Policies of Transborder Data Flows

By

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Rapid microelectronics-based advances in the last 10 years in informatics and telecommunication technologies have led to their convergence into a new activity: telematics. The use of these new technologies has opened up a wide spectrum of new activities. The internationalization of this process, in turn, has given rise to transborder data flows: international data flows through transnational computer-communication systems.

These flows are based on such information resources as hardware, software, data processing and information jobs. Time, distance, volume and costs are no longer barriers to access to computer services for the processing, storage and retrieval of machine readable data, and progress in digitalization has made it possible that all information now can be represented in one signal.

Although data have at all times been transmitted across borders (via mail, telegram, telephone), it is only the introduction of computer-communication systems that has led to so vigorous a growth in the volume of data transmissions and their range of applications that one can speak of a new phenomenon. Far-reaching changes are the result.

First, the direct use of machine-readable data has greatly increased as measured, for example, by the growing scope of data-transmission networks and the growing number of data transmissions, data bases and data services. An international data industry and data market have come into existence.

Second, data-processing capacities have become the basis for an increasing number of activities. Just as the discovery and application of electricity in the past led to new products, processes and industries and changed the modus operandi and geographical location of many other activities, so the introduction of sophisticated data-processing capabilities is penetrating traditional economic processes and promoting informatization of the economy and society. New industries like data processing are created and old ones are retooled. The automation of many work processes and the growing role of robotics testify to this effect. Thus, machine tools incorporate increasingly skills, acquire communication features and undergo in this manner a shift in composition from hardware to software.

Third, internationalization of economic activities, especially through transnational corporations, may acquire a new dimension as new levels of integration, specialization and control become possible for these corporations. Remote design, production and maintenance, for instance, are likely to increase considerably in importance.

Fourth, these developments will not remain confined to just a few countries, but will have an impact on international economic relations in general. For instance, trade in data and data services and the necessary equipment has grown considerably over the past 10 years. Further, data transactions are an integral part of trade in goods and indispensable for international service industries such as banking, insurance and travel.

Fifth, although most of the developments in this area have so far taken place in industrialized countries, it will surely not be long before the effects of telematics and transborder data flows will be fully felt in developing countries as well.

The processes that have been set into motion by microelectronics, telematics and TDF can be expected to produce fundamental changes in all economies and societies. It is only in reliance on accurate information that judicious decisions can be made, and it is only in the light of such information that these decisions can be applied appropriately. Information is a precondition for identification of alternatives, reduces uncertainties about their implications and facilitates their implementation. Information is, therefore, a key resource.

Few publicly available studies survey the use of TDF by TNCs. The principal ones have been undertaken by the Organization for Economic Co-operation and Development, the Intergovernmental. The primary objective of all three studies was to ascertain the uses and corporate effects of TDF. They differed, however, in their samples and methods of implementation and are not necessarily representative. None the less, they are indicative of corporate experience with TDF in a large number of firms, and are consistent in terms of their findings regarding the importance of TDF, the principal uses of these flows and the benefits that they provide for firms that utilize them.

The results of the three projects confirm the growing overall importance of TDF for TNCs, and virtually all firms expect this importance to increase further in the near future.

In the OECD study, financial management accounted for 43 per cent of total TDF use, reaching 64 per cent in services. In the case of the BI study, 60 per cent of all TNCs surveyed rated these flows as important or very important in 1983 and 73 per cent gave them those ratings for 1988. That evaluation did not differ substantially between U.S. and Western European firms, although the latter reached a rating of over 80 per cent for the future importance of TDF in this area. Financial management was followed relatively closely by marketing and distribution (including ordering, inventory control, invoicing) as far as its perceived importance to users was
concerned, although the volume of flows involved was smaller. TDF were also considered quite important for production (especially in extractive industries), management (including strategic planning) and research and development (especially in some manufacturing and extractive industries), but less so for personnel and payroll management.

Put into a broader context, TDF are a major element in the process by which TNCs take advantage of new technological possibilities and adjust to the changing economic environment. More specifically, the OECD study suggests that the use of TDF has had three major efficiency implications: encouraged greater integration within TNCs, increasing the specialization gains ensuing from closer international interdependence; it expanded the international supply of new services, such as access to computerized data bases and on-line software maintenance, accelerating the diffusion of technological advances, and it has improved financial management in TNCs.

The picture that emerges is that TNCs rely considerably and increasingly on transnational computer-communication systems. They do this not only so as to send messages faster for ordering, marketing, distribution, invoicing and sourcing, but also for improving management information (which is of particular importance in such corporate functions as financial control, strategic planning, inventory control); and also so as to change the manner in which corporations actually engage in production activities.

