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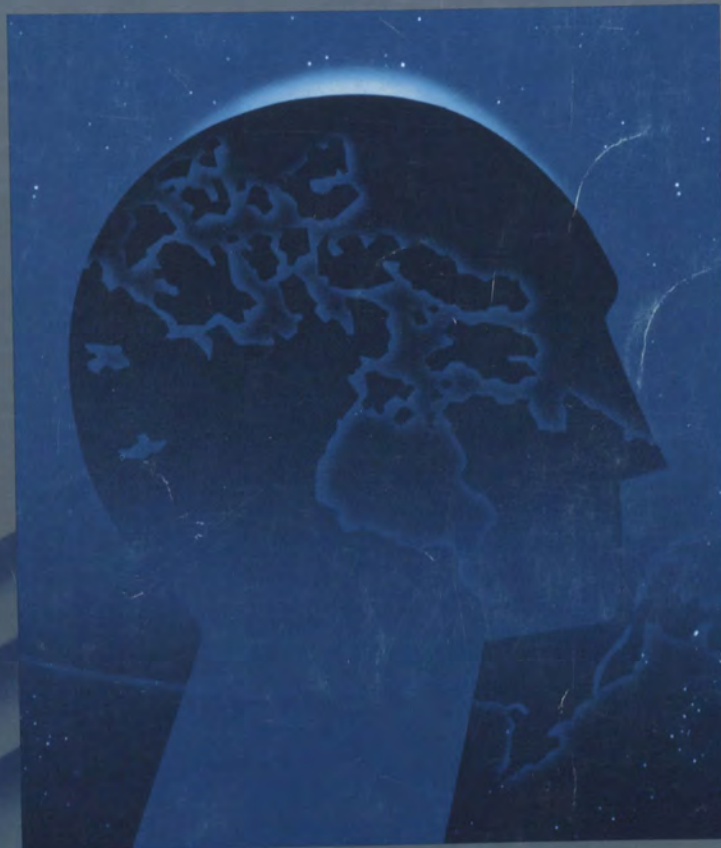
Canada

Intellectual Property

and Canada's

Commercial Interests:

A Summary Report



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11 **Intellectual Property**

and Canada's

Commercial Interests

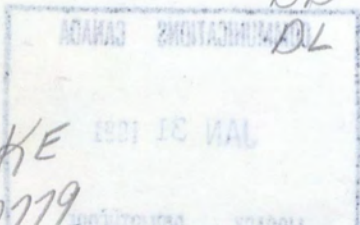
Prepared by:
Consumer and Corporate Affairs Canada
for the
Intellectual Property Advisory Committee

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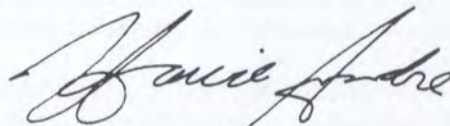
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FOREWORD

Since 1984, the Government of Canada has accomplished major reforms to strengthen and modernize Canada's framework for intellectual property protection.

The intellectual property found in new products, processes and services is essential for a modern, competitive Canadian economy. Innovation must continue: to surmount new challenges, to provide greater variety, to achieve more efficient production. Intellectual property rights are the framework in which innovation and creativity can flourish in a growing Canadian marketplace, amid complex and rapidly shifting world trade. The following pages describe the importance of intellectual property rights to Canadian economic performance and international trade, how these rights are used by Canadians, and what concerns must be considered in building a dynamic Canadian economy for the 1990s.

I commend this research to you as an important contribution to the Government's continuing efforts to encourage innovation through a modern, effective intellectual property system in Canada.



Harvie Andre
Acting Minister of
Consumer and Corporate Affairs

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	i
1.0 INTRODUCTION	1
1.1 Research Methods	1
1.2 IP Interest and Knowledge	1
2.0 INTELLECTUAL PROPERTY AND CANADA'S ECONOMIC PERFORMANCE	2
2.1 Overview	2
2.2 Differences in IP Use among Different Industry Groups	3
2.3 Variations among Companies of Different Sizes	5
2.4 Canada's Dependence on Foreign IPRs	5
2.5 Importance of IP to Canadian Trade and Other External Relations	7
2.6 Importance to Cultural Development	9
3.0 CONCERNS OF CANADIAN INDUSTRY WITH THE NATIONAL AND INTERNATIONAL IP SYSTEMS	10
3.1 IP Problems of Canadian Companies	10
3.2 IPRs and Litigation	12
4.0 IP PROBLEMS AND CANADA'S DOMESTIC COMMERCIAL INTERESTS	13
4.1 Overview of IP Infringement in the Canadian Market	13
4.2 Specific Examples of Domestic IP Problems	13
4.3 Domestic Commercial Interests: Conclusions	13
5.0 IP PROBLEMS AND CANADA'S INTERNATIONAL INTERESTS	14
5.1 Evidence from Association Interviews and Canadian Missions Overseas	14
5.2 Evidence of Impacts on Export Interests from Company Survey	14
5.3 Revenue Losses Due to IP Problems Abroad	15
5.4 Reasons for Limited Effects on Export Problems	15
5.5 Other Impediments to Trade in IP-Related Goods and Services	16

TABLE OF CONTENTS (cont'd)

	Page
6.0 CONCLUSIONS AND IMPLICATIONS	16
6.1 Major Findings	16
6.2 Implications for Canadian IP Legislation and Administration	18
6.3 Implications for International IP Negotiations	21
STATISTICAL APPENDIX	24
LIST OF EXHIBITS	
Exhibit A - Importance of IP Law to Canadian Industries	2
Exhibit B - Major Characteristics of Companies in Company Survey	3
Exhibit C - Use of Canadian IPRs	4
Exhibit D - Canadian Patent Registrations, 1988-89	5
Exhibit E - Trade Balance in High Tech, 1978-87	7
Exhibit F - Canada's Trading Partners, Total Trade Flows, 1988	8
Exhibit G - Distribution of Domestic Problems, by IPR Type	11
Exhibit H - Serious Infringements, by IPR Type	11
Exhibit I - Companies Dissatisfied with Canadian IP Protection	12
Exhibit J - IPRs Abroad	14
Exhibit K - IPR Holders Reporting Problems in Other Countries	15

EXECUTIVE SUMMARY

The purpose of this document is to report on the economic research conducted by Consumer and Corporate Affairs Canada (CCAC) over the past two years on the use and importance of intellectual property rights (IPRs) to Canadian economic performance and international trade. The research methods included a company survey conducted by Price Waterhouse, interviews with over 110 industry associations and research groups throughout Canada, and information provided by Canadian diplomatic missions overseas.

The research findings dramatize the growing importance of IPRs to industry performance, business operations, cultural development, technology transfer, Canada's two-way trade and the achievement of a broad range of public policy objectives. Without strong IP laws in Canada and also among our major trading partners, Canada's gross domestic product and international trade would be significantly reduced, and fewer deals would be made among Canadian companies and between Canadian firms and companies in other countries. The flow of technology essential to Canada's development would be much reduced, and innovation and creativity among Canadian inventors and artists would be significantly lower. Good IP law is a critical component of the supporting infrastructure of a modern industrialized economy like Canada's.

IPR utilization and intellectual property concerns vary significantly according to the sector and size of the company. Larger Canadian companies employing advanced technologies with significant budgets for research and development (R&D) and export sales use IPRs extensively. However, IPRs are also important to many smaller Canadian companies that use less advanced technologies and mainly serve the Canadian consumer market. Intellectual property is important to most industries in Canada and touches the lives of virtually all Canadians in one way or another.

Most respondents were generally satisfied with the Canadian and international IP systems. Only 26 percent of the companies surveyed expressed strong concerns about the level of protection afforded by Canadian IP statutes and only 14 percent of the respondents who are currently exporting stated they were encountering IP-related problems in their efforts to expand their sales abroad. More than 80 percent of the concerns respondents raised — and even more of the sales losses they suffered as a result of IP problems — occurred in the Canadian market. Smaller companies were less satisfied than larger firms, which generally possess the IP resources and expertise needed to register and enforce their IPRs. Smaller Canadian-owned companies were particularly worried about the time and expense of IP litigation and especially the growing use of IP litigation by large multinationals against smaller firms.

The international IP problems faced by Canadian firms arise more often in the United States than in other countries, but even they are small in number relative to our substantial two-way trade with the U.S. Except for Section 337 of the U.S. Tariff Act and other U.S. border actions, most of the problems encountered by Canadian rights holders in other countries take the form of trade and commercial irritants rather than serious IP infringements. When IP-related losses in the domestic market are combined with losses suffered abroad, the worldwide losses in revenue and profits experienced by Canadian companies are a very small fraction — perhaps no more than 2 percent — of the losses amounting to \$40 billion plus reported by U.S. companies. Most of these losses occur in the domestic market and a significant portion are based on non-commercial infringements in the home, school and office.

Canadian companies recognize, however, that, as Canada's international trade continues to grow and as commercial links off the North American continent expand, they could become increasingly vulnerable to the weaker IP protection provided by

newly industrializing countries (NICs) and other developing nations. Canadian businesses hope and expect that international IP infringement will be effectively addressed at the General Agreement on Tariffs and Trade (GATT) through its Multilateral Trade Negotiations on the Trade-Related Aspects of Intellectual Property (MTN-TRIPs) and in other international negotiations.

The research findings indicate a wide range of policy implications to be addressed in revising Canadian IP statutes, administering Canadian IP laws, and preparing Canadian positions for the TRIPs and other international negotiations. A balanced and comprehensive approach is needed in revising Canadian IP statutes and in formulating Canadian positions for international negotiations. The IP needs and concerns of smaller Canadian-owned companies should be given special emphasis in revising Canadian laws and in formulating our positions. Canadian laws require further modernization to meet Canadian domestic needs. Our international obligations are essentially satisfied by our current statutes.

While Canada remains a net importer of goods, services and technologies that embody IPRs, Canada has a very important stake in a strong and effective international IP system and will benefit significantly from a successful MTN-TRIPs outcome at the GATT, and success at the various negotiations conducted by the World Intellectual Property Organization (WIPO).

