The Impact of Information Technology on Trade in Services

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by

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Late last year, the Chicago Mercantile Exchange and the Singapore stock exchange announced the establishment of an electronic hook-up between the two exchanges that will permit global trading around the clock, twenty-four hours a day.

U.S. judicial opinions are abstracted and entered into an electronic data base in Korea, kept on file in Mead Data Central's computers in the United States, and are accessible via electronic hook-up by lawyers in London, Paris or Dubuque.

A world-wide network of computers and communication circuits enables Bechtel to coordinate the activities of engineers in India, project managers in San Francisco and construction supervisors on site in Saudi Arabia.

Citibank's system enables corporate treasurers to monitor checking account balances in Citibank branches around the world.

These examples illustrate how the introduction of new computer and communication technology has opened up new trade opportunities in services. It is now possible to trade almost any type of service that can be delivered electronically, including data processing, computer programming, video and audio entertainment, training and education, legal services, accounting, engineering, banking, insurance, research and development, publishing, advertising and public relations, and communication and information

services. International trade in services is estimated to exceed $600 billion annually.

The dynamism and potential for trade in services is an extension of the role services play in the domestic economy. In the first section, we will give an overview of services in our economy and explain the rapid growth in demand for information services. Then, in the second section we will explore five key developments in the application of information technology that account for new trade opportunities in the services field. These may be summarized in the following way.

First, advances in microelectronics have reduced the cost; increased the speed and improved the reliability of data storage and communications, thereby making trade in information based services a viable economic activity.

Second, the use of communications technology has led to the creation of new products and services that increase the possibilities for international trade.

Third, the use of communications technology has given rise to new production processes requiring substantial service inputs, thereby increasing the demand for internationally traded services.

Fourth, the use of communications technology by multinational corporations has allowed services to be provided on a world-wide basis, leading to greater efficiencies and specialization in services trade.

And fifth, the emergence of international networks has created new possibilities for trade in services by creating a mechanism for pooling and sharing information.

We will conclude this paper with some thoughts on what can be done, in terms of trade policy, to assure that the new trading opportunities brought about by technological advances in communication and information are not restricted by trade barriers.

Growth of Services in the Economy

Year after year, data released by the Government shows the accelerated growth of service jobs in the economy. Since 1960, the percentage of non-agricultural employment engaged in service activities has grown from 62 percent to 72 percent. Not only has there been a fundamental shift away from manufacturing and into services, but the service sector continues to provide significant job opportunities. Over the past two decades, some 86 percent of job growth in the economy has been in the service-producing

sector. During the 1970s, close to 90 percent of the 19 million new jobs created in the United States were "white collar" rather and "blue collar". This trend continued through the recession of the early 1980s. Since December 1982, the bottom of the recession, 69 percent of the new jobs created in our economy are in service industries. 1

At the end of 1983, over 53 million Americans were employed in service industries, excluding government. Of these 9.5 percent were in transport services, 10.1 percent in wholesale services, 10.4 percent in finance, insurance and real estate, 30.8 in retail services, and 37.6 percent in a general category called services. From the point of view of trade in services, this latter category is most significant because it contains the business-related services of communications and information, data processing, accounting, law, advertising and public relations, equipment rental and leasing, and management consulting. In 1983 alone, over 240,000 jobs were created per month in these business-related services. All are highly dependent on applications of modern information technology and have thus been affected the most by changing technology. 2

The employment boom generated by the introduction of information technology is not limited to service firms, but extends to

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1U.S. Council of Economic Advisors (CEA), 1985. Economic Indicators, February 1985. Washington, D.C.
2Ibid.

manufacturing firms as well. Firms primarily engaged in the production of goods use information technology extensively to provide in-house services, such as accounting, data processing and financial management. In some cases, the services provided in-house have become so specialized that the parent company has created separate profit centers to take advantage of the expertise in particular service sectors. A good example of this is the McDonnell Douglas Corporation which developed a data base for its internal research and development activities and now has a separate subsidiary which sells on-line data services to the general public throughout the world. McDonnell Douglas, a traditional manufacturing firm, thus is now also an international services business.

Services employment within manufacturing firms accounts for a large portion of the continuing growth in "white collar" employment in the U.S. However, under the current data collection methodology, revenues generated by services operations within manufacturing firms are counted as part of the broad manufacturing category. Consequently, the data actually underestimates the full extent of services employment.

