INPUT INDICATORS OF THE BRITISH COLUMBIA HIGH TECHNOLOGY SECTOR

2007 EDITION

Prepared for the Ministry of Economic Development and
the Ministry of Advanced Education

BRITISH COLUMBIA
The Best Place on Earth

BCStats

Input Indicators of the British Columbia High Technology Sector 2007 Edition

A joint project of:

BC STATS,

The Ministry of Economic Development

And

The Ministry of Advanced Education

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BRITISH COLUMBIA
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Executive Summary

The 2007 edition of the *High Technology Input Indicators* report, which was prepared by BC Stats, in conjunction with the Ministry of Economic Development and the Ministry of Advanced Education, is the seventh in a series of annual reports to assess some conditions that affect the growth of the high technology sector in British Columbia. This report tracks the evolution of 37 business and economic climate indicators for the development of the high technology sector in the province and provides comparisons to other provinces and Canada as a whole. The indicators cover key aspects of the educational, business, government, external, and labour sectors from the point of view of their impact on high technology firms.

The indicators in this report, which might be termed "input" measures, are chosen for their relevance and general acceptance, as well as their availability on an ongoing basis. All indicators have been updated to the latest year for which data is available as of December, 2007.[1] In this edition of the report, two new indicators have been added — a measure of university start-up companies formed at the country's top research universities and a measure of entrepreneurial activity by region.

Indicators of the success, or "outputs" of the high technology sector, are covered by a companion report, the *Profile of the British Columbia High Technology Sector*.[2] The *Profile* contains information on high technology GDP, employment, wages and salaries, revenues, establishment counts and exports and imports.

The picture of British Columbia that emerges from the input indicators is varied. In some areas, British Columbia shows strength when compared with other provinces, and has shown substantive growth over the past decade. In other areas, performance has lagged. In this way, the detailed indicators offer concrete guidance for potential government policies and industry growth strategies.

The 37 indicators covered in this report span available data for the 2000s and, in most cases, date back at least a decade. Where available, data are included for the other provinces, particularly for those supporting the bulk of Canada's high technology sector: Al-

[1] Some of the data come from reports, studies, and/or surveys that are only released bi-annually and in other cases less frequently. Every effort has been made to make use of the most recent data possible.

[2]Available at http://www.bcstats.gov.bc.ca

berta, Ontario and Quebec. Along with BC, these provinces are referred to throughout the text as the "high technology provinces." International statistics have not been included at this stage, mostly because of the difficulty of making valid comparisons of indicators collected with varying definitions and against very different backdrops of social and economic organization.

Indicator Summaries

A convenient feature of this publication is the simple description of the trends in each indicator as up, down, or stable (indicated in summary tables as: ↑,↓, or →). The assessment is made with regard to the trend over the span of time for which the data is available and for the latest period. A final comparison is made where BC stands in comparison to the Canadian average for the indicator. Since the 2006 edition, the trend in some indicators has been re-evaluated, based on the latest information. Summary results for each sector are presented in the body of the report. More detailed information is contained in the tables in Appendix III. [3]

Highlights

Education sector

British Columbia's general population shows evidence of strong educational attainment. The data for the last reporting year shows BC continuing to have the highest percentage of the population with high school education a rank it has held for at least the past decade. On the other hand, BC shows a deficiency with respect to the training of new graduates in architecture, engineering & related technology, mathematics, computer & information sciences, and physical and life sciences and technologies. Similarly, higher education research and development (as a percent of GDP) in the province is low by Canadian standards. However, BC's universities have recently made great strides in terms of technology licenses and patents issued. The University of British Columbia continues to lead all other Canadian G-10 universities in terms of gross income from technology licences. UBC has also been a solid leader in the number of US patents it has been awarded.

[3] Note: The fact that an indicator may have been rising, or is labelled "above average" in relation to other provinces does not necessarily indicate an advantage for the BC high technology sector. This, of course, depends on how each indicator is constructed. For example, above average taxes would normally be viewed as a negative indicator from the point of view of the high technology sector.

Business sector

Compared to other Canadian provinces, British Columbia returns below average ratings in most of the business indicators. However, there are some positive developments. British Columbia business has historically struggled to attract much more than a cumulative ten percent of Canadian venture capital funding and in 2006, the ratio of R&D performance by business to provincial GDP remained at about half that of Quebec. On the other hand, per capita venture capital investment in BC exceeds the national average. The province ranks third among the high technology provinces based on gross expenditure on R&D as a share of GDP. Business sector performance of research and development has historically been on par with, and sometimes lagged behind Alberta, but 2004 marked the sixth consecutive year that BC has surpassed Alberta. BC also leads the nation in entrepreneurial activity.

Government Sector

Small business and individual taxation continues to be more favourable in BC than in many other parts of the country. Both individual and small business tax rates in the province shrank during the 1990s, and in 2007, remain among the lowest in the country. Although the corporate income tax rate, which remained fixed from 1993 to 2001, has declined over the past two years, corporate taxes remain higher than in some other jurisdictions. As a share of GDP, combined federal and provincial government research and development activities are the lowest in the country. However, the province fares better based on gross expenditure on R&D as a share of GDP.

External Sector

Immigrants to Canada are increasingly well-trained and educated. BC is more or less on par with other provinces in terms of attracting skilled foreigners. In-migration from other provinces has also boosted the province's supply of well-trained, educated workers, and the province has recently been gaining a significant number of people from other parts of Canada. BC imports of high technology goods—which can be an indicator of future production since imported components are often used to produce high tech products—have been increasing steadily for the past three reporting years.

Labour

Unemployment rates among workers in the natural and applied sciences fell during the 1990s, but began to creep up in 2001. Since then they have returned to record lows and remain substantially lower than for the economy as a whole. In terms of researchers per 100,000 population, British Columbia maintained a fourth place ranking in 2004 (the latest year for which data is available), up from eighth place a decade ago (1995). Between 2002 and 2004, the number of researchers in the province increased faster than in any other province.

TABLE 1: Quick Summary of Indicators

INDICATORS	Trend	Latest year	Relative to Canadian Avg.	Page
EDUCATION SECTOR				
E-1: High school diplomas per capita	↑	→	above average	10
E-2: Post-secondary credentials per capita	↑	↑	below average	11
E-3: 16 year-old student achievement in science	→	↓	below average	12
E-4: Total Bachelor degrees awarded per 100,000	↑	↓	below average	14
E-5: Total Graduate degrees awarded per 100,000	↑	↓	below average	15
E-6: Annual graduates in engineering*	→	↓	below average	16
E-7: Annual graduates in computer science*	↑	↓	below average	17
E-8: Annual graduates in physical & life sciences*	↑	↑	below average	18
E-9: Percentage of households with computers	↑	↑	above average	19
E-10: Percentage of households using the Internet	↑	↑	above average	20
E-11: Percentage of small businesses using the Internet	↑	↓	above average	21
E-12: Income for technology licenses at universities	↑	↑	above average	23
E-13: US patents issued to G-10 universities	→	↑	above average	25
E-14: University start-up companies formed	↓	→	below average	27
E-15: Higher education performance of R&D to GDP ratio	↑	→	below average	28
BUSINESS SECTOR				
B-1: Patents per 100,000 persons	↑	↑	below average	30
B-2: Patents granted as a percent of patent applications	→	↑	below average	31
B-3: Entrepreneurial activity	n/a	↓	above average	32
B-4: Number of Entries to the high tech sector	→	↑	n/a	33
B-5: Number of Exits from the high tech sector	→	↑	n/a	33
B-6: Number of high growth high tech companies	→	→	n/a	35
B-7: Venture capital investment	→	↑	above average	37
B-8: Venture capital investment: share of Canadian total	→	↑	above average	38
B-9: Business performance of R&D to GDP ratio	↑	↑	below average	39
GOVERNMENT SECTOR				
G-1: Personal tax index individual with $80,000 income	↓	↓	below average	42
G-2: Small business tax rate	→	→	below average	42
G-3: Corporate income tax rate	↓	→	below average	43
G-4: Government performance of R&D to GDP ratio	↓	↑	below average	44
G-5: Gross expenditure on R&D (GERD) to GDP ratio	↑	↑	below average	45
EXTERNAL SECTOR				
X-1: Percentage of immigrants with higher education	↑	↓	below average	50
X-2: Median years of schooling of immigrants	↑	↓	average	50
X-3: Net inter-provincial migration	↑	↑	above average	52
X-4: High technology imports	↑	↑	n/a	53
LABOUR				
L-1: Unemployment rate for natural and applied sciences	↓	↓	below average	55
L-2: Research personnel per 100,000 population	n/a	↑	below average	57
L-3: Quality of life	n/a	→	above average	58
L-4: Cost of Living	→	↑	above average	60

* The tables for these indicators are split into part (a) for Bachelor degrees and part (b) for Graduate degrees. Data for degree area of *engineering* includes architecture, engineering and related technologies; data for degree area of *computer science* includes mathematics, computer and information sciences.

Introduction

Although industry has been knowledge- and technology-based throughout history, information as a driver of economic growth has grown dramatically in importance in the last quarter-century. Economies are now much more dependent on the production, dissemination and use of knowledge. In turn, output and employment are expanding most rapidly in high technology industries, which are those industries whose primary input is knowledge.