1.0 INTRODUCTION

1.1 Research Methods

Over the past two years, Consumer and Corporate Affairs Canada (CCAC) has conducted an extensive research program on the use and importance of intellectual property rights (IPRs) to Canadian industry and trade and their contribution to the achievement of Canadian economic goals and objectives. This research involved an extensive compilation of data from both public and private sources, including: a comprehensive company survey conducted by the consulting firm Price Waterhouse (sponsored jointly by Consumer and Corporate Affairs Canada, Industry Science and Technology Canada and the Science Council of Canada); interviews with 110 industry associations and research groups; information provided by Canadian diplomatic missions overseas (collected through the auspices of External Affairs); and research on U.S. border enforcement measures affecting Canada. The findings from these sources are supplemented by CCAC's ongoing consultations and research, in particular the work of the Intellectual Property Advisory Committee (IPAC) and its seven subgroups. Detailed consultation has also been undertaken with the Task Force II on Trade-Related Aspects of Intellectual Property (TRIPs) of the International Trade Advisory Committee.

The purpose of this document is to bring together and to summarize this research in order to identify: the importance of IPRs to Canadian economic and trade performance; the implications of the research findings for revision of Canadian IP statutes; and Canada's negotiating positions at various international fora, including the TRIPs negotiations now taking place under the General Agreement on Tariffs and Trade (GATT).

The document is structured as follows. The rest of this introductory section summarizes our findings related to IP interest and knowledge in Canada. Section 2 covers the importance of IP to Canadian trade and economic performance. Section 3 focuses on the broader concerns of Canadian companies and associations with the national and international IP systems. Sections 4 and 5 focus more directly on the effects of counterfeiting, piracy, and other IP infringements and problems on Canada's domestic and external commercial interests. Section 6 offers a synthesis of the major findings and conclusions from the perspective of the adequacy of Canadian IP statutes and Canada's participation in international IP negotiations. The Statistical Appendix summarizes the major results from the company survey.

1.2 IP Interest and Knowledge

CCAC's research shows there is a strong interest in IP in Canada, as reflected in the enthusiasm of the participants in the association interviews. The company survey also was well received, with a high response rate of 81 percent overall and comparable rates across all sectors, indicating a solid interest in IP across a wide range of Canadian industries. The 733 company respondents to the survey were distributed by industry group: R&D performers/high tech—47 percent; ✓ medium and low tech—42 percent; copyright—11 percent.

Our research also indicates that, despite a high interest in intellectual property, IP knowledge and expertise is generally quite limited outside the top R&D performers and the associations representing intellectual property practitioners, such as patent agents and patent lawyers. More than 80 percent of the top R&D performers surveyed believed they had better than adequate IP expertise and knowledge available to their firm, compared with 55 percent for other high tech companies, 43 percent for medium and low tech companies and 51 percent for the commercial copyright sector.

2.0 INTELLECTUAL PROPERTY AND CANADA'S ECONOMIC PERFORMANCE

2.1 Overview

IP plays a strong role in achieving Canada's public policy objectives in the areas of economic and cultural development. Our survey indicated that IPRs are also instrumental in achieving many corporate goals. IP therefore is important to goal achievement in both the Canadian public and private sectors.

IP protection may take the form of rights in patents, copyright, trade-marks, registered industrial designs (all of which are currently protected by federal statutes), or trade secrets. New forms of protection may be required for new types of innovative activity, such as integrated circuits. In December 1989 the Government introduced legislation

(Bill C-57) to provide IP protection to the topography of integrated circuits.

In Canada the creation of IP is quite highly concentrated. For example, patents tend to be issued mainly to high and medium technology firms, copyright works are largely created by our cultural, entertainment and computer software industries, and trade-marks are most important to our consumer products industries. While IP creation is quite highly concentrated, IP is used by and influences a broad range of Canadian domestic interests such as: most secondary manufacturing industries, the primary sectors and related manufacturing industries, financial and retail services, government and the general public.

Industries where significant portions of sales or profitability are dependent in one way or another on IP (Exhibit A) now account for about 10 percent of Canada's gross domestic product. This figure will surely

IMPORTANCE OF IP LAW TO CANADIAN INDUSTRIES*

EXHIBIT A

High Importance

Primary Industries and Manufacturing Based on Biotechnology
 Printing and Publishing
 Other Machinery and Equipment
 Aircraft and Parts
 Electric Lighting
 Record Players, Radios, TVs
 Communication Equipment
 Office, Store and Business Machines
 Electrical Industrial Equipment
 Pharmaceuticals, Other Chemicals and Chemical Products
 Scientific and Professional Equipment
 Broadcasting
 Computer Services
 Advertising
 Architectural, Engineering and Scientific Services
 Amusement and Recreation Services
 Non-Metallic Mineral Products

Medium Importance

Transportation
 Services Incidental to Primary Industries
 Tobacco Products
 Plastic Products
 Leather and Allied Industries
 Metal Fabricating
 Agricultural Implements
 Motor Vehicles and Parts
 Railroad Rolling Stock
 Appliances, Other Electrical Products
 Refined Petroleum and Coal Products
 Other Manufacturing (e.g. Scientific and Professional)
 Retail Trade
 Accommodation, Food and Beverages
 Other Business Services

Lesser Importance

Primary Sectors
 Food and Beverages (excluding Biotechnology)
 Rubber Products
 Primary Textiles and Textile Products
 Paper and Allied Industries
 Primary Metals
 Commercial Refrigeration
 Truck Bodies and Trailers
 Shipbuilding
 Construction
 Other Communications
 Other Utilities
 Wholesale Trade
 Finance, Insurance and Real Estate
 Government Administration
 Education Delivery
 Health Services: Hospitals, Doctors, etc.
 Personal and Household Services

* Based on assessment of IP's contribution to sales, profits, level or quality of service, or some other measure of gross output or financial performance

increase in the years ahead, as the firms that use and depend on IP the most represent Canada's major growth industries, such as the high tech sectors, those utilizing advanced technologies, business and professional services, and the cultural, entertainment and leisure industries. These industries are also among the more export dependent sectors in the Canadian economy. IP is less important to certain other sectors of the economy but in most instances IP plays at least some role in overall industry performance and company decisions. There are comparatively few economic sectors for which IP is totally irrelevant to industry performance.

The company survey confirmed that IP plays an important role in the day-to-day operations of many Canadian companies. Four-fifths of the survey respondents employ one or more forms of intellectual property to protect their innovations and creations. In addition, over two-fifths of the respondents had obtained information

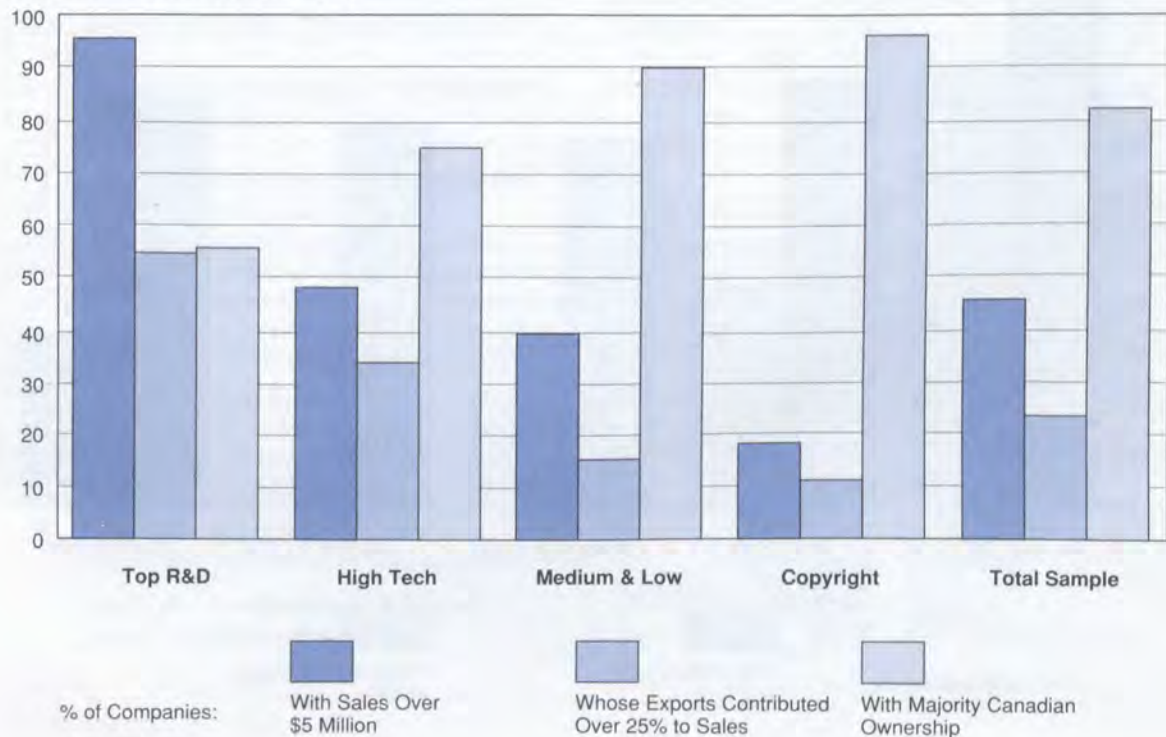
contained in other firms' IPRs to improve their company's products and services. About one-fifth had been involved in some form of litigation revolving around IPRs.

2.2 Differences in IP Use among Different Industry Groups

As expected, the utilization of IPRs to enhance company performance was highest among the top R&D performers (97 percent), high tech companies (83 percent) and major copyright users (76 percent). However, IP use is certainly not restricted to these sectors, as more than 70 percent of the 307 medium and low technology companies who were survey participants are currently employing one or more IPRs in their business operations. However, the IPRs utilized and companies' IP concerns vary greatly among the different sectors. Because of these industry differences, a balanced approach on the part of the federal government, sensitive to the varying needs of the full IP client group, is needed in policy formulation.

MAJOR CHARACTERISTICS OF COMPANIES IN COMPANY SURVEY (%)

EXHIBIT B



As previously indicated, IP utilization varies greatly among different industries and sizes of companies. The company survey has provided us with a detailed comparison among the four main industry groups, which has helped to further clarify these differences. Comparisons among industry groups are provided in Exhibits B and C, and in the Statistical Appendix.

