TRANSBORDER DATA FLOW: A CANADIAN FOCUS

by

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ABSTRACT

Technological advances in computer and telecommunication systems have removed some of the traditional barriers to computerized information flows. For example, the barrier of distance has been effectivly eliminated by microwave, cable and satellite systems; cost reductions have resulted in more nations, firms and individuals using world-wide communication facilities. This thesis examines a third historically relevant barrier to data flow, national boundaries, and, in light of its apparent removal by technological advances, the range of policy options available to the Canadian Federal government. The thesis is based on an examination of the literature, and correspondence and interviews with persons within the public service, the banking industry and persons employed by multi-national corporations in Canada.

Four major issues connected with the "transborder data flow" policy debate are identified and discussed. It is argued that unrestricted transborder data flow will impact negatively on national sovereignty, cultural identity, individual privacy and a nation's economy. A number of national and international responses to the implications of transborder data flow are also examined. Canada's role in the transborder data flow debate is identified and a chronology of Canadian policy is provided. The concluding chapter includes recommendations on policy options. The thesis argues that responsibility for policy action must be shared by three groups: the federal government, business and the

Canadian public. It recommends that the federal government act to mitigate the effects of transborder data flow on individual privacy and the economy by extending existing privacy legislation and removing import tariffs on computer/communications equipment when the equivalent is not available from Canadian sources. It is argued that firms in fast-growing markets cannot affort to depend on government grants or tax incentives for survival or growth. It is recommended that Canadian computer/communication firms identify a product niche which reflects growing international demand and has few suppliers. Finally, it is argued that the general public eventually will have to decide whether or not privacy, as it relates to the collection and dissemination of computerized personal information, is a right worth defending. Action on these measures could be initiated by any group - business, government or the public - and would mark the beginning of a Canadian policy approach to transborder data flow.

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Question: What is your thesis about?
Answer: Transborder Data Flow.

To those who did not respond with "Mrs. Who?" I extend my thanks.

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TABLE OF CONTENTS

LIST OF TABLES

INTRODUCTION

Technological advances in computer and telecommunication systems have removed traditional barriers to computerized information flows. The barrier of distance has been virtually eliminated by microwave, cable and satellite systems. Cost reductions in computer/communication systems have resulted in more nations, firms and individuals being able to afford to use world-wide data communication facilities; the cost barrier has been lowered.

National boundaries are potential barriers to data flow provided it is carried on media which can be seen, touched, or physically examined. Section 97 of Canada's Customs Act states that any customs officer "may cause any package of goods...to be opened and examined for the purpose of making an appraisal..." or in order to verify the information given on the declaration document. Section 143 gives customs officers the right to search persons coming into Canada from a foreign nation if the officer "has reasonable cause to suppose that the person searched has goods subject to entry at the customs, or prohibited goods secreted about his person." So printed matter, film, and microfiche can be examined by customs personnel. Mr. Al Pippis, a Canada Customs employee, said that if the necessary equipment to examine media (film, or video tape, for instance) is not available where the goods are being opened, customs personnel have the right to detain the goods until they can be examined. However, when the good (data) is transmitted through the air via

microwave and/or satellite systems, it is difficult to examine it systematically.

The virtual elimination of national boundaries as a barrier to flow of information has resulted in international debate about the ramifications to nations of unrestricted international data flow, currently labelled "transborder data flow". Four major issues have been identified in this debate. Unrestricted transborder data flow can have a negative impact on national sovereignty, cultural identity, individual privacy and a nation's economy.

Canada has been a leader in recognizing potential concerns inherent in unrestricted flow of information across national boundaries. The following statements show that for over a decade Canadians have identified major transborder data flow-related issues. In 1971, the Telecommission warned that Canadians "cannot afford to let Canada become an information-satellite of the United States..."[1]

In 1977 Hugh Faulkner, then Minister of State for Science and Technology (MOSST), presented five areas of potential danger associated with transborder computer communications:

1. growing dependence rather than interdependence;
2. loss of employment;
3. exacerbation of balance of payments problems;
4. the loss of legitimate access to vital information;

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[1]Department of Communications, Instant World a report on telecommunications in Canada (Ottawa: Information Canada, 1971) p. 232.

and,

5. the danger that foreign interest groups will decide the nature of our industrial and social development.[2]

In 1979, the Clyne Committee issued this exhortation to the Government of Canada:

> ...with all the force at our command, we urge the Government of Canada to take immediate action to alert the people of Canada to the perilous position of their collective sovereignty that has resulted from the new technologies of telecommunications and informatics; and we urge the Government of Canada and the governments of the provinces to take immediate action to establish a rational structure for telecommunications in Canada as a **defense against further loss of sovereignty in all its economic, social, cultural and political aspects.**[3]

And in April 1984, Pauline Jewett, Member of Parliament, said, "In a sense we have lost our independence in this country because we are so derivative, so dependent on the information and analysis of other countries...."[4] Although Canada has recognized major issues, no policy or regulation has been formulated to address them.

The objective of this study is to bring together an abundance of literature and opinions on transborder data flow for examination and analysis to provide, as an end-result, a focus on Canadian issues and Canada's response to those issues.

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[2]Alden Heintz, "The Dangers of Regulation", Journal of Communications, Summer 79/Vol.29, No. 3, p. 131.

[3]Consultative Committee on the Implications of Telecommunication for Canadian Sovereignty, Telecommunications and Canada (Hull: Minister of Supply and Services, 1979) p.76, emphasis added.

[4]James Rusk, "Peace institute bill flawed, Clark says", The Globe and Mail, April 18, 1984, p.5.

Chapter One provides background information: it gives a working definition of transborder data flow and discusses its extent. Chapter Two describes the major issues which transborder data flow has raised internationally. Chapter Three provides a description of national and international responses to the issues identified in Chapter Two and discusses the implications of these responses for Canada.

Chapter Four concentrates on Canada's role in the transborder data flow dialogue: the evolution of the issue in Canada, the major actors involved, the issues involved, and Canada's position in the international debate. The concluding chapter suggests how those Canadians who can introduce policy should approach transborder data flow issues.

The speed with which computer/communication technology is advancing and the amount of international activity concentrating on transborder data flow make it a moving target. With this in mind, the reader should preface most information in this document with "as of January, 1984".

I. Transborder Data Flow Background

This chapter will begin by answering the question "what is transborder data flow?". The purpose of the definition is two-fold: first, it explains the meaning of a term which, initially, is difficult to say and to comprehend; second, the definition selects one specific aspect of a very complex issue, thus providing a focus narrow enough for treatment within this study.

Once defined, it is useful to examine trends in the technological systems used in the transborder data flow process. Trends in computer/communications usage and the developments in computer and telecommunication technology which have made increased usage feasible will be described briefly.

Next, one could ask, "How much of this transborder data flow is going on?" Information as to the extent is scarce. Some statistics and projections are available for Canada and Western Europe. These will be discussed.

Once transborder data flow is defined, once the extent has been explored, one can ask the question, "Why should transborder data flow be cause for international concern?" Four major areas of concern will be explored in Chapter Two.

What It Is: A Working Definition

> In a way, it's like pornography. It's hard to define, but you know it when you see it.[1]

For the purpose of this study I have adopted the Intergovernmental Bureau for Informatics' (IBI) definition of transborder data flow:

> the movement across national borders of data and information for processing and storage in computer systems.[2]

I have three reasons for choosing this definition. First, it limits this discussion to computerized data transmitted point-to-point rather than data transmitted point-to-mass. Transborder flow of information of a point-to-mass nature, typically considered to be entertainment or news, will not be included in this discussion. This exclusion does not imply that it is not important; on the contrary, it deserves appropriate analysis and, therefore, should be studied separately.

Second, the words 'national borders' focus the discussion on international issues and initiatives, thereby excluding issues involving state or provincial borders within a nation; and, third, it includes both 'data' and 'information'. Data is the raw material input to the data processing cycle and is of

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[1]Victor Block, "Transborder Data Flow Barriers to the Free Flow of Information", Infosystems, September 1981, p. 108.

[2]Author unknown, "Transborder Data Flow: its Environment and Consequences", Transborder Data Flow Policies (New York: UNIPUB, 1980) p. 580.

limited use or value until it has been processed to yield the final product; the product is information. The term transborder data flow will be used consistently throughout this study and will, unless stated otherwise, include data and information.

A review of the literature, and correspondence with individuals involved in the transborder data flow issue have revealed a concern that the term transborder data flow is not precise enough to reflect industry-specific concerns. Transborder data flow will be treated as a generic term; terms such as Trans National Computer Processing[3] and Transborder Data Processing[4] draw attention to the fact that data can now flow to computers, be processed and changed and flow back to the originator in a new form.[5] The "processing and storage" portion of IBI's definition includes this process.

There are many reasons why computerized information is transmitted across national borders. A firm may be unable to cost-justify its own data processing facility and a foreign processing bureau may offer the most cost-competitive service. Even if the firm contracts with a domestic service bureau there is still the possibility that the firm's data could be processed abroad. One multinational service bureau with a Canadian

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[3]Letter from J.C. Paradi, Chairman of the Board, Canadian Association of Data Processing Organizations, August 3, 1983.

[4]Canadian Independent Computer Services Association, "Brief to the Economic Working Group of the Interdepartmental Task Force on Transborder Data Flow", Nov. 12, 1981, p. 1.

[5]Ibid.

subsidiary reserves the right to process client data wherever it can be done most quickly. For instance, if the Alberta bureau receives data from an Alberta client, it may be transmitted to the bureau's centre in Texas for processing if Texas can process the data more quickly than Alberta. The Alberta client would not be aware that its data had left Canada. This procedure balances the bureau's work load and ensures that client deadlines are met.

Large domestic firms may own data processing facilities but use processing centres external to their firm for specialized processing. Oil exploration firms, for example, use specialized processors for analysis of geological and seismic data. These specialized processing centres may be located in another country. In the case of foreign-owned multinationals, the specialized processing is often available to all subsidiaries at the parent headquarters.

In some cases, all processing is done domestically but some of the processed information is required for input to an international information system. For instance, when branches of some multinationals do banking transactions in Canadian banks, that information is transmitted to a service centre in Atlanta, Georgia so that the multinational's head office can access financial information for its entire operation at any time. Information services for airline reservations, crime control, and international bank payments rely on transborder data flow to function. Specialized bibliographic data bases are accessed

using computer terminals connected to a common carrier's network. Recent proliferation of personal computers has made it possible for individuals as well as firms to access data bases, wherever they exist, via common carrier networks. All that is required, technically, to send and receive data across international boundaries is a computer terminal with the equipment to attach to a telephone system.

General Trends in Computer/Communications Usage

Development of faster, larger-capacity, less expensive computer and telecommunication systems has promoted the increase in computer/communications usage internationally. Estimates of total use of computer/communications goods and services in Canada totalled $1.2 billion in 1970, $2.7 billion in 1975, $5.6 billion in 1980.[6] It has been projected that this amount will more than triple to $17 billion by 1987.[7] The expected growth rate per year is in excess of 20 percent. In the United States and Western Europe, the computer service market grew at a rate in excess of 20 percent in 1978-1979.[8] This growth rate is

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[6]Computer/Communications Secretariat, "The Growth of Computer/Communications in Canada", draft discussion paper, March, 1978, p. 107.

[7]Canadian Press, "Canada loses at home in computer sales", The Province, April 13, 1983, p. C9.

[8]United Nations Center on Transnational Corporations (UNCTC), Transnational Corporations and Transborder Data Flows: A Technical Paper (New York: United Nations, 1982), p. 94.

expected to continue throughout the 1980s.

A brief description of technological developments in computer and telecommunications technology will explain why continued growth in computer and communications usage is anticipated.

Developments in Computer/Communications Technology

> **Twenty-five years ago the first networks became operational in the USA. I recall the cost of one such network comprising 1,000 terminals in 150 US cities connected via leased telephone lines to a medium sized computer in Denver, Colorado. Total cost US$12 million plus $1 million a year for leased line costs and $2 million a year maintenance costs. Today such a system would cost $0.4 million with $500 transmission costs (via switched telephone lines) and $40,000 for maintenance.[9]**

According to this account, computer hardware for this system in 1983 is 1/30th of the cost in 1958; telecommunication line costs today are 1/2000th of the cost in 1958; the cost to maintain the system is 1/50th of that twenty-five years ago. The trend in both telecommunications and computer technology is toward faster, larger-capacity, less expensive systems.

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[9]T.M. Schuringa, "The Microchip in the crystal ball,_Development Forum_ Vol. XI No.1, 1983, p. 8.

Computer Systems

Technological advances have permitted both miniaturization of the physical computer product and reductions in the price of the product. First generation computers used the vacuum tube of radio and television electronics as a basic circuitry component.[10] Substantial space was needed for computer hardware because of the number of large components required to run the system. Vacuum tubes generated heat; expensive air conditioning systems were required to reduce incidents of heat-induced component failure.

In the 1960s, most of the vacuum tube circuitry was replaced with transistors; transistor circuitry marked the beginning of second generation computer technology. Transistors were more compact than vacuum tubes so required less space. They were relatively free from heat build-up so required less air conditioning. Transistors required less power than vacuum tubes. Most importantly, transistor circuitry was more reliable because of fewer physical connections and less heat build-up; and faster because of the decreased distance between connections. Operation speeds that were once measured in thousanths of a second (milliseconds) rose to millionths of a second (microseconds) and

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[10]Maxine Kohl Mackle, Computers in Business (2nd Ed., Rev. Isobel D. Ross, Canada: W.J. Gage Limited, 1970), p. 16.

even billionths of a second (nanoseconds).[11] The price of computers decreased; the cost to maintain computer systems also decreased.

Third generation computers combined transistors and micro-circuits (chips) to achieve still greater speed and reliability while further reducing size, power requirements and air conditioning requirements.[12] Again, the cost of the hardware decreased.

Fourth generation computers have replaced transistor circuitry with micro-electronic chips. A large scale integrated (LSI) chip provides the equivalent of hundreds, even thousands of transistors; one very large scale integrated (VLSI) chip can replace several thousand transistors.[13] Implementation of chip technology has further reduced the size of the physical product, reduced power and air conditioning requirements while increasing the speed and reliability of the hardware. The cost of computer hardware again decreased.

A new type of chip, the gate array, is expected to increase economies of scale in the production of chips. Manufacturers will produce chips consisting of basic circuits which have not been interconnected. The custom chip manufacturer/designer would then only have to be concerned with the last steps of

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[11] Ibid.

[12] Ibid.

[13] Government of Canada, Computing Trends a Review of Computer/Communication Technology (Ottawa: Department of Supply and Services, 1982), p. 3.

interconnecting selected circuit gates to perform specific functions. The manufacturer of the basic gate array will enjoy greater economies of scale through longer runs of a standard product; the custom chip manufacturer/designer can benefit through shorter lead-times to introduce new products. Economies of scale plus the the requirement for fewer design personnel in custom manufacturing firms will again lower the cost of computer hardware.[14]

This evolution to micro-electronic circuitry has made possible a plethora of computer products and computer capabilities. We now take for granted the availability of micro-computers, mini-computers, main frame computers from hundreds of suppliers. The demarkation between categories of computers is no longer clear; capabilities presently overlap and will increasingly overlap as new technologies are integrated into future computers.[15]

In summary, since 1965 the relative power of computers has doubled about every three years; cost has fallen dramatically. It is expected that this trend will continue over the next few years; cost/performance of computers could improve by approximately 30% per year.[16]

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[14] Ibid., pp. 3-4.

[15] Ibid., p. 6.

[16] Ibid.

Telecommunication Systems

Advances in telecommunications technology have resulted in faster, larger capacity, less expensive data carrier systems. The first link between a computer and a communications network is a communications controller; a peripheral or, more recently, an integrated component of the computer system. Development of communications controllers have led from the first large non-programmable controller, the capabilities of which were recognition of control characters, and basic error checking, to what we currently call front-end processors.

Front-end processors - computers in their own right - can be programmed to do all the functions of non-programmable controllers plus preprocessing of data, and message and data switching from one location to another. This list is by no means exhaustive. These capabilities can be realized without main frame computer involvment. The work-load on the main computer is decreased leaving more capacity for other production.[17]

Advances have been made in transmission media. Copper wire is the oldest telecommunications medium and is still heavily used. A single pair of copper wires is able to carry data at speeds of 9600 bits per second or 64,000 bits per second depending on the transmission mode employed. What this means is

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[17] Ibid., p. 10.

that approximately 960 to 6,400 characters of data can be transmitted on copper wire per second.[18] In April 1984 American Telephone and Telegraph (A.T.&T.) patented a technique that would "allow computer data to be transmitted over telephone lines simultaneously with a two-way conversation."[19] Speech uses the high-frequency part of the telephone line only five percent (5%) of the time. Computer data will be transmitted on these unused frequencies.

Greater speed, volume and distance of transmission were realized when, in the 1950s and 1960s, microwave facilities were added to copper-wire and coaxial cable networks. Coaxial cable can simultaneously carry hundreds of telephone conversations, television signals and high volume data transmissions.[20] As well as carrying a greater volume of various kinds of signals, those carried on coaxial cable are free from distortion and interference caused by atmospheric conditions or proximity of other signals. This results in fewer transmission errors.[21]

Optical fibre, a recent breakthrough in transmission media, will allow transmission at the speed of light. Canada, the United States and Japan are world leaders in the development and use of optical fibre. In April 1977, General Telephone and

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[18] Ibid., p. 16.

[19] The Globe and Mail, April 27, 1984, p. B20.

[20] Computing Trends, pp. 16-17.