The first edition of *British Columbia High Technology Input Indicators: The 1990s* was released in 2000. This annual series of reports monitors the high technology sector from the input side, by measuring and analyzing the production and application of knowledge, and the climate, institutions and funding arrangements that make this knowledge available for the development of the BC high technology sector.

This report is intended to complement another annual publication, the *Profile of the British Columbia High Technology Sector*,[4] which focuses on industry outputs (such as GDP, employment, wages, revenues and exports) to give a broader overview of where BC's high technology sector has been and where it might be heading.

Background

While there is obvious value in monitoring the "output" of the high technology sector, information about the processes that give rise to that output are also of key importance, both for potential investors interested in the infrastructure available in the province and for policy-makers that require this data to make informed policy decisions. In fact, the high technology sector and the surrounding infrastructure are a complex system with many players and interactions. Understanding this system is a matter of identifying the various parts and collecting information that shows how these parts behave and interact over time. (See APPENDIX I for a more detailed description of the high technology "system." A list of industries that are included in the high tech sector is available in APPENDIX II.)

Information on the high technology system can help shed light on the best ways to foster growth in the sector, including parts of the system that are only indirectly linked to actual production (and often removed from them in time). For example, improvements to the secondary school system may seem very different from output sub-

[4] Available at http://www.bcstats.gov.bc.ca

sidies or tax cuts for high technology firms, but both may have the effect of promoting growth in the high technology sector over the longer run. Good information provides policy makers with the tools to assess the current situation, as well as an indication of where more effort may be needed to provide an environment in which high technology and other knowledge-based industries can thrive.

Comparison with Other Jurisdictions

Wherever possible, the indicators selected for this publication use comparisons to other provinces and show the range of what is possible, or what has been achieved in the high technology sector within a Canadian context. The publication focuses on trends in British Columbia as they compare to those in Alberta, Ontario, and Quebec. These four provinces have the largest economies and the most extensive high technology sectors in the country. They are referred to as the "high technology provinces" in this report.

The "Quick Summary" Tables

The thirty-five indicators selected for this publication represent only a fraction of the information base that is available about the high technology sector. However, even this number of indicators measured over time and across provinces poses a challenge to readers looking for an overview of the current situation and an indication of which areas warrant further study. To meet this challenge, this report is first divided according to the four "sectors" outlined in the model diagram (see APPENDIX I). One of the "inputs," labour, is also covered in a separate section. Each of the five resulting sections covers a number of individual indicators. These indicators are listed on the first page of each section, providing a quick summary. The summary makes use of up, down and horizontal arrows (🡅,🡇,➔) to show whether the indicator has risen, dropped, or remained substantially unchanged. The assessment is made with regard to the trend over the span of time for which the indicator is available and for the latest period. British Columbia is also compared to the Canadian average for each indicator.

Since the arrow indicators show only the direction of change, the summary report gives no indication of the size of changes, or their pattern over time. This information is found in the graphs and text included in each section. Data tables for each indicator are located in APPENDIX III.

Educational Indicators

The educational sector provides "inputs" to high technology firms in two ways:

1. When individuals acquire skills and knowledge required for product development and production, and

2. During the commercialization of research performed in the educational sector.

The indicators listed below are measures of this dual role. Many are presented on a per capita basis or as a share of gross domestic product (GDP) to allow meaningful comparison with other provinces.

TABLE 2: Quick Summary of Indicators for the Education Sector

INDICATORS	Trend	Latest year	Relative to other provinces
E-1: High school diplomas per capita	↑	→	above average
E-2: Post-secondary credentials per capita	↑	↑	below average
E-3: 16 year-old student achievement in science	→	↓	below average
E-4: Total Bachelor degrees awarded per 100,000	↑	↓	below average
E-5: Total Graduate degrees awarded per 100,000	↑	↓	below average
E-6: Annual graduates in engineering*	→	↓	below average
E-7: Annual graduates in computer science*	↑	↓	below average
E-8: Annual graduates in physical & life sciences*	↑	↑	below average
E-9: Percentage of households with computers	↑	↑	above average
E-10: Percentage of households using the Internet	↑	↑	above average
E-11: Percentage of small businesses using the Internet	↑	↓	above average
E-12: Gross income per technology license at universities	↑	↑	above average
E-13: US patents issued to G-10 universities	→	↑	above average
E-14: University Start-up companies formed	↓	→	below average
E-15: Higher education performance of R&D to GDP ratio	↑	→	below average

* The tables for these indicators are split into part (a) for Bachelor degrees and part (b) for Graduate degrees. Data for degree area of *engineering* includes architecture, engineering and related technologies; data for degree area of *computer science* includes mathematics, computer and information sciences.

Throughout the 1990s and well into the 2000s, British Columbia has historically had strong educational attainment in the general population. The data for the most recent reporting year indicates that BC continues to have the highest percentage of the population with a high school education in the Canada. However, despite the high proportion of high school graduates, the province exhibits a deficiency with respect to the training of new graduates in engineering, computer science, and physical & life sciences. Similarly, the BC ratio of higher education R&D to GDP is low when compared to Canadian standards.

Educational Attainment

The Indicator Understood

Higher levels of educational attainment enable high technology firms to draw from a broader, more highly developed skill base. Higher levels of educational attainment also suggest a more knowledgeable population base that is better able to understand and participate in the complexity of the high technology economy.

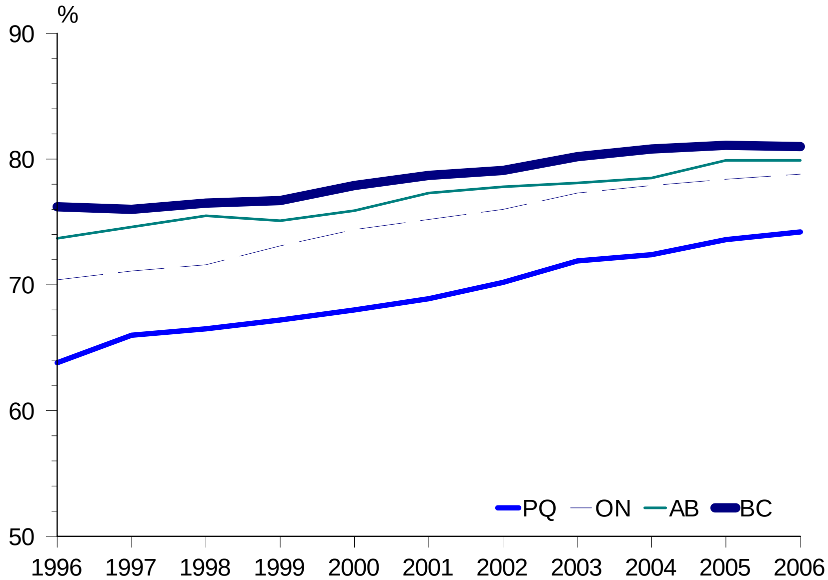
Four indicators of educational attainment — the percentage of the population aged 15 and older with a high school diploma, the percentage with post-secondary credentials, and the ratio of bachelor and graduate degrees awarded in the provinces— have all shown steady increases across Canada over the past decade. Despite a slight decline in the most recent reporting year for BC, the overall trend for BC continues to indicate that more and more British Columbians are completing high school and continuing their education to obtain post-secondary credentials.

BC continues to lead the country with the highest percentage of its population holding a high school diploma

BC leads the high technology provinces with the highest percentage of its population having a high school diploma (81%). However, the gap between BC and the other high technology provinces has narrowed over the last ten years. There was a six-percentage-point gap between British Columbia and Ontario in 1994, and thirteen percentage points separated BC from Quebec. In 2006, the share of the population with a high school diploma was two percentage points higher than in Ontario (79%) and seven percentage points higher than in Quebec (74%).

Percentage of the population 15 years and older with a high school diploma

Indicator E-1



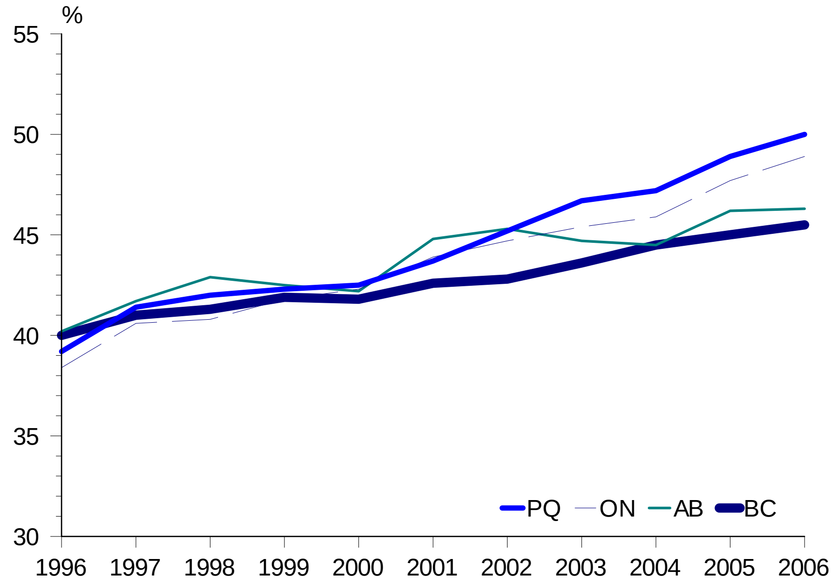
Data Source: Statistics Canada

Each of the high technology provinces has improved its post-secondary achievement over the past decade, but British Columbia has not done as well as the others. The gaps between the four high technology provinces in the percentage of the population with post-secondary credentials[5] are quite small. Until the early 2000s, Alberta consistently had the most post-secondary degrees per capita. Since then, BC has been gradually catching up to Alberta and both Ontario and Quebec have surged ahead of Alberta. However, in 2006, the gap between provinces remained small with 46% of the adult population in BC having post-secondary degrees, compared with slightly higher percentages for Alberta (46%), Ontario (49%) and Quebec (50%).