Top R&D Performers

The top R&D performers—which typically have sales of more than \$25 million—use IPRs extensively to support both their Canadian operations and their commercial links with other countries, and most of them employ three or more types of IPRs (patents, copyrights, etc.). IPRs support a broad range of corporate goals in addition to being used to acquire information on technologies, products and markets. These firms make extensive use of licensing agreements and most believe they have better than adequate

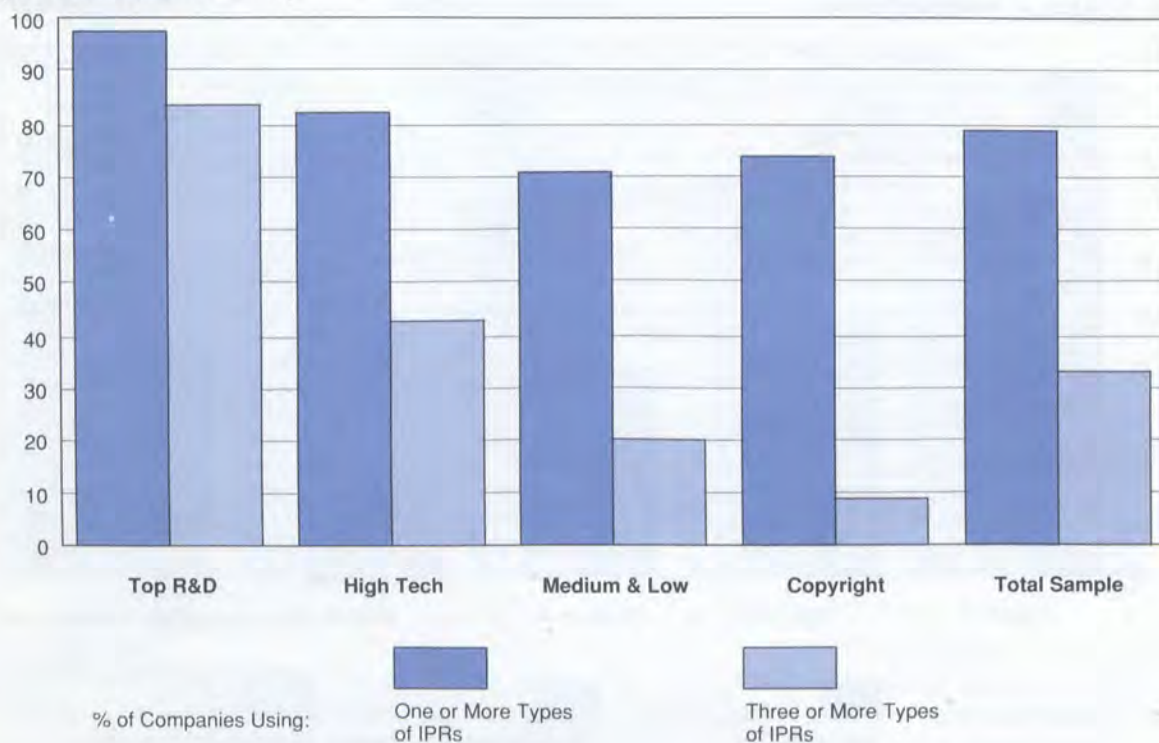
access to IPR knowledge and expertise. Only about one-half of the top R&D performers have majority Canadian ownership.

High Tech Companies

While on average they tend to be much smaller than most of the top R&D performers, high tech companies also use IPRs, especially trade-marks and trade secrets, quite extensively, particularly in support of their domestic operations. More than half of these companies also utilize IPRs to gain information. Still, nearly one-half believe they do not have adequate access to IPR knowledge and expertise. The same number of firms have entered into licensing agreements, most involving foreign products, services and technologies.

USE OF CANADIAN IPRs
(% Distribution of IPRs)

EXHIBIT C



Medium and Low Technology Companies

In contrast to the top R&D performers, medium and low technology companies tend to be quite small, export comparatively little and make limited use of IPRs to acquire information. As well, few of these companies enter into licensing agreements and most believe they have less than adequate access to IPR expertise and knowledge. Still, most of these companies use one or more IPRs (most often trade-marks) to support their domestic operations, and a fairly significant number employing IPRs in Canada (35 percent) also hold IPRs abroad. Some 90 percent of these companies are Canadian controlled.

Commercial Copyright Users

Companies using commercial copyrights also tend to be quite small, export little and believe they have inadequate access to IPR expertise and knowledge. In addition, comparatively few enter into licensing agreements either as the licensee (31 percent) or licensor (23 percent). Nonetheless, more than three-quarters of these companies use IPRs, mainly copyright followed by trade-marks, to support their business operations.

2.3 Variations among Companies of Different Sizes

The use of IPRs is positively correlated with firm size as measured by total worldwide sales in 1987. Moreover, the larger companies show a greater propensity to employ a variety of IP statutes to protect their innovative and creative products. This association between IP utilization and company size is apparent for all four industry groups in the survey. The research results suggest a number of reasons why smaller companies use IPRs less often:

- high cost of registering and enforcing patents and other IPRs;
- small or non-existent R&D budgets of smaller companies;

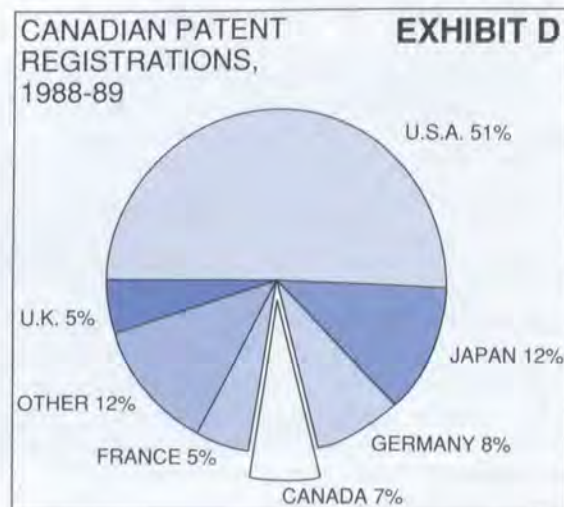
- limited knowledge of and expertise in IPRs and limited access to IP information (particularly for companies outside central Canada).

Our findings pose a challenge to government and industry to jointly explore methods to expand IP awareness, expertise and utilization among smaller companies in Canada located in all regions of the country.

2.4 Canada's Dependence on Foreign IPRs

Propensity to Employ IPRs

Canada is seen as an attractive country in which to exploit IP protection. For example, the Canadian Patent Office receives more than 30,000 patent applications a year, making it the fifth largest patent office in the world in terms of volume of applications examined and patents granted on these applications. Recent developments such as the Canada-U.S. Trade Agreement (CUSTA) and the modernization of Canadian IP statutes further advance the level of IP-related activity and utilization of IPRs in Canada.



Importance of Foreign Registrations and Technologies

To a greater extent than in other countries, most IP registrations in Canada involve inventions and innovative products created and owned by non-Canadians. Canada was the country of inventor for only 7 percent of the patents granted in Canada between 1972 and 1987. In other major industrialized countries, residents typically account for between 20 percent and 50 percent of the patents applied for and granted. U.S. creators contribute about 50 percent of the patents applied for and granted in Canada, followed by members of the European Community (EC) and Japan (see Exhibit D). Canada receives about 2 percent of the total worldwide patent applications but Canadian inventors create only about 0.3 percent of the world's stock of patented inventions.

Canada does not have an impressive record for exploiting its technology in other countries. Canadian residents are granted fewer than 3 times the number of patents abroad as at home, compared with about 4 times for West Germany and 10 times for the Netherlands. Most of the technologies, goods and services patented in Canada, apparently are for use in the domestic market.

Access to Foreign Technology

Our research has indicated that, despite extensive use of foreign IPRs, most Canadian companies have experienced few problems with access to foreign technology and to other imported goods and services that embody IPRs. More than a third of the company respondents are currently importing technology, machinery and other components, goods and services that embody IPRs. The top R&D performers are particularly dependent on imported IPRs. Less than 7 percent of the total company sample encountered problems that hindered or prevented these imports. Moreover, only 18 respondents reported specific problems associated with these IP-related imports and only 8 companies believed these problems influ-

enced their profitability appreciably. None of these companies are among the top R&D performers, suggesting that smaller firms (most of which are Canadian owned) are more likely to encounter problems with access to foreign technology.

Experience with Licensing Agreements

As would be expected, given Canada's position as a net importer of technology, more Canadian firms enter licensing agreements as the licensee than as the licensor. More than a third of the survey respondents had entered into a licensing agreement as the licensee over the past three years. Canadian companies, particularly the top R&D performers, are paying substantial fees to acquire technology through licensing agreements.

Most of the respondents were satisfied with the conditions of the licensing agreement they had entered into as the licensee. However, about one-sixth of the respondents who were licensees reported one or more problems with their agreements and 12 percent of the respondents who were licensees believed their licensing agreements were subject to excessive restrictions or other difficulties, including the conditions of the agreement, the cost of the license and the protection given.

Factors Facilitating Technology Access

Technology access and diffusion in Canada are facilitated by a number of factors:

- Canadian subsidiaries have easy and inexpensive access to the technologies held by their multinational parents;
- most Canadian companies recognize the importance of technology to competitiveness and allocate the financial resources necessary to purchase the best available machinery, equipment and technologies;

- the ease with which technology is imported into Canada provides strong evidence that our IP laws are perceived as more than adequate by foreign rights holders.

Many associations emphasized the importance of imported technologies and imported high tech products to Canada's technological and economic development. In their view, Canadian policies must continue to be supportive of such imports.

Technology Identification

Association respondents suggested that, particularly for smaller companies, identification of the available technologies is a greater problem than is technology access. Only 25 percent of medium and low technology companies currently use the information contained in other companies' IPRs to improve company performance, compared with 79 percent for the top R&D performers. Moreover, this practice is more common among larger firms than smaller ones. For most firms, informal information sources such as discussions with other firms tend to be used more often than formal sources such as the examination of patents.