The traditional distinctions between manufacturing and services employment are blurred because information technology has dramatically altered the way manufacturing and services firms do business and the kinds of business they perform. RCA was

recently reclassified as a services company, after having been counted in the past as a manufacturing company; and IBM is beginning to ask itself whether it is primarily a manufacturing company or an information services company. While seemingly unimportant, such categorization directly affects the type of data that is collected and our ability to quantify the true value of services in our economy.

Even without perfect data, the importance and dynamism of the U.S. service economy is clear. Modern communications technology has led to the growing use of knowledge and information as inputs into the production of goods, as well as the production of other services. On the goods side, less labor is used in the physical production of goods and more labor is used in the processing of information supporting the production of goods. As factories automate, they need fewer workers on the assembly lines, but more workers to program computers and to design the robots. Moreover, as goods produced are more technologically complex, a larger amount of resources must be devoted to research and development, planning and marketing.

Similarly on the services side, there has been a shift from "blue collar" employment involved with the physical production of services to "white collar" employment involved with handling information. Information technology has made possible new types of services. There are numerous examples. Air reservation

systems have facilitated international air travel. Computer monitoring systems enable transportation companies to trace individual shipments from point of origin to final destination. Computer and information handling systems allow retailers to store large amounts of information about potential customers and to direct marketing efforts to likely buyers.

The impact of information technology on trade in services is significant. It has made trade in many services possible, practical and more efficient. Information technology has revolutionized the international banking industry, making it possible not only to collect and exchange massive amounts of financial data, but also to transfer money instantaneously and trade in foreign exchange. In large part, information technology is responsible for the growth of the Eurodollar market. Similar transformations have occurred in the insurance, data processing and construction/engineering industries. In the following section we discuss five developments that help explain the significant impact of information technology on trade in services.

I. Information Technology Has Improved the Delivery of Information-based Services

With the advent of computer-to-computer communications technology, the traditional concepts of time and distance have less meaning. Satellite and fiber optic cable technology make it

possible to transmit information instantaneously. It makes little difference where in the world the buyer and seller or user and provider of electronically coded information are located. Advances in communications technology and information storage and processing have made it possible to produce services in one place and to consume them somewhere else, and to produce services at one point in time (during working hours in Dallas) and to consume them at a later point in time (during working hours in Riyadh).

Before the advent of modern communications technology, most services had to be produced where they were consumed. The production of business services, for example, was highly dependent on timely information inputs and outputs, and this made geographic proximity necessary. Most business services had to be performed where the manufacturing took place. With modern communications and data storage and processing, however, it is possible to receive and deliver information instantly over great distances, and this means that the two activities can be separated geographically.

Furthermore, technological advances have been so great in recent years that the cost of communications is declining in real terms. The cost for a typical international voice or telex message

was $3 per minute in 1970; today the cost is only a few cents.3 Beyond a certain point, the cost of transmission does not increase with greater distance. Communication technology has progressed to the point where 64 kilobits of information can be transmitted per second with complete reliability. In the very near future, computer-communication links are expected to operate at 1.5 megabits per second.

At the same time, the technical capacities of computer-to-computer communications have risen sharply. Increased computer power has made possible major advances in computer-aided design, information storage and retrieval, electronic banking, and hundreds of other computer based services. Any service product that can be reduced to electronically coded bits of information can be delivered to any point in the world, with great reliability, at relatively little cost and with no time lag.

The operation of a construction/engineering firm provide an illustration of the way a firm can tie together its activities through the use of information technology. With modern information technology at its disposal, the San Francisco-based Bechtel company can determine the most efficient allocation of resources to gain economies of scale. Applications of information technology allow it to better manage equipment, people and shipping schedules

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3Spero, Joan. 1985. International Trade and the Information Revolution Cambridge, Mass.: Harvard University Press

to minimize the idling of resources while waiting for missing inputs. The company can take advantage of differential labor costs by employing less expensive architects in India to draft construction plans, which become instantaneously available to supervisors in one corner of the world and project managers in another. Bechtel can use up-to-the-minute financial information to get the best financing rates from New York banks and insurance from a London company. It can then manage the construction of the project in the middle of Saudi Arabia by using Korean workers, Indian architects, American managers and European materials. Computer communications makes it all possible.

II. Information Technology Facilitates the Creation of New Products and Services

As it has become cheaper, faster and more efficient to store information and to transmit information electronically, both manufacturing and service industries have taken advantage of the economies of scale made possible by the centralized production and electronic distribution of services.

