
Karl P. Sauvant, Dr., Columbia University
The Atwater Series on the World Information Economy

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Over the past decade, the importance of international trade and foreign direct investment in services, and especially data services (transborder data flows), has increased significantly. This book begins with an examination of the rise of data services (data processing, software, data bases, and telecommunication services) and the impact of these services on international economic transactions. The author then looks at trade and foreign direct investment in services in general and reviews the policy position of the United States, the principal proponent of the international services discussion. Against this background, Dr. Sauvant analyzes the interests of various countries vis-à-vis trade and foreign direct investment in data services, looking at protection of privacy issues as well as competing values and approaches relating to the acquisition of data resources. On the basis of this analysis, Dr. Sauvant reviews the international policy discussion as it is carried out in bilateral and multilateral negotiations through the Organisation for Economic Co-operation and Development, the International Bureau for Informatics, the General Agreement on Tariffs and Trade, and the United Nations. Basic statistical data accompany the text, and key policy documents are included in the annexes.

Karl P. Sauvant is affiliated with the United Nations Centre on Transnational Corporations. He is author of Trade and Foreign Direct Investment in Data Services (Westview, 1986) and is coeditor (with Hajo Hasenpflug) of The New International Economic Order: Confrontation or Cooperation Between North and South? (Westview, 1978) and (with Farid Lavipour) of Controlling Multinational Enterprises: Problems, Strategies, Counterstrategies (Westview, 1976).
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It gives us great pleasure to introduce The Atwater Series on the World Information Economy. The series is the first major publishing venture of The Atwater Institute: The World Information Economy Centre. The institute was founded on the premise that reaping the benefits of the "information age" depends above all on deepening our understanding of the increasingly central role of information in economic life. It proposes to serve as a world forum for open discussion and as an independent research and resource centre on all aspects of the information economy. The institute has begun by concentrating on critical policy issues concerning international information flows, especially as they affect international trade.

The aim of the Atwater series is to stimulate serious and informed discussion on the economic, commercial, legal, and social implications of the information revolution. We believe such discussion to be essential for the adoption of enlightened policies and strategies at all levels, and the items in our series will combine intellectual substance and practical relevance in such a way as to make a useful contribution to it. The series will be overseen by a distinguished, independent, and international editorial board.

In view of our current focus, we are especially delighted that the series is beginning with Karl P. Sauvant's *International Transactions in Services: The Politics of Transborder Data Flows*. Dr. Sauvant's book is the first comprehensive review of the international policy discussion on trade and foreign direct investment in services. More important, however, he deals in detail with the impact of data services upon international trade in services and their central significance in the services debate. Quite apart from its obvious intellectual merits, Dr. Sauvant's book is also distinguished by its timeliness: It appears in conjunction with the initiation of the new GATT round in Punta del Este, Uruguay, in September 1986, which is expected to address the very concerns taken up in this volume. In fact, this volume—strongly supported by data and original documents—is indispensable reading for anyone who wants to understand the services aspect of the new GATT round.

Dr. Sauvant's book will also make an important contribution to the discussion of an international public policy framework for trade in and transfer of information and information-intensive services that is being launched by the institute with the
Atwater 1986 Conference on "The World Information Economy: Risks and Opportunities" (Montréal, 4–7 November 1986).

We should like to make it clear that since the aim of the Atwater series is to stimulate discussion, the volumes in it will naturally espouse a variety of stances on the matters discussed and none of them should be read as statements of Atwater Institute policy.

Frank B. Common, Jr., Q.C.
Chair and Founder, Atwater Institute

Knut O.H.A. Hammarskjöld
Director General, Atwater Institute

Vishwas P. Govitrikar
Director of Operations and Research,
Atwater Institute
Series Editor
Preface

Perhaps no other development has a stronger impact on today's economy and way of life than the advent of microelectronics or data technology—technology that is based on the use of digital data signals. This data technology, in turn, has given rise to data industries: data goods (computers, computer equipment, peripherals) and data services (data processing, software, information storage and retrieval, and telecommunication data services). Data goods and data services, together with the research and development required to develop them and the capacities and skills needed for their production and application, are data resources—core resources for economic and social development for at least the remainder of this century.

Apart from becoming important industries in their own right, data industries increasingly contribute to the transformation of the modus operandi of most other industries. Microelectronic devices and the software required to operate them are more and more incorporated in products and processes, giving them a new character. For many, these changes have the quality of a new industrial revolution revolving around the use of data resources.

A central aspect of the advent of microelectronics has been the merger of computer and telecommunication technologies. As a consequence, computers—and electronic devices in general—can communicate with one another; in particular, data goods and data services can be utilized without regard to their actual location and without loss of time. The results are data flows. They may occur in any of the four forms of data services mentioned earlier, and they serve to carry out certain tasks or, to put it differently, to perform certain services. If such flows cross national frontiers—normally via transnational computer-communication systems—they become transborder data flows: data services rendered (exported/imported) across national borders.

To the extent to which the use of computers and microelectronic devices becomes more frequent, and to the extent to which information is increasingly represented and sent in digital form, the volume of data flows grows. This is facilitated by a rapid expansion of data networks capable of carrying data flows nationally and internationally. They are being linked in a world-wide grid of computer-communication systems which constitutes the infrastructure of a world economy increasingly based on the use of data technology and data flows.

In this world economy, data flows provide the informational infrastructure for trade in goods and services and increase the tradeability of certain services. Perhaps even more importantly, transnational computer-communication systems are increasingly becoming the nervous systems of the world-wide affiliate network of transnational corporations, and the data flows transmitted over these systems are becoming the lifeblood of the operations of these corporations. Data flows are not only used by transnational corporations to speed up the sending of messages, but
also to improve the management of corporate systems and to change the very manner in which corporations actually engage in production.

Given the importance of data flows, the question arises, of course, as to what public-policy responses are most appropriate to them. This question arises especially sharply in an international context both because the underlying technology is non-national in nature and because there is no international authority which can deal with the legal, economic and, in the final analysis, political consequences of this new phenomenon.

In the light of all this, the first major purpose of this volume is to document the emergence of the data industries (and especially the emergence of data-service industries) and to analyze particularly the economic impact of transborder data flows.