Technology identification by Canadian companies is made easier by government programs such as the National Research Council's technology identification and access programs implemented through the provincial research councils. CCAC's Intellectual Property Directorate's Patent Information Exploitation (PIE) program makes technological information contained within the patent system more readily available, particularly to small and medium-sized businesses. Access to information on technology will be further facilitated by the planned automation of the Canadian Patent Office (CPO) and the other operations of the Intellectual Property Directorate.

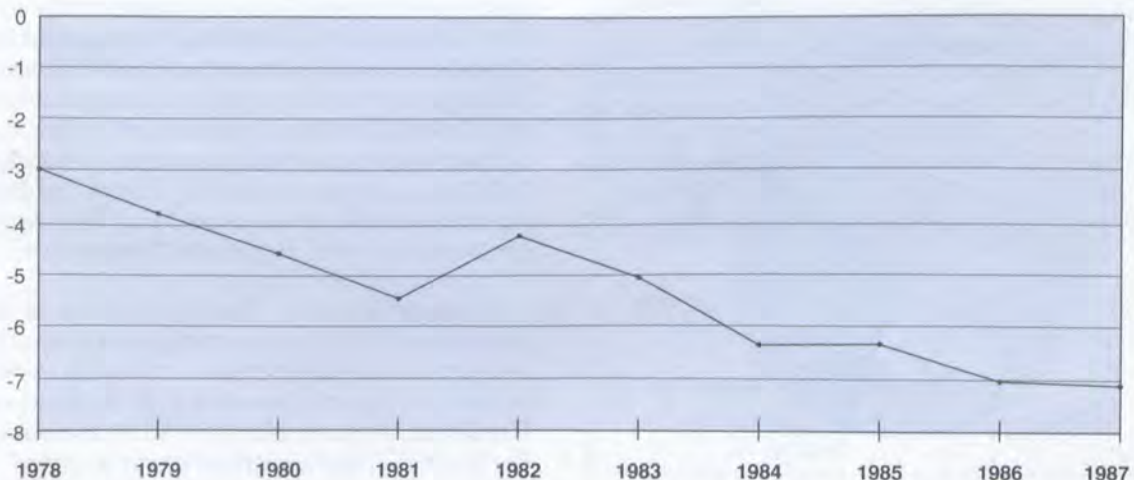
2.5 Importance of IP to Canadian Trade and Other External Relations

Canadian Deficit in IP-Related Trade

Despite growing sales by our high tech industries, Canada remains a net importer of high value-added finished goods protected to varying degrees by IP statutes (Exhibit E). Compared with other more advanced trading nations, high tech, R&D-intensive products account for a smaller portion of Canada's export trade. Canadian producers contribute less than 4 percent to world trade

TRADE BALANCE IN HIGH TECH, 1978-87
(\$BILLION)

EXHIBIT E



in these products. Similarly, Canada is also a net importer of most materials that are protected by copyright and has a trade deficit on business service transactions.

Canadian Commercial Interest in a Strong International IP System

Still, Canada has significant export and other external commercial interests in sectors for which IP is important. Canada's long-term commercial interests will clearly benefit from reasonably high levels of IP protection in countries where it is currently absent and also from improvements to the international IP framework. Technologies protected by IP legislation support the efforts of the Canadian resource and primary manufacturing industries to remain competitive internationally and to expand their sales of resource products, services and expertise to offshore markets. Effective Canadian and worldwide copyright protection provides essential support to the efforts of Canadian book publishers to expand foreign sales and to establish profitable licensing agreements with foreign companies.

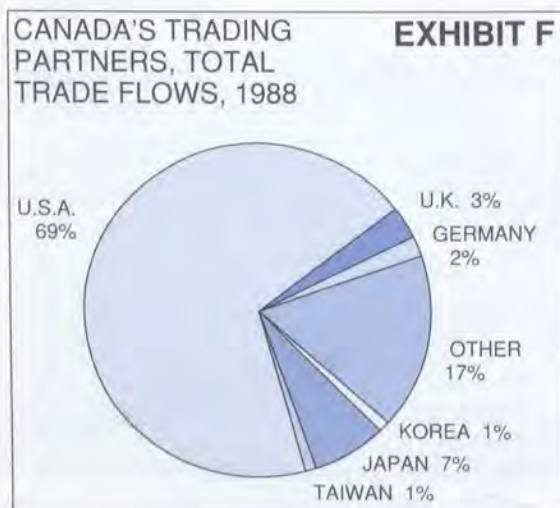
Earnings from IP-Related Exports and Royalties

Canada is highly dependent on its commercial relations with other countries. The results from the company survey dramatize Canada's growing dependence on exports and other external links and our growing vulnerability to the IP and other laws and practices of our trading partners. Almost 60 percent of the respondents are currently exporting and one-third of all respondents currently hold IPRs abroad. IP use and exports tend to go together. The companies that export significant portions of their production tend to use IP more extensively. The survey findings suggest that a perhaps surprising number of Canadian companies are already earning royalties from licensing agreements with firms in other countries. Almost 10 percent of all companies in the sample reported such earnings during the past three years; most of these companies are among the top R&D performers and high tech companies.

Canada's Geographic Priorities and Trade in IP

In terms of geographic priorities, about 70 percent of Canadian total trade—imports plus exports—is with the United States (Exhibit F) and almost 90 percent of Canadian exports of finished goods are to the U.S. market. Guaranteed, non-discriminatory access to the U.S. market for IP products is a major priority for Canada's trade in IP-related goods and services. Canada and the United States did not reach agreement on TRIPs in the CUSTA. The absence of a significant IP component in the CUSTA further illustrates the importance of the TRIPs negotiation at the GATT to Canada's international IP interests and our trading relationships with the United States.

Viewed as a bloc, the 12 countries of the European Community account for about 10 percent of Canadian trade and for an even higher portion of Canada's high tech exports. Canadian business people will be assessing the GATT IP agreement very carefully in



order to ensure its provisions do not provide support to the development of "Fortress Europe" and thereby restrict Canadian exports, especially of more finished goods, into the European market. CCAC analysis suggests that the integration of the Community market by 1992, particularly if combined with a successful TRIPs negotiation, will provide more opportunities than dangers for Canadian exporters of IP-related goods, services and technologies.

Among Canada's trading partners, Japan ranks second to the United States, accounting for approximately 6 percent of Canadian exports. Canadian efforts to increase exports of finished goods are beginning to bear fruit but, despite recent gains, Canadian high tech sales to Japan still totaled less than \$300 million in 1986, constituting only 5 percent of Canadian exports to that market. Any GATT agreement should ensure that legitimate trade is not impeded and that the Japanese authorities do not further restrict imports of end products from Canada and other countries.

Over 10 percent of Canada's trade is with countries that are not members of the Organization for Economic Co-operation and Development (OECD). Canada's exports of high tech products to these countries have grown rapidly in recent years. Many of these countries are less developed countries (LDCs), which have IP standards and enforcement measures that are below international norms, many of which have been cited as IP infringers. Canada's exports in IP-related products to these countries have expanded in recent years. These sales, combined with our growing interest and capability in exporting Canadian-generated technologies, could be enhanced through improved IP standards and enforcement in the Third World.

2.6 Importance to Cultural Development

In our research, attention was also given to the role and importance of IP to Canada's cultural industries. Our studies confirmed that copyright protection is critical to the successful functioning of the Canadian cultural sector. Without effective copyright protection, Canadian production of literary, dramatic and artistic works would be significantly lower, the Canadian cultural sector and national identity would be much weaker, and all Canadians would be much the poorer. In addition, copyright and culture are very important to our national economy. Industries directly exploiting copyright account for more than 2 percent of Canadian employment and gross domestic product (GDP). Approximately 400,000 Canadians are directly employed in the major commercial industries that depend on effective copyright law for their commercial existence.

Many of our cultural industries are displaying significant international competitive strength. Canadian exports of materials protected by copyright surpassed the \$700 million level in 1987; in addition, millions more were paid by foreign licensees to Canadian copyright holders. In the view of the Canadian copyright community, effective rights are needed now to support the future development of an internationally competitive cultural sector in Canada, a position accepted by the Canadian government in modernizing our copyright law through Bill C-60, which was enacted by Parliament in 1988, and through Phase II of the Copyright Act revision which is now nearing completion.

3.0 CONCERNS OF CANADIAN INDUSTRY WITH THE NATIONAL AND INTERNATIONAL IP SYSTEMS

3.1 IP Problems of Canadian Companies

General Satisfaction with IP System

The company survey respondents were asked to indicate: the reasons they were not satisfied with particular Canadian IP laws; the reasons their firms do not use Canadian IP laws more often; and the IP-related problems and other disincentives that Canadian firms have encountered in their efforts to extend their businesses outside Canada. The survey indicated a fair degree of satisfaction with the Canadian IP system as well as international IP protection. Between 72 percent (the percentage for the high tech sector) and 85 percent (the top R&D performers) indicated that they were satisfied with the protection given by Canadian intellectual property statutes. The average across all sectors was 76 percent.

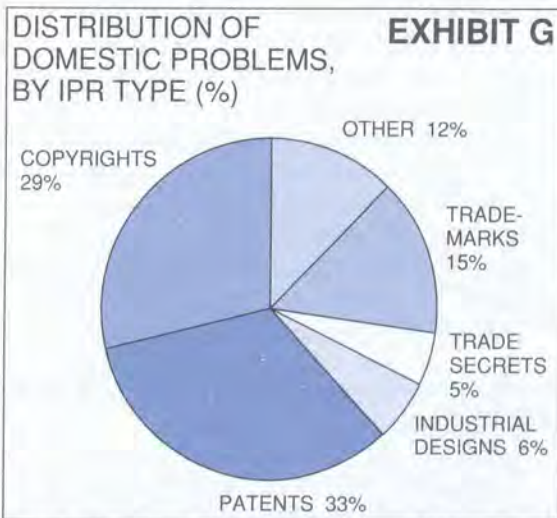
Respondents expressed greatest satisfaction with the terms of protection and subject matter coverage under Canadian IP statutes and the least satisfaction with the manner of enforcement and remedies/penalties. The degree of satisfaction appears related to company size and IP awareness and expertise. The top R&D performers typically have the size and financial resources to retain IP expertise and to effectively use and protect their IPRs. In contrast, the companies in the high technology group, which also make extensive use of IPRs, tend to be much smaller, are therefore more aware of the IP problems confronting small businesses, and are more affected by the high costs incurred in registering and enforcing IPRs.