[21] M. Patricia Hindley, Gail M. Martin, Jean McNulty, The Tangled Net (North Vancouver: J.J. Douglas Ltd., 1977), p. 66.

Electric (GTE) installed the first practical optical fibre link in telephone circuits in Long Beach, California. One month later, Western Electric installed optical fibre links in Chicago's telephone system. In October of that same year a kilometer and a half of optical fibre cable was installed underground between two Montreal streets. One year later two Vancouver telephone exchanges were connected by an optical fibre link over seven kilometers long.[22] Optical fibre has since become a standard component of major telephone systems throughout the world. One pair of glass fibres[23] can potentially carry 2,000 telephone conversations. A cable containing 100 fibres would be less than an inch thick and weigh a few ounces per foot.[24] It is anticipated that in the future high volume data communications users will benefit from the speed of optical fibre and from its ability to interconnect high and low speed network equipment.[25]

The use of satellites has provided even greater transmission capacity over greater distances. Although receiving equipment is still quite expensive, recent satellite developments will substantially reduce the cost and size of components. Satellites are expected to feature prominently in

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[22]Jean-Marc Fleury, "The light wave and glass race", In Search Vol VII, No 3, Summer 1980, pp. 4-5.

[23]One fibre is as thin and flexible as a human hair.

[24]Computing Trends, p. 17.

[25]Ibid., p. 18.

the delivery of point-to-point service for those who require transmission of high volumes of data, voice or video.[26]

Development of copper wire, microwave, coaxial cable, optical fibre and satellites has increased the speed and accuracy of transmission and decreased the cost. These technologies have also increased the amount and types of information which can be sent concurrently; each innovation increased the bandwidth available for transmission of data. In the same way that adding traffic lanes to a highway increases the highway's potential to carry more vehicles of all types at the same time, so increasing the transmission band width increases the capacity for concurrent transmission of voice, data, and video traffic.

However, other developments have made the use of this communication highway more effective. Developments in transmission modes have increased the efficiency of transmission media. Information can be transmitted in either analog or digital mode. Analog mode (a signal consisting of a varying range of frequencies usually depicted as a wave pattern) has been used and is still widely used by telephone systems throughout the world. However, countries with rapidly developing communications systems are moving toward digital mode.[27]

Digital mode (a stream of 0 and 1 or on/off pulses) offers reduced transmission errors and more efficient use of

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[26] Ibid.

[27] Ibid., p. 19.

transmission media. Computers use digital mode internally. If transmission mode is also digital, conversion from digital to analog mode at the sending site and analog to digital mode at the receiving site is no longer necessary. This reduces the chance for errors and increases transfer speed. Most importantly, digital transmission makes it easy to integrate (multiplex) signals such as data, voice and video on a single channel.

Parallel developments in telephone exchange equipment allow the connection of functionally different equipment such as telephones, computers, word processors, facsimile transmitters on a single office network via a sophisticated private automatic branch exchange (PABX).[28] One system announced in late 1983 will support up to 20,000 telephone extensions and data terminals. These terminals can be located up to 600 miles apart. Contact can be established between any terminal or extension by dialing that extension number.[29]

In conclusion, advances in computer and telecommunications technology have made computer/communications options available which were impossible a decade ago. While capability has increased, cost has decreased. Decreasing costs and increasing performance of both computer and telecommunications systems make it possible for an ever-increasing number of individuals, firms

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[28] Ibid., pp. 21-22.

[29] Product announcement from Hofstetter Business Products Ltd., Rexdale, Ontario.

and nations to use computer communications. These advances have also facilitated the increase in transborder data flow.

The Extent: Canada and Western Europe

> **Information flow among nations touches "the entire spectrum of human activity: news, health services, education, agriculture, manufacturing, transportation, marketing, credit, banking and finance, accounting, insurance and law enforcement".[30]**

Knowing the kinds of information gives one a sense of the many areas of an economy which can be involved with transborder data flow. It is important to know the extent of international flow of data because the more extensive the flow, the more serious the problems associated with it. But attempts to answer "how many of what type of transactions are crossing international boundaries" have been largely unsuccessful. Available statistics can, at best, indicate computer/communications usage trends.

In a report to the Canadian federal government, Price Waterhouse Associates came to the following conclusions vis-a-vis the reasons why transborder data flow is growing and will continue to grow.

1. Although there is no hard data on the extent of TBDF, available information suggest [sic] that growth in TBDF stems from:

   a. the increasing role of information activities in the developed market economies;

   b. the growth of international trade;

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[30]Block, p. 108.

c. the growth of foreign direct investment and of multinational corporations; and

d. international specialization in the provision of information services.

2. The growth in TBDF will continue and may even accelerate for a while due to:

a. improvements in computer/communications technology and improving performance vs cost;

b. continued growth in direct foreign investment and multinational corporations; and

c. increasing need for improved management of multinationals' global business activities. This will increase data and information flows to improve planning, coordination and control of geographically dispersed operations.[31]

Canada

Attempts to quantify transborder data flow in Canada have been on-going since before 1976. Table 1.1 contains statistics on computer/communications service and equipment usage in Canada for 1970, 1975 and 1980; projections for 1985 are also given.[32] These statistics indicate that:

1. the total cost to Canadians of computer/communications goods and services has increased dramatically since 1970 and projections indicate that the trend will continue;

2. the foreign component of the total cost has risen

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[31]Price Waterhouse Associates, "A Review of the Economic Implications of Canadian Transborder Data Flows", February 1981, p. 7.

[32]It should be noted that these estimates are five to six years old - a relatively long period of time in this area of rapid change.

and is projected to increase through 1985; and,

3. the amount which foreign parent companies supply goods and services to Canadian subsidiaries is, however, expected to decrease. This decrease, in light of the increase in total value of foreign services, implies that other foreign firms will increase their sales in Canada.

Table 1.1: Computer/Communications Service/Equipment Usage

	1970	1975	%chg	1980	%chg	1985(proj)	%chg
* Total Cost of Goods & Services	1.2b	2.7b	125	5.6b	107	9.5	70
* Value of Foreign Services	70m	150m	114	500m	233	1-1.5b	1-200
* Foreign Services as % of total	5	5		10		16	
# Goods & Services Supplied to Canadian Subsidiaries by Foreign Parent Companies		90		85		75-80	

Sources:

* Peter Robinson, "Dimensions of TBDF: Some Economic Implications". Paper prepared for the IBI World Conference on TBDF Policies, April 30, 1980.

Peter Robinson, "Research in Canada on Transnational Data Flow", May 16, 1978, pp. 5-7.

Although valuable as trend indicators, the above statistics neither quantify transborder transactions, nor do they indicate what kind of data is flowing across international boundaries. This information is difficult to capture and verify because corporations in Canada - especially Canadian subsidiaries of foreign firms - do not measure their data flows in ways that would help estimate quantities of specific types of data. It is

estimated, however, that data flows between parent companies and their foreign subsidiaries account for at least eighty percent(80%) of all transborder data flow.

Western Europe

Some statistics are available for Western Europe which indicate similar trends to those evident in Canada. In 1972 there were 97,000 network-termination points (NTP) in Western Europe.[33] By 1979, the number of NTPs had risen by more than 300% to 393,000. It is estimated that by 1987, the number of NTPs will rise to 1,620,000; a further increase of more than 300%.[34]

In 1979 Western Europe generated 13 million international transactions per average working day; this represents approximately 10% of the total Western European daily transactions. The number of international transactions is expected to rise to 116 million transactions per day, or 15% of total transactions, by 1987.[35] Multinational corporations account for the most extensive use of international computer communications in Western Europe.

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[33]UNCTC, p. 18.
NTPs are points at which user equipment (normally a terminal) is connected with a transmission network.

[34]Ibid., p. 94.

[35]Ibid., p. 93.

One hundred seventy-one thousand of Western Europe's 625,000 terminals (27%) were used to retrieve information required by multinational headquarters for control of subsidiaries in 1979.[36] Control, in this context, could involve corporate planning and development, financial management, marketing and sales management, manufacturing and production control, and administrative management.[37]

Use of computer terminals and networks by multinational companies is expected to increase in Western Europe to 29% by 1987.[38] This projected increase runs counter to projections for Canada that transborder data flows between foreign multinationals and their Canadian subsidiaries will level off or decrease. However, like Canada, total use of goods and services in Western Europe has risen dramatically and is expected to continue to increase. It is expected that the international use of service networks in areas of air transportation, banking, credit card systems, corporate insurance and reinsurance and trade will be a major factor in this increase. A paper presented at the OECD's Second Symposium on Transborder Data Flows (1983) indicated that in June 1979, the Society for Worldwide Interbank Financial Telecommunications (SWIFT) included 513 client banks. By 1981 membership had risen to 900 banks. The number of daily

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[36] Ibid., p. 95.

[37] C.J. Maule, "Transborder data flows: A multinational issue", Foreign Investment Review , Autumn 1982, p. 10.

[38] UNCTC, p. 95.

messages more than doubled in that same period. The paper also indicated that during 1982, the international airline reservation network, SITA (Societe internationale telecommunications aeronotiques) carried more than 5,700 million messages for 243 airlines. SITA is planning to extend services to include cargo, flight planning, air-to-ground communications, baggage handling and fare quotation services. This extension of services will increase the number of international network transactions.

II. Major Transborder Data Flow Concerns

Debate on transborder data flow has focused on four areas of concern: national sovereignty; impact on culture; threat to individual privacy; economic issues. A very brief description of the issues follows.

National Sovereignty

> **It is fundamental that a country have control over the information resources essential to its sovereignty and development.[1]**

Because of interdependence with other nations, national sovereignty can no longer be discussed in the context of absolute power. A definition relevant to contemporary societies was given to the Clyne Committee in a submission by Dr. Peter Robinson. Sovereignty is:

> the ability of...[nations]...to exercise control over the...direction of economic, social, cultural, and political change.[2]

Information is a means by which control is attained and sustained. When government information, and information on persons, both private and legal, is exported for processing and/or retention, the exporting nation's control or power over

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[1]Block, p. 108.

[2]Telecommunications and Canada, p. 1, emphasis added

that information is forfeited. Unless protective agreements between the nations exist and are honoured, an assumption of good will is the only safeguard against the importing nation's abuse of that information. Extreme threat to national sovereignty would exist, for instance, if uncontrolled and indiscriminate transborder data flow resulted in information becoming available to enemy nations who could use it strategically to help gain control, militarily, of the exporting nation.

A less obvious but no less real threat exists when one nation depends on another for data processing services. Internal control over disruptions in service due to equipment breakdowns, work stoppages or government intervention is reduced, if not eliminated. To lose the ability to access necessary information is to lose the control over that function. When control is lost, sovereignty is threatened.

A submission to the Canadian federal government's task force on privacy and computers summarized the importance of control of information to national sovereignty:

> Information has become the profound property of the twentieth century. The...[persons]...who will have the power of the future will not be...[persons]...who own lands and forests, nor personal wealth, but, rather, the...[persons]...who have the equipment of information systems and the knowledge to manipulate them within their grasp. The...[persons]...who can control information will control...[their]...environment. The weapon of control of the future is in the hands of information systems.[3]

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[3]D.N. Wiesstub & C.C. Gotlieb, "The Nature of Privacy a Study for the Privacy and Computers Task Force", p. 57.

A nation cannot control a natural resource-based economy, for instance, if resource information is exclusively in the hands of foreign countries. The well-known incident where the United States, through their satellite systems, knew about the failure of Brazil's coffee crop before Brazilians knew, serves as an example of how vital information is to a nation's economy. Had Brazilians not become aware of their crop failure in time, foreign speculators would have bought up coffee futures at a price far below the price which resulted from a coffee shortage. Brazil's economy would have been jeopardized, possibly destroyed, while those outside Brazil could have reaped enormous profits.

It is a fact that nations who control international information gathering systems will know more about nations who don't have the systems than those nations know about themselves. Control over change exists where information is gathered and stored. When information is in the hands of a foreign nation, national sovereignty is jeopardized.

Culture

> **The choice of a point of view is the initial act of a culture.[4]**

Of the four major concerns, cultural identity (in the context of computer/communications) has been discussed least.

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[4]Jose Ortega y Gasset, The Modern Theme, quoted from Bartlett's Familiar Quotations, 15th ed., 1980, p. 865.

First, culture is difficult to define. Second, it is difficult to measure the effects of transborder data flow on culture. For the purpose of this discussion, I will borrow my definition of culture from Jean Paul Sartre's Les Mots.[5] He said that culture is "a product of man: he projects himself into it, he recognizes himself in it; that critical mirror alone offers him his image." This means that our "wants, perceptions and prejudices"[6], our "values, standards, ideas and ideologies"[7] become part of who we are; become part of our mirror image. Wants, perceptions, prejudices, values, standards, ideas, ideologies are formed, to a large extent, by what we hear and what we see. It follows, then, that our self-image is influenced by what we are told, what we are shown. The abundance of mass media advertising, direct and indirect, which plays on our self-image is an obvious example of attempts to direct our wants, values, standards.

Computerized information plays a leading role in supporting the efforts of mass media to define our self-image. Computer systems have been used extensively by governments and private firms to analyze demographic data in an effort to categorize us; to find out who we are, how we live, what we prefer and, finally, what we are likely to buy (be that consumer products,

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[5]Jean Paul Sartre, Les Mots, quoted from Bartlett's Familiar Quotations, 15th ed., 1980, p. 784.

[6]Government of Canada, Report of the Federal Cultural Policy Review Committee (Information Services, Department of Communications, 1982), p. 15.

[7]Unknown, "Newsletter", Transnational Data Report Vol V No 6, 1982, p. 293.

government policies, or ideologies).

Mass marketing based on demographics did not begin with the advent of computers, to be sure. Where computerization has made the difference is in the decreased cost of storing large amounts of data, and the decrease in time required to select data subjects based on specific criteria. For instance, when information was kept in file cabinets, to find all data subjects whose age ranged from 18-25 years whose income was greater than $8000.00 annually, whose primary residence was Vancouver and whose hobby was skiing, was a time-consuming labour-intensive task. Today, with modern computing equipment, information on data subjects can be retrieved from a computerized file in minutes (or seconds depending on the file size), lists can be printed in minutes, or, if the customer who requested the list has the appropriate computer/communications equipment, the list can be transmitted virtually instantaneously via a common carrier to the customer's site.

The introduction of powerful computer systems has created a vicious circle as regards growth of computers and collection of data. In order to justify the size and cost of the system, a system manager must ensure that it is well utilized. This means that enough data must be available for processing to keep the system busy. Collection of more data ensures this and creates a wider market for the end product. With the advent of computer/communications, more and more computers can be accessed by more and more individuals and firms. "The more these

computers are employed, the more data will be obtained. The more data that is obtained, the more innovations to handle the increased data will arise."[8] There is no incentive to reduce the amount of information held in a computer system.

In 1983 persons on a mass mailing list were asked to notify the marketing firm should they want to have their name removed from the list. I assumed that this was an effort to reduce the file to include only those interested in the products being sold by the clients of the marketing firm. As it turned out, persons who asked to have their names taken off the list <u>were</u> removed from it, but those names were used to create another list to be sold to vendors of other products.

The computerized information business depends upon economies of scale for economic survival. Economies of scale are derived to a large extent by providing a homogeneous product to many buyers. The file creator is motivated to collect as much information as possible on each data subject to ensure a wider market for the product. Once there, data are infinitely reusable as only <u>copies</u> are extracted and sold. In his paper, "Social and Cultural Implications of Transborder Data Flows", Jan Freese gives the following warning regarding the potential danger of homogeneous information systems to cultural diversity. His warning is particularly appropriate to Canada.

Multilingual countries with a relatively small

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[8]Edward J. Schoen, "Computers and Privacy", <u>Proceedings Interface '84</u> (New York: McGraw Hill Publications Co., 1984), p. 132.

> population...may find it economically difficult to maintain their polyglottism in the era of homogeneously designed information systems.[9]

The Applebaum/Hebert report indicated that "cultural activity...thrives on spontaneity and accepts diversity, discord and dissent as natural conditions - and withers if it is...directed."[10] The use of data banks to categorize or homogenize a national population's attitudes and preferences surely results in a reduction in diversity and a trend toward cultural uniformity. To so direct our self-image nationally is one risk to our cultural sovereignty.

But, when information on one nation's people is exported to a foreign nation for processing and retention, there is risk of dominance by that foreign culture. The receiving nation can potentially use this information to learn more, demographically, about the sending nation. This facilitates informed marketing of cultural products to the exporting nation. The more comprehensive the information on foreign cultures, the easier it is to provide products acceptable to those cultures. Dependence on foreign information processing systems which rely on standard processing for economies of scale will increase the trend toward cultural uniformity.

In September 1982, Francis Fox, Canadian Minister of Communications, said, "There is a real threat that we may begin

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[9]J.Freese, "Social and Cultural Implication of Transborder Data Flows", Transborder Data Flow Policies (New York: UNIPUB, 1980), p. 545.

[10]Report of the Federal Cultural Policy Review Committee, p. 15.

not to know who we are." The danger, according to Fox, arises when we absorb "an excess of values, standards, ideas and ideologies" that are not our own.[11] Proximity to the United States (a nation with ten times our population, a nation with which we share a common language) makes Canada particularly vulnerable to excessive absorption of one foreign nation's cultural values. A preponderance of American values, standards, ideas and ideologies decreases diversity of views and, as a result, decreases Canada's choice of points of view. Cultural identity is jeopardized.

Privacy

> **It if weren't for the fact that the world is otherwise falling apart,...[privacy]...might be the top item of priority.[12]**

Privacy, in the context of information processing, has come to mean "the right of an individual to have some control over the information which is collected about him by both public and private agencies."[13] Control consists of individuals':

1. awareness that information about themselves is collected and stored;

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[11]"Canadian Minister Reaffirms Cultural Threat from DBS", Transnational Data Report Vol V No 6, September 1982, p. 293.