Since the beginning of the 1980s, the discussion of transborder data flows has acquired an additional dimension: it has become part of the widening debate on an appropriate framework for international transactions in services. The services debate has its origin in the relatively recent discovery-slowly making its way into the awareness of experts and policy-makers—of the importance of services in the international economy: services account for over half of the gross national product of the developed market economies and are the single largest sector in most developing economies; the recorded value of trade in services amounts to one-quarter of that of trade in goods; and the service sector has become the single largest sector in which foreign direct investment is made. Services are, in other words, the single most important economic activity. And data flows carrying out certain tasks are, as noted earlier, a service themselves; whenever they are rendered across national frontiers, trade in data services takes place.

But data flows are more than a simple service—they are a core service. The reason is that they increase the transportability of other services. Since most services are intangible and non-storable, their production and consumption normally have to occur at the same time in the same place. This, of course, is a serious obstacle to trade in services. Real-time interactive communication via transnational computer-communication systems changes this situation. By collapsing time and space, transactions can take place at the same time but at different places. As a result, the tradeability of such services as banking, insurance, accounting, design and engineering, legal services, advertising, research and development, consulting and, of course, data services themselves, increases considerably. And other services that are information-intensive (e.g., travel, shipping, tourism) acquire a new informational infrastructure. Transborder data flows change, therefore, the parameters which determine how certain services can be delivered to foreign markets. They thereby open large new opportunities for trade in services. This potential underlines the importance of an international public-policy framework for transborder data flows.

Since data flows represent a service, and since the nature of data services as a core service is becoming recognized, the discussions of such a framework are undertaken as part of the broader negotiations on trade in services in general. In other words, any international framework created for trade in services will also deal with transborder data flows. In fact, it is likely that any international negotiations on services will give priority attention to data services.

Given this, the second major purpose of this volume is to review briefly the importance of the service sector and, particularly, to document international
transactions—trade and foreign direct investment—in services. In addition, the forces that shape the international services debate, and a number of the issues that have arisen in its context, are also reviewed since they are of immediate relevance to the discussion of a public-policy framework for transborder data flows.

The third major purpose of this volume, then, is to deal with the question of an international public-policy framework for transborder data flows. The interests that shape this discussion are analyzed and the status of various efforts at the bilateral, regional and international levels is reviewed. As these discussions are inextricably interwoven with those on a framework for trade and foreign direct investment in services, this review deals with data services as part of services in general. An effort has been made to take developments up to the end of 1985 into account.

It is almost certain that data technologies will be at the center of national economic development in years to come. It is very likely that the international dimension of the application of these technologies, especially in the form of transborder data flows, will be regarded with increasing attention in international economic discussions. And it is equally likely that the broader context in which these discussions take place—the services debate—will be one of the central issues on the international agenda in the decade ahead. If this volume contributes to a clearer understanding of these issues, it will have fulfilled its purpose.

Finally, I wish to acknowledge with gratitude the assistance obtained from Craig Johnson and Jörg Weber and the generous advice I have received from many of my colleagues on particular parts of this study. Most of them are members of the TDF "mafia"—a small, but rapidly growing group of persons in business, government and academia dedicated to furthering the understanding of transborder data flows and the issues associated with them. They include Ray Austin, Carol Balassa, Hugh Donaghue, T. L. Early, Murray Gibbs, Vishwas Govitrikar, Kathryn Hauser, Ricardo Maciel, G. Russell Pipe, Cynthia Rich, Peter Robinson, Miguel Rodriguez, Istvan Sebestyen, François Vuilleumier, and Zbigniew Zimny. To all of them: thank you very much! My debt to Silvana da Silva is other and greater. To her this book is dedicated.

Naturally, the responsibility for any mistakes, misrepresentations or omissions in this volume is entirely my own, and the views expressed in it do not necessarily represent those of the United Nations.

Karl P. Sauvant
March 1986
Social scientists have characterized the transition from a predominantly agricultural to a predominantly manufacturing economy during the last century as the industrial revolution. And manufacturing has continued to dominate economic thinking until today. For instance, many of the standard leading economic indicators either ignore services altogether or are biased toward manufacturing (the closely-watched measure of the wholesale price index in the US, for example, excludes services), and a broad discussion is underway about the "re-industrialization" of the United States.

Yet, a quiet and almost unnoticed revolution has taken place during the past two decades in all developed market economies and most developing countries: services have become the single largest economic sector. As documented in chapter I, trade, transport and communication, finance, public administration and defense, and other services together accounted, in 1979, for 59% of the GDP of the developed market economies as a group and 43% of the GDP of the developing countries as a group. (Even if public administration and defense are excluded, the service sector remains the single most important sector in most countries.) In the United States, the most advanced large services economy, services accounted for over two-thirds of the country's GDP at the beginning of the 1980s—compared with one-fifth for manufacturing—and 7 out of 10 jobs were in service industries. In fact, 8 out of 10 jobs created in the US during the period 1972–1982 were in service industries. Similarly, three-fifths of the European Community's GDP came from services at the beginning of the 1980s, as opposed to one-fifth from manufacturing. The decrease of employment in the Community's manufacturing sector of 4 million jobs between 1973 and 1981 was more than offset by an increase in the same period of 6 million jobs in services. In other words, many countries have actually experienced a "de-industrialization." They have become services economies.

It is astonishing that public discussion, government policy and economic theory have paid little attention to this structural change. The following quote (referring to the US) describes the gap between reality and awareness:

In every major economic area—growth rates, standard of living, employment, balance of trade—our service sector has overtaken the goods sector in significance. Yet in spite of this dramatic change in our economy, most of our businessmen, economists and policy-makers continue to think about our economy with models and images derived from the goods-producing sector. When we think about "structural unemployment", the image is Youngstown and rusting steel mills, not filing clerks displaced by computers. When we discuss inflation, the debate revolves around oil and food, not medical care and communications services.
When we ponder the negative effects of the trade deficit, it is Japanese autos which drive the debate, not Korean construction firms out-bidding American ones for foreign contracts. This implicit "goods bias" in our thinking makes it difficult both to perceive the real nature of our economy and to anticipate future changes in it which will affect the welfare of our citizens. Like generals who blindly prepare for the last war, our economic policy-makers spend too much of their time thinking about the last economy.1

Perhaps the lack of awareness that the goods sector is no longer the center of economic development is one of the reasons why a number of economic policies are found to be less effective today than they were in the past. After all, many of these policies are being directed at a share of the economy that has been declining in importance and it is not obvious that the policy mix that is effective in an industrial economy is also effective in a service economy. For example, such tax policies as the US investment tax credit and the accelerated cost recovery system, which were meant to stimulate investment, are much more effective for capital-intensive manufacturing industries than for labor-intensive service industries. On the other hand, increases in payroll taxes have primarily a dampening effect on the services sector. The ingrained intellectual bias in favor of the goods sector must be corrected if we want to understand the realities of today's domestic and international economic developments.