Modern information technology has made it possible for banks to take advantage of economies of scale by centralizing information resources in areas such as foreign currency trading or economic forecasting on a global scale. The collection of information

from a wide variety of sources in one place, allows banks to provide a broad range of financial information to their customers. Without information technology, this material might not have existed in the first place, might not have been available in a useable form, or might not have been cost efficient to provide to all consumers.

In other cases, it has become more efficient to distribute the production of specialized services, while centralizing access to the total pool of services. For example, data base vendors have distributed the development and maintenance of data bases covering various fields of knowledge among many different geographic locations, while offering users centralized access. Market-oriented specialization at home leads eventually to trade. Data processing centers that initially served a limited local market now service clients around the world on a twenty-four hour basis, and utilization of large computer centers in the United States shifts from one continent to another as users in different time zones start their work day.

III. Information Technology Has Led to the Development of New Production Processes

The introduction of modern communications and information technology has revolutionized manufacturing processes. More automated forms of production require less input of physical

labor and materials and more input of information and knowledge. The result has been a sharp increase in the demand for professional services by scientists, engineers, designers, computer programmers, and managers, relative to the demand for blue-collar labor. The end product, be it a car, television set or computer, contains more information and knowledge inputs than was the case in the past.

The American automobile industry offers a prime illustration of the way in which modern technology has revolutionized production processes. GM plans to invest $5 billion in a highly integrated manufacturing and assembly complex to produce a new, innovative small car called the Saturn. The complex will be designed to take advantage of the latest information and data processing technologies. A big part of the design work will be done by Electronic Data Systems Corporation, the Texas computer company that GM acquired for $2.5 billion last year. Computer hardware and software are expected to make up 40 percent of Saturn's total cost.[4]

Information technology's role in manufacturing is not limited to the production process. It plays a key role in the marketing and delivery of products. Moreover, most technologically sophisticated products require a stream of supportive services over the

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[4]General Motors Corporation/Saturn Corporation. 1985. Press Releases (February 4, July 29). Detroit, Michigan

life time of the product. Often, such products can be sold only "bundled" together with the necessary supportive services in a single package. International trade in services has thus become extricably linked to trade in goods.

The concept of bundling is clearly illustrated by the sale of computers. Twenty years ago, roughly 80 percent of the price of a typical computer package was hardware and 20 percent was in associated software. Today, this ratio is reversed. Only 20 percent of the price for a typical computer package today is related to the computer hardware, while 80 percent of the price is accounted for by such elements as:

1. software to make the computer work

2. engineering services to demonstrate how to use the computer and integrate it into any existing communications/information structure

3. systems consultant services to ensure that the software suits the customer's needs and is appropriate for the hardware

4. training services to explain how to operate the hardware

5. on-going information services to alert the consumer to new developments in the technology of the hardware and software or better ways to make use of the technology

6. maintenance services to ensure the continued operation of the computer. [5]

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[5]Drawn from interviews between the authors and private sector representatives, 1984-1985.

Similarly, sophisticated industrial machinery and robots cannot be sold without engineering support, software, maintenance and other supportive services. In fact, their sales are dependent on the provision of these supportive services. Increased exports of technologically sophisticated products thus leads to increases in trade in services. Any barriers to trade in such equipment can limit trade in the attendant services. Likewise, barriers to trade in software, engineering or maintenance services, or other restrictions or limitations on services trade, can restrict trade in technologically sophisticated goods.

All of the new production processes made possible by applications of information technology create new demands for international trade in services. With the growing importance of business services to modern manufacturing processes, a manufacturing company that wants to be globally competitive needs to have access to the best service inputs available, whetner at home or abroad. (This development has sharply increased international trade in business services.) The more important business services have become for efficient production, the more trade in services has grown.

IV. Multinationals and Services Trade: The Importance of Information Technology

The growth in the number of multinational corporations and the increase in the scope of their activities has prompted a sharp rise in demand for services that can be provided on a global basis. Multinational firms find it more efficient to purchase services such as insurance or accounting from companies that can deliver the service globally and assure uniform quality, rather than by contracting with numerous suppliers around the world. Service firms thus have been quick to follow American multinational manufacturing corporations into foreign markets to serve their global needs. Once such service firms establish themselves abroad in support of their American clients, they tend to expand the scope of their activities to foreign clients. Trade in services thus has been a natural outgrowth of the establishment of U.S. manufacturing subsidiaries abroad.