[12]Jake Kirchner, "Privacy Issues in 1984", Computerworld, December 26, 1983/ January 2, 1984, p. 87.

[13]D.F. Linowes, "Privacy Protection Initiatives by International Corporations", Transborder Data Flow Policies (New York: UNIPUB, 1980), p. 372.

2. ability to access personal information to ensure accuracy; and,

3. ability to correct erroneous information.

Control also consists of a guarantee to individuals that data collected and stored will be used only for the purpose stated at the time of collection unless permission is sought and granted to do otherwise.

The privacy issue has been of sufficient concern to result in data protection laws in the United States, Canada, Australia, Norway, Sweden, Denmark, the Federal Republic of Germany, Luxembourg, France and Austria. Reports and/or bills have been commissioned in Japan, Finland, the Netherlands, Belgium, the United Kingdom, Ireland, Switzerland, Italy, Spain, Portugal and Yugoslavia. Similar developments are on-going in Poland and Hungary.[14]

Questions are being raised as to why, when privacy protection is almost universal, it still commands so much attention; especially given that transfer of personal data is a small component of total transborder flows. The most likely reason for the attention is that the issue of privacy is more readily understood by politicians and the general public than economic or cultural issues. It has also been suggested that the issue of privacy is attractive because: it provides a "last nostalgic harbour against modern times"; it is a "remedy against

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[14]Herbert Burkert, "Agencies of Data Protection and the Controls of Transborder Data Flows", Transborder Data Flow Policies (New York: UNIPUB, 1980), p. 91.

diseases of big technology".[15]

The reason for escalating concerns about privacy is not that homespun. Jake Kirchner, in his article "Privacy Issues in 1984", suggests that although privacy legislation abounds, enforcement of that legislation leaves much to be desired.

> ...1984...marks the 10-year point for the...[U.S.]... Privacy Act, passed to ensure individual privacy protection in government operations. But today, there is more government data gathering, more data sharing and less individual control over what agencies do with our data than ever....
>
> According to a recent congressional report, the current administration has the worst record for privacy invasion of any since the Nixon years. The report accuses the Office of Management and Budget (OMB) -- responsible for overseeing agencies' privacy practices -- of almost complete failure to perform its duties under the Privacy Act.[16]

Kirchner goes on to say that government agencies often confuse privacy with security and think that loss of privacy will not occur if data are technically secure.[17] Not so, says Terril J. Steichen, director of former President Carter's Privacy Project and currently a private consultant and writer specializing in information technology topics. He defines privacy loss as follows:

> Privacy loss...results from the incremental gathering of data by many organizations plus a concomitant loss of individual control over use of data....
>
> Data gathering and sharing...produce 'data images' of citizens. Organizations make decisions about people

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[15] Ibid.

[16] "Privacy Issues in 1984", p. 87.

[17] Ibid.

based solely on those images, even though the data may be old, incomplete, inaccurate and biased. The person behind the data is no longer a factor.[18]

According to Kirchner, individuals have traded privacy for "government benefits, ranging from food stamps and unemployment checks to public education and income tax deductions. We bartered it for medical insurance, house mortgages, car loans, credit cards and check-cashing privileges."[19]

Little can be done, technically, to ensure privacy of personal data. Security measures to protect against unauthorized access do not address a real privacy issue - unauthorized secondary use of collected information. In British Columbia, for instance, the identity number of a person covered by the provincial Medical Services Plan is that person's Social Insurance Number; a Federal government-assigned number whose use is, theoretically, very limited. This is an example of data sharing between the federal and provincial governments without consent from data subjects.

Two years ago, the British Columbia Ombudsman was presented with a case where the complainant moved frequently in order to delay payment of bills. She found that within 48 hours, all of her creditors know her new location. She kept moving but each time notified one fewer firm or individual of her new address. On her last move, she notified only one Provincial ministry of her new location. Again, within 48 hours, her creditors were

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[18] Ibid., p. 86.

[19] Ibid.

aware of her new address. The Ombudsman found that a creditor made a personal call to a person in the ministry who was authorized to access that file. The government employee released the requested information to an unauthorized party. No amount of technical security could have prevented this breach of privacy. One may argue, and quite correctly, that the creditors in question have a right to use all means at their disposal to collect monies owed them. However, this unauthorized disclosure of information means that the data subject has lost all control over how personal information will be used. Privacy is lost.

Governments, through data sharing agreements can invade our privacy. As illustrated above, informal data sharing agreements are a source of privacy invasion. Anyone who, for any reason, uses personal information for reasons other than the one for which information was originally collected invades a data subject's privacy unless the subject has given permission to do so.

There is reason to believe that firms are becoming more sensitive to issues raised by unauthorized secondary use of personal data. In April 1984, I received an invoice from the publisher of a foreign magazine to which I had subscribed. Along with the invoice was a notice indicating that the publisher sells its subscriber list to other firms. They indicated that because of an increased concern for subscribers' rights to privacy they would not include my name in the list sold to others if I did not agree to it. Policies of this nature provide

privacy protection to individuals by informing them of their rights and allowing them to limit the use of personal data to that stated at the time of collection.

Economic Issues

Economic concerns centre on two major areas: trade deficits in computer/communications goods and services; and employment deficits. Statistics available for Canada illustrate why transborder data flow has caused economic concerns. Tables 2.1 and 2.2 illustrate Canada's deficit in computer/communications goods and services and employment.

Statistics in Table 2.1 suggest that by 1985 the value of foreign computer/communication services in Canada will reach between $1 billion and $1.5 billion -- about 16% of total Canadian use. Although most of this represents services rendered by foreign multinationals to their Canadian subsidiaries, it is estimated that this figure "will likely include some $300 million in commercial services which directly compete with the offerings of Canadian service firms."[20]

When data is exported for processing and retention abroad, there is no requirement for elaborate computer and communications hardware or software at the originating site. Nor is there a requirement for large programming or operational

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[20]Hans H.Brune, "The Social Implications of Information Processing", Information & Management 1 (1978), p. 148.

staffs. Equipment and personnel will be concentrated where processing occurs. Not so obvious is the fact that decisions will, in all likelihood, be made close to where processing of information is done. This means that related managerial positions would tend to exist where information is processed and stored. An employment deficit can result for the exporting nation.

The number of jobs foregone shown in table 2.2 represents employment directly related to the data processing function. Management and management support positions are not included. An observer in the private sector has suggested that if such positions were included, the total number of jobs foregone by 1985 could be as high as 100,000.[21]

Table 2.1
Canada's Computer/Communications Service/Equipment Deficit

	1970	1975	1980	1985 (proj)
Total Use of Services	1.2b	2.7b	5.6b	9.5b
Value of Foreign Services	70m	150m	500m	1-1.5b
Foreign as % of Total	5	5	10	16

Source: Peter Robinson, "Dimensions of TBDF: Some Economic Implications", Paper prepared for the IBI World Conference on Transborder Data Flow Policies, April 30, 1980, pp. 4-5.

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[21]Brune, p. 148.

Table 2.2
Canada's Data Processing Employment Deficit

	to 1975	1980	1985 (proj)
Total employment	95,000	130,000	165,000
Jobs foregone due to foreign services	4,000	10,000	25,000
Deficit as % of total	5	8	14

Source: Peter Robinson, "Dimensions of TBDF: Some Economic Implications", Paper prepared for the IBI World Conference on Transborder Data Flow Policies, April 30, 1980, p. 5.

In summary, although all four issues are important, privacy issues and economic concerns are particularly relevant for Canada. Canada has been fortunate indeed to enjoy a relatively peaceful coexistence with the United States. However, we have become economically dependent on a nation which has ten times our population and shares a common language and common computer/communications technologies. This has made it easy for Canadians and Americans to think "continental markets" rather than national markets; to think "family" rather than "neighbours". When no language barrier exists and no technological barrier exists, national boundaries cease to be a barrier to the information processing business. Firms can do business where it costs the least. A nation with ten times our population (market size) will be able to pass on economies of scale not possible in Canada. When one remembers that the United States is a foreign country, one becomes concerned about what happens to Canadians' privacy rights when information is stored

and processed in the United States. One also becomes concerned when exporting information to the United States decreases employment in Canada, decreases equipment sales in Canada and increases the amount of Canadian dollars flowing to the United States. Three serious deficits which affect our economy (employment, equipment sales, balance of payments) make the cost of transborder data flow inordinately high.

In the concluding chapter, I will suggest how Canada can approach privacy issues and economic concerns. I will not deal extensively with problems of cultural identity. Choices of values and points of view are individual, personal and often emotional. Because of this, problems of cultural identity are not tractable - in the short term - within a framework of policy, regulation or legislation.

III. Responses to Transborder Data Flow Concerns

Individual nations and international fora have attempted, in the past decade, to address transborder data flow issues through legislation and international agreements. A description of selected international responses will reveal some measures which could be appropriate for a Canadian policy approach.

The thrust of legislation and international agreements appears to address, primarily, the privacy issue. Some nations, however, have addressed economic and national sovereignty issues and, while recognizing concern for privacy, have not emphasized it. This discussion will begin with examples of how the United States regulates transborder data flow. This will serve as an example of regulation under the 'national sovereignty' category or, as the U.S. puts it, 'national interest'. Next, Brazil's response to transborder data flow will be examined in some detail. Brazil's thrust is aimed at protecting national sovereignty and economic sovereignty. Brazil and Canada share a concern for the effect of transborder data flow on the economy. Third, Sweden's response will be described in some detail as an example of a legislative response whose main target is protection of privacy. Fourth, other national responses which focus on data and privacy protection will be described very briefly. Finally, the responses from three international fora will be discussed. International agreements have attempted to

rationalize the plethora of national responses - responses which have created difficulties for those trying to achieve multinational communications. This chapter will conclude by suggesting what implications these responses have for Canada.

The United States

A debate is on-going as to whether nations should espouse an "open-skies" policy or develop policies to restrict transfer of data over national boundaries. Open-skies typically means unrestricted flow of data/information across international boundaries. The United States takes the "open-skies" side of the debate. The Reagan administration has three principles which guide its formulation and implementation of foreign policy with respect to communications and information.

1. The first principle is the basic human right of every individual to receive and impart information freely.[1]

2. The second flows from the principles of free-market enterprise. It is the need for unrestricted international flow of business information.

3. ...the third principle is [a] preference for open and competitive markets in the communications information field.[2]

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[1]This principle closely resembles Article 19 of the United Nation's Universal Declaration of Human Rights (1948) which says, in part, "Everyone has the right to...seek, receive and impart information...through any media regardless of frontiers."

[2]Scott W. Thompson, "Communication and Information: Principles are Important", paper given at the Pacific Telecommunications Conference, Honolulu, Hawaii, January 16, 1982, p. 5.

The first and second principles must be looked at with some skepticism for two reasons. First, in an information-based society it is doubtful whether every individual has a right to all information. Second, these statements are diametrically opposed to actual U.S. practices. The third principle, however, a preference for open skies and competitive markets, can be understood in light of the following information.

Of the 13 million international transactions per day generated in Western Europe in 1979, 25 percent went to the United States.[3] The United States exports technology and media products to developing countries and other developed countries; the United States imports raw data from developing countries and raw data to be processed from other developed countries. The predominant flow of raw data for processing is to the United States; the predominant flow of technology, media products and information is from the United States.

It is not difficult to understand why the United States would espouse an open-skies policy in statements to international fora. However, in practice the United States is "among the leading countries trying to control...[transborder data flow]...in order to protect what they define as their national interests".[4] For instance, the Foreign Traders Index (FTI), a data base compiled by the U.S. Department of Commerce's Export Information Division and marketed by Lockheed, produces

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[3]UNCTC, p. 94.

[4]Transnational Data Report, Vol VI No 5, 1983, p. 242.

lists of foreign contacts for American businessmen. The data base "contains information on 150,000 firms in 130 countries...access to this file is being restricted to U.S. organizations under terms of Lockheed's agreement with the Commerce department."[5] This agreement accomplishes two things: it explicitly refuses access to many of those individuals and firms whose names are part of the data base; and it implicitly expands American control of international information beyond U.S. boundaries.

Rather than concentrating on the technical systems involved in data transfer, the U.S. appears to be concerned primarily with the types of data being transferred. The U.S. Export Control Administration (ECA) requires that a licence be obtained by firms "wishing to export high-technology goods and services...Visas are denied to foreigners suspected of using travel in the U.S. as a means to acquire restricted information".[6] The ECA controls export of technical data. This means that export of all computer software is subject to the Act and its regulations because software requires a computer (a technical system) in order to function.

Exports are controlled by the U.S. government for three main reasons:

1. to ensure that "items that could make a significant

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[5]Herbert I. Schiller, Who Knows: Information In The Age of The Fortune 500 (New Jersey: Ablex Publishing Corporation, 1981), p. 38.

[6]Transnational Data Report Vol VI No 5.

contribution to the military potential of another country to the detriment of the U.S." are not exported to that country;[7] this includes such items as some video display chips used in arcade games;

2. to assist in implementing U.S. foreign policy interests;[8]

3. to ensure that exports do not result in shortages of materials which are scarce in the U.S.[9]

The U.S. export control authority reaches beyond U.S. borders. In addition to control over commodities and technical data originating in the U.S., control is extended to: (1) the re-export of U.S. originated commodities and technical data from one foreign destination to another; (2) exports and re-exports, from a foreign destination, of foreign products containing parts originating in the U.S.; and, (3) exports and re-exports, from foreign destinations, of foreign products based on U.S. originated technical data.[10] A U.S. exporter is liable under the Act if a foreign importer re-exports to a prohibited country.[11]

No export authorization is required if exported commodities and technical data are to be used in Puerto Rico or a U.S.

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[7]L.J. Kutten, "Controls on software What can be exported where", Computerworld, March 5, 1984, p. ID/3.

[8]Ibid. For instance, President Carter banned export of certain goods to the USSR after it invaded Afganistan.

[9]Ibid.

[10]Ibid., p. ID/4.

[11]Ibid.

"territory, possession or dependency".[12] Unless nuclear energy is involved, no export licence is required to export commodities and technical data to Canada.[13]

Brazil

A chronology of important government actions in Brazil aimed at achieving national control of communication and data processing follows. Brazil's first concern was to control the communications sector.

In 1962, the basic structure of the regulatory environment was formed when the Brazilian Telecommunications Code was established.[14] Law 4117 created Contel - the National Telecommunications Council - whose objective, in part, would be to create a public company to operate Brazilian long lines and international communications. The public company, Embratel, was founded on September 16, 1965.[15]

In 1967 a Ministry of Communications (MINICOM) was created because of the growing awareness of the importance of communications to national development and cultural development.

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[12] Ibid., p. ID/3.

[13] Ibid., p. ID/4.

[14] Mario Dias Ripper and Jorge Luiz Cesario Wanderley, "The Brazilian Computer and Communications Regulatory Environment and Transborder Data Flow Policy", Transborder Data Flow Policies (New York: UNIPUB, 1980), p. 2.

[15] Ibid., p. 3.

In 1972 Telebras, a holding company to coordinate Embratel and all local Communication Service Companies, was organized. Telebras is responsible for planning and financial decisions and provides the research and development function for the whole group. Telebras' influence on the industrial policy for communications equipment was used to ensure that only companies whose controlling stock is held by Brazilians can build new generations of telephone switching equipment. This decision came as a result of electro-mechanical switching equipment factories in Brazil being made obsolete by new technology.[16]

Also in 1972, the Brazilian government became concerned with computer-related activities. CAPRE, the Coordinating Commission on Data Processing Activities, was established and given a mandate to supervise the use and acquisition of computers by the federal government.[17]

In 1975 the Brazilian government gave Embratel "the right to install, expand and operate the facilities for Telex and Data Transmission. By this instrument the monopolistic position of the government on data transmission was, in fact, granted to Embratel."[18]

In 1976 the scope of CAPRE was widened. CAPRE would be

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[16] Ibid.

[17] Ibid., p. 4.

[18] Ibid., p. 3.

responsible to propose a national policy for informatics;[19] CAPRE would also approve (or not approve) all importation of computers or computer parts.[20] At this point, Brazil was spending upwards of $275 million annually on data processing. International Business Machines (IBM) held 65 percent of the market; Burroughs followed IBM with 17 percent. Only IBM assembled computers in Brazil. All other computers were imported. Brazil was increasingly concerned with balance of trade and payments. CAPRE established a quota of foreign currency for data processing items.[21]

In 1977, realizing that minicomputers would play an important role in informatics and would provide alternatives for users, CAPRE established a priority for the use of imported products. Priority would be given to projects with:

1. high nationalization content,
2. high exporting potential,
3. high technological absorption capacity, or,
4. total technological transfer in the case of joint ventures,
5. controlling capital owned by Brazilians.

The market share held by firms would also be considered when prioritizing projects. These criteria were applied first to the selection of mini-computer manufacturers and later to the

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[19]'Informatics' is used to describe computer-communications of all kinds.

[20]Ripper, et al, p. 5.