**Impact of TDF**

Given that TDF are a part of developments in electronics, given the importance those flows have gained and given the effect they have on TNCs, the impact of TDF on countries is likely to be profound and multifaceted. However, this impact has neither manifested itself clearly nor been the subject of much empirical research. All that can be done at this stage is to identify some issues and discuss possible implications for research. Attention focuses mostly on possible problems associated with TDF, because they could prevent the full realization of the benefits generated by these flows.

For corporations from developed or from developing countries, TDF permit more efficient management in an uncertain and unpredictable environment. But the benefits extend beyond the corporate sphere. The developments in informatics and telecommunications have substantially increased the ability to handle large amounts of data and, therefore, have improved the possibilities for better-informed decision-making concerning virtually all matters.

Particularly important in this context is access to a rapidly expanding pool of up-to-date knowledge stored in automated data bases. For instance, growing data networks may allow better management of natural resources (through the use of on-line commodity-quotation data bases) and facilitate
access to information of importance for export and import purposes, technology transfer and the like.

Better knowledge in those areas may strengthen the bargaining capacity of developing countries. The use of TDF also may facilitate the transfer of information resources—especially data based and software, but also hardware and information skills—to developing countries, may permit the establishment of new industries (e.g., data-base services) and may help prevent a widening of the gap between the "information rich" and the "information poor".

A final point is the impact of TDF on the competitive position of enterprises, especially in developing countries. If TDF increase the efficiency of TNCs, become more and more a necessary mechanism for the management of world-wide corporate activities and are an important factor for the competitiveness of TNCs, enterprises of developing countries may also wish to consider how they can utilize these flows profitably to increase their competitiveness in the world market. It may well be that it is almost a pre-condition for banks from developing countries wishing to play a role in international financial markets, to be linked to the closed user-group network of its own industry (or, alternatively, to have their own corporate networks). To the extent that such networks are emerging in other industries as well, and to the extent that firms from developing countries are not linked to them, their competitive position may suffer. Conversely, to the extent that domestic enterprises use TDF, they may be able to improve their competitiveness with respect to TNCs and in world markets.

The potential problems raised by TDF also relate to a wide spectrum of issues. Some cut across all groups of countries, some are mostly the concerns of importers of data, and data services, while others are primarily the concern of exporters of data, and data services. Historically, privacy concerns have been among the first to be linked to TDF; in fact, they served to focus attention on that phenomenon.

In response to the increased use of automated data bases containing information about individuals, national laws and regulations were increasingly being adopted to ensure the individual's right to privacy by defining basic rules for the handling of personal information. The advent of TDF led to the fear that those flows could be used to circumvent national regulatory actions. Hence, international approaches were sought to forestall such possibilities and reconcile legitimate national concerns about privacy with a shared commitment to the free flow of information.

Finally, and perhaps most importantly, TDF have given rise to a range of economic issues, especially in relation to their developmental impact. Underlying the economic concerns are the structure of the international data market and the importance of information resources. Most information resources are in the developed market economies.

Developing countries are mostly suppliers of raw data and consumers of
processed data, that is, information. Uneven distribution of information resources and the TDF associated with them must be seen against the growing importance of micro-electronics and the role of the information sector in all economic activities.

Inadequate national information resources and limited participation in TDF are regarded as being of strategic economic importance, especially for the future development and competitiveness of the national economy. As the policies of such countries as France and Brazil indicate, those considerations apply to developed and developing countries alike and can become part of considerations of national security.

Foremost among the economic issues is the fear that TDF hinder the establishment of domestic information resources.

If internationally available information resources are more competitive, local users will prefer international to nascent domestic resources, thus making it difficult for domestic infant industries to grow and to develop forward and backward linkages. This, in turn, may have implications for a country's employment situation and balance of payments. As to the latter, the growing importance of trade in data and data services suggests that this trade will be an increasingly important determinant of countries' balance-of-payments positions in the future.

In the case of Canada, it has been estimated that a vast majority of its TDF involves flows from foreign affiliates in Canada to parent corporations abroad, mostly in the United States.

As to the BI study, it found that foreign affiliates in developing countries typically send their data to headquarters or regional centres in developed market economies, which may suggest that the imbalance is here even stronger than in the case of Canada. The increased use of TDF, especially for corporate production functions, may, therefore, have an effect on the international division of labor, even if data flows permit better access to sophisticated information resources in developed countries.

Over the longer term, TDF may contribute to far-reaching changes in the locational determinants of foreign direct investment. The crucial factor is automation. While automation is a development much broader than TDF, its internationalization as an ongoing interactive process is effected through TDF. Accelerating automation of production may erode one of the principal comparative advantages of most developing countries, the abundant supply of inexpensive labor.