Multinational corporations make significant use of information technology on a global basis. The Organization for Economic Cooperation and Development (OECD) conducted a survey of some 200 international manufacturing and service firms from ten countries in 1982-83, in an attempt to describe the use and effect of information technology.[6] According to the firms surveyed by the OECD, the following production functions are handled through the use of information technology:

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[6]The Organization for Economic Cooperation and Development (OECD). 1983. Transborder Data Flows in International Enterprises: Based on Results of a Joint BIRD/OECD Survey and Interviews with Firms, Number DSTI/ICCP/83.23. Paris

1. production control, illustrated by the growth in robotics and computer-assisted manufacturing

2. research, in particular the coordination of functions among research divisions or improve information resources available to staff

3. design/engineering, as seen with computer-aided design, for example

4. marketing, especially for transmitting information about local conditions, enabling direct ordering and arrangements for credit

5. distribution, including scheduling, routing, and producing required transport or export documentation

6. order processing, to tie together interdependent production facilities and eliminate unnecessary duplication

7. maintenance, such as to track after-sales defects and maintenance histories and provide useful information to product designers.

Equally significant applications have been efforts to improve the internal management processes of firms through greater centralization of certain managerial support functions. According to the survey, the most important applications are in the following areas:

1. financial reporting and consolidation, in particular to standardize firms' internal financial reporting

2. financial management, such as for the central management of currency exposure or monitoring of credit risks

3. data processing, either centralization or decentralization of this function depending on the firm

4. administration/clerical work, including filing, maintenance of personnel records, bookkeeping, and, increasingly, message transfer.

As a result of the application of information technology, ordinary business activities of multinational companies have changed considerably. Multinationals have used information technology to improve global management and establish the basis for world product mandating. IBM's world-wide communications network, for example, enables it to introduce design changes in all of its manufacturing facilities on the same day. Similar facilities enable RCA to produce integrated circuits in one country, picture tubes in a second country, and to assemble the television sets in a third country.

The concepts of global management and world product mandating are equally applicable to multinational services firms that make use of information technology. Firms such as Bechtel, Citibank, Arthur Anderson, Arthur D. Little, AIG and American Express can coordinate global operations, efficiently allocate resources and instantaneously transmit information to ensure their competitiveness. These firms are at the forefront of the growth in international trade in services.

Multinational companies use information technology to "trade" services internationally in two distinct ways. First, they use communication channels to export and import internal managerial services such as accounting, financial reporting and legal services from parent to subsidiary, subsidiary to subsidiary, or subsidiary to parent. Second, many multinational companies use

these same communication channels to sell services to outside purchasers located in other countries. Thus, Boeing Computer Services sells data processing services performed in the United States to clients located in many parts of the world.

Modern information technology has also improved the efficient delivery of many services provided by and for smaller businesses and increased the demand for information services by households. We want and are supplied with more information about our financial transactions, about transportation possibilities, and about what is going on. We are also buying more entertainment services through cable television and video cassettes.

V. Networking

Applications of information technology and the tremendous growth in trade in services that it has generated has given rise to new systems, known as value-added communication networks, linking users and providers of information. Through a system encompassing computers, communications circuits and input/output terminals, individuals at widely scattered locations can put information into the network and take information out of the network. Networking has fundamentally affected the way in which the U.S. economy functions and, by extension, the way in which the international economy will function in the future. Indeed, networks are at the heart of the post-industrial revolution.

While the common purpose is to share information, networks take different forms. Certain networks are interactive; that is, they allow the party accessing the information to add to the data base or make changes in information already stored. Other networks operate as one-way information streams.

Networks operate on three levels. First, private networks link individuals with common interests, allowing them to swap ideas and share information. On an intra-firm basis, private networks are used for internal corporate communications and can tie together laboratories, automated manufacturing plants, warehouses and decision makers around the world. Second, limited participation networks facilitate the sharing of information specific to a certain industry. Third, public networks make available information to anyone willing to pay the access charges.

1. Private Networks

A number of multinational firms maintain private communications networks for internal corporate communications purposes to supplement public communications systems, such as international telephone service. Among the reasons for maintaining private networks are:

1. price, particularly if the volume of transactions surpasses a certain level, economies of scale can be achieved;

2. availability of service, often an important factor

for those firms doing business in parts of the world where communications facilities are substandard

3. control over system to ensure faster response time or greater security than would be available through an industry or public network

4. new business potential of offering direct access to information and related information services not otherwise available to the general public.