Only about one-quarter of the respondents indicated they were dissatisfied with the protection provided by Canadian IP laws; a similar proportion stated there were IPRs their firms would like to use but do not use for one reason or another. In contrast, only 14 percent of the respondents who are currently exporting stated they were encountering IP-related problems or disincentives in their efforts to expand their sales abroad.

Domestic Concerns

In discussing the adequacy of Canadian IP laws, 215 survey respondents mentioned 323 specific problems. Many problems noted by respondents involved dissatisfaction with the manner of enforcement and remedies/penalties in Canada. As well, some Canadian companies were concerned that in certain respects and under certain circumstances, IPRs provide insufficient or incomplete protection and take considerable time and expense to acquire. In estimating the cost of acquiring various IPRs, including internal and external costs, companies indicated that the unit cost per IPR varies greatly according to the statute. Costs ranged from less than \$2,000 per copyright or trade-mark to over \$3,000 for each industrial design and over \$4,000 for each patent. Actual government registration costs would account for only a small portion of the total costs of IPR registration. Other items – for example, legal services and preparation of documents – appear to account for most of the costs incurred in acquiring an IPR.

A few companies were also concerned about the lack of thoroughness and accuracy of the registration office responsible for processing applications. Several companies also indicated they were unwilling to register an IPR because of the detailed information required. The fear was that such information could help their competitors by diffusing the firm's technology. This fear, combined with the above complaints, may help to explain the extensive use of trade secrecy among responding companies.



More than three-fifths of the 323 problems mentioned by respondents involved either patents or copyrights (Exhibit G). Moreover, many of the problems involving patents and copyrights were considered to have a significant effect on the respondents' commercial interests in Canada (Exhibit H). Fewer problems with trade-marks, industrial designs and trade secrets were reported by survey respondents, and these problems, when they were mentioned, tended to be less serious to company performance. In the case of trade-marks, associations expressed general satisfaction with Canadian trade-mark law; accordingly, the concerns raised by company and association respondents generally were quite specific in nature.

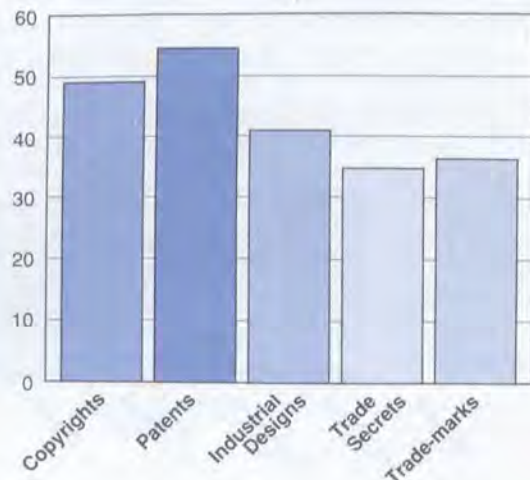
The few problems raised about the Canadian Industrial Design Act are perhaps surprising, since the Act is so out of date. One possible reason is that, because the Act is so antiquated, protection under the Industrial Design Act is now employed by comparatively few companies to support their business operations. Consistent with this perspective, industrial design protection is used much less often than other types of IPRs. Only 15 percent of company respondents are currently employing industrial design protection, compared with three-fifths of respondents in the case of trade-marks, trade names and service marks, and more than a third each for copyrights, trade secrets and patents (see the Statistical Appendix).

Relationship between Concerns and Company Size and Industry

As previously mentioned, the use and level of satisfaction with Canadian IPRs vary with the size and nature of the firm (Exhibit I). Smaller firms, especially those in the high technology field, expressed greater dissatisfaction with the Canadian IP system. They tended to believe that the current IP system mainly protects larger firms, and offers insufficient protection to smaller companies that cannot afford the costs of registering and enforcing their rights. Problems also varied by sector. Companies stating that new IP legislation is needed were found only among the top R&D performers and high technology categories. Firms from the high tech group (14 percent of respondents) were also the most inclined to believe that Canadian IPRs discourage the amount of R&D they conduct in Canada.

Compared with those in the high technology sectors, firms in the medium and low technology category are more likely to be concerned with Canadian trade-mark and industrial design law. Firms involved in the manufacture of clothing, furniture and jewellery stated that IP protection was not sufficient because their competitors need only make small changes to steal their designs or marks.

SERIOUS INFRINGEMENTS, BY IPR TYPE*

EXHIBIT H


* % OF PROBLEMS CONSIDERED SERIOUS BY RESPONDENTS

3.2 IPRs and Litigation

Extent of Court Cases

One problem that has not been fully addressed in the past is the effects of court actions on rights holders. Close to 20 percent of survey respondents have been involved with an IP-related litigation and another 24 percent have considered launching or have been threatened with legal actions regarding IPRs during the past 10 years. About three-fifths of these court cases involved respondents who claimed to own or to control the IPR at issue, and the other two-fifths of the cases involved respondents who were the alleged infringer. The larger and more technologically sophisticated the firm, the more likely it was to be involved in IPR-related litigation.

Cost of and Satisfaction with Litigation

Many respondents were unhappy with their court experience. The cost of litigation was one factor contributing to this situation. Smaller companies and their association representatives complained that litigation was expensive and was often used as a tool by larger, more powerful firms with the resources to discourage smaller firms from

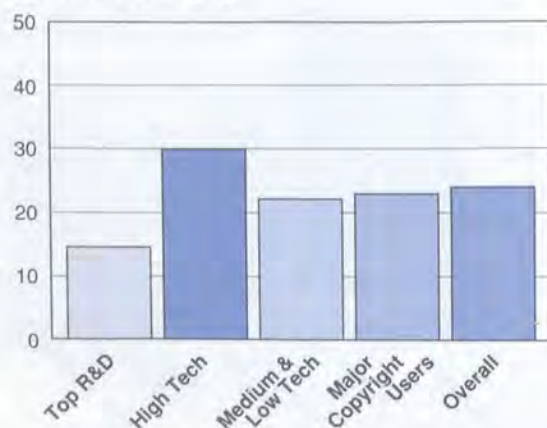
competing in the marketplace. The more resources a firm has at its disposal, the longer it can drag a case through the courts. Under these circumstances, the financially weaker firm may be forced to back down or even to go out of business. For smaller firms, the cost of litigation must be balanced against the potential benefits. Except for large patent infringement suits, the amounts recovered generally are too small to justify an expensive civil action.

International Dimension to Growing Cost of Litigation

Such problems are amplified in international litigation. In these cases, the Canadian company is usually the smaller of the parties involved. Canadian firms are particularly concerned with the recent international trend towards employing IP as a legal battleground among corporations and nation states. This is a characteristic of many U.S. companies, which are insisting on higher fees and better licensing terms and which are suing any rivals who are reluctant to fall into line. In addition, a growing number of American companies are turning to Section 337 of the Tariff Act of 1930, which excludes imports into the U.S. market where there is evidence of "unfair trade practices." The danger exists that the IP system, which was originally designed to stimulate innovation, will in fact stifle innovation and creativity.

COMPANIES DISSATISFIED WITH CANADIAN IP PROTECTION (%)

EXHIBIT I



4.0 IP PROBLEMS AND CANADA'S DOMESTIC COMMERCIAL INTERESTS

4.1 Overview of IP Infringement in the Canadian Market

The TRIPs negotiation at the GATT is driven in large part by the major losses in revenues and profits suffered by advanced countries and multinational corporations from commercial counterfeiting and piracy throughout the world. Both the U.S. and European markets have experienced losses worth billions of dollars. CCAC research suggests that trade-mark counterfeiting, copyright piracy and related infringement may not be a widespread problem in the Canadian market. IP infringement does, however, occur and, more importantly, may be increasing. This is a key finding from our company survey.

Almost 200 out of 733 respondents indicated their IPRs have been infringed in Canada over the past three years. Half of these 200 or so firms believed their Canadian sales are lower because of counterfeiting or other IP infringements. Fifty-four respondents provided estimates of revenue losses that occurred domestically as a result of IP infringements. The largest single loss suffered by a company totaled over \$50 million, while the total losses of the 54 companies amounted to \$100 million. Some 63 percent of these losses were reported by the top R&D performers and high tech companies and the remaining 37 percent — totaling close to \$40 million — were reported by the less technology intensive companies in the survey. A fairly broad cross-section of Canadian industries therefore suffer losses from IP infringement.

4.2 Specific Examples of Domestic IP Problems

Concerns with Canadian IP placed greater weight on copyright and patent infringement and on the limited protection afforded to certain technologies such as plant

breeders' rights, biotechnology, and computer software prior to recent amendments to the Copyright Act than on counterfeiting, piracy, related trade-mark problems, and other concerns having a possible trade aspect. For example, about 50 respondents were concerned that enforcement of IPRs in Canada was not sufficient, but only 3 or 4 had concerns related either directly or indirectly to border enforcement of IPRs. The remaining 46 respondents had concerns with domestic enforcement of IPRs.

One Example of Counterfeiting

The counterfeiting problems faced by the automotive parts industry provide one illustration of the economic losses Canadian industries can face as a result of IP infringement. In 1984, one major parts manufacturer discovered it was competing with counterfeit parts from around the world that were being placed in an exact reproduction of its packaging case. The major source countries for the parts included Mexico and a number of Southeast Asian countries. The resulting losses totaled about \$20 million a year at that time. The losses have since declined, in part through joint government/industry information activities and one successful criminal case in Toronto.

4.3 Domestic Commercial Interests: Conclusions

The company survey suggests some Canadian firms and other IPR holders are encountering infringing products in the Canadian market, and the number of incidents and their commercial effects could be growing. The company survey discovered more problems than were identified in previous research, in part because a broader range of IP infringements and related problems were addressed. Trade-mark counterfeiting accounts for only a portion of the IP infringements hurting the sales efforts of Canadian companies in the domestic market.

However, the number of incidents and the losses incurred are still fewer than those in the United States and Europe because of:

- the small, geographically dispersed Canadian market, which reduces the profits available to commercial counterfeiters and pirates;
- the lack of domestic manufacturing of such products in Canada, resulting in part from our high production costs;
- Canada's better than adequate IP laws.