[5] The measure of the population with post-secondary credentials includes persons who attended a public or private institution after high school and obtained a certificate, diploma or degree. This measure also includes trade and vocational certificates, and apprenticeship programs. People who have enrolled and quit or who have not yet completed a program are not included.

Percentage of the population 15 years and older with post-secondary credentials

Indicator E-2



Data Source: Statistics Canada

Achievement on Canadian Standardized Tests

The indicator understood

Standardized testing in science offers a comparable nation-wide measure for the demonstrated skills and knowledge of students of a given age. Completed tests are graded into five levels of demonstrated competence. The rankings presented here are based on the percentage of students who achieved at level 4 and above (the upper end of achievement). This indicates the percentage with higher than average abilities in science.

Students in BC continuously rank among the top in the country in achievement on standardized tests in Science

From the inception of the School Achievement Indicators Project,[6] BC has continued to rank somewhere in the middle among the provinces in terms of the percentage of 16-year olds demonstrating excellence on Canada-wide standardized science tests. Alberta has consistently ranked number one, while scores in Quebec and Ontario have shown more volatility.

[6] The School Achievement Indicators Program (SAIP) was a cyclical program of pan-Canadian assessments of student achievement in mathematics, reading and writing, and science that was conducted by the Council of Ministers of Education, Canada (CMEC) between 1993 and 2004. The Pan-Canadian Assessment Program (PCAP) has since then replaced SAIP, with its first assessment performed in the spring of 2007, with results to be released in 2008. PCAP will continue to assess performance in the same three core subjects as SAIP but will have room for other subjects to be added as the need arises.

The purpose of the science written assessment is to assess students in the following abilities:

- knowledge of the concepts of science,
- understanding of the relationship of science to technology and societal issues,
- conceptual knowledge,
- procedural knowledge, and
- ability to use science to solve problems.

From 1999 to 2004, Alberta ranked first nation-wide in science achievement testing of 16-year-olds. BC jumped from sixth place in 1999 to fourth place in 2004. Ontario climbed up to second in 2004, while Quebec inched down in rank, dropping from fourth place in 1999 to fifth place in 2004. While BC's ranking improved, it should be noted that student achievement fell dramatically in every province between 1999 and 2004, more than wiping out all gains attained between 1996 and 1999. The percentage of students in BC achieving levels 4 or 5 dropped from almost 30% in 1999 to only 22% in 2004, while nationally, only 23% of 16 year-olds scored in the higher levels in 2004, compared to 32% five years earlier.

Canada-wide rank of 16 year-old achievement in science

Indicator E-3

	1996 rank	1999 rank	2004 rank
Newfoundland and Labrador	4	5	2
Prince Edward Island	6	2	9
Nova Scotia	10	6	7
New Brunswick	9	9	9
Quebec	8	4	5
Ontario	6	10	2
Manitoba	2	3	6
Saskatchewan	3	8	8
Alberta	1	1	1
British Columbia	5	6	4

Source: Council of Ministers of Education, Canada

16 year-old students achieving scores of 4 or 5 (%)

	1996	1999	2004
Newfoundland and Labrador	25	30	23
Prince Edward Island	23	36	15
Nova Scotia	19	30	18
New Brunswick	20	28	15
Quebec	21	32	20
Ontario	23	28	23
Manitoba	30	36	19
Saskatchewan	27	29	16
Alberta	42	50	32
British Columbia	24	30	22

Source: Council of Ministers of Education, Canada

Degrees Awarded

The indicators understood

In a healthy economy, local industry provides jobs and the community provides the workforce to sustain the growth of the economy. Jobs in the high technology industry require specialized skills training. The number of degrees awarded within a given population is directly indicative of the potential human resources available to the province. Focusing on the degrees awarded on a per capita basis provides some indication of the overall education level of the province and the ability of the high tech sector to use these educated individuals. It is equally important to acknowledge the number of degrees awarded in absolute numbers. This is an indicator of the size of the labour pool available from which high technology firms can draw and ultimately whether a province has sufficient qualified people to support an industry. Engineers, computer & information scientists and physical & life scientists are driving forces behind the high technology sector. They provide a highly specialized form of labour that is integral to the research and development of new or more efficient production processes. Looking at how well our universities are doing to meet workforce demand and the interest in technology-related careers provides some measure of the province's capacity to feed the high tech economy.[7] The geographical availability of people trained in these fields lowers the search costs for firms that demand these skills. Furthermore, individuals educated in such fields are often engaged in the design and integration of new technologies into a firm's business model.

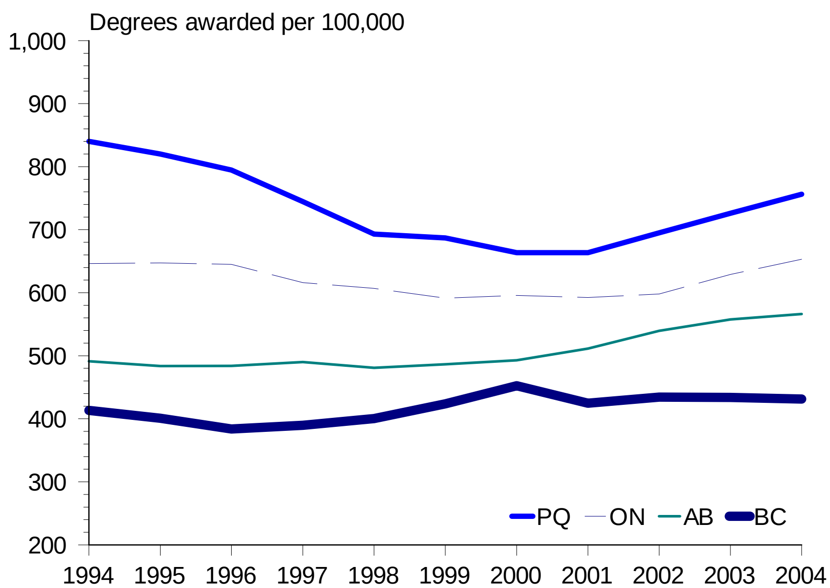
The likely presence of skilled and educated professionals in a high technology economy is indicated by the number of graduates per 100,000 persons aged 15 years and older with bachelor and graduate degrees. For these indicators, British Columbia continues to be below the Canadian average.

[7] It is important to note that by measuring the number of degrees awarded in British Columbia's institutions, we are not *only* measuring degrees awarded to *British Columbians*. As such, this is not necessarily a valid measure of the overall educational level of the population of BC. Given the fact that students travel to various locations to pursue a post-secondary education, it is impossible to measure how many British Columbians acquire a specific degree in a given year, nor is it feasible to know whether they return to British Columbia after having completed a degree elsewhere. Nonetheless, much of the student-body who attend the province's universities are in fact permanent residents of BC and the number of degrees granted by BC's institutions is a direct indicator of the expertise of the labour pool available to high technology sector regardless of where a student comes from. The number of degrees granted in BC is also an indicator of the appeal of the province's higher-education institutes and how many students from other provinces and from around the world choose to pursue an education in BC. By using a per capita calculation, we are better able to gauge BC's performance in degree granting relative to other provinces.

While the actual number of bachelor degrees granted has generally been rising in BC over the past ten years, the province has consistently remained the lowest of all the provinces in terms of degrees granted per 100,000 persons. In 2004 (the latest year for which data is available), the number of bachelor degrees awarded in BC per 100,000 people (431) was down slightly from 2003, while Alberta (558), Ontario (660) and Quebec (726) all posted increases.