[21]Ibid.

manufacturers of peripherals. Four firms were chosen; all were Brazilian-owned. Foreign technology transfer was approved for the first generation of manufacturing. Future generations were to be developed in Brazil. "Brazilian companies using their own technology would...receive priority in the quota."[22]

In 1979 two regulatory instruments "created the regulatory conditions within the scope of the Ministry of Communications for the administration of Transborder Data Flow."[23] First, rental rates for international circuits for private use were regulated beginning in 1978.[24] Firms wishing to rent facilities were obliged to give the Brazilian government information as to their proposed usage of international circuits.[25] Equipment for connecting "data terminals, computers or private networks in Brazil with similar equipments or systems instaled [sic] in foreign countries,...[would]...be allowed, only after evaluation from the pertinent governmental agencies, of its convenience and compatibility with National objectives."[26]

Second, in October of 1979 the Special Informatics Agency (SEI) was established to succeed CAPRE. SEI was to propose and execute the National Informatics Plan. SEI's mandate includes "all aspects of the use and manufacture of computers and

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[22] Ibid.

[23] Ibid., p. 4.

[24] Ibid., p. 3.

[25] Ibid.

[26] Ibid., p. 4.

electronic components. One of its explicit responsibilities is the regulation of transborder data flows and data processing services supplied by other countries."[27]

The method selected to regulate transborder data flows was to require firms to apply to the government for a licence to lease the facilities needed to perform international communication functions. If the applicants want to use the facilities for other services, they must reapply.[28] Upon receipt of the application, the proposed service is analyzed to determine its economic impact, its implications in terms of privacy and its possible effect on national sovereignty.[29]

The economic analysis takes into consideration: cost/benefits; the relations of services to the applicant's objectives and operation; local alternatives; local market impact; labour market impact; balance of payments; technology transfer; and use of local equipment.[30] Analysis in terms of privacy takes into consideration the sensitivity of the data as it affects individuals and national institutions, the volume of data and where it is stored.[31] "Sovereignty is evaluated through the degree of dependency introduced in the country and its

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[27] Ibid., p. 6.

[28] Ibid., p. 8.

[29] Ibid., p. 7.

[30] Ibid ., pp. 7-8.

[31] Ibid., p. 8.

companies caused by the use of the services proposed."[32]

Applications received up to January of 1980 included: proposals for an air seat reservation system; a commercial time-sharing service; commercial information services; multinational and national corporate services; and demonstration systems.[33] Approval was granted for the air seat reservation system on the grounds that:

1. the nature of the service was international
2. there was no apparent danger to privacy
3. it would be operated by a Brazilian company
4. it would have a positive impact on balance of payments

Although all terminals had to be acquired from the Brazilian market, importation of the necessary software and communication hardware was permitted.[34]

Commercial time-sharing services were not approved because:

1. they impacted balance of payments negatively,
2. they would inhibit the development of Brazilian time-sharing services,
3. they would compete unfairly with Brazilian service bureaux,
4. they would impact the national minicomputer industry,
5. they would contribute to the storage abroad of information on Brazilian citizens, and

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[32] Ibid.

[33] Ibid., p. 9.

[34] Ibid., pp. 9-10.

6. they could negatively impact the creation of a Brazilian software industry.[35]

Applications for commercial information services were denied on the grounds that if Brazil were to have control of its own data - a necessity in terms of national sovereignty - then national data banks should be built and maintained in Brazil.[36] Recently, Brazil refused to permit IBM, among others, to link via satellite to international data bases. Corporations have been required to build facilities in Brazil using Brazilian labour.[37]

Where multinational subsidiaries' applications related to the international operations of the firm and did not imply remittance of foreign funds, approval was granted. However, applications of a local nature that could negatively impact balance of payments, local labour, privacy or technology were denied.[38]

All applications for demonstration purposes were approved because of their limited scope and non-remittance of foreign funds.[39]

Approval of applications can contain conditions such as an obligation to nationalize some of the proposed services. The

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[35]Ibid., p. 10.

[36]Ibid., p. 11.

[37]David Sanger, "Waging a Trade War Over Data", New York Times, March 13, 1983, p. 3.

[38]Ripper, et al, p. 11.

[39]Ibid.

term of licence is for a maximum of three years. Applicants must re-apply upon expiration of their licence.[40]

In December, 1982 Brazil added the requirement for companies in Brazil to "use Brazilian software if it is 'similar' to software available elsewhere."[41]

Sweden

Swedish law has allowed free access to public records since 1776. This tradition came into conflict with security concerns.[42] In 1974 the Swedish Data Bank Statute went into effect. It discouraged the flow of personal information out of Sweden by:

1. requiring exporting firms to register or obtain licences;
2. limiting the length of time that data can be retained abroad;
3. regulating secondary use, sharing and dissemination of data;
4. establishing rights of access, notice and correction of obsolete or incorrect data;
5. attaching responsibility for security and confidentiality of records to the licensee; and

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[40] Ibid., p. 8.

[41] Sanger, p. 26.

[42] Robert P. Burton, "Transnational data flows: International status, impact and accommodation", Data Management, June 1980, p. 33.

6. providing sanctions, including imprisonment, for breaches of the statute.[43]

The Swedish Data Inspection Board is responsible for enforcing the Data Act and has denied permission for export of Swedish personal data to foreign facilities even if Swedish facilities could not complete the task.[44]

The Board also refused an application to use a mailing list developed by Readers' Digest; the list contained virtually all households in Sweden. License was denied because of the comprehensivness of the list and because the list was maintained outside Sweden. The Board suggested that Readers' Digest set up and maintain a list in Sweden and rent it to others. The Board's decision was appealed and overturned. The result was an amendment to the Data Act in January 1977 to allow creation and maintenance of comprehensive personal lists provided that the subjects of the lists are clients of the list owner and agree to be on the list.[45] This legislative concession clearly de-emphasizes any Swedish employment concerns which may have been addressed, however indirectly, in the earlier Act.

The Act was amended again on May 31, 1979; the amendment focuses on the issue of privacy.

> If there is reason to suppose that personal data will be used for automatic data processing abroad, the data may be delivered only after permission from the Data Inspection Board...Such permission may be given only if

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[43]Richard P. McGuire, "The Information Age: an introduction to transborder data flow", Jurimetrics Journal, Fall 1979, pp. 4-5.

[44]Ibid., p. 5.

[45]Ibid.

it may be assumed that the delivery of the data will not involve encroachment upon personal privacy.[46]

It would appear that in practice, privacy of individuals can be traded off against economic considerations. For instance, the fire department in a small Swedish city is equipped with video terminals which permit the fire department, when called to a specific address, to obtain a read-out from a central data bank. The read-out includes: a plan of the street; the names and number of occupants; and, in some cases, a plan of the dwelling. The video displays are in Sweden; "the central storage facility and processing installation...[was]...in Cleveland, Ohio."[47]

The transborder data flow debate in Sweden since 1979 has centered on the protection of privacy while at the same time "allowing free and balanced transborder data flow."[48] This stance is very much in line with the OECD's current guidelines.

Other National Responses

Many other nations have enacted data protection legislation; many more are drafting laws to provide data protection. Some laws include restrictions as regards transborder flow of information.

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[46]Burkert, p. 95.

[47]Thomas R. Pickering, "International Information Exchange", Communications and the Law, Vol.2, No.1, Winter/80, pp. 28-29.

[48]"Swedish National Report", p. 490.

Austria's Federal Data Protection Act protects natural and legal persons. The Data Protection Commission must approve export of personal data.[49]

Denmark's data protection laws include in their provisions the public and private sectors. Danish laws restrict data collection if the intent is to use it abroad.[50]

Norway's Personal Data Registers Act applies to natural and legal persons. "Permission is required to process data for a third party, to conduct opinion polls or market investigations for a third party or to transfer data abroad."[51]

France's Law Concerning Data Processing, Files and Civil Liberties is broader than most other countries. The law extends to manual files as well as automated files. It "requires a declaration to the National Commission on data processing prior to any automatic processing of nominative data." Data cannot be exported unless the receiving nation provides equivalent protection.[52] France has indicated that it may not abide by the OECD's Guidelines because some member countries do not "...[guarantee]...by law the confidentiality of information."[53] The United States and Canada are two such countries.

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[49]Burton, p. 31.

[50]Ibid., p. 32.

[51]Ibid., p. 33.

[52]Ibid., p. 32.

[53]Ibid., p. 29.

Some national legislation also restricts the collection and usage of demographic data within the country. France, again, serves as an example of the comprehensiveness of some national legislation.

> [French]...law states that no administrative or private decision resulting in a judgement on human behavior may use as its basis automatically processed data which outline the profile or personality of the person concerned...One clause particularly affecting foreign-based firms or multinationals in France requires the operator to indicate when processing will result in name-linked data being sent out of France. France prohibits the storage of data showing racial origins and political or religious opinions except for churches which may keep a list of their members.[54]

Denmark's data protection law restricts the use of information on "private or financial matters of persons, institutions, associations or enterprises." Consent is usually required for collection of personal information such as race, religion, skin colour, criminal record, drug use. "Denmark, in general, restricts communication of information more than five years old. It requires corrections to be sent to previous recipients of information..."[55]

German law requires that a contract exist between the information collector and the data subject.[56]

Luxembourg's Data Bank Bill "forbids the collection and processing of data about a person's political, trade union, philosophical, religious opinions or activities." Penalties for

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[54] Ibid., p. 32.

[55] Ibid.

[56] Ibid.

breaking the law range from a 1,000,000 franc fine to confiscation and destruction of the data banks.[57]

These are but a few illustrations of nations' attempts to provide protection for individuals and firms at a time when collection of information is accelerating world-wide. European countries are particularly concerned about the threat to citizens and to national sovereignty should information fall into foreign hands. The meaning of privacy in Europe has gone beyond the idea of seclusion. It has come to mean, in the context of information processing systems, the right to demographic anonymity.

International Fora

OECD and Council of Europe

Attempts of individual nations to control their information sectors have resulted in operational difficulties for multinational communication users. For instance, a German multinational established a central personnel information system in Sweden. The purpose of the system was to provide information for administration and planning. Because the file contained detailed personal information on employees, Swedish authorities

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[57] Ibid., p. 33.

denied permission to export the information.[58]

In another case, a wholly-owned German subsidiary of an American multinational firm is regulated by German bank law. This excludes the subsidiary from on-line processing services normally performed for all subsidiaries at the parent firm's processing centre in Chicago.[59]

Efforts on the part of multinational firms to work around national laws and regulations have resulted in somewhat bizzare accommodations. One firm "rented a house which straddled the border of two European countries to maintain the option of having computer tapes in the venue most expedient to management purposes."[60]

The OECD and the Council of Europe have attempted to harmonize national approaches. Ordinarily one could not discuss the OECD and the Council of Europe as though they were similar; their constituencies and mandates differ greatly. However, their approach to the protection of individuals' rights to privacy is similar. This discussion will focus on their treatment of privacy protection.

On September 23, 1980 sixteen member governments of the Organization for Economic Co-operation and Development (OECD) adopted guidelines for protection of privacy of personal

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[58]P. Howard Patrick, "Privacy Restrictions on Transnational Data Flow: A Comparison of the Council of Europe Draft Convention and OECD Guidelines", Jurimetrics Journal, Summer 1981, p. 406.

[59]Ibid.

[60]Ibid.

information[61] in an effort to "harmonize national privacy legislation and, while upholding...human rights,... prevent interruptions in international flows of data."[62] The OECD guidelines are not legally binding; they carry moral force only.[63] They apply to information in both public and private sectors.

The Council of Europe's (CoE) Convention for the Protection of Individuals with Regard to Automatic Processing of Personal Data was formally signed by the Committee of Ministers on January 28, 1981. Unlike the OECD Guidelines, the CoE Convention will be legally binding.[64] Like the OECD Guidelines, the Convention applies to information held by both public and private sectors. The Convention cannot come into effect until five (5) nations sign the treaty. So far, four nations have signed. It is anticipated that a fifth signature will be forthcoming by the Summer of 1984.

These international conventions have several recommendations in common vis-a-vis privacy protection. Both recommend:

1. giving individuals the right to be aware of, to access, and, if necessary correct personal data held in data banks;

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[61] Ibid., p. 407.

[62] OECD, Guidelines on the Protection of Privacy and Transborder Flows of Personal Data (Paris: OECD, 1981), p. 5.

[63] Patrick, p. 407.

[64] Ibid.

2. limiting the use of personal data to that specified at the time of collection;

3. ensuring that personal data is collected only with the knowledge and consent of data subjects; and

4. limiting the collection of personal data.

The CoE convention, through specificity, offers more protection to the data subject than do the OECD guidelines. The CoE Convention's Article 6 states:

> Personal data revealing racial origin, political opinions or religious or other beliefs, as well as personal data concerning health or sexual life, may not be processed automatically unless domestic law provides appropriate safeguards. The same shall apply to personal data relating to criminal convictions.

The OECD Guidelines' Paragraph 7 is more general.

> There should be limits to the collection of personal data and any such data should be obtained by lawful and fair means and, where appropriate, with the knowledge or consent of the data subject.[65]

Both the OECD Guidelines and the CoE Convention stress the importance of free flow of information. The OECD Guidelines contain four Basic Principles of International Application addressing free flow and its legitimate restrictions. Member countries should:

1. take into consideration the implications for other member countries of domestic processing and re-export of personal data, particularly where processing in one member country would result in the non-observance of the Basic Principles of National Application

2. take all reasonable and appropriate steps to ensure that transborder flows of personal data, including transit through a member country, are uninterrupted and secure

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[65] Ibid., p. 414.

3. refrain from restricting transborder flows of personal data between itself and another member country except where the latter does not yet substantially observe these guidelines or where the re-export of such data takes place from one member country to another country which has not yet taken the necessary measures in its legislation or otherwise for the protection of privacy and individual liberties to ensure observance of the basic principles of national application

4. avoid developing laws, policies and practices in the name of protection of privacy and individual liberties which, by exceeding requirements for the protection of privacy and individual liberties are inconsistent with the free transborder flow of personal data.[66]

The CoE Convention puts the onus on contracting treaty members to provide safeguards for personal data and to "establish appropriate sanctions and remedies for violations. Transborder flows between contracting parties may not be restricted solely for the purpose of protecting privacy."[67]

It would appear that the architects of both the OECD Guidelines and the CoE Convention were concerned that members might attempt to address other issues such as economic concerns under the guise of privacy protection.

The OECD's Working Party on Transborder Data Flows is currently chaired by Dr. Peter Robinson, Canadian Department of Communications transborder data flow specialist. The group has expanded its mandate since releasing the OECD Guidelines. Their terms of reference now include the economic and legal problems relating to international flow of data.

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[66]Burton, pp. 28-29.

[67]Ibid.,p. 29.

The International Bureau for Informatics (IBI)

The IBI was formed under the auspices of the United Nations. Member nations include France, Iraq, Iran, Israel, Italy, Jordan, Lebanon, Spain as well as some Latin American and African nations. The IBI's broad mandate is to assist people to live "in the context created by informatics".[68]

In June, 1980, an IBI-organized World Conference on Transborder Data Flow Policies was held in Rome. Twenty-seven major issues were identified for discussion. Conference papers were published in a 722-page volume Transborder Data Flow Policies. The world conference resulted in the formation of three International Working Parties to analyze economic and commercial effects of transborder data flow, to discuss data protection and international law, and to study the international environment of transborder data flow.[69]

The IBI has conducted world surveys of transborder data flow policies and attitudes of governments, telecommunication authorities and companies. "The objective of the surveys was to obtain factual information on the status of...[transborder data flow]...policies, national objectives, international communication facilities, users and issues requiring

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[68]Burton, p. 29.

[69]"IBI TDF Working Parties Meet", Transnational Data Report Vol IV No 4, June 1981, p. 15.

multilateral consideration, from countries and companies in all regions."[70]

The IBI focuses on the concerns and priorities of developing and Third World nations.

The International Organization for Standardization (ISO)

The International Organization for Standardization (ISO) is a technical standards organization that, together with the International Electrotechnical Commission (IEC) sets most of the detailed technical standards for electronic and communications products on a global basis.[71] ISO's membership includes representatives from eighty-nine(89) nations. Over seventy percent of ISO's members are government institutions (eg. the Standards Council of Canada) or organizations incorporated by public law; the remaining members have close links with government agencies (eg. the Canadian Standards Association).

ISO's mandate is to promote development of standards which would facilitate the international exchange of goods and services.[72] As the mandate suggests, the ISO endeavors to ensure

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[70]"World TDF Survey Results Readied by IBI", Transnational Data Report, Vol V, No 7, October/November 1983.

[71]Charles M. Firestone, ed., International Satellite Television: Resource Manual for the Third Biennial Communications Law Symposium (Los Angeles: University of California, 1983), p. 372.

[72]Telephone conversation with a representative of the Standards Council of Canada, June 19, 1984.

technically unimpeded flow of international computer/communications goods and services.

Summary of the International Picture

This discussion of responses to the issues raised by transborder data flow has shown that a growing number of nations are aware of the issues, and a growing number of nations are addressing the issues with legislation. Privacy protection for data subjects dominates the existing and pending legislation.

The OECD and the Council of Europe have tried to address the very real possibility of nations using the guise of privacy protection to address other issues such as loss of national employment, payment deficits and protection of native industries. Brazil stands out in stating explicitly that their legislation is aimed at mitigating the effect of transborder data flow on their economy.

Although protective legislation exists, the international community recognizes the importance of transborder data flow in many areas of international cooperation such as systems used for airline reservations, international banking, and those used to combat international crime. In 1982, France made an exception to its stringent data protection law by announcing the creation of a computer file on terrorists. The French government wanted to

"set an example of 'scrupulous respect' for the law."[73]

In summary, the legislation discussed in this section reflects the legitimate concerns of nations and international fora. The challenge is to recognize the concerns and understand the reasons behind them so that future agreements can guarantee protection of rights while ensuring that international flow of data is not unnecessarily impeded.