5.0 IP PROBLEMS AND CANADA'S INTERNATIONAL INTERESTS

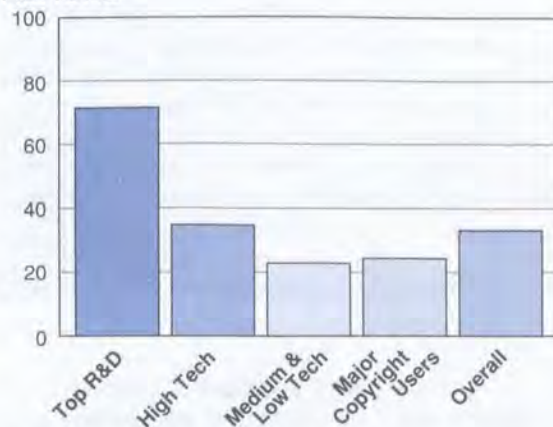
5.1 Evidence from Association Interviews and Canadian Missions Overseas

Interviews by the CCAC group with Canadian associations and Canadian missions overseas offered little hard evidence to suggest that counterfeiting and piracy are seriously affecting Canadian export interests at the present time. Canadian subsidiaries have been affected indirectly to the extent that their parents' worldwide sales are reduced by commercial counterfeiting and piracy in the international market. However, direct impacts on Canadian companies have been limited to date, according to the association respondents and Canadian diplomatic missions overseas. Only 8 of the 38 diplomatic posts surveyed reported IP-related problems that directly affected Canadian export interests, and most of these could be viewed as trade irritants rather than as major commercial problems.

5.2 Evidence of Impacts on Export Interests from Company Survey

Many of the companies studied have commercial ties with other countries. Nearly 60 percent are currently exporting; the proportion rises to 70 percent for the R&D and high tech companies combined. The United States represents the most important market for nearly 90 percent of these exporters. One-third of the respondents currently hold IPRs abroad (Exhibit J). The most important IP activities of Canadian companies in other countries involve obtaining a patent and registering a trade-mark. Some problems, however, have been encountered regarding IP and exports. Some 61 of the 124 exporters (representing 25 percent of the Canadian companies holding IPRs abroad – see Exhibit K) reported problems/disincentives related to IP protection in their efforts to extend their business in other countries, and six respondents stated they were discouraged from exporting because of IPR problems. Some 79 IP problems, which is less than a quarter of the problems encountered in the domestic market, were cited by the 61 exporters. These problems are broken down as follows by IPR: copyright – 25; patents – 23; trade-marks – 19; other IPRs – 12.

IPRS ABROAD* EXHIBIT J



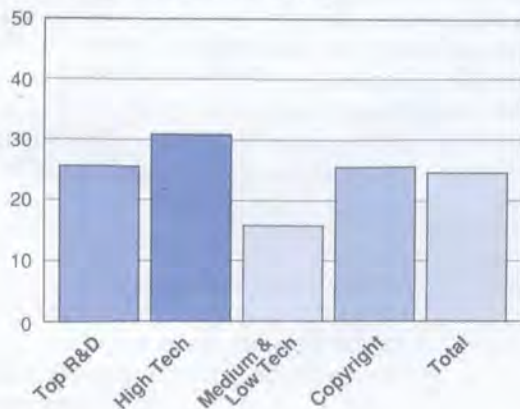
* % OF FIRMS HOLDING IPRS ABROAD AS A PROPORTION OF TOTAL COMPANIES IN CATEGORIES

Only one-third of the international problems involved direct references to piracy, counterfeiting and other IP infringement, and only 11 problems involved concerns with IP enforcement in other countries. Most of the remaining problems were of a more administrative nature. The top R&D performers, high tech and commercial copyright companies more often encountered problems involving patents and copyright, while most of the problems faced by medium and low tech companies involved trade-marks.

5.3 Revenue Losses Due to IP Problems Abroad

The respondents in our survey indicated relatively minor losses because of IP problems abroad. Less than 10 percent of the exporting companies and about one-sixth of the companies holding IPRs abroad reported they had lost markets and sales because of IP-related problems in other countries. Some 4 percent of the exporters were able to provide order-of-magnitude estimates of actual revenue losses for 1987. They were primarily the top R&D performers and the high tech companies. Based on the available evidence, it is highly questionable whether total Canadian losses from IP infringements in other markets exceed more than \$100 million in a typical year, an amount constituting less than one-tenth of 1 percent of Canadian exports to other countries.

IPR HOLDERS*
REPORTING PROBLEMS
IN OTHER COUNTRIES (%) EXHIBIT K



* CANADIAN COMPANIES HOLDING IPRS IN OTHER COUNTRIES

5.4 Reasons for Limited Effects on Export Interests

The research suggests four reasons for the limited effects to date of IP-related problems on Canada's commercial interests in other countries.

- In a typical year, almost 75 percent of Canada's export sales are to the United States and 15 percent are to other OECD countries. Only about 10 percent of Canadian sales are to non-OECD countries, where IP protection may be more problematic.
- IP-related, R&D-intensive products and cultural products play a smaller role in Canada's export trade than in the exports of our major trading partners. Resources and automotive products, which continue to be very important to Canadian export performance, generally are less affected by IP-related problems.
- Where Canada has developed high technology export capabilities – for example, in telecommunications, hydroelectric equipment, aerospace and computer software – Canadian companies generally are selling specialized products to government and large industrial customers. Exporters serving niche rather than large consumer and industrial markets are less vulnerable to commercial counterfeiting and piracy.
- International brand names and international artists are the most frequent victims of trade-mark counterfeiting and copyright piracy. Consumer products account for less than 3 percent of Canadian exports, and comparatively few international artists market their work directly from Canada.

A final factor could be that many Canadian companies lack the expertise to recognize when IP-related problems are affecting their commercial interests in foreign markets. Consistent with this, Exhibit K indicates that, compared with the medium and low tech technology companies, more of the top R&D performers and high technology companies that hold IPRs abroad believe IP-related problems are hurting their commercial interests in other countries. The top R&D performers and high tech companies have better access to IP expertise than do other companies. Moreover, while few company respondents stated explicitly that IP laws discourage them from exporting, some association representatives argued that Canadian companies, particularly small firms, are discouraged by the need to learn a whole new set of rules – including IP laws and practices – when entering a new market.

5.5 Other Impediments to Trade in IP-Related Goods and Services

International trade in goods embodying IPRs are influenced not only by TRIPs-related issues but also by trade barriers being addressed in other GATT negotiating groups as well as concerns of a more domestic nature. One industry association noted that high tariffs on brochures, pamphlets and other information materials, which are needed to support the export marketing of high tech products, represent a significant barrier to trade in IP-related products. A respondent to the External Affairs' survey on "Barriers to Canadian Services Exports" noted that difficulties in obtaining export permits from External Affairs can act as an impediment to trade in services embodying IPRs.

Domestic policy concerns were also expressed by respondents. One was concerned about the high Canadian tariffs on specialized machinery and equipment not available from Canadian sources. These high tariffs can significantly raise the costs of production for Canada's high tech industries and for other manufacturers of IP-related products, which in turn hurts Canadian

competitiveness. Canadian companies that create and use technologies, products and services embodying IPRs will be looking at all of the results of multilateral talks under the Uruguay Round of the GATT negotiations to ensure that the trade benefits provided by one negotiating group are reinforced and are not offset by the results from other groups.

6.0 CONCLUSIONS AND IMPLICATIONS

6.1 Major Findings

The purpose of this section is to list the major findings and conclusions of the economic research, particularly those important to policy formulation, and to identify the policy implications for purposes of revising Canadian IP statutes, administering Canadian IP laws and preparing Canadian positions for the TRIPs negotiation and other international IP negotiations.

Growing Importance of IP

One key finding is that, for the foreseeable future, IP is expected to play a growing role in Canadian economic performance, trade development and corporate decision making. Innovation, creativity and information technologies, all of which require IP protection, are critical to the development of the modern industrialized economy. Industries using IP extensively are a growing force in the Canadian economy. Many Canadian companies may be reaching the stage in their development when IP use and creation is both possible and essential for future growth. Canadian exporters need effective IP laws to support their commercial efforts in other countries. Small businesses in particular offer a growing market for greater IPR use.

Predominance of Domestic IP Concerns and Losses

The second key finding of the analysis is that the vast majority of IP-related concerns of Canadian companies and associations, probably more than 80 percent, involve Canadian IP laws and their administration. Concerns with IP in other countries are mentioned less frequently and deal largely with issues that for the most part have less impact on Canada's immediate commercial concerns. In contrast, the domestic problems raised by respondents cover the full range of IPRs and, from the company's perspective, often involve serious IP infringements and other problems.

Respondents often place their domestic IP concerns within an international context, however. Canadian companies and industry associations are calling for a continuing modernization of Canadian IP statutes and their administration in order to better harmonize them with those of our major trading partners and to better allow Canadian companies to compete on an equal footing in both the domestic and international marketplaces. These types of concerns are particularly voiced by smaller Canadian companies with limited IP expertise and limited access to IP-related information materials. From their perspective, Canada needs more comprehensive, better-enforced and better-administered IP statutes and a set of IP laws that are clearly aligned with international norms, in order to:

- protect their IPRs in Canada;
- support their sales efforts in the domestic market;
- facilitate the negotiation of marketing, licensing, technology and investment deals with companies both in Canada and in other countries;
- provide domestic and international IP support for their future marketing efforts and related commercial initiatives in other countries.

In many respects, the Canadian IP framework is already meeting these needs. A complete overhaul of Canadian IP statutes is not necessary. However, the Canadian private sector does believe that some additional IP protection and some significant improvements to existing Canadian IP statutes, as well as to IP administration, are required to meet the domestic and international challenges of the next decade and century.

The research conducted to date does not allow us to make a precise estimate of the worldwide losses suffered by Canadian businesses from IP infringement and other problems. However, Canadian losses in the domestic and international markets appear to be a very small fraction – probably less than 2 percent in a typical year – of the worldwide losses of more than \$40 billion reported by U.S. industry. Moreover, most of the Canadian losses – perhaps over 90 percent – occur in the Canadian market, and only a portion is accounted for by counterfeiting and piracy conducted on a trade-related commercial scale. Home taping and other non-commercial infringements occurring in the home, office and school may be just as important as commercial counterfeiting and piracy as concerns for Canadian companies.