Aside from internal communications functions, networks can serve a number of other purposes. One of these is credit authorizations. Companies that provide credit card services rely heavily on private networks to authorize purchases to prevent the use of lost or stolen cards and to prevent users from exceeding their credit limits. In addition, these companies use information technology to monitor their currency reserves, since they can have substantial cash flow problems. Future applications of information technology by such companies as VISA and MasterCard include billing and, possibly, the sale of economic information which they, like some banks, are already collecting for internal financial management.

2. Limited Participation Networks

Where it is economical to pool resources and cut costs of generating information of common interest to an industry, firms have grouped together on a global basis to develop industry-wide networks. Access is restricted to members of the network, in many cases companies of the particular industry. Limited partici-

pation networks are widely used by firms involved in such technical services as oil exploration, where the cost of producing a data base on a company-by-company basis is extremely high. The largest users of this type of network are the airline and banking industries, both of which depend on large amounts of up-to-the-minute information in order to provide efficient, effective service.

Beginning in the late 1940s, the commercial airline industry began making extensive use of information technology to coordinate flight information. In 1947, a small group of airlines formed the Societe internationale de telecommunications aeronautiques (SITA), an association based in Paris that now has over 240 members. Through the SITA network, members share information about such diverse matters as seat assignment, identification of special dietary needs, credit card autnorization, departure control, and meteorological information. In the future, SITA plans to expand the use of information technology to include cargo and baggage handling, flight planning, air-to-ground communications, and fare quotation services. 7

The need for rapid and accurate information is crucial for the banking industry, as well. Information is vital to the ability of banks engaged in international business to respond quickly

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7Based on discussions between the author and members of the Societe Internationale de Telecommunications Aeronautique, 1984-1985.

to changing market conditions. Yet, it is difficult for one bank, on its own, to acquire all of the international financial information it needs. There was thus a strong incentive for banks to join together in 1973 to form the London-based Society for Worldwide Interbank Financial Telecommunications, or SWIFT. Initial membership included 239 banks from 15 countries. By 1979, 513 banks participated in the network, and by 1983, SWIFT had grown to 1,017 banks in 44 countries. Over the same period, the number of daily messages carried by the system grew from 150,000 to 350,000. Working together, banks belonging to the SWIFT network have increased their information resources and reduced the cost of individual international financial transactions. [8]

3. Public Networks

Public data networks have proliferated at an astounding rate in recent years. Current estimates are that there are 2,400 on-line data bases in existence today, with hundreds more being added each month. At a cost between $5 and $75 an hour, an individual can connect his personal computer to telephone lines and access these data bases from any country with adequate communication facilities. [9]

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[8]Based on discussions between the authors and U.S. member banks of SWIFT, 1984.

[9]Seligman, Daniel. 1985. "Life Will Be Different When We're All On-Line." Fortune (February 4)

The traditional customers for on-line data bases were research librarians. Today, the major users are professional and business executives who will actually use the information in the course of their daily work. The amount of information available to them is astounding: everything from the latest medical research on parasitic diseases, commodity futures quotations, biographies of 19th Century French female poets and an individual's checking account balance.

The largest database is Dialog Information Services, a subsidiary of Lockheed, which offers subscribers access to over 200 databases and plans to add thirty a year in the near future. The present collection contains over 100 million records, with citations to articles in 10,000 different journals. The largest sample of media databases is maintained by Nexis, one of Mead Data Central's products, which contains the full texts of new stories and articles from the major wire services, ten newspapers and 48 magazines, among other items. The list goes on and on.

The emergence of international networks and global access to wide ranging information resources reflects a growing interdependence of worldwide economic activity. The importance of networking from an international trade perspective is that it provides an efficient channel for trade in services. Bechtel's use of information technology to tie together its far-flung operations

represents international trade in engineering, consulting and management services. Citibank's use of information technology to link its global branches to corporate treasurers results in international trade in financial information services. Lockheed's use of information technology to provide access to data bases represents still another type of trade in information services.

The Role for Trade Policy

Just as information technology has dramatically affected the production of goods and services and the operation of multinational firms, it has also created new issues of concern to trade policy makers. Trade policymakers have been confronted with questions such as the right to plug equipment into a communications network, the use of networks to deliver services, the transfer of information across borders, and access to information stored in foreign computers. Information technology has given a new dimension to trade policy.