Implications for Canada

Canada, although a leader in discussions on transborder data flow, has yet to formulate national policy or enact legislation. Canada's Privacy and Freedom of Information Acts apply only to information held in public files and do not refer to transborder data flow. The Office of the Privacy Commissioner is relatively new. John Grace, Privacy Commissioner, said, "The new Office of the Privacy Commissioner opened in time to be in full operation for the arrival of 1984..."[74] Because the office is recent and because the Privacy Act addresses only information held by the federal government and does not mention transborder data flow, the Privacy Commission will not be discussed in detail within this study. Canada has, so far, abstained from adopting the OECD's voluntary guidelines. The reason,

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[73]Unknown, "French Government Bends Data Protection Laws", Transnational Data Report Vol V No 6, p. 292 .

[74]Tom Riley, ed., "What Was Said", Transnational Data Report, Vol VII NO 2, March, 1984, p. 89.

originally, was that Canada was not prepared to commit itself to one part (privacy) of what is really a much larger concern.[75] However, in May 1984, Canada's External Affairs Minister, Allan MacEachen, announced at a meeting of ministers of the OECD in Paris that Canada will commit itself to the guidelines. The provinces are meeting and are expected to make a statement on May 25, 1984. On May 24, 1984 The Royal Bank of Canada announced that they had adopted the OECD guidelines.[76]

It stands to reason that if Canada does not respond with a transborder data flow policy, it runs the risk of excluding itself from information exchange with treaty members of the Council of Europe, possibly OECD member nations, and nations who are signatories of neither international body but who have their own national policies. Canada's access to international information could be severely limited.

The concluding chapter will attempt to determine why so little has been done in Canada to address transborder data flow concerns. Some measures described in this chapter are appropriate for and can be adopted by Canada. These options will be explored.

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[75]Elizabeth Kriegler, "Canadians Seek Better Understanding of TDF Implications", Transnational Data Report Vol IV No 5, July 1981, p. 26.

[76]McMonagle, Duncan, "Canada supports computer privacy", The Globe and Mail, May 25, 1984, pp. 1-2.

IV. Canada

Transborder data flow, as defined in this study, has evolved into an issue in Canada over a period of approximately fifteen years. This chapter will describe the major events which have led to ever-increasing dialogue and, more recently, heated debate over what should be done (or not done) to mitigate threats posed by unrestricted transborder data flow. A description of events will identify the major actors involved, the issues being addressed and actors' positions in the debate.

The major events in the evolution of the transborder data flow issue in Canada are comprised primarily of Canadian federal government commissions and task forces. However, some Canadian laws have been cited internationally as legislation which would restrict the flow of data from Canada and mitigate privacy concerns. The 1980 Bank Act, in particular, has been the subject of international debate. This chapter will begin with an in-depth discussion of this Act. A brief discussion of other legislation which has drawn international comment will follow the Bank Act discussion. Although I conclude that none of Canada's legislation is aimed at or capable of decreasing the flow of data from Canada, it is important to include it in this study for two reasons. First, the legislation is cited as restrictive within the international transborder data flow debate. Second, the Bank Act is cited in the recommendations of

one of the major Canadian task forces (the Clyne Committee) as an example of legislation which should be extended. A description of federal government task forces and commissions, their findings and recommendations will be provided after the discussion on Canadian legislation.

Canadian Legislation

The Bill to Revise the Bank Act

It is not my intent to discuss the Canadian banking industry exhaustively. Rather, I will limit my discussion to those parts of the industry and the Act which are related to transborder data flow. This section will begin with a brief description of the history of Canada's Bank Act. This will provide the background for a detailed discussion on the most recent revision to the Act; a revision which drew international attention to Canada because it was interpreted by many as legislative restriction of transborder data flow and as groundwork for further restrictions.

The British North America Act of 1867, Sections 91 and 92, divided exclusive legislative authority between the federal and provincial governments. Section 91 gave the federal government "exclusive authority to legislate on 'currency and coinage' and on 'banking, incorporation of banks, and the issue of paper

money'."[1] Section 92 gave the provinces legislative authority for "the incorporation of companies with Provincial objects."[2]

The federal government enacted the Bank Act in 1871 to provide for the incorporation of new banks and to provide the charter for incorporated banks[3]; hence the label 'chartered banks'.[4]

As of April, 1984 Canada had seventy-one (71) chartered banks. Of these, twelve (12) are Canadian, fifty-eight (58) are foreign, and one is a 'Schedule B' bank.[5]

The Bank Act gives chartered banks the authority to carry on business for ten years. Every ten years, the authority is extended for another ten by revising the Bank Act. This revision process is by no means simple. Preparations for the revision of the 1967 Bank Act, due to be complete by 1977, began in 1974. Revisions were not passed by Parliament and the Senate until 1980.[6]

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[1] J.A. Galbraith, Canadian Banking (Toronto: The Ryerson Press, 1970), p. 3.

[2] Ibid.

[3] Ibid., p. 4.

[4] Financial institutions such as trust companies, credit unions and caisses populaires - called 'near-banks' - are not governed by the Bank Act.

[5] A schedule B bank is one that has applied for incorporation under schedule B of the Bank Act but whose application has not yet been passed by the Senate or the House of Commons as an Act of Parliament.

[6] For a clear and palatable explication of the process, please read The Canadian Bankers' Association's publication Bank Act Revision 1980 Prologue and Epilogue.

Bill C-57, the first Act to revise the 1967 Bank Act, was introduced by the Honourable Jean Chretien, Liberal Minister of Finance, in May of 1978. Proposed changes were extensive enough to change the Bank Act from a "brief and simple statute" to "a volume as large as a big-city telephone directory."[7] Because of the magnitude of changes, no action could be taken by the end of that Parliamentary session. Bill C-57 was reintroduced at the new session as Bill C-15 on November 2, 1978.

One of the changes was in the "location of records" portion of the Bill. Foreign banks in Canada who processed and stored data abroad made it impossible for the Office of the Inspector General to conduct a proper audit of their operations. It was necessary to ensure that the records of all banks doing business in Canada would be readily accessible to the Office of the Inspector General of Banks. The "location of records" section will be examined in some detail as it is the section of the Bank Act which has been construed, internationally, as an attempt on Canada's part to restrict transborder data flow. Bill C-15 Section 156 subsection 4 read:

> A bank shall not process, store or otherwise maintain any of its corporate clients' records at a location outside Canada or transmit data relating to any such record to a point outside Canada with the object of having that data processed, stored or maintained outside Canada but this subsection shall not be construed to prohibit a foreign bank subsidiary from submitting to any foreign bank that holds in excess of ten percent of the voting shares of the foreign bank subsidiary such

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[7]Canadian Bankers' Association, Bank Act Revision 1980 Prologue and Epilogue (Toronto: Canadian Bankers' Association, 1981), p. 9.

information as the foreign bank considers necessary to support any guarantees or obligations that the foreign bank may be requested to issue by the Inspector or the foreign bank subsidiary.

The penalty for contravention of this section could be a fine not exceeding $5000.00, a prison term not exceeding six months, or both.

The House Standing Committee on Finance Trade and Economic Affairs was presented with briefs explaining why Section 157(4) in its present form was not a good idea.

On November 21, 1978 a brief from The Banking Federation of the European Economic Community was entered as evidence. The brief stated that, with the exception of foreign bank guarantee obligations, Section 156(4) would prohibit transfer of information from a foreign bank subsidiary to its parent. The Federation went on to suggest that "if adequate records required by the Bill are properly kept in Canada, there should be no restriction on the transmission by a foreign bank subsidiary of information to its foreign parent bank..."[8]

On January 30, 1979, the Committee introduced a brief prepared by Barclays Canada Limited. Barclays reminded the Committee that the new revision to the Bank Act would be in effect for ten years and that it was impossible to project whether or not technological developments would make it economically feasible for small banks to take advantage of in-house computer facilities. Until the costs come down

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[8]House of Commons Minutes of Proceedings and Evidence of the Standing Committee on Finance, Trade and Economic Affairs, November 21, 1978, p. 6A:33.

considerably, Section 156(4) puts small banks at a disadvantage compared with large banks. Barclays suggested that "the Inspector General of Banks be empowered to authorize at least the processing of data abroad, provided that adequate safeguards, which are to his satisfaction, are met."[9] It is my opinion that the real issue raised by Barclay's was that a measure of head office control could be lost if processing were decentralized.

On December 7, 1978, amendments proposed by the Canadian Bankers' Association (CBA) were entered as evidence.[10] The CBA observed that equivalent provisions to Section 156(4) did not appear in the Canada Business Corporations Act; the CBA could see no reason why banks should be subject to provisions different from those under other legislation.

The CBA also stressed the importance of banks in Canada being able to access specialized data processing services not available in Canada; systems such as financial modelling and statistical analysis.

The CBA noted that the provisions in Section 156(4) were not proposed in any departmental studies on transborder data flow (eg. Privacy & Computers, Branching Out) and, in fact were contrary to previous government thinking on transborder data

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[9]House of Commons Minutes of Proceedings and Evidence of the Standing Committee on Finance, Trade and Economic Affairs, January 30, 1979, p. 33A:7.

[10]House of Commons Minutes of Proceedings and Evidence of the Standing Committee on Finance, Trade and Economic Affairs, December 7, 1978, pp. 17A:64-67.

flow policy. The CBA suggested that Section 156(4) should read as follows:

> A bank shall not store or otherwise maintain any of its corporate or customers' records at a location outside Canada with the object of having that data stored or maintained outside Canada **unless a record of the same information is also stored or maintained within Canada.**[emphasis added]

In the Report to the House on March 19, 1979, the Standing Committee recommended that "banks be allowed to process, maintain and store data records outside Canada provided that the Inspector General of Banks is given details of such data and guaranteed access to it at all times through the maintenance of a record of the same information in Canada."

A federal election was held in June of 1979. The Conservative party came to power.

On October 23, 1979, Bill C-14, an Act to revise the Bank Act, was introduced by the Honourable John Crosbie, Minister of Finance. Section 156(4) had been changed to read as follows:

> (4) A bank shall maintain in Canada
> (a) a record showing, for each customer of a bank on a daily basis, particulars of the transactions between the bank and that customer and the balance owing to or by the bank in respect of that customer, and
> (b) all registers and other records referred to in subsection (1), and shall maintain and process in Canada any information or data relating to the preparation and maintenance of such records.
>
> (4.1) Subject to subsection (4.2), a bank may maintain copies of any records and registers referred to in subsection (4) and may further process information or data relating to such copies inside or outside Canada.
>
> (4.2) Where a bank, in accordance with subsection (4.1), maintains copies of any records or registers referred to in subsection (4) or further processes information or data relating to such copies outside Canada, the bank

shall so inform the Inspector and provide him with a list of those copies maintained outside Canada and a description of the further processing of information or data relating to such copies outside Canada and such other information as the Inspector may require from time to time; and in the event that the Inspector is at any time of the opinion that the further processing outside Canada of information or data relating to any such copies, is incompatible with the fulfillment of his responsibilities under this Act, he may direct the bank to further process information or data relating to such copies in Canada and the bank shall forthwith comply with any such direction.

In December 1979, the Conservative government was defeated; the Liberal party came to power in February, 1980. The Honourable Pierre Bussieres, acting for the Honourable Allen MacEachen, Minister of Finance, introduced Bill C-6, an Act to revise the Bank Act.

Section 156(4) in Bill C-14 became Section 157(4) in Bill C-6. There were few changes. The text of Bill C-6 Section 157 subsections 4, 5, and 6 follow. Differences from Bill C-14, Section 156(4) are in bold type.

(4) A Bank shall maintain in Canada

(a) a record showing, for each customer of the bank on a daily basis, particulars of the transactions between the bank and that customer and the balance owing to or by the bank in respect of that customer, and

(b) all registers and other records referred to in subsection (1),

and shall maintain and process in Canada any information or data relating to the preparation and maintenance of such records.

(5) Subject to subsection (6), a bank may maintain copies of **or take extracts from** any records and registers referred to in subsection (4) and may further process information or data relating to such copies **or extracts** inside or outside Canada.

(6) Where a bank, in accordance with subsection (5), maintains copies **or extracts** of any records or registers

> referred to in subsection (4) or further processes information or data relating to such copies or extracts outside Canada, the bank shall so inform the Inspector and provide him with a description of the nature of those copies or extracts maintained outside Canada and such other information as the Inspector may require from time to time; and in the event that the Inspector is at any time of the opinion that the further processing outside Canada of information or data relating to any such copies or extracts is incompatible with the fulfillment of his responsibilities under this Act or he is advised by the Minister that, in the opinion of the Minister, such further processing is not in the national interest, he shall direct the bank to further process information or data relating to such copies or extracts in Canada and the bank shall forthwith comply with any such direction.

Bill C-6 was given Royal Assent on November 26, 1980; six years after the revision process began.

The progression, in terms of 'Location of Records' as it relates to restriction of transborder data flow, was from very restrictive (Bill C-15) to not at all restrictive (Bill C-6). The Bank Act, as it now stands, requires some processing to be done in Canada.

Mandatory processing, in this case, refers to processing required, on a daily basis, to prepare and maintain records showing details of transactions between the bank and its individual customers, and balances owing to or by the bank in respect to its customers. The Act goes on to stipulate that "a bank may maintain copies of or take extracts from any records and registers referred to in subsection (4) and may further process information or data relating to such copies or extracts inside or outside Canada."[emphasis added] The Inspector General of Banks must be informed and provided with a description of the data and the further processing to be performed on it.

These 'mandatory processing' provisions in the Bank Act have been labelled draconian by individuals espousing an open skies policy. If the Act had stopped at Section 157(4), it might have been reasonable, from an open-skies perspective, to call this legislation restrictive. However, subsection (5) permits "copies of or extracts from" bank records to be processed inside or outside Canada. When one transfers data or information from one computer to another, the transfer is non-destructive; a copy is transferred. Unless deliberately destroyed, the original remains intact at the originating site. At its worst, in terms of restriction of free flow of information, this Act may delay information transfer. It does not, however, restrict the flow.

Nevertheless, this legislation has drawn attention, internationally, to Canada. Canada's Bank Act is cited regularly when lists of nations who restrict international data flow are presented. A common ocurrence within commentaries on the Bank Act is a statement that banks must get the permission of the Inspector General before exporting data. A telephone conversation with Ursula Menke, legal council for the Office of the Inspector General of Banks revealed the following:

1. banks must inform the Inspector General, not seek permission to process data abroad. The Inspector General has not, to date, recalled any processing to Canada. This would only happen if the Inspector became aware that the data would be used for fraudulent and/or illegal purposes;
2. the 'national interest' portion of Section 157 would be

invoked if, for instance, a bank were to transfer information to an enemy of Canada. The bank would be ordered to stop for reasons of national interest. Again, this has not happened; and,

3. the purpose of Section 157 is to ensure that information is readily available to the Office of the Inspector General for auditing purposes; Section 157 was not intended to address transborder data flow issues.

In summary, the revised Bank Act does not affect the flow of data leaving Canada; it can only affect the timing of the flow. It is true that the revised Act imposed additional costs on foreign banks whose usual practice was to send daily records by satellite to London or New York to be processed and returned by start of business the next day.[11] Some duplication of information and processing facilities has resulted. However, in 1981, Marc E. Leland, Assistant Secretary of the U.S. Treasury for International Affairs summarized the effect of Section 157(4) on U.S. banks.

> We have examined the provisions of the Canadian Bank Act carefully and are in close contact with the U.S. banking community. We understand that no American bank is experiencing serious difficulties as a result of these provisions. As a practical matter, most of this processing would have been done in Canada in any event, and we have been assured by the Canadian authorities that their regulations will not interfere with the free flow of information necessary for the banks to manage their operations both in Canada and globally.[12]

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[11]Sanger, p. 3.

[12]Statement submitted to the House Government Information and Individual Rights Subcommittee of the Committee on Government Operations, December 9, 1981.

Domestic banks were not affected by Section 157(4). It did not result in any restructuring of data processing systems. Nor did it affect the cost of doing business in terms of information processing hardware, software or personnel. The mandatory processing required by Section 157(4) has always been done in Canada. Section 157(4) did not impact the banks' ability to interface with specialized off-shore systems such as the SWIFT payment system or financial modelling and statistical analysis systems. Section 157(4) was 'business as usual'.[13]

Other legislation

Other Canadian legislation has been cited internationally as legislation which would discourage transborder data flow and mitigate privacy concerns.[14] Having looked at the legislation, however, I have concluded that it does not restrict transborder data flow or ensure privacy protection. For instance, the Income Tax Act, Section 185(1) requires that:

> Every person carrying on business and every person who is required, by or pursuant to this Act, to pay or collect taxes or other amounts shall keep records and books of account (including an annual inventory kept in prescribed manner) at his place of business or residence

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[13]Conversation with Mr. Patrick M. Daly of The Royal Bank of Canada, March 1984. It must be noted that Mr. Daly's views represent his position and should not be interpreted as a position of the Royal Bank.

[14]Author unknown, "Transborder Data Flow: its Environment and Consequences", Transborder Data Flow Policies (New York: UNIPUB, 1980), pp. 640-643.

> in Canada or at such other place of business or residence in Canada or at such other place as may be designated by the Minister, in such form and containing such information as will enable the taxes payable under this Act or the taxes or other amounts that should have been deducted, witheld or collected to be determined.[emphasis added]

Subsection (4) goes on to say that:

> Every person required by this section to keep records and books of account shall, until written permission for their disposal is obtained from the Minister, retain every such record or book of account and every account or voucher necessary to verify the information in any such record or book of account.

This Act does not appear to prohibit transfer (electronic or otherwise) of copies of this information to locations outside Canada.