Total bachelor degrees awarded per 100,000 persons aged 15 years and older

Indicator E-4



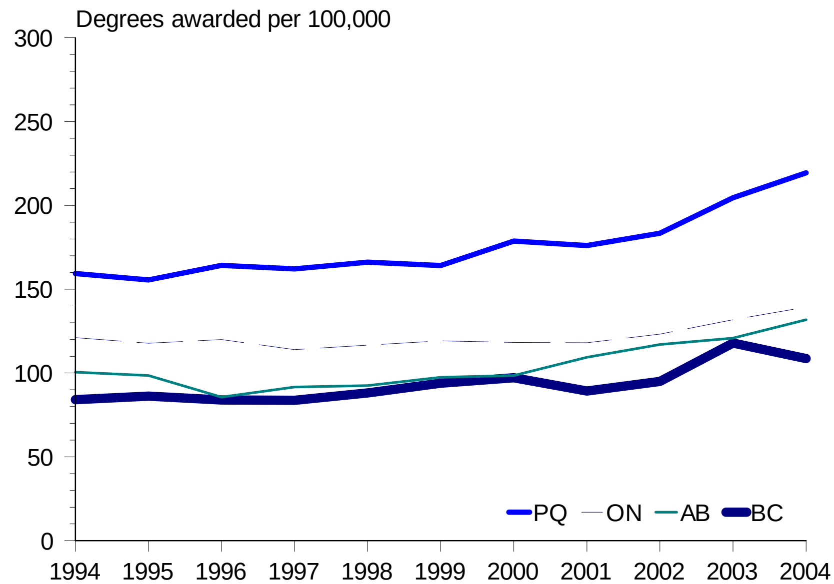
Data Source: Statistics Canada

BC has recently recorded a slip in the actual number of graduate degrees granted, from nearly 4,100 in 2003, to 3,800 in 2004 (the latest year for which data is available). Despite the decline, the number of masters and doctorates awarded has shown an overall increase in the province over the past ten years, up by nearly 1,300 between 1994 and 2004. The steady increase in the number of graduate degrees granted has allowed BC to retain a third place ranking among the high tech provinces, ahead of Alberta (3,400 in 2004).

The number of graduate level degrees awarded in a given province can determine, to an extent, the level of expertise available to that province on both an educational and a professional level. BC has continuously ranked fourth among the high tech provinces in terms of graduate degrees awarded per 100,000 persons. More promising, however, is the fact that BC has been outpacing Alberta in terms of annual increases in number of graduate degrees awarded. In 2004, BC awarded 109 graduate degrees per 100,000 persons, the second highest recorded over the last decade and not too far behind Alberta (132). Quebec (220) remained the leader of the high tech provinces, while Ontario (140) also reported prominent numbers in 2004.

Indicator E-5

Total graduate degrees awarded per 100,000 persons aged 15 years and older

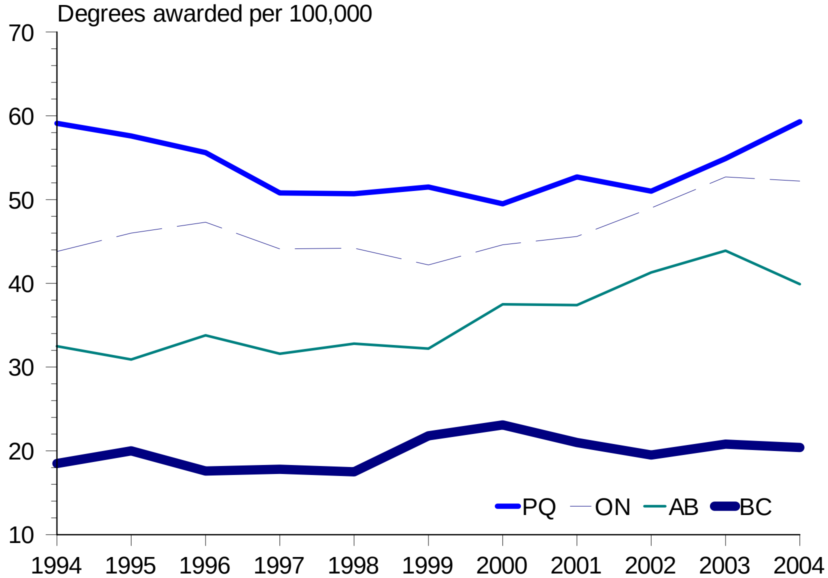


Data Source: Statistics Canada

Between 1994 and 2004, BC granted far fewer bachelor degrees in the area of architecture, engineering & related technology per 100,000 persons than did the other leading high technology provinces. BC has consistently retained a fourth place ranking among the high tech provinces for the past decade.

Bachelor degrees awarded in Architecture, Engineering & Related Technology per 100,000 persons aged 15 and older

Indicator E-6



Data Source: Statistics Canada

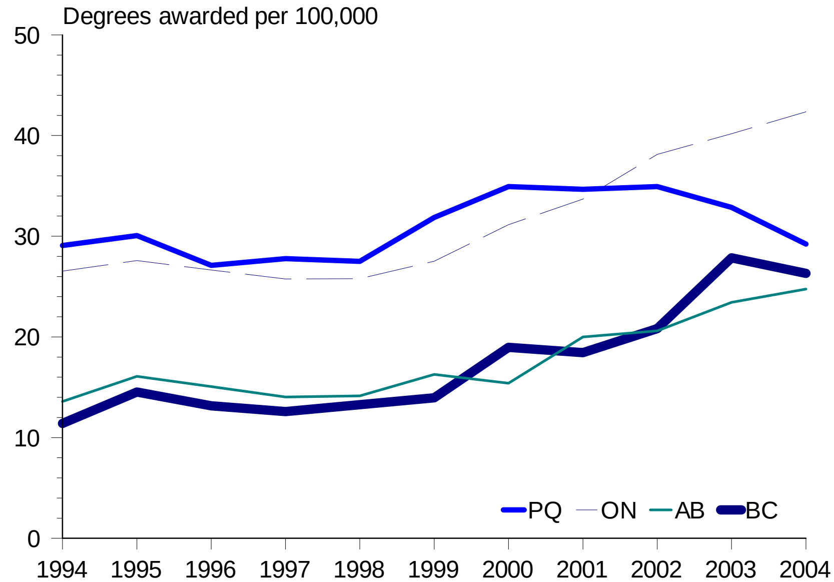
Over the past ten years, BC has shown consistent increases in the number of graduate level degrees awarded per 100,000 persons in this area, but at 10.3, remains well behind the Canadian average (19.2) and more than 50% below Quebec (26.5), the leader of the high tech provinces.

The number of BC graduates with a bachelor degree in the area of mathematics, computer & information science per 100,000 persons also remains below the Canadian average. However, the long-term trend of this indicator is positive. The ratio has been rising, and since passing Alberta in 2002, BC continues to rank third among the high technology provinces.

In terms of graduate degrees awarded per 100,000 persons in this disciplinary area, Quebec (11.7) is again the leader among the high tech provinces, while BC (7.1) ranks fourth. However, the number of graduate degrees awarded per 100,000 in mathematics, computer & information sciences in BC has increased significantly over the last five years.

Indicator E-7

Mathematics, Computer & Information Science bachelor degrees awarded per 100,000 persons aged 15 years and older



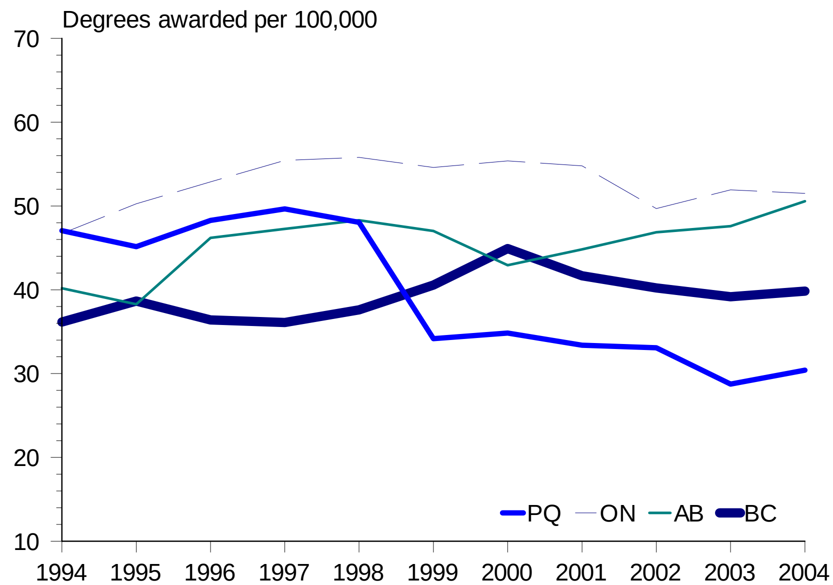
Data Source: Statistics Canada

At 39.8 per 100,000 persons in 2004 (the latest year for which data is available), the number of BC graduates with a bachelor degree in the area of physical & life sciences & technologies remains below the Canadian average of 45.1. However, since 1999, BC's rate of new graduates has surpassed that of Quebec, ranking it third among the four high tech provinces.

In 2004, BC awarded 10.5 graduate degrees per 100,000 persons in physical & life sciences & technologies, outpacing Alberta (9.3) among the high tech provinces but still sitting below the Canadian average (12.8).

Bachelor degrees awarded in Physical & Life Sciences and Technologies per 100,000 persons aged 15 years and older

Indicator E-8



Data Source: Statistics Canada

Technology Adoption

Why are these indicators important?