In the international sphere, one result of the neglect of services has been that service transactions remain without a comprehensive international regime of rights and responsibilities and do not benefit from the discipline and predictability associated with it. As regards trade, this is so because the international trade regime, as embodied in the General Agreement on Tariffs and Trade (GATT), does not apply to trade in services but only to trade in goods. As regards foreign direct investment (FDI), this is so because no multilaterally agreed set of rules exists for this type of international transaction. Hence, governments are free, within the limits of their international obligations, to intervene in international transactions in services as and when they see fit.

Most services are intangible and non-storable. As a rule, therefore, their production and consumption have to occur at the same time in the same place. While this is a serious constraint on the tradeability of services, international transactions in services have nevertheless reached considerable proportions. This is documented in chapter I. Thus, service exports of market economies were conservatively calculated at $360 billion in 1980, about one-quarter of the exports of goods. As regards FDI, annual FDI outflows of four major capital-exporting countries (US, UK, Federal Republic of Germany, Japan) which went into services were estimated at about $15 billion during the early 1980s—over half of the total FDI outflows of these countries (see table 1). And the world's accumulated FDI stock in services of $220 billion had reached a third of the world's total FDI stock of about $580 billion. In other words, service transactions have clearly become an important component of international transactions.

If the importance of trade in services as a vehicle to deliver services to foreign markets is compared to that of FDI in services as effected through transnational corporations (TNCs), available data show that, for the leading economies, FDI is considerably more important than trade. Thus, the service exports of the principal capital-exporting countries mentioned above and Canada amounted
Table 1. Estimated world trade and foreign direct investment in services
(Billions of dollars)

<table>
<thead>
<tr>
<th>Country</th>
<th>Exports of services a/ 1980</th>
<th>Foreign direct investment Stock</th>
<th>Outflows, 1981-1983</th>
<th>Sales of foreign service affiliates</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total Services 1981 Stock</td>
<td>Total Services (Yearly averages)</td>
<td>Total Services 1981 affiliates</td>
</tr>
<tr>
<td>United States</td>
<td>35</td>
<td>228</td>
<td>88</td>
<td>92/</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>34</td>
<td>92</td>
<td>31</td>
<td>6</td>
</tr>
<tr>
<td>Federal Republic of Germany</td>
<td>32</td>
<td>45</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>Japan</td>
<td>19</td>
<td>45</td>
<td>18</td>
<td>8</td>
</tr>
<tr>
<td>Canada</td>
<td>7</td>
<td>26</td>
<td>6</td>
<td>...</td>
</tr>
<tr>
<td>TOTAL above</td>
<td>127</td>
<td>436</td>
<td>162</td>
<td>28c/</td>
</tr>
<tr>
<td>Other developed market economies</td>
<td>165</td>
<td>128</td>
<td>47c/</td>
<td>9</td>
</tr>
<tr>
<td>Developing countries</td>
<td>66</td>
<td>18</td>
<td>7c/</td>
<td>...</td>
</tr>
<tr>
<td>WORLD TOTAL</td>
<td>358</td>
<td>582</td>
<td>216</td>
<td>37</td>
</tr>
</tbody>
</table>


a/ Private non-factor services.

b/ Estimated by applying to the services FDI stock of all countries the following ratios based on 1982 data: sales of US foreign service affiliates plus sales of foreign service affiliates in the US divided by US outward plus inward stock in services.

c/ Excluding US flows in finance. Finance was excluded because of the abnormal flows related to transactions between parent corporations in the US and their financial subsidiaries in the Netherlands Antilles. (In 1982 and 1983, large borrowings by US TNCs from their affiliates in the Netherlands Antilles took place.)

d/ Calculated by applying the 1981 share of services in the total FDI stock.

e/ Estimated by applying the average percentage share of services for the countries for which relevant data are available to those for which no separate data on services are available.
to $130 billion in 1980. On the other hand, the sales of the foreign service affiliates of TNCs from the same countries were estimated to be about twice as high—$340 billion in 1981. For the US, the data are even more impressive. While 1981 US service imports were $32 billion, the sales of US affiliates of non-US service TNCs reached $103 billion. Similarly, 1981 US service exports amounted to $34 billion, while sales of affiliates of US service TNCs established abroad amounted to $185 billion. For the UK, Japan and Canada, the volume of sales of foreign affiliates of their TNCs is about twice as high as the volume of their service exports, while for the FRG the two values are about the same.

This pattern does not, however, apply in the same manner to developing and socialist countries. The reason is that the foreign direct investments of the two groups of countries are of minor importance. For them, therefore, exports in services are more important than the services sales generated by their foreign direct investments. On the import side, on the other hand, it is quite likely that the volume of services sales by foreign affiliates located in the developing countries is higher than the volume of services imported by these countries.

In the foregoing text, trade and FDI in services were treated separately for analytical reasons. However, in reality both are very much interrelated, primarily because the provision of certain services through trade requires FDI (e.g., the export of a complex software package may require the establishment of a local affiliate to permit the adaptations necessary for its installation), and because more and more FDI requires trade in services for its operation (e.g., continued access to a central data base). In addition, regulations often provide that the sale of certain services (e.g., insurance) require a local establishment. This, in turn, has led to conceptual innovations (examined in chapter I) that reflect the special circumstances and interests associated with international service transactions. Most important here are the concepts of "right of presence" and "establishment trade". "Right of presence" grows out of the importance of access to the local distribution systems for trade in services. In the context of data services, this means that a party in one country should be allowed to link up with a party in another country for the purpose of sending data via transnational computer-communication systems. "Establishment trade" involves a broadening of the traditional definition of trade—which requires transactions between residents and non-residents, either in the form of "cross-border trade" or "within-border trade" (e.g., a tourist from country A buying services from a resident in country B)—to include those transactions emanating from locally established foreign affiliates.