The Bankruptcy Act, Sections 5(3)(6)(7), 6(2)(3), 13(6)(7)(8), and 134 stipulates that the superintendent of Bankruptcy must keep, in Canada, a record of all licences and renewals issued to trustees. The Petroleum Administration Act Sections 26, 26, 27, 44(c)(d), 55, and 62(b) requires that everyone exporting petroleum must pay export charges and must keep books and records sufficient to enable determination of the sums to be paid (i.e. export data). These books and records must be kept at the exporter's place of business in Canada.

Other federal legislation cited as restrictive includes:

1. the Canada Pension Plan Act,
2. the Cooperative Credit Associations Act,
3. the Canada Corporations Act,
4. the Canada Business Corporations Act,
5. the Customs Act,

6. the Excise Tax Act,

7. the National Energy Board Act,

8. the Unemployment Insurance Act.

All place emphasis on keeping records concerned with Canadian business in Canada, readily accessible by Canadian agencies. None make mention of rules which would prohibit transfer of copies of information to other nations.

In summary, I could find no federal legislation cited as restrictive which would reflect a transborder data flow or privacy-centred concern.

Federal Government Commissions and Task Forces

The Telecommission Committee - 1969

In the fall of 1969, the federal Department of Communications under the Honourable Eric Kierans formed a Telecommission Committee to gather as much information as possible in order to determine the main issues and problems in telecomunications in Canada. The Committee was comprised of twenty-seven members from the departments of Communications, External Affairs, Industry Trade and Commerce, Justice, Transport, the Secretary of State, the Solicitor General, and from the Canadian Broadcasting Corporation, the Canadian Radio Television Commission, the Canadian Transport Commission, the National Film Board, the Privy Council Office and Telesat

Canada. The Telecommission submitted its final report, Instant World, in 1971.

Instant World documented the "present state and future prospects of telecommunications in Canada."[15] It did not recommend courses of action; rather, it presented "options for consideration."[16]

Although the words "transborder data flow" were not used in the report, the chapter on "The Marriage of Computers and Communications" stated the following concerns regarding "north-south" information flow. First,

> [F]or Canada, special problems of national interest are created by proximity to the United States, where economies of scale in the establishment of computerized data banks often more than off-set the transmission costs entailed in remote...access, giving rise to a perceptible trend towards the establishment of a north-south axis for information systems....[17]

Several examples of Canadian information being held exclusively in foreign data banks were given: insurance information stored in Connecticut; information on prices and available stocks of hardware stored in Ohio; information about real estate in four Canadian cities stored in Michigan. The danger lies in the fact that once Canada exports information, legal control over its use is forfeited. Canadian information held in foreign countries could be used for the "exclusive benefit of foreign commercial

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[15]Instant World, vii.

[16]Ibid.

[17]Ibid., p. 51.

interests."[18]

Second, the American lead in the establishment of computer service bureaux could result in north-south communications which would "hinder, or even prevent, the establishment of an indigenous computer-utility industry -- an industry that may...eventually become one of the largest and most vital in Canada."[19]

Third, if information on Canadian individuals and firms is stored and processed abroad, Canadian laws dealing with privacy or laws regarding the operation of Canadian corporations may be ineffective.[20]

Fourth, if foreign data bases provide instruction or education for Canadian students, there is a risk that the information will not be relevant to Canadian needs.

> The value of Canadian independence lies in the belief that life in Canada has advantages not available elsewhere and...it is precisely in the quality of life that computer/communications systems are expected to have the most far-reaching effects--for good or for ill.[21]

The Telecommission identified what are now the major international concerns vis-a-vis transborder data flow: the possibility of a threat to National sovereignty, a threat to the economic viability of the information sector, the possible

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[18]Ibid., p. 164.

[19]Ibid.

[20]Ibid.

[21]Ibid., p. 165.

threat to individual privacy, and the possible impact on cultural identity.

There was enough complexity and sense of urgency to the issues raised as a result of the study of the 'marriage of computers and communications' that two additional task forces were commissioned. The Canadian Computer-Communications Task Force was established in 1970; the Task Force on Privacy and Computers was commissioned in 1971.

The Canadian Computer-Communications Task Force - 1970

In 1970, before the publication of the Telecommission's final report, Cabinet established the Canadian Computer-Communications Task Force under the auspices of the Department of Communications. The objective of this task force was "to consider computers and communications in Canada in the nineteen-seventies...an attempt to sort fact from fiction, to differentiate between probabilities and promises, to take stock of the current situation, to determine the likely direction for future development, and to recommend fundamental policies to prepare for that future;"[22] to unravel the complexities found by the Telecommission when they examined the 'marriage of computers and communications'. This task force's final report, Branching Out, was published in 1972 and documented the "North-South Data

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[22]Department of Communications, Branching Out (Ottawa: Information Canada, 1972), p. 1.

Flow" issue in some detail. The task force found that:

1. most data exported to the U.S. is from subsidiaries of multinational firms to their U.S. parent;
2. part of the north-south information flow occurs because of the need for Canadian firms to access specialized information or services not readily available in Canada; an example was processing of seismic data and geophysical, geological and engineering analysis for the oil exploration sector;
3. the prime concern expressed by service bureaux in statements to the task force was that the Canadian information processing sector would lose business if subsidiaries of U.S.-based multinationals transferred their information processing activities to the parent company;
4. the lesser problem of Canadian firms using U.S. commercial data processing services was off-set by an increasing flow of information from south to north; and,
5. the dissatisfaction of Canadian users with computer/communications costs in Canada, possible acceleration of the trend to centralize U.S. multinational information processing "help to emphasize the growing problem for the future of data processing in Canada."[23]

Rather than recommend restriction of information flow from north to south, the task force recommended that the government take steps to stimulate the Canadian computer/communications sector

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[23] Ibid, pp. 134-6.

in order to make it more competitive. The goal of policies in computer/communications development should be toward improving service and availablity and reducing costs in Canada in order to off-set economic and technical incentives for processing data abroad.[24] To attain this goal, the government should:

1. give financial and technical assistance for research and development to suppliers of computer and communications goods and services in Canada;
2. purchase computer/communications goods and services from Canadian firms;
3. use moral suasion to encourage Canadian subsidiaries of foreign firms to use Canadian computer/communications services where possible; and,
4. review import tariffs for computer/communications goods not manufactured in Canada.[25]

The task force found it difficult to determine which commercial data processing services were available in Canada. It was recommended that firms offering commercial data services to clients via telecommunications facilities "should be required to register with an appropriate body, and file information on their corporate structure, and on their data services."[26] The report was quick to emphasize that implementation of this recommendation would not result in a discretionary licensing

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[24] Ibid., p. 133.

[25] Ibid., pp. 137-8.

[26] Ibid., p. 140.

system, but would provide consolidated information about available Canadian data processing services. The government could use the information to assist in formulating standards and policies.[27]

Task Force on Privacy and Computers - 1971

In April of 1971, the Departments of Communications and Justice established a task force on Privacy and Computers. This was the second task force commissioned as a result of the Telecommission's (1969) findings on 'The Marriage of Computers and Communications'. Their mandate was as follows:

> to examine the types of personal information collected, stored, processed and distributed by automated information systems both governmental and non-governmental, today and in the future;
>
> to examine procedures and mechanisms for collection, storage, processing and distribution of personal data vis-a-vis implications for privacy rights and related values; and,
>
> to examine and evaluate security procedures and methods used to prevent unauthorized access to computerized information systems.[28]

Their final report, Privacy & Computers, was published in 1972.

In an attempt to establish the location of files containing Canadian data, the task force sent questionnaires to 2,516 Canadian organizations; 1,268 firms responded. These

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[27] Ibid.

[28] Department of Communications/Justice, Privacy & Computers (Ottawa: Information Canada, 1974), p. 187.

organizations included associations concerned with "...education, welfare, insurance, health services and organized labour."[29] Also included were organizations from the current census of computers in Canada compiled by the Canadian Information Processing Society.[30] The questionnaires were supplemented by site visits with 43 organizations, briefs submitted by 187 associations, and responses to enquiries sent to thirteen American corporations known to store Canadian data.[31]

The following is an account of the task force's findings on location of data files:

> Only five responding organizations said they had all their files in the United States. And four of these were labour unions....Eight percent are wholly or partially in the United States; among them (aside from labour unions) were oil companies, insurance companies, health services, and lending institutions.[32]

Seventy-six replies stated that they would never store their data in the United States; thirty-four said they would.

All of the information exported to the United States is not received at a single location. If this were the case, we would not have such vague statistics as to the volume and type of data leaving the country. Credit bureaux transmit to credit bureaux; credit records reside in both Canada and the United States.

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[29] Ibid., p. 25.

[30] Ibid.

[31] Ibid., pp. 28-29.

[32] Ibid., p. 35.

Chances are very good that oil company credit card information will reside in Atlanta, Georgia. This information is accessible through a terminal in Toronto.[33]

The Medical Information Bureau (MIB) in Boston holds information on approximately one million Canadians or persons resident in Canada. MIB functions as a service bureau for insurance companies in Canada and the United States. The information is not purely medical data. Ninety percent of the reports made to MIB contain medical data; ten percent of the reports contain non-medical data.[34]

Market research firms whose headquarters are in the United States utilize computer networks to ensure that branch plant information is consolidated into the head office data base. Transborder flow of information from market research corporations takes on new dimensions when one realizes that, in addition to market research, these corporations also contract to do political surveys and attitudinal studies.[35]

As stated above, credit information is used for credit checks, medical information is used to avoid insurance fraud. But, corporations and agencies also have information exchange agreements. Organizations such as credit bureaux, regulatory agencies, law enforcement agencies, large industrial employers, insurance companies, merchandising houses, and employment

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[33] Ibid., p. 57.

[34] Ibid., p. 60.

[35] Ibid., p. 51.

agencies are most likely to trade or sell their information.[36] In the vast majority of cases, information on Canada and Canadians is not segregated from that of other nations.

The task force found that there is more information interchange than the public realizes. Especially significant was the fact that government officials frequently expressed concern as regards the collection and use of information by governments.

> Governments are potentially the biggest misusers of information collected on citizens...[Governments] should first articulate policies to prevent this.[37]

> There will be a natural tendency (justifiably motivated by efficiency) to integrate the data banks with similar banks of other departments....While there will be a tremendous improvement in the effectiveness of social services, we may also experience a considerable erosion of privacy...it is recommended that this aspect of integrated data banks be subject to some very specific policy guidelines.[38]

Concerns were also voiced with regard to inaccuracies in personal information stored in data banks. One Canadian life insurance company found an average of one error per policy when they converted their files from punched card to magnetic tape storage; the conversion was delayed for two years while information was verified and corrected.[39] Inaccuracies coupled with information exchange between firms and agencies, and the fact that in the majority of cases, personal information is

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[36] Ibid., p. 35.

[37] Ibid., p. 30, emphasis added.

[38] Ibid.

[39] Ibid., p. 36.

retained indefinitely even after the individual's relationship with the organization has ceased, led to an agreement that first, persons who are the subject of personally identifiable data records should have the right to "correct, rebut, update and expunge incorrect or obsolete information";[40] second, security standards should be required for data banks holding personal information; third, "standards for the acquisition and dissemination of information should be adopted;[41] and fourth, obsolete information should be removed from files periodically.[42]

The task force was surprised when there was general agreement that owners of data banks and suppliers or brokers of information should be licensed.

The report's conclusions were inconclusive. No recommendations were made to the government. The task force concluded that the word "privacy" is too limited to encompass the concerns raised by large information systems.[43] Areas of specific concern centre on the accuracy of stored data, the extent to which individuals, first, are aware that personal information has been collected, second, are aware of how the information is used, and, third, the extent to which individuals have access to information about themselves in order to verify

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[40] Ibid., p. 37.

[41] Ibid.

[42] Ibid.

[43] Ibid., p. 183.

and/or correct it.[44]

It was recognized that Canada faces particular problems because "a great deal of personal information about Canadians, much of it highly sensitive, is stored beyond Canadian borders and therefore out of reach of Canadian law."[45] It was suggested that this data flow should be "monitored and recorded, and consideration given to encouraging the development of databanks in Canada."[46] It was also noted that governments "could implement administrative rules, enforced by a central agency, possibly one with control over expenditures, and could also consider developing codes of ethics to govern research conducted with government funds."[47]

The task force, after one year of studying the issue of privacy and computers, concluded that, as of the early seventies, invasions of informational privacy were not widespread enough to constitute "a social crisis" and that appropriate preventive measures can make certain that it never will.[48]

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[44] Ibid.

[45] Ibid.

[46] Ibid., p. 184.

[47] Ibid.

[48] Ibid.

The Growth of Computer/Communications in Canada - 1977

In 1976 and 1977, a "sudden rush"[49] of enquiries as to what the federal government's attitude would be toward businesses moving their data processing out of Canada led to a study which attempted to quantify, in economic terms, the cost of transborder data flow to Canada. It is uncertain why the rush of phone calls happened at this time. One reason may be that the Canadian economy in 1976-1977 was declining and firms were attempting to find ways to decrease their expenditures in data processing.

The report, The Growth of Computer/Communications in Canada, released in March, 1978, provided the statistics and projections contained in Tables 1.1, 2.1, and 2.2 in Chapters One and Two of this study. The study identified a growing deficit in equipment, service and employment due to increased usage of foreign goods and services. This report was the first to concentrate exclusively on the economic impact of transborder data flow. Social issues such as cultural impact and danger to privacy were not discussed.

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[49] Telecommunications and Canada, p.63.

The Consultative Committee on the Implications of Telecommunications for Canadian Sovereignty - 1978

This committee chaired by the Honourable J.V. Clyne was appointed by the Honourable Jeanne Sauve, then Minister of Communications, to "advise on the implications of telecommunications for Canadian sovereignty." The Committee's final report, Telecommunications and Canada, was published in 1979.

This report concluded that "the government should act immediately to regulate transborder data flows to insure that we do not lose control of information vital to maintenance of national sovereignty".[50] It warned that continued export of Canadian data would:

1. reduce Canadian control over disruptions in service resulting from technical breakdowns or work stoppages;

2. reduce Canadian power to ensure protection against other events, such as invasions of personal privacy and computer crime;

3. lead to greater dependence on foreign computing staff, which would result in turn in lower requirements for Canadian expertise and a smaller human and technological resource base upon which systems specifically geared to Canadian requirements could be developed;

4. jeopardize the exercise of Canadian jurisdiction over companies operating in Canada which store and process their data abroad;

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[50] Telecommunications and Canada, p. 64.

5. undermine the telecommunications system in Canada by the use of foreign communications satellites and roof-top receiving antennas for the importation of data into Canada;

6. entail the risk of publication of information that is confidential in Canada;

7. give access to Videotex services based on foreign databanks emphasizing foreign values, goods, and services; and,

8. facilitate the attempts of the government of the United States to make laws applicable outside U.S. territory.[51]

The committee recommended that the government should:

1. launch a national awareness campaign to explain the social, economic and cultural implications of the new electronic information society...it should be the responsibility of the Department of Communications to monitor the development in this area;

2. require that data processing related to Canadian business operations be performed in Canada except when otherwise authorized;

3. consider the feasibility of extending the provision in the Bill to revise the Bank Act related to the prohibition of exporting client data for processing and storage abroad. This might be extended, for example, to the insurance and loan industries.

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[51] Ibid.

4. provide greater access to risk capital for Canadian corporations in data processing, to prevent foreign take-overs. Use government procurement more effectively in promoting Canadian enterprise in this area; and

5. promote more effective education and training for high calibre programmers, systems analysts, and others required for developing Canadian systems...[52]

In its conclusion, the Committee exhorted the Government of Canada to "take immediate action to establish a rational structure for telecommunications in Canada as a defense against the further loss of sovereignty in all its economic, social, cultural and political aspects."[53]

The Clyne Committee's findings and recommendations had little effect in Canada but increased the U.S. concern that Canada was moving toward restrictive policy.

Interdepartmental Task Force on Transborder Data Flow - 1980

The Interdepartmental Task Force on Transborder Data Flow was the first government task force commissioned to address transborder data flow specifically. The task force involved the Department of Communications, Industry Trade and Commerce, the

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[52] Ibid., p. 64-65.

[53] Ibid., p. 76.

Department of External Affairs, the MOSST, and the Justice Department. This list of departments is not complete. It is extremely difficult to obtain information as to the composition of this task force, their schedule of meetings, or the results of the various stages of task force investigations. The proposed terms of reference for this task force were, reportedly:

1. to provide the interdepartmental mechanism for joint planning and coordination of federal policies and programs relating to activities affected by transborder data flow, in particular the sovereignty and economic implications, and to advise the Government on these matters through the Minister of Communications;

2. to discuss and exchange information on the research programmes and projects, active or planned within the Government and other agencies, and to consider the trends in other countries and their effect on Canada;

3. to undertake joint interdepartmental research efforts designed to establish the necessary factual and conceptual basis for the development of relevant policy recommendations; and,

4. to develop the necessary processes or mechanisms to ensure an adequate data base on various aspects of transborder data flow and to recommend additional research as required.[54]

A final report was expected in early 1983. In October, 1983, the Toronto Star reported that the task force had been disbanded and that no recommendations for Canadian transborder data flow would be submitted to the Prime Minister. "The reasons for 'coming up empty' are said to be bureaucratic infighting and a wide

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[54]"Canadian TDF Task Force Named", Transnational Data Report, Vol IV No 4 June 1981, p. 15.

division of views between government and business".[55]

The focus of discussion on transborder data flow has moved primarily to matters of trade. Preliminary talks are under way with the United States to discuss the possibility of free trade in computer goods and services. Traditional trade concepts will have to be revised when computers and computer services are the goods to be traded. Provision must be made, for instance, to "clearly ...[distinguish]...between computing service and telecommunication service...[to determine]...which services will be offered on a competitive basis and which on a monopoly basis..."[56] The reworking of traditional trade concepts - concepts centred on trade of tangible goods - will necessitate lengthy negotiations.