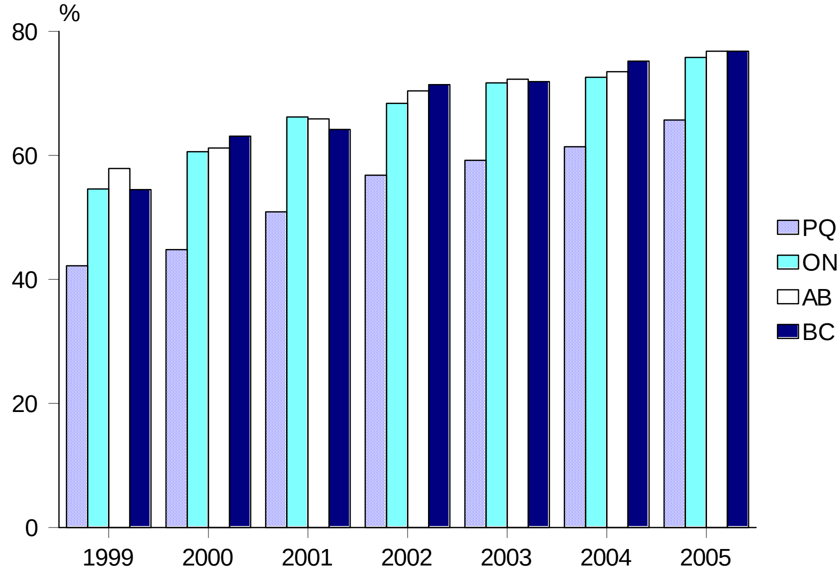
The rate of technology adoption is an indicator of the willingness of the population to employ the advantages afforded by high technology. High technology businesses are attracted to locations where the population tends toward higher rates of technology adoption. Greater familiarity with technology—for example, computer literacy—is likely to strengthen local market demand for high tech goods and services. Also, the acceptance of Internet and e-business technology means small businesses can reach a world-wide market, reduce the time and cost per transaction and eliminate much of the capital investment required in typical operations.

With increased globalization, and the rising popularity of new and innovative forms of communication, Canadians continue to make greater use of new information technologies in their homes and at the workplace. For example, households in every province in the country have recorded significant increases in the use of personal computers. In 2005, 72% of Canada's households had home computers, up from just 55% in 2000. Since at least 1997, the prevalence of home computers in BC has consistently been among the highest in the country. In 2005, 77% of the province's households reported having a home computer, on par with Alberta (77%) and ahead of Ontario (76%) and Quebec (66%).

BC households are more likely to have a home computer than households in most other provinces.

Indicator E-9

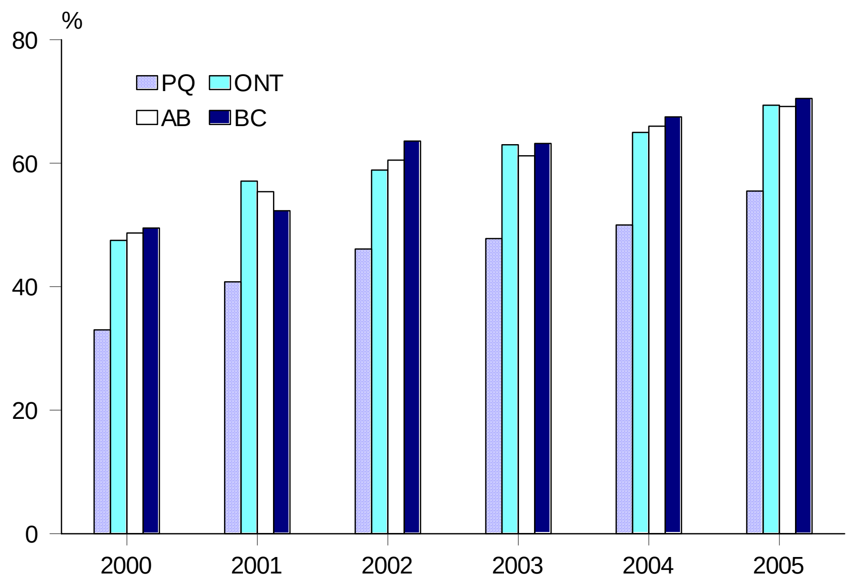
Percentage of households with home computers



Data Source: Statistics Canada

Indicator E-10

Percentage of households with Internet access from home



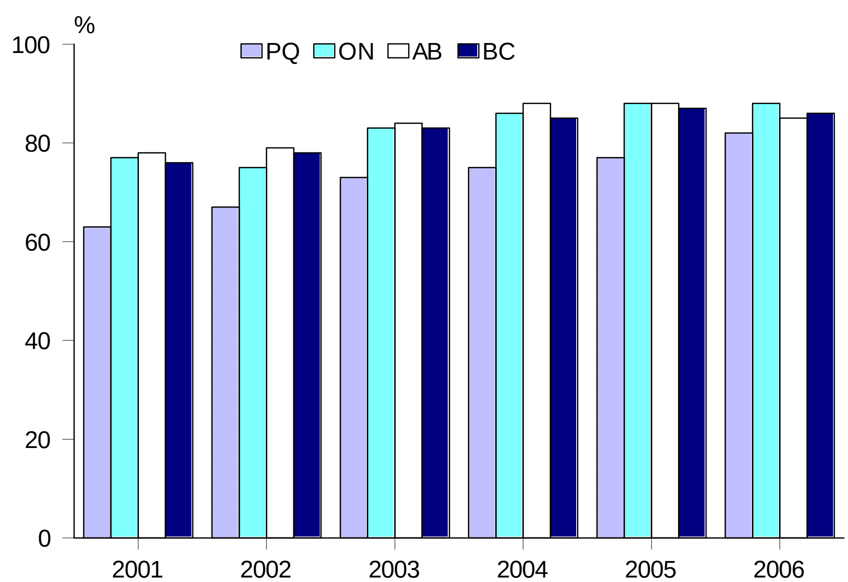
Data Source: Statistics Canada

BC also records a higher than average share of its households having Internet access from home. Indeed, 71% of households in BC had online connections in 2005—well above the Canadian average (64%). Historically, BC has generally recorded the highest proportion of households with Internet connections, usually followed closely by Alberta. In 2005, among the other high tech provinces, Ontario caught up to Alberta, (both 69%), while Quebec (56%) continued to lag. Although the percentage of people using the Internet was lowest in Quebec, this province had by far the highest growth rate for this measure between 2000 and 2005. Although not necessarily an indication of connection speed or efficiency, more British Columbian households tended to use cable connections (60%) for their at-home Internet hook-up, as opposed to telephone lines (34%), while the rest of the country was more evenly divided between these two connection choices. Nationally, approximately 44% of households chose telephone line connections in 2005, while a further 50% opted for cable access.

Not surprisingly, there has continued to be an upward trend in Internet usage among businesses in BC. Between 2001 and 2006, the percentage of small businesses in the province using the Internet jumped from 76% to 86%. Over the same period, the percentage of overall Canadian businesses using the Internet increased at an even quicker pace (from 73% to 86%), with similar patterns apparent in most provinces. Ontario's (88%) and Alberta's (85%) shares were comparable to that of BC's in 2006, while, despite recent increases, Quebec lagged behind (82%).

Percentage of small businesses using the Internet

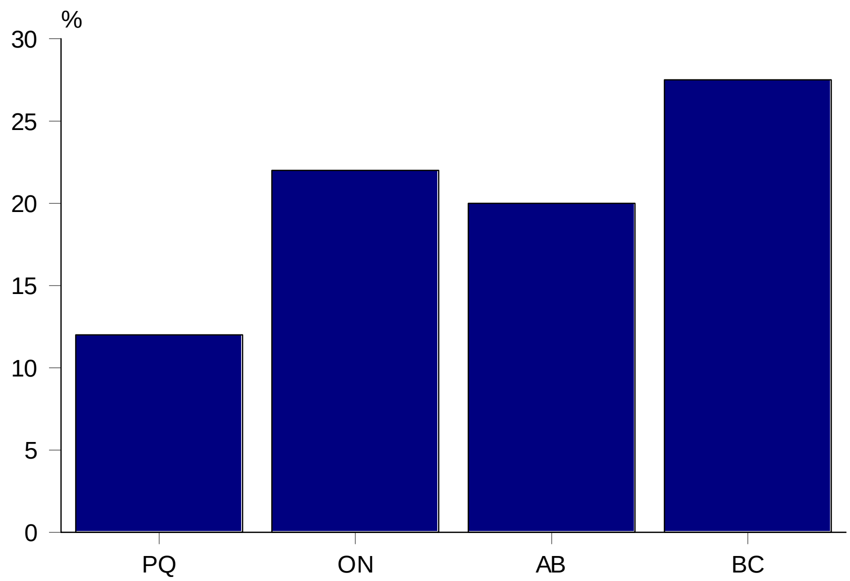
Indicator E-11



Data Source: Statistics Canada

There are greater differences when it comes to the degree with which businesses utilize the Internet. In 2006, businesses with websites were more common in BC, Alberta (each reporting 44% of establishments operating websites online) and Ontario (52%) than in Quebec (30%). In terms of using the Internet for online sales, BC led the high tech provinces. Over a quarter (28%) of the province's businesses were selling their goods and services online in 2006, compared to 22% in Ontario, 20% in Alberta and just 12% in Quebec.

Percentage of small businesses selling on-line (2006)



Data Source: Canadian Federation of Independent Business

Accordingly, while it appears that overall business usage of the Internet is similar across most of the country, firms in BC seem to be doing more to integrate the technology into their core business strategies.

Technology Licensing

Why are these indicators important?