These conceptual innovations require close analysis because they may have a number of public policy implications, not least regarding the boundaries between trade and FDI. If they are accepted, "right of establishment"—traditionally a key FDI concept—and "right of presence", for instance, become trade issues. This logic finds its precise expression in the US "Trade and Tariff Act of 1984" which not only elevates trade in services to a position equal to that of trade in goods, but virtually subsumes FDI under the trade regime and, therefore, defines barriers to trade explicitly as including restrictions on establishment and operation in foreign markets. At the same time, the notion of "establishment trade" implies that foreign affiliates are non-residents which, in turn, undermines a central tenet of the FDI policy of all developed market economies, namely that foreign affiliates should be granted national treatment, i.e., the same treatment that is accorded to domestic firms in like circumstances.
Emphasizing the linkages between trade and FDI is not meant to obscure the distinctions between the two kinds of transactions. One involves international trade issues, the other ownership issues in a domestic context. Accordingly, the policy and regulatory regimes applicable to these transactions differ, as do the underlying principles on which they are based. Thus, while the governing principle of the international FDI regime is that each country has the sovereign right to admit or not to admit FDI, that of the international trade regime, as enshrined in GATT, is that trade is to be admitted freely (subject to certain clearly defined conditions). These different principles have to be taken into account when discussing international policies applicable to services. The extent to which trade and FDI are being considered separately and, therefore, the extent to which these different principles are applied to each type of transaction, may well influence the character of any international public-policy framework that will eventually emerge.

This volume does not focus on services in general, although it provides some basic figures about the growth of the service sector and the dimensions of its internationalization, and outlines the international policy discussion on the subject. It concentrates rather on just one service industry only—data services—and especially the policy discussions relating to the international dimensions of these services. Since data services are a service, the broader services discussion provides the context for the focus on the narrower issues related to data services. Before dealing with these, the concept “data services” and related concepts need defining.

In the past decade, technological innovation has centered on microelectronics and has given birth to data technologies, i.e., technologies that function on the basis of digital signals. Data technologies offer vastly improved capabilities for the processing, storage, retrieval, manipulation, and transmission of data for a wide variety of purposes at (generally) declining costs. They are a core technology and as such form the nexus around which domestic economic and social activities will be restructured in the years to come. Data resources—data goods (computers, computer equipment, peripherals), data services (data processing, software, information storage and retrieval (data bases), telecommunication data services), the research required for their development (R & D), and the capacities and skills needed for their production and application—acquire, therefore, strategic importance for economic development. Within data resources, furthermore, the balance of importance is shifting from data goods to data services: an increasing share of data goods consists, in effect, of data services. For instance, software now accounts for more than three-quarters of the total life-cycle costs to the users of large computer systems. Increasingly, in other words, what a purchaser of data goods obtains are data services to which some hardware is attached. Chapter II documents the rise of the data-service industries.

Data services, like goods and other services, can be delivered to foreign markets through FDI or trade. As regards FDI, the mechanisms through which this occurs are the same as in the case of foreign direct investment in the goods sector: foreign affiliates are established which produce and sell services. Accordingly, the whole range of issues relating to FDI in general are relevant here as well, including the standards on the basis of which such affiliates ought to operate and ought to be treated.

As regards trade, matters are more complicated. Trade in data services is the result of the merger of telecommunication and informatics and its extension
into the international realm (see fig. 1). Formally, trade in data services—or transborder data flows (TDF)—is defined as point-to-point movements of machine-readable data across national boundaries. The data involved are normally of a proprietary nature, and the movements are usually based on contractual relationships between parties. (Media products which involve mass diffusion—especially broadcasting and television—are, therefore, excluded.) Such movements can be effected by non-electronic means, e.g., magnetic tapes, discs, punched cards, or other media. Increasingly, however, electronic means are used, which presuppose the availability of a telecommunications infrastructure. In these cases, transnational computer-communication systems are established, i.e., arrangements whereby one or several computers in one or several countries are linked to affiliated computers in other countries and through them (or directly) to remote terminals. The trend in TDF is toward the greater usage of transnational computer-communication systems. Apart from the factors discussed earlier, the rapidly increasing use of microcomputers and the trend toward the automated office are likely to give a special boost to the growth of TDF. The same effect can be expected from the rapid spread of home computers. The last development, in fact, gives the TDF discussion
a new dimension because it leads to growing involvement of private households in TDF.

Trade in data services can either involve arm’s-length commercial transactions between independent firms (e.g., when a firm located in one country accesses a commercial data base located in another country) or intra-company transactions between entities of the same corporate system (e.g., when an affiliate located in one country accesses a data base in the parent corporation located in another country). Although this may appear to be a rather broad conceptualization of trade in data services, it is no broader than that applying to trade in goods, which also includes commercial and intra-firm transactions. However, while only an estimated 30% of the total goods trade of market economies consists of non-commercial transactions, perhaps 80-90% of trade in data services consists of non-commercial or intra-firm transactions. For this reason, attention has traditionally focused on these intra-firm (or corporate) transactions, under the name of transborder data flows (TDF). But even the TDF discussion usually combines commercial and corporate data flows, although the latter normally overshadows—because of its greater importance—the former. The point that must be emphasized is that in each case data services are rendered, regardless of whether they are transactions in their own right, or constitute the infrastructure for trade in goods, trade in services or the operations of TNCs, and regardless of whether they are specifically identified and recorded as data services, paid for or not. Transborder data flows are, therefore, for the most part nothing other than traded data services. For this reason, the concept “transborder data flows” is being used here interchangeably with the concept “trade in data services”.

This is not to say that TDF involve only trade issues and that the subject does not have broader implications for, e.g., privacy, dependency, vulnerability, corporate structures, industrialization or economic development in general. In fact, it is because of their implications for, above all, economic development that TDF are important. The approach taken in this volume is to review first briefly these implications in order to establish the importance of TDF, and then to narrow the discussion to the trade aspect of the problematique.