International Concerns

Compared with counterfeiting and piracy, Canadian commercial interests in other countries are influenced more by broader concerns with the provision, administration and enforcement of IP and related legislation of our trading partners. These concerns, which are less obvious than counterfeiting and piracy, potentially could discourage some Canadian exporters from selling offshore. Smaller companies in particular can be discouraged by the requirement to learn a whole new set of IP rules in an unfamiliar market.

Canadian companies recognize the importance of a successful TRIPs outcome to Canadian commercial interests in other countries. However, because of the diffuse nature of our international IP interests and the importance of better-harmonized IP law across national borders, Canadian IP practitioners and industry respondents who are knowledgeable about international IP believe the many negotiations taking place at the World Intellectual Property Organization (WIPO) are also very important to Canada's long-term commercial interests in the IP field. They stress that the GATT initiatives should not prejudice the role of WIPO.

Current Level of Protection in Canada

Canadian companies and governments recognize the value of providing high levels of IPR protection in order to generate domestic technology and other creative products and to secure technology transfer and investment. The recent strengthening of patent legislation (Bill C-22) and copyright law (Bill C-60), plus the introduction of a retransmission right in the Canada-U.S. Trade Agreement, underscores Canada's commitment to an effective IP system. In addition to these changes, new laws to protect producers of integrated circuit designs and producers of new varieties of plants are under consideration, as are further improvements to copyright law and to the appropriate protection of new technologies, such as biotechnology, under patent law. International concerns about IP protection worldwide are not directed at Canada's legislative framework. The IP problems reported by respondents need to be addressed in order to meet Canadian domestic needs, not our international IP obligations.

The research results suggest that in the international arena, Canada will need to evaluate the extent to which the momentum towards higher levels of protection worldwide could result in a requirement for Canada to go beyond existing and planned levels of domestic protection. International IP negotiations should be geared towards raising IP protection in other countries to the levels now enjoyed by the most advanced industrialized countries, including Canada.

6.2 Implications for Canadian IP Legislation and Administration

Balancing Divergent Domestic Interests

In Canada, the role and importance of IP varies greatly according to the industry, size of the company, type of technology being employed and the stage of development of the industry or firm. Domestic IP law and administration have to address the divergent IP needs of creators and users, of large and small companies and individual inventors, and of firms in every part of the country, including regions outside central Canada having weak IP-related infrastructure.

Comprehensive Approach to IP Law Revision

Research findings indicate that IP law should be formulated within a broad context that takes full account of other government policies and programs, the availability of financing to IP-related industry, and global trends in trade, markets, investment, industry and development. A co-ordinated, comprehensive approach that identifies and addresses present shortcomings in a dynamic context is needed in revising Canadian IP law.

Needs of Smaller Companies and Less-Developed Regions

Our findings suggest that the effective utilization of IPRs is more predominant among larger companies than smaller firms, and in central Canada rather than the Atlantic and Western provinces. Measures are needed to improve IP infrastructure in less-industrialized regions and to better equalize IP awareness, opportunities and effectiveness across all types of companies and all regions in Canada. As an example, several respondents pointed to the potential need for an easy-to-acquire, short-term form of IP protection, which could be particularly advantageous to the smaller company or individual inventor. They believe the IP needs of smaller clients are only partially met by the current system.

IP Remedies and Smaller Companies

Smaller companies, as well as other organizations with limited resources, have expressed concerns about inadequate remedies and penalties to combat IP infringements. They have suggested that only the larger companies have the financial clout needed to support litigation, and only the largest patent infringement suits generate sufficiently large awards to justify an expensive civil action.

Counterfeiting

A growing number of Canadian companies are being hurt by counterfeiting and other types of IP infringement, a trend that over time could add to domestic pressures to revise Canadian IP statutes and to further improve their enforcement.

IP Knowledge and Awareness

IP knowledge, expertise and awareness among firms – aside from the top R&D performers, and major copyright groups and associations representing IP practitioners – are fairly limited. Companies, associations and research groups have voiced the concern that few Canadians are aware of the importance of IPRs to Canada's economic performance, cultural development and national identity. Many respondents advocated a major public information program to expand the awareness of the IP system and its importance to the Canadian economy among creators and users of IP, a broader range of industry associations, non-profit groups and the general public. These initiatives would build on and accelerate the IP awareness work now being conducted by CCAC's Intellectual Property Directorate (IPD).

Importance of Administrative Improvements to Canada's IP System

Problems with IP awareness and knowledge among small companies and companies outside central Canada highlight the importance of enhancing the services provided by IPD in administering Canada's patent, copyright, trade-mark and industrial design laws.

The Intellectual Property Directorate, which provides a wide variety of services to IP owners and users in Canada, is in the process of improving its services to the public over the next several years. In order to modernize its operations, it is in particular updating its computerized trade-mark operations and is in the third year of the plan to automate the operations of the Patent Office. The Patent Office plan includes the creation of a Canadian patent data base designed to provide regional access to patent information. In October 1989 the general patent provisions of the Act to Amend the Patent Act, including membership in the Patent Cooperation Treaty (PCT), were proclaimed. This will facilitate the obtaining of patent protection abroad by Canadians. Moreover, additional resources have been approved to reduce the patent caseload over the next five years. The Patent Information Exploitation (PIE) program will continue both to diffuse the technological information contained in patents to the small and medium-sized businesses sector through the use of intermediaries located in all the provinces and territories and to promote the use of IP through its public education and awareness program.

Emerging Technologies

The Canadian IP framework has yet to provide completely adequate protection to our industries involved with emerging technologies. In some cases, there are complex economic problems and ethical questions associated with extending IP protection – biotechnology, for example. However, survey respondents have high expectations that the government will provide protection in order to prevent losses to Canada on investment and research dollars. A joint government/industry effort is also anticipated in order to keep Canadian IP law up to date with future technological trends. The Intellectual Property Advisory Committee of CCAC is expected to play an important role in this process.

Crown Ownership of IPRs

Concerns with Crown ownership of IPRs arising from government contracts, and the implications for research partnerships between government and industry, were raised by company respondents and industry associations. Critics stated that access to and commercialization of IP is limited under the current arrangement. Industry, Science and Technology Canada is considering policy options to resolve this issue.

Integrated Circuits

Despite the relatively limited production of integrated circuits in Canada, respondents supported the government's commitment to provide integrated circuit protection in Canada and Canada's participation in the development of proposed international protection for integrated circuits in both WIPO and GATT.

Patents

There continues to be some controversy over the compulsory licensing of pharmaceuticals as specified in recent amendments to the Patent Act. Both the innovative and the generic companies hope their concerns will be dealt with favourably in the future by the federal government. The remainder of the revisions were generally well received, although concerns were expressed by smaller companies that they lack patent expertise and the resources to administer them. The Canadian private sector expressed hopes that the general amendments to the Act can be fully implemented as soon as possible.

A number of respondents pointed out the need to file patents in countries other than Canada and the consequent need to harmonize patent laws internationally as well as the need for Canada to participate in the Patent Cooperation Treaty. The Treaty came into effect in Canada on January 2, 1990.

Trade-marks

Despite its extensive use, Canadian trade-mark legislation was not a particularly controversial topic. Respondents did, however, make reference to the outdated registered users' system and the excessive degree of protection extended to the official marks of public authorities. CCAC research and consultations also uncovered concerns with the rights afforded to unregistered trade-marks and company names that are well known and widely used regionally, when a national or international company having a registered trade-mark enters a local market.

Industrial Designs

Limited use and outdated provisions of important aspects of the Industrial Design Act suggest that the Act in its present form is of declining relevance to Canadian industry. The need for modernization is clear. Some respondents indicated also that functional objects should receive some form of industrial property protection; however, there was no consensus on this issue.

Copyright

Rights holders, while generally happy with recent amendments to the Copyright Act (Bill C-60), are concerned that the rights provided not be weakened in future copyright revisions. Copyright users believe the Bill did not adequately cover certain areas of concern, such as academic research and access to information, and that copyright protection needs to be better defined.

Trade Secrets

Trade secrecy is now being used more frequently by industry, particularly in the high tech category. Concerned respondents expect the federal and provincial governments to strengthen and harmonize Canadian trade secrecy law in addition to addressing this issue at international IP negotiations.

6.3 Implications for International IP Negotiations

Export Orientation of Canadian Business

Private sector interest in Canadian negotiating positions on TRIPs and other international IP issues is expected to grow with the expansion in Canada's export sales and the growing use of IP to advance Canadian commercial interests at home and abroad.

Reduction of IP Infringement

While current losses to IP infringement are small, Canadian firms expect to experience increasing sales losses in other markets, largely as a result of inadequate IP standards and enforcement in the Pacific Rim and other newly industrialized and developing countries. Reducing counterfeiting, piracy and other IP infringements worldwide remains important to Canada's long-term economic interests.

Developing Country Issues

Our research indicates that the developing world could benefit significantly from learning about the support provided by Canada's IP system to our technological development. Our IP framework has greatly facilitated technological imports and the filing of IPRs created outside Canada, thus allowing interested Canadian parties to learn from and to adapt foreign technologies. The same model could be applied to many less-developed countries. More generally, some associations and research groups proposed that Canada be sensitive to LDC concerns at the TRIPs and other international IP negotiations, recognizing there is some convergence in IP interests between Canada and the developing world.

Canada and the Multilateral System

Canada has a strong stake in multilateral negotiations leading to IP agreements that result in participation by as many countries as possible, provide effective dispute settlement mechanisms and offer better protection and encouragement of Canada's commercial interests in other countries. The international IP framework would be further strengthened, and the opportunities for infringement reduced, by encouraging non-member countries to join the existing WIPO conventions and to participate in current and future multilateral negotiations on intellectual property.