University faculty members are at the forefront of research and in most of their work there is some partnership with the private sector for either expertise or equipment not readily available on campuses. This collaboration has many outputs including grants, contribution agreements and negotiated contracts whereby the institution along with the researcher share in the payoffs. One way of measuring successful collaboration and research productivity is through university technology licenses. These licenses allow the institution to 'spin-off' the commercial aspect of the researcher's discovery, which provides income. By looking at the income per license, we get a picture of the commercial success of the research. The number of US patents issued to Canadian institutions and university start-up companies are also important indicators of future revenues.[8]

Across Canada, universities began opening industry liaison offices in the mid-1980s. These offices are principally responsible for negotiating Research and Development collaborations with businesses and public and private organizations but also work to ensure the protection of research work developed at the University, especially that with commercial potential. The University of Toronto's office opened in 1980; UBC's University-Industry Liaison Office (UILO) opened in 1985; the UILO of Université de Sherbrooke opened its doors in 1986; and the University of Alberta office opened in 1987. These offices work with industry to spin-off technology developed at the university into successful start-up companies.

The University of British Columbia consistently leads Canada's top universities in gross income from technology licenses

During recent reporting periods, there has been a great deal of shuffling of ranks among Canada's major G-10 universities.[9] The University of British Columbia led all other universities for the fifth consecutive year with a gross income of $16.0 million from technology licenses in 2005 (the most recent year for which there is data

[8] As a caution, one must keep in mind that a key purpose of universities is to conduct "primary" research—work that does not have any immediate application. This work, when successful, becomes the foundation of further applied research and development. A good example is the Human Genome Project, which recently completed mapping out the entire genetic structure of the human being. Thus, licensing only provides a partial view of the importance of university research in the high tech sector.

[9] G-10 Universities are composed of the ten leading research universities in Canada and include: University of British Columbia (BC), University of Alberta (Alberta), University of Toronto (Ontario), Queens University (Ontario), University of Waterloo (Ontario), McMaster University (Ontario), University of Western Ontario (Ontario), Université de Montréal (Quebec), McGill University (Quebec), and Université Laval (Quebec).

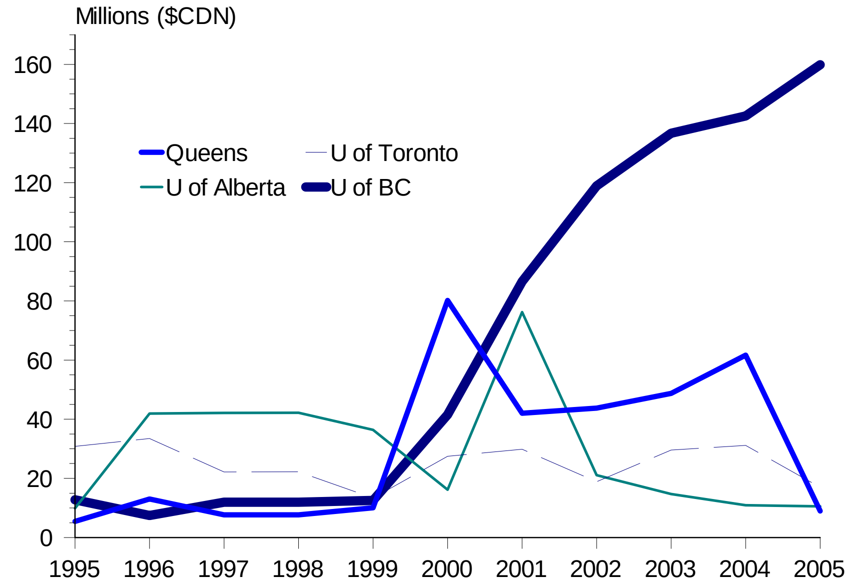
available). The University of Western Ontario ranked second but was well below UBC with a gross income of $4.4 million, followed by the University of Toronto ($1.7 million). Queen's university was the leader in 2000, but slipped to third place in 2001 as UBC and the University of Alberta moved up to rank first and second. Ninety-one of UBC's licenses and options yielded income in 2005, making for an impressive average value of $176,000 per license. Comparatively, The University of Western Ontario achieved an average per license value of $106,000 in the same year, followed by the University of Alberta ($33,000 per technology license).

BC's Simon Fraser University (SFU) and the University of Victoria (UVic), though not classified as G-10 universities, have also shown promise in technology licensing. In 2005, SFU received a gross income of $343,000 from technology licenses, while UVic received $178,000. SFU yielded an average of $38,000 per technology license in 2005, slightly higher than UVic's average ($36,000). Simon Fraser saw its income from technology licensing more than double (+125.5%) since the last reporting period, and UVic also recorded a significant increase (+17.9%).

BC's distinguished growth in income received from technology licensing is even more impressive when one considers the overall Canadian trend. Nationally, licensing income has been negatively impacted by the appreciation in the Canadian dollar against its American counterpart. The revenues associated with many of the licenses entered into by participant institutions are calculated and paid in U.S. dollars. Therefore, the very same $1,000 in reported licensing income in 2002 would be shown in FY2005 as approximately $726 due to exchange rate fluctuations alone.

Gross income from technology licenses (in millions of $CDN)

Indicator E-12



Data Source: Association of University Technology Managers

BC has also consistently shown strong results in terms of the number of US patents awarded to its top institution (UBC) over the past decade. In 1999, UBC was issued an impressive 50 US patents, surpassing the total for all five Ontario G-10 universities combined. Amassing 120 patents between 2001 and 2005, BC ranked third among the high tech provinces in terms of the cumulative number of patents granted. Over the same five-year period, Quebec (211) led the pack, followed by Ontario (155) while Alberta's G-10 university was awarded 65 US patents.

BC's largest university has been awarded an impressive number of US patents in recent years.

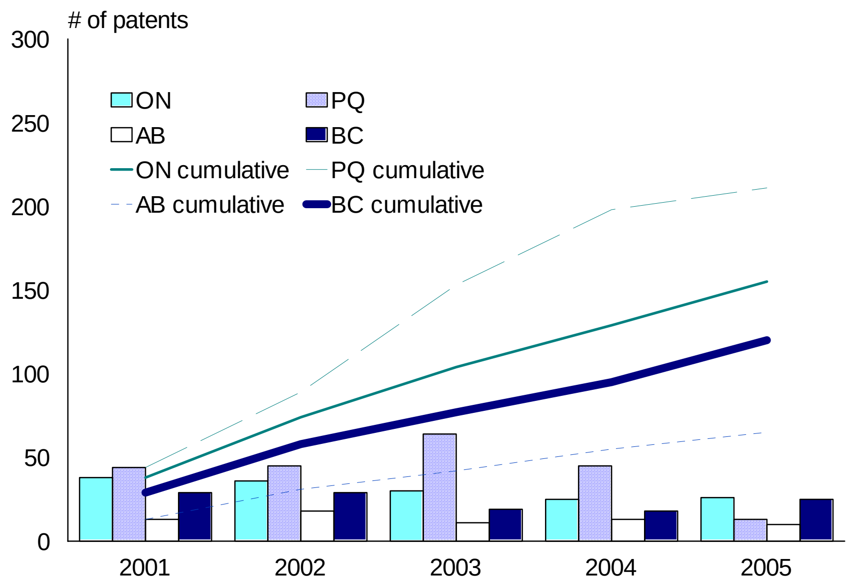
When one considers that BC, like Alberta, is home to only one of Canada's G-10 universities, whereas Quebec and Ontario are each home to several, the number of patents issued in the province is even more impressive. In fact on an individual institution basis, UBC (120) was second only to McGill (132) in cumulative patents awarded between 2001 and 2005, and these two universities were the only in the country to exceed 65 patents issued over that period. As these patented discoveries are developed, so too is the potential for technology licenses to translate into higher revenues for BC in future years.

Beyond provincial comparisons, UBC has been gaining ground on many US institutions in patent acquisitions. The 25 US patents issued to BC's top research university in 2005 matched the number granted to two American institutions —the Arizona State University and Duke University. Of the US universities included in the survey, only 27 were ranked higher than those on par with UBC, with three universities acquiring in excess of 100 patents in 2005. The University of California was awarded 310 patents, followed by the California Institute of Technology (172) and the Massachusetts Institute of Technology (133). Following these three institutions the number of patents issued to American universities drops off significantly. UBC exceeded well over 100 other surveyed US universities in the number of patents issued in 2005.

Simon Fraser University and the University of Victoria added to the overall patents issued in BC's higher education sector in 2005, receiving ten and three patents, respectively. SFU exceeded its patent acquisitions from the previous reporting year by more than three-fold.

Indicator E-13

US patents issued to selected institutions, actual and cumulative [10]



Data Source: Association of University Technology Managers

Across the country, new companies based on academic discovery are frequently formed. Start-up companies[11] are a major part of the innovation process as firms which are already established are often unwilling or unable to adopt new, high-risk technologies. It is often

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[10] Data includes all G-10 universities from each respective high tech province.

[11] The AUTM definition for "start-up" activity relates specifically to a company formed solely around the licensing of technology into a newly formed company. Some new ventures that stem from our institutions are not captured by this definition but are key to the financial and economic development of the institution as well as the economic region.