Given the importance of data resources in general and data services in particular, I suggest that data services are a core service: more and more, they change the parameters for the operations of most other services and, indeed, most economic activities. An analogy is perhaps the invention of electricity. That invention not only led to the creation of new industries (e.g., power generators, electrical appliances), but also changed the manner in which other national and international economic activities were undertaken; in fact, it played a crucial role in bringing about the way of life we know.

A number of reasons support this assertion. One is that data services are rapidly becoming important industries in their own right. Second, data services are changing the modus operandi of existing industries and play a pivotal role in the new industrial revolution that is taking place. Third, they change international economic transactions by giving rise to trade and foreign direct investment in data services; by becoming the infrastructure for trade in goods and especially for trade in services; by redefining the modalities for the operations of TNCs; and by increasing the tradeability of certain services (see fig. 2). These points are documented briefly in chapter II, whose purpose is to outline the importance of data services as strategic economic resources. The third of these changes, the impact of data
services on international economic transactions, is of particular interest for this volume in view of its focus on policy discussions concerning the international dimensions of data services.

In the context of the services discussion, it is particularly important that the advent of transnational computer-communication systems increases the tradeability of certain services. It has already been pointed out that, because of the nature of services, their production and consumption have normally to occur at the same time in the same place and that this represents a serious obstacle to trade. Real-time, interactive communication via transnational computer-communication systems changes this situation. By collapsing time and space (at decreasing costs), transactions can take place at the same time but in different places. As a result, the tradeability of certain services increases considerably, affecting especially such key business services as banking, insurance, accounting, design and engineering, legal services, management consulting, and, of course, data services themselves. This impact may have profound implications for international service transactions in general. For one, where tradeability increases, this creates a considerable potential for an actual expansion of trade in services. Second, since increased tradeability broadens the options of both sellers and buyers as regards the manner in which services can be delivered or obtained, the need for FDI in services may decrease.

In sum, data services are becoming an important component of international economic transactions. They are rapidly becoming the infrastructure for trade in goods, trade in services and the operations of TNCs. In addition, they increase the tradeability of a whole range of services. This central role makes data services a core service. It is a core service, furthermore, whose international transactions are overwhelmingly effected by TNCs (see fig. 3): in FDI by definition; in trade
because most of it consists of intra-firm (and hence TNC-internal) trade and much of the remainder involves TNCs as suppliers, buyers or providers of the infrastructure.

It is against the background of the importance of service transactions and the importance of data resources that the issues relating to trade and FDI in data services have to be seen. Originally, policy attention focused on transborder flows of personal data and the privacy considerations associated with them. Two international instruments (briefly discussed in chapter III) were adopted in this respect: the OECD "Guidelines Governing the Protection of Privacy and Transborder Flows of Personal Data" and the Council of Europe "Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data."

Since the beginning of the 1980s, however, the emphasis has clearly shifted toward the transborder flow of economic data and especially the trade aspect of this phenomenon. In the process, the discussions of trade and FDI in data services have become part and parcel of the discussions of trade and FDI in services generally. The reason is simple: the principal proponent of these discussions, the US, seeks to establish a multilateral framework for trade in services in general. It is explicitly meant to be an umbrella framework under which ideally all service industries would be moving in the same direction, namely liberalization. It would, thus, be a framework applicable to data services as well. In fact, given the core nature of data services, the international discussion of services and the design of a framework for them may well proceed in a manner that gives special attention to data services. Throughout this volume, therefore, the discussion of the politics of trade and FDI in data services is intertwined with the discussion of the politics of trade and FDI in services generally.

Before these politics can be examined, the interest situations of countries and regions vis-à-vis TDF and the competing values they bring to bear on the formulation of policies in this area must be examined.

Given the importance of data resources for economic development, it is not surprising that countries increasingly seek, first and foremost, to strengthen domestic data resources; second, to ensure access to those data services that cannot reasonably be developed locally; and third, to improve their physical and intellectual data infrastructure (informatics, telecommunications and skills) to place the country in the best position to use data resources. In this context, one feature of transnational computer-communication systems becomes of central importance: they permit it that data resources can be accessed internationally. While this obviously and greatly facilitates the achievement of the second of the objectives just mentioned, it may hamper the achievement of the first objective. The principal reason is that the availability of data resources through TDF may decrease the need to develop such resources locally, or may make such local development difficult because of the strength of international competition.

Given a full recognition of the importance of data resources, the key issue—and the main subject of chapter III—is what approach governments adopt to acquire data resources. Two main variables, it appears, determine the selection of an appropriate approach. One is the extent to which countries consider that they already have sufficient data resources. The other is the extent to which countries consider it necessary and feasible to pursue data-resource acquisition strategies that aim either at building up domestic data resources or at obtaining access to them abroad.
For countries that do not think that they have sufficient data resources and so consider it necessary and feasible to build up their domestic resources in this area, the principal objective is to obtain competitive capabilities in as many data resources as possible. This, in turn, would permit them to (1) have a maximum of economic resources central to future development located on their national territory; (2) capture the direct and indirect benefits (including skills) associated with the development of such resources; (3) stimulate the development of other industries because of the close linkages of data resources with the rest of the economy; and (4) establish a basis for savings of foreign exchange through import substitution, generation of foreign exchange through exports, and participation in the world market for data resources. The rationale for such a national approach lies in the belief that—in spite of the immediate costs of an infant-industry policy—the realization of hitherto underdeveloped domestic capabilities adds, in the longer run, to national and international welfare. This consideration is particularly attractive because of the strategic importance of data resources for development and because distance-insensitive transportation costs and the homogeneity of certain data services may offer specialization advantages that facilitate the growth of competitive industries. The main policy instruments of this approach include subsidies, performance requirements, procurement policies, the favoring of national champions (i.e., chosen domestic corporations to advance national objectives through which the growth of domestic data resources can be stimulated), and the wide range of traditional protectionist measures through which fledgling domestic industries can be sheltered against overwhelming international competition. Also crucial in this context are various forms of control of TDF. As mentioned earlier, the principal reason for such control is that transborder data flows permit international access to data resources which, therefore, need not be developed locally. In addition, wherever there is a potential for local development, TDF, for competitive reasons, may inhibit it. In other words, since transborder data flows can have an influence on the location of data resources, any comprehensive national policy aimed at strengthening domestic data resources has to pay attention to these flows. Moreover, it is also often thought important that the data resources to be built up are not merely located on national territory but also domestically controlled (i.e., not controlled by TNCs headquartered elsewhere). Under these circumstances, a country may discriminate (e.g., in procurement policy) against foreign affiliates. Developed (e.g., Canada, the European Community, France) and developing countries (e.g., Brazil, India, Mexico) alike pursue policies that contain some of these elements.