Outcome

It is obvious from the foregoing discussion that the action taken as a result of major studies was to commission yet another study. Perhaps the reasons for so much study and so little action lie in the answer to one or more of the following questions.

1. Does transborder data flow pose a threat to Canada's national sovereignty, culture, individual privacy or Canada's economy, or are policy-makers caught up in

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[55]"Canadian TDF Task Force Dies", Transnational Data Report Vol VI No 8, December 1983, p. 440.

[56]Peter Robinson, "Transborder Data Flow: A Focus on Trade", April 1984, p. 14.

a fashionable issue that really should not concern Canadians?

2. Do policy-makers, on the one hand, recognize the urgency with which transborder data flow issues should be addressed but, on the other hand, feel so economically and politically vulnerable to retaliation that they cannot determine what Canada can afford to do?

3. Are the vested interests of the major actors so divergent that it is impossible to agree on a policy approach to transborder data flow?

It is my intent, in the conclusion to this study, to suggest that issues raised by transborder data flow are important and must be addressed. I will suggest how government, business and the general public can share the responsibility for action to at least mitigate the effects of transborder data flow on Canada, its culture, its citizens and its economy.

V. A Suggested Policy Approach

Actors in Canada's Transborder Data Flow Policy Debate

Major Industry Sectors

Three major data processing industry organizations have been actively involved in studying transborder data flow and lobbying the federal government on transborder data flow policy and regulation. The Canadian Independent Computer Services Association (CICS) and the Canadian Association of Data Processing Service Organizations (CADAPSO) represent Canadian computer service bureaux and computer software firms. CADAPSO wants as little legislative interference with information flow as possible but lobbies vigorously for government measures such as tax incentives and telecommunication tariff reduction to encourage the domestic information processing industry.[1] CICS, on the other hand, lobbies vigorously for extensive legislative intervention to prohibit the outflow of data (and, therefore, business) for processing abroad. A third organization, the Canadian Business Equipment Manufacturer's Association (CBEMA)

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[1]Canadian Association of Data Processing Service Organizations, CADAPSO 1980-1981 Annual Report, p. 1.

who, as their name suggests, represent hardware manufacturers, lobbies against any constraint of international information flow (other than that required to ensure individual privacy and national security[2]); it takes the position that there is no evidence of harm resulting from transborder data flow and therefore no justification for government policies that would restrict it. CBEMA does suggest that the government could assist the development of the Canadian information processing industry by lowering federal import tariffs and sales tax on data processing equipment, and by "introducing greater research and development incentives and export support programs".[3]

Firms and agencies, both Canadian and foreign owned, try to ensure that international business data flows are unimpeded partly because of requirements for specialized information products not available in Canada, and partly because of the wish for unimpeded information flows between parent firms and their subsidiaries.

Provinces and Telephone Companies

Provincial governments, especially those responsible for telephone companies, are concerned about the "potential threats

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[2]Canadian Business Equipment Manufacturers Association, "TRANSBORDER DATA FLOW: An industry perspective on the Implications for Canadian Public Policy", April 30, 1982, i.

[3]Ibid.

to the Canadian data processing industry, military security, and the common carriers if transborder satellite communications were to occur consistent with the U.S. open skies policy."[4] The provinces are concerned that international satellite agreements such as that between Canada and U.S. owned Satellite Business Systems (SBS), are aimed at large urban markets "leaving remote, rural and isolated areas to be served by stringently regulated common carriers."[5] Provincial governments, especially those owning telephone companies, have lobbied the federal government to ensure that transborder satellite agreements do not disadvantage Canadian common carriers. As a result of this lobbying, the federal government has set five objectives in its negotiations with the United States:

1. Efficient and economical services should be provided to users.

2. Canadian/U.S. satellites should be funded through specific Connecting Agreements between duly authorized satellite carriers in accordance with the regulatory procedures of each country.

3. Canadian and U.S.-owned satellite systems should be used to provide service between the two countries rather than...[international satellite facilities such as]...INTELSAT...

4. Canadian satellites should be ...[used]...on an equal basis with those of the U.S., with proportionate sharing of revenues.

5. Canadian manufacturers, particularly in the space industry, should be assured a fair share of

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[4]From a background paper, "Transborder Use of Satellites" prepared in 1982 by provincial governments responsible for telephone companies, p. 1.

[5]Ibid., p. 2.

> industrial benefits arising from the introduction of satellite services between Canada and the U.S.[6]

The provinces are able to accept these federal objectives as synonymous with their own provided Telesat Canada's relationship with Telecom Canada continues to be that of a carriers' carrier. There is concern that federal policy will encourage Telesat to evolve into an independent carrier in competition with traditional common carriers.[7]

Consumer Advocates

The Consumers Association of Canada has been concerned with the privacy issue, as it relates to computerized data, for about ten years. In June 1984 a conference was held in Vancouver, British Columbia to discuss what the Association's focus and strategy should be. Recommendations were made and a strategy is forthcoming. The Association does plan an information program to advise the general public of the potential danger of invasion of personal privacy. More importantly, the Association plans to inform the general public of their rights to withold certain information. A spokesperson for the Association said that it is most important that people realize that just because a firm, agency or government organization asks for information doesn't necessarily mean that the individual must give it. The

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[6]Ibid.

[7]Ibid., p. 3.

Association plans to continue to lobby the federal government and provincial governments for uniform privacy protection so that protection will be equivalent regardless of place of residency.

Government Departments and Agencies

Although the Federal Department of Communications has been a major actor in the transborder data flow policy debate, other departments and agencies have indicated strong interest in the outcome. Some examples follow.

The Minister of Regional Industrial Expansion indicated that "[d]epartmental officials are now actively involved in an analysis of both the Canadian computer services industry and the accompanying trade issues, with the purpose of identifying how Canada should best proceed..."[8]

The Canada Institute for Scientific and Technical Information, a branch of the National Research Council of Canada, is mandated to "promote and provide for the use of scientific and technical information (STI) to the government and people of Canada."[9] Canada produces only 3% of the world's scientific and technical information. Canadian researchers and

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[8]Letter from Hon. Edward C. Lumley, P.C., M.P., February 6, 1984.

[9]Letter from E.V. Smith, Director of Canada Institute for Scientific and Technical Information, January 23, 1984.

technologists must access the remaining 97% to accomplish their objectives.[10] Therefore, the position of the Institute is that "free flow of scientific and technical information is mandatory for our technical development. However, the processing, dissemination and packaging of this information...must be performed to a significant extent by strong private and public Canadian information sectors."[11]

The Economic Council of Canada suggested (1) that data may well become a national resource of increasing significance in future years, (2) that information technology will continue to facilitate data access on a world-wide scale, and (3) that privacy issues will, therefore, raise their profile.[12] It is felt that personal safeguards via bilateral reciprocity are of paramount importance when formulating transborder data flow policy.

The common dilemma for government departments and agencies is how to formulate policy to mitigate the affects of transborder data flow on Canada and Canadians without losing access to international information sources and without jeopardizing Canada's international trade.

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[10] Ibid.

[11] Ibid.

[12] Letter from David W. Slater, Chairman of the Economic Council of Canada, January 26, 1984.

Possible Reasons for Absence of Policy

Suggestions as to what should be done to mitigate the effects of transborder data flow have ranged from recommendations that Canada erect an electronic curtain to halt the out-flow of data from Canada, to suggestions that there be no restrictions on outbound data. It is necessary to determine what would be a reasonable, practical and, most important, executable approach to Canadian policy. Initial approaches must involve measures which can be applied in the short term and independent of other nations.

In the preceeding chapter, suggestions as to why Canada has not introduced transborder data flow policy and/or regulation were offered. In this section, each of the three suggestions will be assessed. The first suggestion was that:

> **transborder data flow does not threaten national sovereignty, culture, individual privacy or Canada's economy, and policy-makers are caught up in a fashionable issue that should not concern Canadians.**

Studies[13] have indicated that, without doubt, Canada's economy is affected negatively when information is exported for processing and retention abroad; jobs are lost, equipment sales are lost, there is lost opportunity for Canadian suppliers of information processing services. Chapter Two gave evidence that

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[13]"The Growth of Computer/Communications in Canada"-1978, the Canadian Independent Computer Association's study, "Recommendations to Reduce Importation of Computer Services"-1984, Price Waterhouse Associates' "A Review of the Economic Implications of Canadian Transborder Data Flows"-1981.

individual privacy is threatened when information on Canadians resides outside Canadian legal jurisdiction, a unique Canadian culture is threatened when information about Canadians can be used by a foreign nation to market their products, ideas and ideologies to Canadians, and national sovereignty is threatened when Canadians lose access to their data because of work stoppages and/or foreign government intervention in countries where Canadian data resides.

I was interested to know the extent of knowledge and awareness of transborder data flow issues in Canada. Letters requesting information on Canadian studies which examine the implications of regulation of transborder data flow were sent to eighty-six (86) individuals. I also asked for assistance in locating other persons who might have information or views on the possible regulation of transborder data flow.

The mailing list consisted of: individuals employed by research institutions; editors of trade journals; freelance journalists; university professors; publishers; heads of federal and provincial government agencies and secretariats; persons employed by industry associations, banks, information processors, and Canadian subsidiaries of multinational corporations; legal firms; individuals involved with private Canadian firms known to use foreign information processors; and, federal government Ministers thought to be involved in the transborder data flow issue in Canada. Eighty-four (84) percent of those from whom information was requested responded. The vast

majority were aware of the issues and current activity relating to transborder data flow. Opinions varied as to the likelihood and/or advisibility of federal government intervention in transborder data flow. One respondent, the editor of a Canadian data processing publication, said,

> It doesn't seem likely to me that general legislation limiting the movement of data processing work from Canadian offices to American headquarters is going to be passed. However, a couple of years ago the government included provisions in the federal Bank Act that imposed some restrictions on Canadian chartered banks taking their data processing out of the country. I can imagine the same thing happening in ...[other industries]....

He noted, for instance, that "Ottawa certainly hasn't been shy about regulating the oil industry."[14]

A response from the Petroleum Resources Communication Foundation indicated their private sources had learned that

> ...any regulation of transborder data flow would have very serious implications for some Canadian oil companies, most especially the major multinationals. In their cases, much of their data processing is carried out at their facilities in the United States, and consequently a restriction of data flow across the border would result in the movement of large parts of the companies' activities. He also indicated that he had heard that there has been some consideration given by some of the multinationals to consolidating their computer operations; i.e., that some companies, in cost-cutting efforts, might move all of their computer operations to the States--needless to say, if data flow was regulated to any great degree, or if companies aniticipate [sic] such regulation, this type of economic move would not be undertaken.[15]

Xerox Canada Inc., a multinational firm in the information systems business forwarded their Telecommunication Regulation:

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[14]Letter dated July 25, 1983.

[15]Letter dated July 26, 1983.

Transborder Data Flow[16]. The text of this regulation reads as follows:

> TELECOMMUNICATIONS REGULATION: Transborder Data Flow
>
> Issue
>
> There is renewed interest in Government in the control of transborder data flow. The Federal Department of Communications (DOC) has begun a dialogue with industry groups to seek data supporting its view that harm is resulting to Canada from the processing and storage of data outside the country by multinational corporations and others. Some attempt to regulate Canadian control over data storage and processing can probably be expected from the current Federal Government. This is not a new issue, but one which has been dormant for about five years.
>
> Impact on Xerox
>
> Xerox Canada manufacturing and research operations rely upon U.S. systems support. Most other data is processed locally. However a number of systems interact with U.S. systems. Imposition of local data processing regulations could result in increased operating costs for Xerox Canada and have longer term implications for the marketing of information systems products.
>
> The principal impact of transborder data flow regulation will be on the data processing industry. The market for terminal devices would also be unsettled. An opportunity to market data processing services by an XCS subsidiary operation might appear.
>
> Actions/Recommendations
>
> Xerox Canada will continue to monitor closely the activities of Governments in this area and continue to press for open borders for business data directly and through CBEMA and CMA.

These responses indicate that there is an awareness that transborder data flow could be regulated. The potential economic impact of such regulation concerns Canadian industry.

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[16]Dated March, 1981.

One respondent from a Canadian government agency which has a data link between Philadelphia and Montreal for the purpose of installing and debugging a sophisticated piece of software said the following:

> I would put the activity not in a class of a transborder data flow but in the category of acquiring new technology from outside of Canada to improve our existing capabilities in the modeling and forecasting activities in which we engage.[17]

I gather from this statement that this agency would prefer that some classifications of transborder data flow be exempt from regulation.

It can be concluded that vested interests in both government and private sectors are a major stumbling block to policy formulation in Canada. However, the fact remains that transborder data flow is much more than a fashionable issue. It affects Canada. It should and does concern Canadians.

The second suggested reason for absence of Canadian policy/regulation was that:

> **policy-makers recognize the urgency with which transborder data flow issues should be addressed but feel so economically and politically vulnerable to retaliation that they cannot determine what Canada can afford to do.**

Canada's interdependence with other nations may well result in policy-makers being reluctant to risk economic or political retaliation from nations on which it depends for trade or for military protection. Threats of retaliation are not new to Canada. In 1976, in an effort to promote Canada's cultural

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[17]Letter dated August 8, 1983.

interests, Canadian law was amended to "deny tax deductions to Canadian taxpayers who purchase advertising from U.S. broadcasters if such advertisements are directed primarily at the Canadian market."[18] The denial of tax credit applies to newspaper and magazine advertising as well as broadcasting. In response, President Reagan proposed legislation (S-2051) which would prohibit tax deductions on the purchase by U.S. companies of advertising to be aired on Canadian broadcasting stations.[19] President Reagan made it clear that the purpose of the proposed legislation was to "obtain elimination of the Canadian practice" and should the U.S. legislation not bring about a resolution the President "is not foreclosed from taking further action...if he deems it appropriate in order to achieve this purpose."[20] U.S. Senator, Daniel Moynihan, introduced an amendment to S-2051 which would "deny US companies tax deductions or credits for purchasing Canadian Telidon videotex equipment or services. The amendment would be terminated if Canada eases broadcasting restrictions."[21]

It may be a matter of what Canada can afford to do rather than what it might prefer to do. A suggestion as to what Canada can afford to do will be discussed later in this chapter.

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[18]TDR Correspondent, "US May Retaliate Over Communications Barriers", Transnational Data Report Vol V No 6, September 1982, p. 267.

[19]Ibid.

[20]Ibid.

[21]Ibid. Emphasis added.

Finally, the third suggested reason for absence of policy and/or regulation was that:

> **vested interests are so divergent that it is impossible for major actors to agree on a policy approach to transborder data flow.**

Interests are, indeed, divergent. Some of the 1700 computer service firms in Canada want the opportunity to take advantage of a market which is showing significant growth, rather than seeing the demand for their services met by foreign processors.

The Canadian Independent Computer Services Association (CICS) has suggested the following remedies to the Canadian government. The government should:

1. announce immediately that measures will be adopted to limit the importation of computer services;

2. prohibit further development of communications links which facilitate transborder data flow;

3. encourage institutions, business and government agencies to 'buy Canadian';

4. offer grants to computer service firms which increase employment;

5. offer tax incentives to encourage Canadian computer system development;

6. establish a 'Buy Canadian' office to deal with grievances by those Canadian suppliers who feel they have been "disadvantaged, have not been given adequate consideration, or have been unable to penetrate the buying systems of government and other large purchasers"; this office would also create a record of transborder data processing;[22]

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[22]Paper prepared by William H. Loewen, President of Canadian Independent Computer Services Association (CICS), for a Conference on The Management of Transborder Data Flows: U.S. - Canada and Beyond entitled "Reactions and Recommendations Regarding a Proposal for U.S. - Canada Free Trade in Computer Services", April 2, 1984, p. 7.

7. establish disincentives to discourage transborder data processing;

8. "enact legislation and/or regulations to prohibit the importation of computer services until the purchaser can demonstrate that the Canadian market will not serve its needs."[23]

The Canadian Business Equipment Manufacturers' Association (CBEMA) does not agree with CICS. In a position paper entitled "Transborder Data Flow: an Industry Perspective on the Implications for Canadian Public Policy", CBEMA stated that "the conclusion is inescapable: transborder data flows are not adversely affecting Canada's interests, and there can be no justification for action to interfere with the free movement of information among nations."[24]

If CICS is at '1' on a scale of one to ten favouring free flow, and CBEMA is at '10', then recent public statements place government officials at about '7 to 8'.

On free flow of information:

> We are and will remain committed to the freest possible flow of information.[25]
>
> Canada recognizes that major benefits can result from increased use of...[transborder data flow]....This is not in question....
>
> ...we do not believe that, in general, '<u>flow</u>' per se is an issue....In our view, 'user access' - or denial of

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[23] <u>Ibid</u>., p. 7.

[24] <u>Transnational Data Report</u>, Vol 5 No 5, July/August 1982, p. 236, emphasis added.