The question would have to be raised whether it would still remain attractive for certain foreign direct-investment projects to be located in developing countries. Even to the extent to which TNCs invest in developing countries, however, certain corporate activities may increasingly be undertaken remotely via TDF and hence not be transferred to the host country.

TDF thus may affect the ability of developing countries to industrialize successfully and remain competitive in world markets, altering patterns of international investment and international trade in goods and services. These
broader interactions between TDF and the overall restructuring of the world economy must be taken into account in the formulation of policy responses that aim at dealing with the concerns associated with TDF while improving the opportunities to harness the positive effects of these flows for the development effort.

**Ground Rules**

In the light of the importance and possible impact of TDF, a few countries already have assigned the task of monitoring developments related to TDF to existing or new institutions. France has perhaps the best organizational infrastructure for this purpose. To put its national policy into a broader framework, France has been, so far, the most important supporter of IBI.

Japan also has a strong organizational infrastructure. In Sweden, the Ministry of Industry, the Ministry of Justice and the Ministry of Transport and Communications are particularly interested in TDF.

In the United States, an Interagency Task Force on Transborder Data Flows co-ordinates the policies of the U.S. Administration. Brazil has created a Special Secretariat of Informatics which, together with the Ministry of Communications, reports directly to the National Security Council.

The existence of organizations responsible for TDF does not guarantee that policies are uniform and are implemented, or that relevant guidelines or regulations have been adopted. Furthermore, most governments are still largely unaware of the importance of TDF and of the issues to which TDF give rise. Most probably, these governments will define their position only in the context of the discussions in the OECD, the United Nations Commission on Transnational Corporations, UNCTAD, the General Agreement on Tariffs and Trade (GATT) and IBI. And then, most probably, they will do this primarily in response to the opinions expressed in those forums and not necessarily on the basis of a carefully prepared analysis of their own interests.

Some countries can be expected to adopt a comprehensive policy in the near future, especially Canada and Sweden, in which preparatory work has progressed considerably. France and Japan clearly regard telematics as a key industry of the future and seek to develop the necessary technology and service structure, with a view to building up their own independent industries.

Yet no other country has gone as far as Brazil. Since 1978, when the country began to take active steps regarding TDF, Brazil has adopted a series of regulations that govern the establishment of computer-communication systems in a manner ensuring that their usage does not conflict with national interests. The principal objectives of Brazil's policies in this area are to maximize information resources in Brazil, whether imported or locally produced; to acquire and maintain national control over the decisions and
technologies relating to Brazilian industries; to broaden public access to information, and to administer information resources in such a manner that they enhance the country’s cultural and political standing.

It can be expected that other countries sooner or later will follow Brazil’s example, even if some observers criticize the protectionist elements of such a strategy.

On the inter-governmental level, no common approach with respect to the transborder flow of economic data has been formulated so far. The subject is still in the discussion stage, with the OECD and the IBI currently being the major forums, to which eventually GATT and the United Nations will be added.

Although the United States is not one of the countries keen to lay down guidelines, its efforts to secure the adoption by the OECD of a ministerial Data Pledge and to add services to the agenda of discussions in GATT probably play into the hands of the supporters of guidelines. It is hardly conceivable that anything else but a very general Data Pledge (whose principal aim would be to promote free trade in data and data services) would be acceptable to many other countries without some sort of a quid pro quo.

Whatever the results of the OECD deliberations, the applicability of any provisions agreed on would be limited to the membership of the organization. This does not imply that an OECD instrument would be unimportant. On the contrary, should this organization, under present circumstances, adopt guidelines, even if they were non-binding, they may well acquire the standing of customary international law and, at the very least, considerably influence any international public policy framework that may eventually materialize. This would be a result not only of the importance of the participating states but also of the mechanisms through which even voluntary governmental agreements of this kind can become customary international law.

The IBI offers a somewhat framework since fewer than 40 countries are members of this organization and whereas the members of the OECD are developed markets economies, all but three (France, Italy, Spain) of the IBI are developing countries. Although more countries participate in IBI’s principal conferences, its representativeness, like that of the OECD, is, therefore, limited.

The work of IBI in this field began with the First Intergovernmental Conference on Strategies and Policies for Informatics (SPIN I), organized together with UNESCO in 1978 and attended by 78 national delegations. A recommendation was adopted which called for international agreements on the rights of states in respect to TDF. As a follow-up, IBI organized a number of regional conferences at which resolutions concerning TDF and the desirability of international guidelines were adopted. These, in turn, became an input into the First World Conference on Transborder Data Flow Policies convened by IBI in June 1980. This conference decided to
establish three working parties with the mandate to examine, respectively, the economic and commercial impact of TDF, issues related to data protection and international law, and the international environment for TDF.