Countries that do not see themselves as having sufficient data resources but are in a weak position to build up domestic capacities (especially for data services) have to rely on transborder data flows. In other words, data resources are not physically but only functionally acquired. While the actual resources remain located abroad, access to them is gained via transnational computer-communication systems. For instance, instead of building up local data bases or having copies of data bases located in the country, it is considered sufficient to have access to data bases located abroad. Under such an access-oriented acquisition approach, the principal objective is to have the widest possible access to the use of data resources located elsewhere. This, in turn, requires an environment in which undisrupted access to international data resources is guaranteed (this is, in fact, the precondition for this approach) and barriers to trade in data services and other measures that could disrupt TDF are reduced or eliminated. (Barriers to FDI in data services would,
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However, be of little interest because, presumably, no important domestic data-resource firms exist.) Beyond this, and to the extent to which data resources are needed for international transactions (e.g., banking), the objectives are in many respects similar to those of countries that possess well-developed data resources (see below), especially concerning the desire to benefit fully from the application of data services in international transactions. The rationale for such a functional acquisition approach is the desire to avoid the opportunity costs entailed in the development of domestic capacities and to benefit from international specialization by utilizing imported data resources for other economic activities in which the country is thought to have a comparative advantage. The principal costs of this approach are dependence on critical resources located elsewhere and the learning benefits and spin-off effects forgone in the development of domestic data resources. The main policy instrument is to ensure by international agreement that access to data resources abroad is guaranteed. In other words, countries with data resources need to be obliged to permit transborder access to them. In fact, such a right of access is a sine qua non for all those countries that are willing to forgo the development of domestic data resources and/or to rely on TDF for obtaining access to such resources. In a sense, therefore, therefore “right of access” is a necessary complement to “right of presence” (and especially to one of its components, the “right of non-establishment”): unless access is guaranteed, a right of presence—which implies that critical data resources may be located elsewhere and are merely available via telecommunication lines—may become a risky undertaking for countries.

Countries that possess well-developed data resources are, of course, in a different interest situation. Their approach in this area flows from their desire to benefit as much as possible from their technological and commercial lead in data industries. Accordingly, their principal objective is to promote an international environment in which (1) barriers to trade and FDI in data services and other measures that could disrupt TDF are reduced or eliminated; (2) data-services transactions and applications can take place as freely, non-discriminatory and securely as possible so that data industries can grow internationally through exports and FDI; (3) other international transactions can benefit fully from the application of data services; (4) corporations can develop new services based on data technology; (5) the functioning of corporate transnational computer-communication systems (i.e., the operation of TNCs) is not hampered; and (6) the worldwide technical infrastructure for TDF is as efficient as possible to permit transactions in data services. Most of these goals are also shared by the major users of TDF, especially TNCs. The rationale for this approach lies in the belief that—analogous to trade in goods—the world as a whole gains from growing trade and FDI in data services because they contribute to a more efficient international allocation of resources and increase the efficiency of doing transnational business, and that trade in services, like trade in goods, is an engine of growth. The aims of this approach cannot be realized nationally (as those of countries lacking data resources may be), but require rather an international approach: other countries have to be convinced not to establish barriers to international transactions in data services. Accordingly, the main policy instrument is the adoption of an enforceable liberal international regime that specifies the responsibilities of countries as regards trade and FDI in data services, or, short of that, the conclusion of appropriate bilateral and regional agreements. The latter, in any event, may bring about immediate improvements of the situation and, in addition, may encourage multilateral negotiations.
The strategies described so far are, in their pure form, ideal types seldom to be found in the real world. Even the country that comes closest to the first option, Brazil, pursues a mixture of strengthening domestic data resources and seeking access to international data resources. Mixed strategies allow a country to strengthen its domestic capacities for certain segments of an industry (e.g., microcomputers), but to rely on access to international data resources for other segments (e.g., main-frame computers). Another mix of interests arises if a country desires to strengthen its domestic data resources, but another of the country's industries (e.g., banking) needs state-of-the-art data services and, independently of that, needs an open international system for TDF to remain (or become) competitive internationally. Many countries are likely to be in mixed-interest situations of this sort. This is all the more likely to be the case when countries already have other industries that are dependent on data services, especially countries that have information-intensive, internationally oriented service industries and countries that are the headquarters of TNCs. Most developed market economies fall in this category, but also a number of developing countries. The dilemma for the developing countries is, however, less pronounced because few of them are the headquarters of TNCs with transnational computer-communication systems, or have information-intensive service industries that are active internationally. The developing countries can, therefore, more easily pursue national acquisition policies for data resources.

In the context of this volume, the approach which aims at establishing an enforceable liberal international regime for data-service transactions is, of course, of particular interest, because it fuels the international policy discussion in this area. The principal proponents of this approach are the international business community (most notably in the US) and, most importantly, the US government. A number of factors—some of them already mentioned, others to be elaborated in the main body of the volume—explain why the US administration is the principal proponent of this approach and has initiated the international discussion on services:

1. The US is the most advanced service economy of international importance. Its service sector accounts for two-thirds of GDP, it is the major source of new employment, and it is looked upon as a new engine of growth and a principal source of structural adjustment. The US was the first country to recognize the importance of the service sector, both in its domestic and in its international contexts.

2. As pointed out earlier, international transactions in services have reached considerable proportions, in FDI more so than in trade. However, considering that the share of services involved in international transactions is considerably lower than that of industry or agriculture or, for that matter, the share of services in GDP, the potential for a substantial increase in international service transactions is high. The US would be among the principal beneficiaries if this potential were realized.

