may be too much to ask for the tables to contain absolute amounts as well as changes when the emphasis is on changes over time, but one must be very cautious in interpreting growth rates from an unknown base.

6. The data on inward FDI used in the paper were developed in a comprehensive study by the United Nations. They are not book values in all cases, but are derived in many cases from flow data or approvals. It is noted in the paper that these data are no worse than the data on FDI in other industries, and in any case the issue is the share of service industries in the total rather than an accurate absolute measure. There are several problems here. One is that it is indeed difficult to evaluate the significance of these figures, even if they were accurate, unless a great deal more is known about the characteristics of the investments. For instance, we see in table 7.12 that the share of services in total FDI is 57 percent for Sri Lanka, 47 percent for Thailand, 54 percent for Morocco, and 53 percent in the United States, but in the absence of information about the nature of the services it is difficult to know how to interpret these shares, or to know whether a rising share of services means a decline in some other sector has occurred. As to the stage-of-development question, in 1853 foreign investment in the United States was estimated at $1.2 billion, of which about 75 percent was in banks, railroads, and canals—but not necessarily as direct investment. In fact, it was probably normal for the initial direct

investments in developing countries to be in services—transportation, power, and communications—before these activities tended to be nationalized.

There is a more important point to be made. The relevant data for economic analysis are not the book values of these enterprises, or the capital and income flows connected with them, but rather the amounts that these enterprises contribute to production and incomes in the host countries. Unfortunately, only the United States at present compiles such data (after starting to do so about thirty years ago).

7. After a searching review of data shortcomings, the paper states, "Often there may be more interest in having an accurate picture of total trade rather than in having a detailed breakdown." This is an accurate reflection of the state of art in many countries, but it is not the interest that is lacking—it is a question of allocating scarce resources. It will always be a problem that some of the more interesting service accounts, such as information transmission, probably do not involve large cash outlays or receipts. Consequently, it may also be true, as stated in the paper, that the relative importance of service transactions will continue to be understated in the data on international trade.

8. One of the economic issues that is high on the agenda at present, and is referred to often in this paper, is bringing the international market for services into the Uruguay Round of trade negotiations. In that context, there is a demand for information on some types of international trade in services that have been neglected in the past—largely, I believe, because it has been assumed that they did not involve significant amounts. That may be changing now, but it is probably still the case that some of the services that can be enumerated are much less important quantitatively than others. If compilers have to concentrate on the most significant items, they need some guidance on the most fruitful targets. For instance, there is some emphasis in this paper on the need for better information on the value and volume of data transmitted electronically, but compilers cannot follow up on that suggestion unless they can recognize more concretely what it is that is now being missed and how to measure it.

The other dimension of the negotiation situation is the market activity of foreign affiliates. We have noted that little is known about this in the framework of the data collected on direct foreign investments, nor are the prospects bright for improving this situation in the foreseeable future. If progress is to be made, and I believe it is quite possible, it will probably come from surveys specifically tailored to particular kinds of services, or through collaboration with agencies collecting data primarily for use in domestic economic accounts. This would presumably yield information on the activities of foreign-owned enterprises in the home market more readily than information on activity in foreign markets.

I would like to recall that we are joined in an effort to promote the production of better data. It typically involves an exposé of the weaknesses of the

data and may seem unnecessarily negative, but I believe it is best to proceed with as much insight as possible into the difficulties to be overcome and the economic issues to be addressed. Testing the data against a set of hypotheses, as is done in this paper, is certainly one of the most interesting and potentially fruitful methods of evaluating the adequacy of the information now available, and I look forward to further work, perhaps modified along the lines I have indicated.