GATT offers, of course, a broader framework than the IBI or the OECD, even though many developing and socialist countries are not contracting parties. The topic of trade in services—including trade in data and data services—was extensively and intensely discussed during the GATT Ministerial Meeting held in Geneva in November 1982. The United States, which was pressing the issue, did not, however, succeed in its efforts to give the GATT Secretariat a clear mandate in the areas of principal concern to it, namely an inventory of the barriers to trade in services and a study of the potential applicability of the GATT articles and codes to trade in services.

The main resistance to the proposals of the United States at the GATT Ministerial Meeting came from developing countries. Since a number of these countries feel a particular need for protection in the domain of services, a strong group of them insisted categorically that GATT had no mandate to deal with the topic of services and, therefore, could not undertake the work program proposed by the United States. A number of Western European countries were also reluctant to support the United States. Many do not consider themselves to be competitive with the United States computer and telecommunication industries and are hesitant to commit themselves to the GATT process with its underlying assumption to move towards freer trade, i.e. an open market.

Discussions will continue in GATT because it is a not unattractive forum for the countries currently most affected by TDF, the industrialized countries. While the industrialized countries have considerable influence in this organization, many developing countries, particularly the newly industrializing countries, are also contracting parties, and consequently a minimum of representativeness exists.

GATT has a flexible instrument it could use for TDF and related matters. A discussion in GATT would have the added advantage of moving this important subject somewhat away from the free-flow approach and of locating it closer to less ideologically charged trade questions.

On the other hand, trade in services is increasingly seen as being interconnected with foreign direct investment, and GATT has no competence in this domain. Some countries are adverse to a binding GATT code, fearing that it would tend to codify a status quo that is unfavorable to them. A GATT instrument can probably only be formulated after the Western European countries have agreed on a common policy and after the present dominance of the United States in telecommunications, informatics, telematics and transborder data flows has diminished. Should these speculations prove to be correct, voluntary instruments like a Data Pledge or the guidelines sought by IBI could prove to be more acceptable.

The OECD, IBI and GATT fall short of universality. Since the principle
of universality may be important in this area and, in any event, is considered as crucial by developing countries, it is most likely that the subject will sooner or later be dealt with in the United Nations system. The obvious bodies for considering the Topic of TDF are UNCTAD, the International Telecommunication Union, UNESCO and the United Nations Commission on Transnational Corporations.

The United Nations Commission and Centre on Transnational Corporations have taken up the topic of TDF. Their treatment of the topic is limited, since, as the names imply, their mandate is to concentrate on questions relating to transnational corporations; furthermore, membership in the commission is confined to 48 countries. Yet, transnational corporations play a key role in all aspects of TDF—from the production of the underlying equipment, to the construction of the necessary networks, to the application of TDF. As regards its limited membership (the members of the commission are elected for a three-year term, with the most important states always represented in it) and the commission is subordinate to one of the bodies set up by the Charter of the United Nations, the Economic and Social Council. Besides the commission has demonstrated sufficient flexibility in admitting all states to participate in important negotiations. Finally, since the commission is the focal point in the United Nations system for all questions pertaining to transnational corporations, it would be a good forum to accommodate the view that trade-in-service issues should be seen in close relation to foreign-direct-investment issues.

Accordingly, the Commission on Transnational Corporations could certainly be a forum for a broad discussion of TDF, if its members should so desire. A step in this direction was made in June, 1983, when at the ninth and tenth sessions of the commission, the Group of 77 proposed to establish an ad hoc working group of experts on TDF. Since most developed countries thought such a step was premature, the commission (which as a rule acts by consensus) did not act on this proposal.

Which universal forum will be selected is certainly a matter for the sovereign decision of the interested states. But that transborder data flows will eventually be considered by a universal forum from the point of view of the desirability of mutually agreed international ground rules is surely inevitable. This is also indicated by the idea of a world communication charter proposed by President Mitterrand at the June, 1982, summit meeting of industrial countries, which explicitly called for common rules for international data exchanges.

Owing to the increasing importance of transborder data flows, which practically form the basis of the nascent international information economy, and to their potential impact on all countries, there is no other possibility (especially for those not represented in the various forums now dealing with the topic) than to consider TDF in an international forum. The only questions are when, how and where this will happen and who will set the agenda.
Although many acute problems lie in the future, it may be advisable to use the available time to build a sound international framework which allows it to deal with problems as they arise. In these circumstances, it may be possible to skip what is usually an expensive and painful stage of conflicting national laws and policies and international controversy and to work out an international framework which enables all parties involved to maximize the advantages of transborder data flows while minimizing the disadvantages of these flows.

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