3. The US is by far the most important exporter of services foreign direct investment. Services FDI has been the most dynamic component of the country's outward FDI, accounting for almost 40% of total stock (more than manufacturing investment) and a similar share of total flows. As a result, US-based TNCs are occupying leading positions in most international service industries.
4. The US is also, with approximately $35 billion in 1980, the world's largest exporter of services, although the service exports of the United Kingdom, France, and the Federal Republic of Germany are of the same magnitude, and the ratio of service to merchandise exports of the United Kingdom and France is almost twice that of the US.

5. Prospects for an expansion of trade in services are particularly promising for those services whose tradeability has increased because of the advent of transnational computer-communication systems and the rising importance of transborder data flows.

6. Since the US is leading in data services, it is best-placed to lead in these new forms of international trade as well, and to benefit from the increased tradeability of certain services.

7. For the same reason, the US has also been the first to recognize trade in data services as an important activity in its own right and to recognize the impact it has on the infrastructure for trade and FDI in general.

8. The importance of international transactions in services, and especially the importance of transborder data flows, have been fully recognized by the US business community, which has been pressing the US government to take action regarding services in general and data services in particular.

9. For all these reasons, the US is strongly interested in an open international environment for service transactions in general and data-service transactions in particular. The US is, therefore, vigorously pursuing the establishment of an enforceable liberal international regime to govern trade and FDI in services and especially data services.

10. The establishment of such a framework is in harmony with the country's commitment in principle to a liberal trade and FDI regime and its conviction that, ultimately, such a regime is the most beneficial for all countries. However, the establishment of such a framework is resisted by a number of countries, especially developing ones. They fear that a liberal regime would effectively hinder the growth of indigenous service industries, because international competition could be overwhelming in many instances.

11. Most developed countries are in a more mixed-interest situation. While most of them lag behind the US in the development of most data services, they can benefit immediately from the application of these services for their own purposes, be it to improve the operations of their TNCs, to strengthen the competitiveness of their service industries, or to exploit the new tradeability of certain services. The US can, therefore, build on a certain commonality of interests with these countries (which includes a desire of all of them to have access to the markets of developing countries) when advancing its quest for a liberal framework for international service transactions.

The combination of these factors has led to a full recognition of the importance of international service transactions in the country's legislation and policies and to vigorous efforts to pursue the matter on the international level.

Because of the leading role of the US in this matter, the policy objectives of that country as regards international service transactions are likely to influence strongly the contents of international discussions in this field. Particularly relevant
here is the “Trade and Tariff Act of 1984” which is examined in detail in chapter III because it provides the mandate, the objectives, the instruments and the resources for the government’s service policy. The Act gives services a status equal to that of goods under US trade law and, to a large extent, covers FDI as well, thus bringing this activity also under the purview of US trade law to a certain extent. Furthermore, services are specifically understood to include data services, since the definition of services includes specifically transfers of information. This gives data services, so to speak, legal status. The principal objective identified by the Act for international negotiations is to reduce or eliminate barriers and other distortions to trade and FDI in services. To achieve this objective, the Act provides the Administration with negotiating authority for bilateral and multilateral agreements, and gives it a range of powers to entice or pressure other governments to be more amenable to US objectives. Most important among these powers is the strengthening of Section 301 of the 1974 Trade Act and the clarification that it applies to services as well—and, for that matter, to FDI with implications for trade in goods and services. (Section 301 invests the Administration with broad discretionary powers to negotiate for the reduction or elimination of barriers to US service exports and FDI flows, and to take punitive action against countries that do not reduce or remove such barriers.) In addition, the Act grants powers to the Administration regarding new export performance requirements imposed by other countries; provides that customs duties can be modified in the area of high technology products and services (mostly the area of data industries); and, to a certain extent, makes the granting of beneficiary status under the Generalized System of Preferences a negotiating tool with which developing countries can be enticed or pressured to accept US objectives regarding trade in services and FDI flows. This prepares the US well for negotiations on international transactions in services.

This preparation covers, and is immediately relevant to, trade in data services as well. Beyond that, a host of committees—mostly in the US, but also in the framework of the International Chamber of Commerce—have examined the questions pertaining to TDF in great detail and have elaborated the objectives and key elements for an international agreement on that subject (see chapter III). Based on this preparatory work, the US administration has formulated its policy stance which it pursues vigorously on the regional and international levels. The objective is to ensure an open international system for trade and FDI in data services. The principles advocated to advance this objective are unrestricted flow of information and market-place competition. At the operational level, this means, first and foremost, to reduce or eliminate any obstacles to international transactions in data services and to prevent the imposition of new ones. “Obstacles” are defined broadly and include the introduction of taxes or tariffs on the value of data-service flows, certain conditions placed on the operation of leased lines, certain data-protection provisions, local content requirements, lack of software protection, market access barriers, certain equipment policies, and telecommunication monopolies. These matters are further discussed in chapter III.

The manner in which these interest situations shape the discussions of trade and FDI in data services at the bilateral, regional and international levels is the subject of chapters IV and V. Particular attention is given to three questions:
1. How do the interest situations of countries influence the choice of forum for discussion or negotiation?

2. How are these discussions or negotiations shaped by the principal competing values regarding international transactions in services in general and data services in particular?

3. What has been achieved so far?

With a few exceptions, the discussions and negotiations on data services have so far been conducted mostly in the framework of the general services discussion, a discussion in which the US is the driving force. At the bilateral level, the US administration is paying more attention than in the past to services when concluding bilateral investment protection and promotion treaties; it has concluded an agreement with Israel about the establishment of a free trade area between the two countries which includes comprehensive (but as yet non-binding) provisions on services; and it is pursuing negotiations with Canada about a sectoral free trade agreement for computer services. The agreement with Israel, in particular, may well acquire the character of a model.

More important, however, are the initiatives in the OECD. The basic philosophy of that organization is to favor an open international economic system, and it deals both with FDI and trade issues. On the FDI side, the Code of Liberalisation of Capital Movements and the Declaration and Decisions on International Investment and Multinational Enterprises constitute a framework which also covers FDI in services. It was strengthened, in 1984, with the extension of the Capital Movements Code to cover certain important aspects of the right of establishment. On the trade side, the Code of Liberalisation of Current Invisible Operations offers a basic framework, but one with a number of limitations, one of them being that it does not cover data services. Efforts to strengthen this Code have been initiated.