[25] <u>Communications and the North-South Dialogue: a Vital Link</u>, Notes for an address by the Honourable Francis Fox, Secretary of State and Minister of Communications, to the opening session of the 1980 annual conference of the International Institute of Communications (IIC), September 8, 1980, p. 4.

that access - is an overriding element in any discussion on transborder data flow."[26]

On the role of government:

"There are governments who still wish to restrict communications to within their national borders, but they are doomed to failure... A world-wide communications infrastructure that transcends all national boundaries is well on its way to being set up.[27]

"With so much essential information flowing across borders, it is now true to say that governments block this flow at their own peril. Truly democratic governments have a legitimate, regulatory role to play in deciding what means of carriage or tranmission [sic] are used and at what rates. But it is a cardinal principle of Western democracies that government must not control the content of what is transmitted."[28]

A major confusion of interests exists within the government itself. On one hand, various government-mandated task forces have recommended strongly that the federal government invervene to mitigate the effects of transborder data flow on all aspects of sovereignty. On the other hand, the government pushes the very technology which facilitates international communications. In October 1982, Francis Fox described the government's dilemma in an address to the Canadian Council on International Law. He said:

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[26]"Transborder Data Flow: Canadian Directions" A keynote address to the OECD Symposium on Transborder Data Flow, London, England, November 30, 1983, by W.H. Montgomery, Director-General, International Relations Branch, Canadian Department of Communications

[27]"Communications: Cornerstone of International Relations", notes for an address by the Honourable Francis Fox, Minister of Communications, at the opening of the fourteenth annual conference of the International Relations Club, University of Montreal, Friday, March 6, 1981, p. 4-5.

[28]Ibid., p. 5-6, emphasis added.

> Given the centrality of computer communications to the information society, flows of data in and out of a country can have profound implications for its economy, its social and cultural fabric, even its sovereignty.
>
> The debate over transborder data flows is also of immediate concern to the international business community. In the current economic climate, multinational corporations see information technology linked by international communications networks as one of the most effective ways to improve efficiency. They also see, and wish to exploit to the hilt, all competitive opportunities inherent in the information economy.
>
> By the same token, this debate is of critical interest to the Canadian business community, which is increasingly international in outlook and which occupies a strong position at the leading edge of the information industry...
>
> **While...policy reviews have been underway, the Government of Canada has continued in its commitment to upgrade and expand our international communications facilities.**[29]

This speech was given after the Canadian government relaxed its regulations on satellite receiving facilities in remote Canadian locations to allow reception of non-Canadian signals. The speech preceeded government approval of additional cross-border communication gateways between Canada and the United States.

The federal government occupies an extremely uncomfortable position. Regulation to decrease transborder data flow could help protect Canadian sovereignty as it relates to culture, privacy and the economy. It could also result in retaliatory measures which would severely curtail the international market for Canadian telecommunications-related goods and services - a

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[29]Francis Fox, "Canada Responds to Data- and Media-Flow Challenges", Transnational Data Report Vol VI No 1, January/February 1983, p. 45, emphasis added.

sector fostered by Canadian governments. This dilemma, alone, slows the policy-making process.

How and Where Policy Could Begin

Recommendations as to what should or should not be done to address transborder data flow issues have, without exception, placed the lion's share of responsibility for action on Canadian governments. Responsibility for action must be shared by three groups: governments, business and the general public. Each group occupies a niche uniquely suitable for actions which could mark the beginning of a Canadian policy approach. Success is dependent on the involvement of all three groups.

The following recommendations will be structured as follows: first, suggestions for federal government action; second, suggestions for action by business; and, third, suggested actions for the general public.

The sequence presented is not random. In order for business and Canadians in general to respond, the federal government should act first or, at least, indicate a willingness to consider ideas and/or proposals.

Suggestions for Government Action

Import Barrier Review

Task force reports, commissioned studies and commentaries by persons in the information processing sector have repeatedly recommended that the Canadian government review import barriers to computer goods not available from Canadian sources. Import duties and federal taxes on computer equipment do not seem to promote Canadian manufacturing or use of such equipment and could, perhaps, be discontinued. Table 5.1 shows Canada's trade position in computer hardware. This table does not include software and services. The table shows that our trade deficit grew by 115% from 1970 to 1975; it grew an additional 220% between 1975 and 1980. And from 1980 to 1982 the growth in the deficit was 88%. Canadian equipment sources obviously cannot completely satisfy Canadian requirements.

Table 5.1: Canada's Trade Position in Computer Hardware

	1970	1975	1980	1982
Net Imports*	217,820	425,414	1,446,217	2,409,219
Exports	97,262	164,318	614,047	842,394
Deficit	120,558	261,096	832,170	1,566,825

Source: Statistics Canada publications 65-004, 65-007, December 1970, 1975, 1980, 1982.

* Net imports were derived by subtracting re-exports from imports. Re-exports refer to equipment which was originally imported and subsequently re-exported.

There can be many reasons why corporations may use foreign equipment to meet their needs.

1. Foreign equipment may be less costly than equivalent domestic equipment.

2. Foreign equipment may be required by the parent of multinational corporations for reasons of standardization and compatibility.

3. Domestic equipment may not be powerful enough to do the required processing.

4. Domestic equipment may not be able to perform specialized functions required by specialized businesses.

It is important that nations attempt to encourage domestic industries with high export potential. But it does not make sense to impose import duties on goods which are not available from domestic sources, but are required by domestic business.

The 1984 Canadian Computer Census (published by The Canadian Information Processing Society)[30] indicated that as of

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[30]The coverage of this census is not complete. It is estimated that, at best, it covers 70% of installed computer equipment.

December 1983, there were some 16,643 computers installed in Canada. Less than ten (10) percent were computers which would rent for $20,000 or more per month; a rental rate which would be appropriate for a medium-sized computer installation. The census reported 743 computers installed with rental per month ranging from $20,000 to $49,999. Of these, International Business Machines (IBM) supplied 42%, Digital Equipment Corporation (DEC) 16%, and Sperry Inc. (Univac) 10%.

The census showed that there were 295 computers installed with rental per month from $50,000 to $99,999. The top three suppliers were: IBM with 51%, Honeywell Information Systems with 10%, and Sperry Inc. with 8%.

The census recorded 227 computers installed with rental per month in excess of $100,000. IBM supplied 67%, Amdahl 16% and Sperry Inc. 5%.[31] None of the 227 systems in this rental class are manufactured in Canada. Import duty and taxes can raise the cost of computer hardware by more than thirty (30) percent. The cost of doing business is increased accordingly. This cost is eventually passed on to the end-user.

It was stated in a paper prepared for the OECD Symposium on Transborder Data Flows in 1983 that Canadian tariff barriers significantly raised the cost of data processing equipment relative to the U.S. This, plus the readily available and inexpensive leased data circuits, made it attractive for

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[31] 1984 Canadian Computer Census compiled by the Canadian Information Processing Society.

Canadian companies to move their data processing centres to the U.S.

Therefore, it is recommended again that import barriers on computer hardware, the equivalent of which is not manufactured in Canada, be discontinued so that Canadian business can become more cost competitive.

Data Protection Laws

With the exception of the Privacy Act which applies only to federal government data banks, Canada has not implemented policies which would protect data on individuals from abuse. At a time when privacy protection is common throughout the Western world, Canadians should expect protection equivalent to that enjoyed by other nations.

In an effort to determine what kind of protective policy was most favoured (and least favoured) by persons with whom I had corresponded, I constructed six regulatory scenarios and asked the prospective respondents to rate them on a scale of one to six; '1' would indicate least favoured; '6' would indicate most favoured. (A copy of the scenarios appears in Appendix A.) Respondents were invited to propose scenarios of their own. Responses could be made anonymously if the respondent chose.

Scenarios were sent to the eighty-six persons originally contacted; thirty-nine (39) replies were received.

The least favoured scenario was scenario number one. It suggested:

1. nationalization of common carriers and equipment providers;
2. equipment licensing;
3. one communication gateway through which all international communications must flow;
4. transborder data flow permitted only if:
   a. the nature of the service is international;
   b. there is no threat to privacy of citizens;
   c. the service is offered by a National company;
   d. the service had a positive impact on balance of payments;
   e. the service will not negatively impact the national hardware and software industry.

Some comments on this scenario included: "nationalization is inefficient"; "too restrictive in its application"; "users of data services will suffer for an indeterminate period of time"; "too much statism"; "too complicated"; and, "impacts negatively on the economy".

Next, in terms of least desirable approaches was an 'open-skies' scenario which suggested:

1. no restriction of flow of information from Canada;
2. no economic incentives to encourage information processing in Canada;
3. no economic sanctions to discourage processing of Canadian data abroad.

Some reasons why respondents reject this scenario are: "governments should know who's doing the flowing"; "potentially the worst of all possible options since it clearly disregards

actions by other governments -- a 'no-win' option"; "dangerously naive"; and, "would be counterproductive for Canada". The most favoured scenario advocated:

1. reciprocal privacy protection laws between importing and exporting nations;

2. giving individuals the right to be aware of, to access, and if necessary, correct personal data held in data banks;

3. limiting the collection of personal data;

4. ensuring that personal data is collected only with the knowledge and consent of data subjects;

5. limiting the use of personal data to that specified at the time of collection.

Another smaller group rated as most favourable the scenario advocating the following:

1. export of data restricted to nations with reciprocal privacy protection laws;

2. elimination of import tariffs on information processing equipment where the same or equivalent equipment is not manufactured in Canada;

3. preferential long-distance telephone charges for those firms transmitting and receiving data to be processed in Canada;

4. surcharges on export of data for processing abroad where Canadian processing facilities exist and where balance of payments is negatively impacted.

The majority of respondents who constructed their own best-case scenarios included the measures suggested in these most-favoured scenarios. This indicates that these respondents, who represent a wide range of professions and interests, have indicated that "open-skies" is not desirable, nor is near-prohibition of transborder data flow. However, it is the opinion of the

majority of respondents that some regulation, particularly regulation dealing with privacy protection, is desirable.

The federal government should introduce policy which would extend the current privacy protection to include all data banks in Canada containing personal information on Canadians. Data protection policy should, minimally, include:

1. giving individuals the right to be aware of, to access, and, if necessary, correct personal data held in data banks;

2. limiting the collection of personal data;

3. making Canadians aware of their right to refuse to give certain information;

4. limiting the use and location of personal data to that specified at the time of collection unless permission is granted by the data subject;

5. ensuring that personal data is collected only with the knowledge and consent of data subjects;

6. limiting the export of personal data for processing and/or retention abroad to those nations who have similar data protection laws.

These are not radical, new proposals. These provisions are common in nations throughout the Western world.

The government of Canada has an obligation to help protect Canadians against the abuses of privacy which can result when personal information is collected and disseminated indiscriminately. It is up to the government to ensure that protective mechanisms are available and that Canadians know what they are. After that, it is up to Canadians to decide how and where they want information on themselves to be used.

This would not be an easy task nor could it be done quickly. First, the federal government would have to consult and negotiate with provincial governments, some of whom have their own privacy legislation. Federal-provincial agreement on protective measures is a requirement if Canadians are to be uniformly protected. The task of informing Canadians of their privacy rights will be a major undertaking but, again, necessary, for laws can only be effective if they are known and understood.

Data protection policy could result in benefits to the Canadian information processing sector. First, it would ensure that Canada would be a safe host for foreign data; Canada could offer protection equivalent to that provided in the originating nation. Not only could foreign customers be assured of data protection, but they could realize substantial reductions in cost by having their processing done in Canada due to the difference in value between the U.S. and Canadian dollar. Second, if Canadians decide that they do not want personal information to reside in a foreign country, more processing may be required in Canada.

In summary, then, the federal government should be responsible, first, to review and revise import duties and taxes on computer equipment and, second, to extend existing privacy protection legislation or take other measures to bring Canada more in line with the rest of the Western world.

Suggestions for the Domestic Data Processing Industry

It is common to hear statements from persons in the data processing business that lead us to believe they are severely disadvantaged compared to U.S. counterparts. This disadvantage derives partly from (1)government-imposed import duties and taxes, (2)high communication costs, and (3)higher labour costs. The result is often a service which is priced uncompetitively. As previously noted, these statements lead to suggestions for government action; protective legislation, grants, tax incentives.

It stands to reason that governments should not make it more difficult for domestic firms to conduct business. It has already been recommended that import barriers be removed. It also makes sense that governments should, whenever practical, purchase goods and services from domestic suppliers.

There is, however, a limit to the actions governments should take to protect domestic industry from foreign competition. Take as an example the suggestion that the Canadian government provide tax incentives and grants to foster the Canadian computer manufacturing sector. Inherent in this suggestion are assumptions that (1) Canada's computer manufacturing sector should be fostered, and (2) that the government is responsible for and capable of divining which firms will be successful.

Canada should not expend public resources on expansion of the computer manufacturing sector. The domestic market is small. Canada's labour costs are high. Large foreign suppliers (the U.S. and Japan, for instance) offer a more price-competitive product. Canada might take a lesson from Sweden which was one of the world pioneers in computer production. In 1953 an all-Swedish computer (BESK) had the highest calculating speed of any computer in the world.[32] This advantage was short-lived as larger countries took over computer production. Sweden re-directed its efforts into the "adequate use of computer technology" and a concentration on application software.[33] A member of Evans Research Group, a Toronto-based research firm, predicts that "the market for computer services in processing, consulting and education will outstrip equipment sales by the 1990's, and Canadian companies are well positioned to reap some benefits in that area."[34]

Canadian firms must find a product niche, a specialty which has a growing international demand and few suppliers. Once the niche is identified, it is up to firms to create and market the products to fill it and then begin immediately to search for the next niche.

If firms depend on government assistance for survival, costs can outweigh benefits. Product timing is critical if a

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[32]"Swedish National Report", p. 467.

[33]Ibid.

[34]"Canada loses at home in computer sales", p. C9.

market niche is to be captured. The process of obtaining government assistance is costly in terms of time and administrative requirements. A Chief Executive Officer of a Canadian firm reported the following:

> ...the major benefit which has allowed us to introduce fourteen new products in three years has been that...[our requests for assistance]...have been turned down by the Federal Government...This has allowed us to proceed ahead with the projects on our own at a more rapid pace...[35]

A domestic firm trying to capture a quickly developing market may not be able to afford to wait for tax incentives or government grants.

More generally, the government and its resources should not be used to determine winners or to sustain losers. If firms have a right to enjoy profits because they offer the right product at the right time at a competitive price, they have an equal right to fail when their product no longer meets market needs.

What Canadians Can Do

In the final analysis, the general public must determine how important the issue of privacy is. Provided Canadian governments introduce measures which would

1. give individuals the right to be aware of, to access, and, if necessary, correct personal data held in data banks,

2. limit the collection of personal data,

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[35]Guy P.F. Steed, Threshold Firms Backing Canada's Winners (Hull: Supply and Services Canada) 1982, p. 114.

3. make Canadians aware of their right to refuse to give certain information,

4. limit the use and location of personal data to that specified at the time of collection unless permission is granted by the data subject,

5. ensure that personal data is collected only with the knowledge and consent of data subjects, and

6. limit the export of personal data for processing and/or retention abroad to those nations who have similar data protection laws,

then the burden lies on the individual to decide what personal information will become public property. The response of individuals to the opportunity for increased privacy will determine whether or not Canadians wish to defend their right to privacy.

It is important to think beyond the present. We must be conscious of our legacy to future generations of Canadians. We hold their future in trust.

APPENDIX A

Regulatory Scenarios

Please use this form, or your own stationery if you prefer. I welcome as extensive a commentary as you are able to provide. Your name need not be provided.

SCENARIO #1

Rating (1-6)* ____

Comments, if any

AS IN BRAZIL:

legislative restriction of Transborder Data Flow through

1. nationalization of carriers and equipment providers
2. equipment licensing
3. international communication gateway through which all international communications must flow

Transborder Data Flow permitted only if

4. the nature of the service is international (e.g.) airline reservation systems
5. there is no threat to privacy of citizens
6. the service is operated by a National company
7. the service would have a positive impact on balance of payments
8. the service will not negatively impact the national hardware and software industry

SCENARIO #2

Rating (1-6)* ____

Comments, if any

AS IN SWEDEN:

legislative restriction of Transborder Data Flow through

1. requiring exporting firms to obtain licenses
2. limiting the length of time data can be retained abroad
3. regulation of secondary use, sharing and dissemination of data
4. establishment of rights of access, notice and correction of obsolete or incorrect data
5. provision of sanctions for breaches of legislation

SCENARIO #3

Rating (1-6)* ____

Comments, if any

AS IN THE UNITED STATES:

restriction of export of data through

1. government agreements with data base vendors
2. requiring licenses to export high-technology goods and services
3. denial of visas to foreigners suspected of using travel in the U.S. to obtain restricted information
4. monitoring of personal and business satellite communications to determine the substance of data flows

SCENARIO #4

Rating (1-6)* ____

Comments, if any

AS IN THE 1980 OECD GUIDELINES AND THE 1981 COUNCIL OF EUROPE CONVENTION WHICH RECOMMEND

1. reciprocal privacy protection laws between importing and exporting nations
2. giving individuals the right to be aware of, to access, and if necessary, correct personal data held in data banks
3. limiting the collection of personal data
4. ensuring that personal data is collected only with the knowledge and consent of data subjects
5. limiting the use of personal data to that specified at the time of collection

SCENARIO #5

Rating (1-6)* ____

Comments, if any

1. export of data restricted to nations with reciprocal privacy protection laws
2. elimination of import tariffs on information processing equipment where the same or equivalent equipment is not manufactured in Canada
3. preferential long distance telephone charges for those firms transmitting and receiving data to be processed in Canada
4. surcharges on export of data for processing abroad where Canadian processing facilities exist and where balance of payments is negatively impacted

SCENARIO #6

Rating (1-6)* ____

Comments, if any

OPEN SKIES:

1. no restriction of flow of information from Canada
2. no economic incentives to encourage information processing in Canada
3. no economic sanctions to discourage processing of Canadian data abroad

* 1 = least favourable
  6 = most favourable

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INDEX