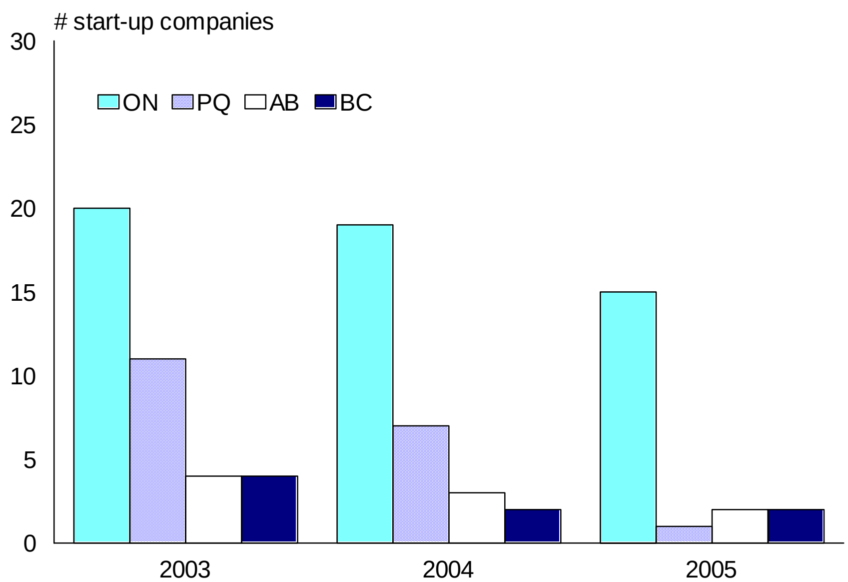
feared that new technologies will render existing investments and technologies obsolete. This is also true in terms of academic licensing, making start-up company activity a significant aspect of the technology licensing process. There were 58 new companies based on academic discovery formed across the country in 2005. Of these new companies, 90% were located in the province of the academic institution that created the technology.

Over the past three reporting years, there have been significant shifts in rankings among Canada's major G-10 universities. Reporting two new start-up companies in 2005 (the most recent year for which there is data available), the University of British Columbia was behind only three other top universities. Queens University ranked first with five start-ups, followed by The University of Western Ontario and McMaster, which each formed three start-up companies in that year. The University of Waterloo was the leader in 2003 and 2004, but slipped to a tie for third place in 2005. The university of Western Ontario and McMaster University were the only two institutions to show an increased number of start-ups in 2005, and while UBC reported an unchanged number from 2004, most other institutions saw a decline in numbers.

UBC ranked fourth in the country for number of start-up companies formed in 2005.

University start-up companies formed by selected institutions by province

Indicator E-14



Data Source: Association of University Technology Managers

Performance of R&D by the Higher Education Sector

Why is this indicator important?

Research and development at universities contribute to high technology's impact on the economy in two ways. Published academic research is available to the public so that it can be used as a resource and universities are increasing partnerships with industry to bring the products and processes of R&D to market (see "Technology Licensing"). The ratio of R&D performed by the higher education sector to GDP is an indicator of the proportional investment in R&D by this sector relative to the size of the overall economy. A higher proportion of investment is likely to lead to higher rates of discovery.

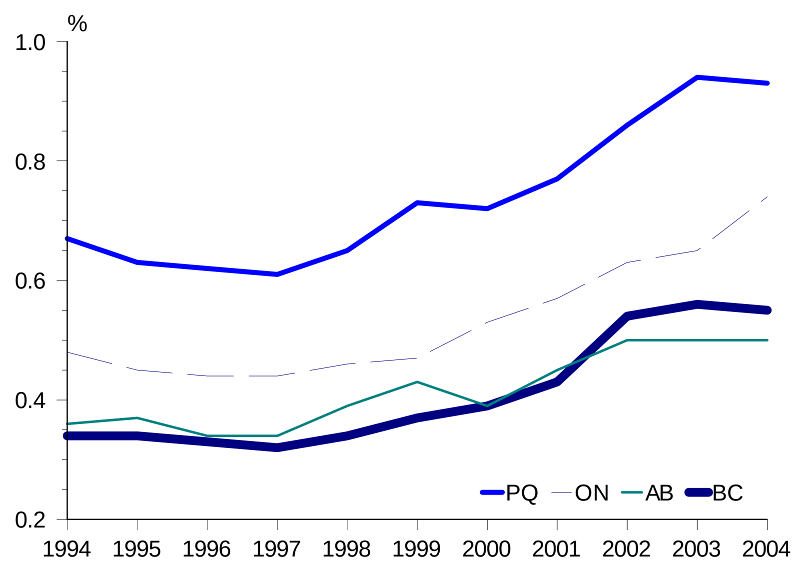
BC ranks third among the high technology provinces in the ratio of R&D performed by the higher education sector to the provincial GDP

The higher education sector in Canada performed nearly $9.2 billion worth of R&D in 2004. This amounted to over 0.7% of Canada's GDP in that year. The ratio of R&D performed by the higher education sector to provincial GDP was highest in Quebec at 0.9%. Of the high tech provinces, BC (0.6%) ranked third for the third consecutive year. Ontario (0.7%) continued its steady climb, while the ratios were lowest in Alberta (0.5%).

Between 1992 and 1997, the Canadian ratio of higher education R&D to GDP declined. However, in more recent years this indicator rebounded and by 2003 had reached its highest level in at least 15 years. Higher education R&D relative to the size of the economy has shown relatively steady increases in all the high tech provinces since 1997, although Quebec, Alberta and BC all saw slight declines in 2004.

Indicator E-15

Ratio of higher education performance of R&D to GDP



Data Source: Statistics Canada

Business Indicators

This set of indicators is concerned with the stimulus to business formation and growth that comes from internal R&D, patenting, and venture capital. It also measures results that are in part due to these stimuli, in the form of establishment entries and exits, high growth companies, and the overall growth in the number of establishments.

Compared to other provinces, British Columbia scores above average on some of the business stimulus indicators, but below on others. For example, the province rates above average in venture capital investment and entrepreneurial activity, but below average on the ratio of business R&D performance and on patents granted.

TABLE 3: Quick Summary of Indicators for the Business Sector

INDICATORS	Trend	Latest year	Relative to other provinces
B-1: Patents per 100,000 persons	↑	↑	below average
B-2: Patents granted as a percent of patent applications	→	↑	below average
B-3: Entrepreneurial activity	n/a	↓	above average
B-4: Number of Entries to the high tech sector	→	↑	n/a
B-5: Number of Exits from the high tech sector	→	↑	n/a
B-6: Number of high growth companies	→	→	n/a
B-7: Venture capital investment	→	↑	above average
B-8: Venture capital investment: share of Canadian total	→	↑	above average
B-9: Business performance of R&D to GDP ratio	↑	↑	below average

Patents and Applications

Why are these indicators important?

Patents represent the intellectual capital of innovation. According to the Canadian Intellectual Property Office, their mandate is to "grant patents which will result in the protection of the inventor and dissemination of technical information, and the encouragement of the creation, adoption, and exploitation of inventions." Patent applications may be rejected for a number of reasons "including lack of novelty, obviousness, and lack of patentable subject matter." Patents are key resources for researchers, academics and businesses that need to stay shoulder to shoulder with developments in their fields.

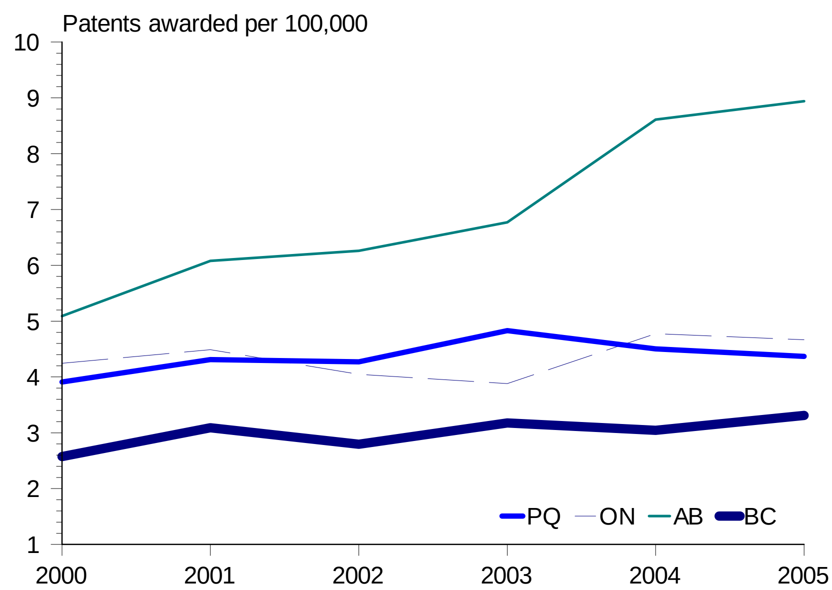
The application for and granting of patents are indicators of the success of R&D, whether in the public or private sector. Over the past five years, British Columbia has consistently lagged the other high technology provinces in terms of patents awarded per 100,000 persons. The acceptance rate of BC patent applications is also below average.

The number of patents awarded to BC applicants continues to climb.