Recognizing the central importance of data services, the US initiated in 1982—within the framework of the OECD's general services discussion—work on a "Declaration on Transborder Data Flows." After three years of negotiations, the text of the Declaration was adopted in April 1985 by the OECD's Council of Ministers. Its central thrust is to promote access to data and information and related services and to avoid the creation of unjustified barriers to the international exchange of data and information. At the same time, the Declaration acknowledges that the ability of member countries to reap the benefits associated with TDF may vary, that national policies which affect TDF reflect many different social and economic goals, and it observes that governments may adopt varied means to achieve their policy goals. The Declaration is the first multilateral instrument dealing specifically with the transborder flow of economic data, and its adoption is a breakthrough for all those who seek an international commitment to maintaining an open environment for TDF. Because of the core nature of data services, it is an agreement with far-reaching implications for trade in other services and for the operations of TNCs. As the first agreement reached in the context of the trade-in-services discussion in general, the Declaration is a sign post for the desired direction in these discussions. Furthermore, it establishes a minimum platform for the developed market economies for the most important part of the services discussions—data services—shortly before negotiations actually begin.
This is most likely to occur in GATT. Given the importance of the impending services negotiations in GATT, most of chapter V deals with the considerations that the contracting parties bring to these negotiations, their objectives, and the progress made so far. On the initiative of the US, GATT agreed in November 1984 to initiate a work program on services. For the proponents of the international services discussion, this represented a breakthrough, precisely because the free-trade persuasion underlying the institution's Articles of Agreement suits their interests perfectly. In fact, it is almost certain that the next GATT round of multilateral trade negotiations will have services on its agenda, and it is very likely that the outcome will include a framework for trade in services, including data services. When actual negotiations commence, it can be expected that, as in the OECD, special attention will be given to data services. The US, at least, has indicated its priority in this regard and has informed GATT's contracting parties accordingly.

The developing countries as a group strongly oppose the inclusion of services in GATT's work program. The overwhelming majority of developing countries have a relatively weak indigenous service sector, which is reflected in their balance-of-payments deficit in this area. These countries fear, therefore, that a liberal service-trade regime could effectively hinder the growth of indigenous service industries, because international competition could be overwhelming in many instances. This fear is exacerbated by the expectation that (given the nature of services) negotiation in this area must unavoidably include certain FDI issues—a matter developing countries certainly do not wish to bring into the GATT framework. In addition, the developing countries fear that the inclusion of a "new issue" like services would shift attention away from negotiations on trade in goods, which are much more important for developing countries, and for which an agreed-upon work program exists, as adopted in 1982 by the GATT Ministerial Meeting. Thus, developing countries have pointed out that the GATT framework is not applicable to services because GATT was specifically devised for trade in goods, not trade in services, a position which the US held at one point as well. Although the developing countries could not prevent the inclusion of services in the GATT work program, a number of them can be expected to continue to oppose or slow down actual negotiations on services, although it may be very difficult to resist the determination of the US—and the support of the US by most other developed market economies—to establish an international framework for trade in services. The developing countries prefer UNCTAD as the forum for services discussions because they see their interests better represented in that organization, and because UNCTAD already has considerable experience in dealing with a number of service industries. In fact, UNCTAD decided in March 1985 to initiate a work program on services, and it can be expected to pay special attention to TDF as a core service.

The OECD, GATT and UNCTAD are not the only fora in which international transactions in data services are discussed. As reviewed in chapters IV and V, the Latin American Economic System (SELA), the International Telecommunication Union (ITU), UNESCO, the United Nations Commission and Centre on Transnational Corporations, and the Intergovernmental Bureau for Informatics (IBI) also pay attention to this subject. SELA is doing this with a view to adopting a regional policy in this area and influencing the position of the Group of 77 as a whole. The ITU focuses entirely on the technical infrastructure of TDF and has not dealt with the economic implications of data services—nor does it seem to have
any intention of doing so. UNESCO's interest in this subject follows from its interest in the New International Information Order and from its work on informatics and new information and communication technologies. The Commission and Centre on Transnational Corporations approach the subject primarily from the point of view of research on the role of TNCs in TDF and services and the fact that service FDI falls under the United Nations Code of Conduct on Transnational Corporations. The IBI, on the other hand, focuses specifically on TDF. For that purpose, it established a high-level International Consultative Commission on Transborder Data Flow Development at the end of 1984 and endowed it with a broad mandate. The IBI is thus in a position to assume a leadership role in the international TDF discussion, which would be to the advantage of IBI’s main constituency, the developing countries. Endowed with considerable resources and supported by its own secretariat, the Commission could direct IBI’s policy discussion and research program and influence the TDF policies of developing countries through IBI’s technical assistance work. In any event, the work of IBI will certainly play an important role in raising the awareness of the developing countries in TDF matters and focusing it on the issues considered important by IBI, as well as in assisting developing countries directly in dealing with the issues raised by this phenomenon.

The focus of the discussion in international fora has so far been on trade in services and data services, although, as pointed out earlier, FDI is considerably more important than trade in delivering services to foreign markets. In addition, barriers to FDI in services are probably more important than barriers to trade in services, and the FDI aspect in the trade-in-services negotiations is likely to slow them down. One would assume, therefore, that FDI in services ought to receive more attention than trade in services from the proponents of a liberal regime for international transactions in services. But this is strangely not the case. The issues related to this matter are taken up in the concluding chapter of this volume. Perhaps the most important reasons for the neglect of the FDI dimension are the trade-related importance of TDF—especially their role as a core service, as the informational infrastructure for trade in goods and for the operations of TNCs, and their role in increasing the tradeability of certain services—and ignorance of the relative importance of FDI in services compared to that of trade in services. This neglect is all the more astonishing since an international agreement on FDI—the United Nations Code of Conduct on Transnational Corporations—is within reach. When concluded, the Code will define the rights and responsibilities of transnational corporations and states in the area of FDI (including FDI in services) and thereby establish a stable, predictable and transparent framework for the most important dimension of international transactions in services. Whatever the reasons for this neglect, the economic reality—perhaps helped by political necessity—of the greater importance of FDI in services is bound to assert itself sooner or later in the discussion of an appropriate framework for international transactions in services.

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