General Support for International IP Negotiations and the Canadian Position

CCAC research and consultations indicate that the Canadian private sector supports the efforts of developed countries to use the GATT to strengthen global IP standards and enforcement as well as the efforts of WIPO to harmonize IP statutes across countries. At the same time, many associations believe Canada's IP interests are somewhat different from those of our major trading partners — the United States, the European Community and Japan — and suggested that the Canadian negotiating position reflect this distinctiveness.

Some respondents raised the related danger that the GATT process and the international IP system may largely respond to the interests of the multinational corporations based in the United States, the European Community and Japan and thus may hurt smaller Canadian-owned companies. A large multinational headquartered in one industrialized country potentially can use a minor patent to monopolize a large product or services market throughout the world. Some respondents question whether a single patent or other IPR should have this kind of market power. These respondents are arguing that the international and domestic IP systems should be designed with a concern for the equitable treatment of different-sized companies so that larger firms do not receive unfair advantages over smaller ones.

The International Trade Advisory Committee and the Sector Advisory Groups on International Trade have advised the government on Canadian private sector views on the MTN-TRIPs negotiations and have facilitated the process of developing Canada's position.

Balanced Approach to Formulating Canadian IP Positions

Because Canada is a net importer of goods that embody IPRs, Canadian companies are concerned about both excessive and inadequate IP standards and enforcement. The Canadian positions at international IP negotiations must also take account of the great variety of IP concerns and interests expressed by different industrial sectors and non-profit groups. Such groups are particularly concerned about the potentially inhibiting effect of higher IP protection worldwide on research and education in Canada.

Canada's high tech and cultural industries are the major creators of IP-protected items. Because of their strong export performance, special attention in preparing the Canadian international IP position could be given to the communications and aerospace industries and to higher-order business and professional services such as computer, engineering, architectural and other scientific services and management consulting. At the same time, because the use of IPRs is widely distributed throughout the Canadian economy, a balanced approach that addresses the needs of both IP users and creators is needed in preparing the Canadian positions at the TRIPs and other international negotiations.

Overview of Possible Canadian Approach to TRIPs Negotiation

Canada should be working towards a final TRIPs outcome that covers the full range of IPRs and addresses in a comprehensive manner the trade-distorting effects of inadequate and excessive IP standards, effective and appropriate means for the enforcement of IPRs, and the accommodation of the basic GATT principles and procedures covering IP.

The research results suggest that Canada should be participating in the TRIPs negotiation with a view towards a final agreement that:

- provides mutual advantage and significant benefits to as many contracting parties as possible;
- facilitates the flow of technology among member countries;
- balances the interests of the creators and owners of IPRs with the interests of countries that are heavily dependent on imports of technology and of goods and services with a high IP component;
- meets the needs not only of the creators, owners and users of IPRs but also of manufacturing, cultural and service industries in general and of the consumer and the general public.

In any international agreement, trade-offs may have to be made between, on the one hand, the subject matter, comprehensiveness and precision of the agreement and, on the other hand, the number of countries that can be accommodated within the final text. Compared with the three "demandeurs" (the United States, the European Community and Japan), Canada and other middle-level countries may place greater weight on the second part of the trade-off than on the first.

Canada has tabled two papers as part of the GATT negotiations on TRIPs, with detailed proposals on IP Standards, and on Enforcement of IP Rights.

Geographic Priorities

A successful TRIPs negotiation would secure Canadian access to the markets and technologies of our most important trading partners. Obviously first priority should be given to preserving and enhancing Canadian access to American high technology markets as well as to the advanced technologies

owned by U.S. rights holders. The European Community and Japan come second in Canada's scale of priorities. A successful IP negotiation from Canada's perspective would support Canadian efforts to use the Canada-United States Trade Agreement (CUSTA) as a foundation to geographically diversify our export sales and commercial relationships outside the North American market. Beyond the modern industrialized markets, Canada also has a long-term stake in raising IP standards and enforcement measures in the newly industrialized and other developing countries.

IP and Our Commercial Links with the United States

When foreign IP problems influence Canada's commercial interests, they arise most often in those with the United States. In light of the large volume of trade between Canada and the United States, these problems tend to be comparatively minor, except for Section 337 and other border actions discussed below, and the U.S. "reduction to practice" patent rules for determining priority of invention. These rules discriminate against inventive activity, and hence, research, performed outside the United States, and may therefore distort investment decisions. Still, as our economic ties with the United States grow with the implementation of the CUSTA, IP-related problems can be expected to increase as well, in terms of both frequency and size of their negative commercial and political impacts, unless the trade-related aspects of IP are brought under rigorous international rules and disciplines, through an effective TRIPs agreement at the GATT and through improved IP treaties under WIPO.

Section 337 of the U.S. Tariff Act

The most potentially damaging feature of U.S. law for Canada's export interests, especially high tech exports, is Section 337 of the U.S. Tariff Act. This statute permits the International Trade Commission (ITC) to stop the importation of goods judged to be competing unfairly because they cause injury

to an industry efficiently and economically operating in the United States. The ITC has interpreted Section 337 as applying almost exclusively to IP. In the early 1980s, Section 337 was the subject of a GATT panel case, which Canada lost, and is the subject of a second GATT panel complaint brought forward by the EC. The decision of the GATT panel supported the EC position, arguing that Section 337 was contrary to national treatment under the GATT. The initial U.S. response to the panel decision was one of opposition; however, the final U.S. response, and the future of Section 337, is not yet known.

Over the past 12 years, Section 337 disputes that involved Canada averaged only two cases per year and therefore to date probably have not had a major effect on Canadian export interests. Regardless, Section 337 could still have a very serious impact on Canada's future export interests. With the CUSTA and the GATT, most tariff and non-tariff barriers between our two countries are coming down. If Section 337 remains, it likely will be used more frequently by American companies not only for IP conflicts, but also potentially for other trade disputes.

Other U.S. Border Actions

Other American border actions can also hurt Canadian export potential in the U.S. market. For example, the U.S. Copyright Act allows U.S. Customs to detain imports for up to 90 days. Some interested Canadian parties believe these Customs procedures are more dangerous than Section 337 because the process is totally administrative and arbitrary, fairly quick and virtually costless for the American rights holder. For Canadian companies involved in rapidly emerging technologies and markets, such detentions can prevent their tendering on certain contracts and can disrupt established relationships with suppliers.

STATISTICAL APPENDIX

IP PROFILES OF COMPANIES COVERED IN COMPANY SURVEY (%)

	Total Sample	Top R&D	High Tech	Medium & Low Tech	Commercial Copyright
Number of Companies*	733	93	269	307	83
Distribution by Canadian Region:					
Atlantic	3	0	2	4	10
Quebec	20	17	20	21	18
Ontario	57	66	63	52	46
Prairies	11	10	4	18	13
B.C./North	8	8	10	6	12
1987 Sales					
\$1 Million or less	29	2	29	30	53
\$1.1 - \$5 Million	25	2	22	31	28
\$5.1 - \$25 Million	20	9	22	25	12
\$25.1 - \$100 Million	11	18	15	8	6
\$100.1 - \$500 Million	8	34	7	4	-
Over \$500 Million	7	35	5	3	-
Companies with Employment of:					
Under 50	54	-	53	60	84
50 to 100	11	3	11	15	7
101 to 250	12	8	15	13	2
251 to 500	7	12	7	5	5
501 or more	16	77	14	7	1
Companies Whose Exports Contributed to Sales in 1987 of:					
0**	46	19	39	52	63
1% - 25%	28	26	27	31	27
26% - 50%	9	10	10	10	4
51% - 75%	6	18	10	3	5
76% - 100%	9	27	14	3	2
Companies Whose Exports Are One-Quarter or More of Sales					
	24	55	34	16	11
Companies over 50% Canadian-owned					
	82	56	75	90	96

* Because of the sampling technique employed, 19 respondents appear under both Top R&D and High Tech.

** Including companies that did not respond to the question.

IP PROFILES OF COMPANIES COVERED IN COMPANY SURVEY (%)

	Total Sample	Top R&D	High Tech	Medium & Low Tech	Commercial Copyright
Foreign-owned Companies Having Parents Located in the U.S.	73	62	79	67	100
Companies Conducting R&D in 1987	68	99	82	54	47
Companies Spending on R&D Worldwide:					
Under \$100,000	39	0	31	62	69
\$101,000 - \$1 Million	33	5	44	33	24
\$1.1 Million - \$5 Million	14	34	17	4	7
\$5.1 Million - \$25 Million	10	42	6	2	0
Over \$25 Million	4	19	3	0	0
Companies Reporting R&D Activity	57	11	26	18	0
Companies Using a Number of Canadian IPR Types:					
None	21	3	17	29	24
One	16	3	15	37	46
Two	19	10	26	14	21
Three	19	30	26	13	6
Four	10	30	14	5	2
Five	5	24	3	2	1
Companies Using Canadian IPRs Involving:					
Copyrights	46	64	48	23	97
Patents	44	90	52	33	5
Industrial Designs	19	40	17	17	6
Trade Secrets	46	81	62	24	13
Trade-marks	79	88	80	89	38
Companies Registering IPRs or Conducting Some Other IP Activity in Last Three Years	49	77	57	41	30
Companies Using IPRs in Canada and Holding IPRs Abroad	42	73	44	35	37

IP PROFILES OF COMPANIES COVERED IN COMPANY SURVEY (%)

	Total Sample	Top R&D	High Tech	Medium & Low Tech	Commercial Copyright
Companies Entering Into Licensing Agreements in Last Three Years					
As Licensor	24	63	28	11	23
As Licensee	38	75	46	23	31
Companies Currently Importing Goods, Technologies, etc.					
Embodying IPRs:					
Components/etc.	34	57	43	25	17
Machinery/Equipment	27	59	31	21	7
Technology	26	62	33	14	13
Companies With Good Access to IPR Expertise or Knowledge					
	55	85	56	45	55
Companies Using IPRs to Acquire Information:					
By:					
Using Informal Sources*	24	55	29	13	22
Examining Patents	16	42	20	7	2
Examining Copyrights	11	19	13	5	20
Companies Involved in Court Cases Revolving Around IPRs					
	16**	43	16	11	11
Proportion of Sample Who Considered Launching or Were Threatened with Legal Action					
	24	28	25	25	22

* Somewhat or a great deal

** 16% of total sample and over 20% of the respondents holding IPRs in Canada