To a large extent, the future competitiveness of both manufacturing and service firms will depend on access to the latest telecommunications equipment and information networks as distribution systems for the electronic delivery of information products or services. Trade policy can be a useful tool in ensuring that business opportunities are not lost because of discriminatory government restrictions in these areas.

Questions regarding barriers to trade in up-to-date telecommunications equipment and services are very much at the forefront of U.S. Government concerns about foreign trade restrictions. Such concerns are frequently the subject of bilateral trade consultations. Over the past year, we have addressed a broad range of issues in this area, including the restrictive effects of computer decrees in Mexico and the Republic of Korea, informatics legislation in Brazil, policies concerning purchases of telecommunications equipment by NTT, the Japanese telecommunications monopoly, and regulations by Bundespost, the German telecommunications monopoly. Trade in telecommunications equipment is also being discussed in the General Agreement on Tariffs and Trade (GATT), the international trade organization. The current review of the GATT Government Procurement Code, for example, will include a discussion of procurement practices by telecommunications monopolies.

Trade policy officials have also been drawn into discussions on the establishment of value added communication networks (e.g., in Japan), and the right to use such networks for the delivery of services (Japan and Germany). The business community has also expressed concern about new regulations being considered by various foreign authorities that could hamper international flows of intercorporate, intracorporate, or private data. In light of these concerns, the United States proposed in 1982 that the 24 developed countries of the OECD adopt a political-level commitment

to minimize barriers to the flow of information. The proposal was patterned after the Trade Pledge adopted by OECD countries in 1974, which was designed to minimize the use of trade barriers in solving trade problems created by the oil crisis. Such a "Data Declaration," now known as the "Declaration on Transborder Data Flows" was adopted by OECD Ministers in April of this year at their annual meeting. It commits OECD governments to minimize barriers to the international flow of data and to develop cooperative solutions to any problems created by the introduction of new communications and data processing technologies. 10

A third set of issues that has been addressed through trade policy channels concerns policy measures that limit the range of telecommunications equipment that can be plugged into international communications systems. Some government communications monopolies have restricted the ability of users to connect input and output devices to the communications network. While governments should have the sovereign right to assure that equipment plugged into the system does not adversely affect the system, if such actions are taken for the admitted or unadmitted purpose of limiting the sale of foreign services or equipment, then trade policy questions arise. A number of countries have been negotiating a so-called Interconnect Agreement under the auspices of the GATT, which would establish new rules in this area.

10The Organization for Economic Cooperation and Development, 1985. Declaration on Transborder Data Flows, Press Release, PRESS/A(85)30 (April 11). Paris

The current international trading rules of the GATT do not apply to services issues in general, or do they deal with many of the specific trade problems cited above. To rectify this situation and lay the groundwork for the future expansion of trade in services, the United States has proposed that the GATT initiate negotiation of a framework of contractually binding rules and principles that will help liberalize trade in all service sectors. The framework would facilitate the reduction of trade barriers by establishing a set of groundrules for addressing trade problems through bilateral consultation and multilateral negotiations.

The following principles might be included in a framework agreement on services:

Transparency - Laws and regulations whose purpose it is to protect domestic services industries would be notified by the parties to the agreement with the opportunities for cross-notification by other countries who view certain provisions as trade distortive.

National Treatment - All parties to the agreement would assume the obligation of national treatment for those laws and regulations not notified as barriers or any future rules that would be implemented.

Due Process - Countries would assure that new laws and regulations applying to services are made public with the opportunity for comments by interested parties prior to their implementation.

Public Monopolies - A public monopoly involved in the provision of services would adopt an arms-length relationship between its own monopoly activities and its activities as an international competitor, a competitor domestically in other services, and as a supplier of services; and

Dispute Settlement - Provision would be made for dispute settlement procedures, including consultation and compensation.

Subsequent Commitments - Procedures would be established for the negotiation of subsequent commitments dealing with the reduction of trade barriers, including provisions laying out these commitments and the re-balancing of concessions made.

Negotiation of an umbrella agreement would be followed, at a later stage, by negotiations designed to reduce existing barriers to trade in individual service sectors. 11

Conclusion

Growth prospects for the domestic service economy and for international services trade rely on the continued availability of modern communications technology and access to information resources and delivery systems. Trade policy can help ensure future growth prospects by addressing specific barriers that limit services trade opportunities and by formulating general principles, rules and procedures to govern international services trade in the future.

11Office of the U.S. Trade Representative, 1983. U. S. National Study on Trade in Services. Washington, D.C.