British Columbia has not been highly successful in patenting new inventions relative to the other high technology provinces. BC applicants were awarded 141 patents in 2005 (the latest year for which data is available), or 3.3 per 100,000 population. BC lags the other high tech provinces in patents awarded and has ranked fourth since at least 1998. In 2000, Alberta overtook Ontario in patents granted per capita and has maintained its first place rank for the last six reporting years. In 2005, Alberta boasted 8.9 patent awards per 100,000 population, well ahead of all other provinces. Compared to BC, Quebec (4.4) and Ontario (4.7) also had relatively high patent rates—though Quebec's ratio is slightly lower than the Canadian average (4.6). Patent acceptance has been climbing steadily in Canada both in actual number and in ratio per 100,000 persons. BC is no exception to this trend. In 1998, BC applicants were awarded just 76 patents (or 1.9 per 100,000 population), considerably less than in 2005.

Indicator B-1

Patents awarded per 100,000 population

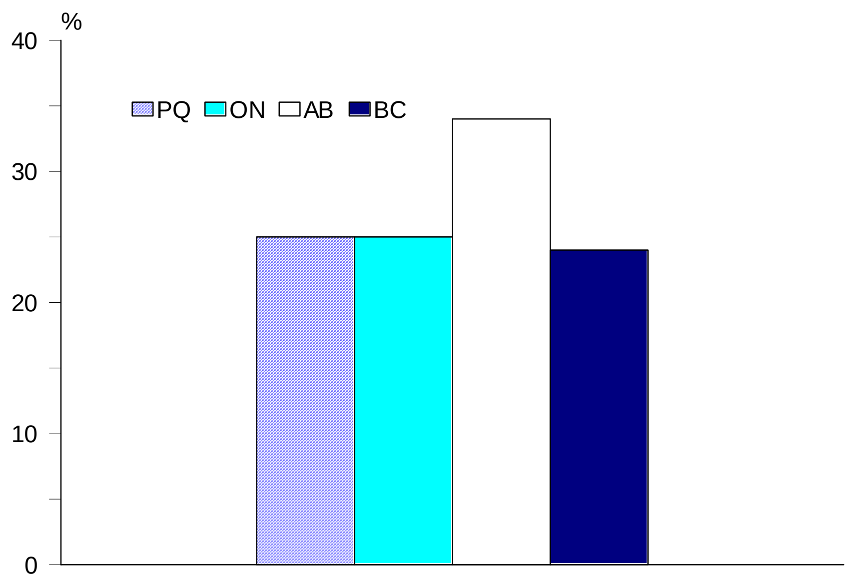


Data Source: Canadian Intellectual Property Office

Applications for patents are rejected far more often than they are accepted. In 2005, a mere 29% of patent applications were accepted in Canada. The low acceptance rates across the country suggest that applicants generally begin the process of applying for a patent with little knowledge of the procedure(s) or of their chances of success. This pattern appears to be somewhat more common in British Columbia than in the other high tech provinces. In BC, only about a quarter (24%) of applications resulted in the issuing of a patent in the 2003 to 2005 period.[12] This is substantially lower than for Alberta (34%), but just slightly less than for Quebec and Ontario (each 25%).

Patents granted as a percent of patent applications (three-year average, 2003-2005)

Indicator B-2



Data Source: Canadian Intellectual Property Office

[12] Patent applications take an average of 25 months to be processed. Thus, to know how many applications filed in 2003 were accepted, one must look at patents granted in 2005. Figures presented here show patent grants during 2003-2005 as a percent of applications during 2001-2003.

Sector Dynamism: Entrepreneurialism, Entries and Exits[13]

Why are these indicators important?

A dynamic sector, characterized by a healthy mixture of large and small, old and new firms, is ideal for generating high levels of innovation. Large, established firms provide employment and earnings stability while small start-ups provide market responsiveness, creativity and employment growth. The high technology labour force is combined with capital and ideas in the drive to generate new goods and services. A stagnant sector, characterized by several large firms and low levels of entry and exit, is not likely to generate high levels of innovation.

High tech sector entry rates indicate the percentage of firms currently in the sector that are new (i.e., did not exist in the previous year). Similarly, exit rates show how many firms left the high tech sector (or went out of business) as a percentage of the total number of high tech firms. Note that only companies with employees are included in these data.

As is the case with any industrial sector, entrepreneurialism is crucial to the high tech sector. The rate at which new firms are born along with the rate at which firms fail or exit are key measures of the overall vitality of the sector.

Canada remains one of the most dynamic G7 nations with 8.0% of its adult population engaged in entrepreneurial activities[14] in 2003 (the latest year for which data is available). Unfortunately, this is the third consecutive year where entrepreneurial activities in Canada have declined.

BC leads the country in entrepreneurial activity

Despite Canada's overall decline in entrepreneurial activity, BC continues to outperform most other regions. Along with the Prairie Provinces, British Columbia led Canada in entrepreneurship with 10% of its adult population participating in entrepreneurial activities in 2003.[15] Ontario, Quebec and the Atlantic provinces were below the national average (each with 7% of adult population involved in entrepreneurial activity).

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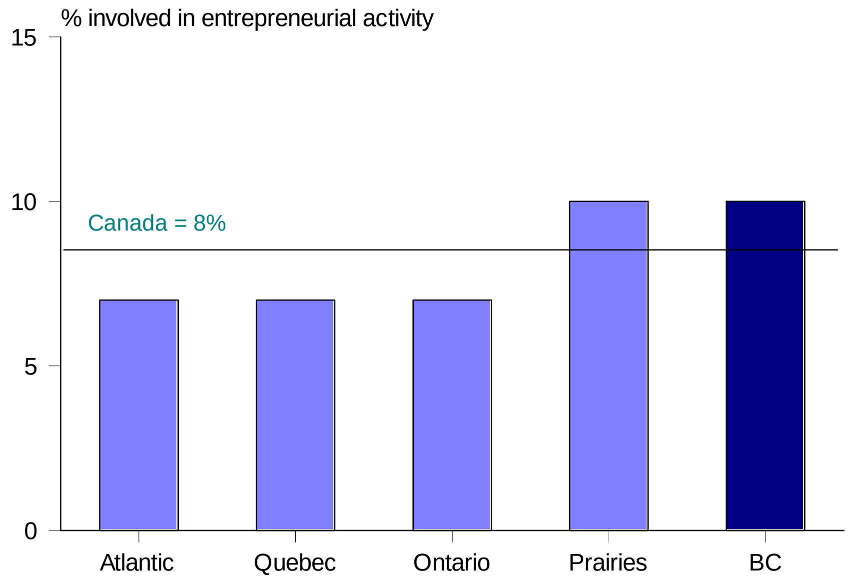
[13] Note that a comparison with other provinces for indicators B-4, B-5 and B-6 is not available because BC Stats does not have access to the necessary data.

[14] For a description of the Global Entrepreneurship Monitor and its conceptual model and methodology for measuring entrepreneurial activity, visit www.gemconsortium.org

[15] Note that in 2002, the Global Entrepreneurship Monitor re-classified its regional data. Data by the same regional breakdown is unavailable prior to that year.

Population involved in entrepreneurial activity (% of total population, 2003)

Indicator B-3



Data Source: Global Entrepreneurship Monitor

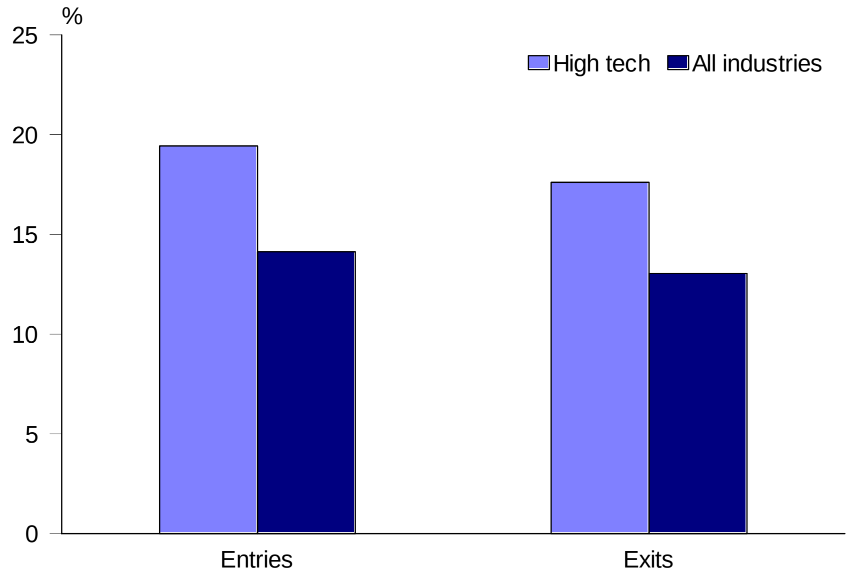
The high tech sector seems to embrace a relatively strong entrepreneurial spirit. One consequence of this, of course, is a high rate of business failures. However, small start-up firms in high tech are often at the leading edge of innovation, and are crucial to the ongoing strength of the sector.

The entry and exit rates for new high technology firms in BC are much higher than for the establishments in the economy as a whole.

A good way to measure the strength of a particular sector is to compare it to the overall economy. Overall, the number of high technology firms grew at an average annual rate of 19.4% between 2001 and 2006, as the sector expanded from over 8,350 establishments to nearly 9,020. By contrast, the number of firms in the BC economy as a whole had a significantly lower average annual growth rate (+14.1%). In the mean time, the exit rate in the province's high tech sector (+17.6%) was also higher than the average business exit rate (+13.0%). This suggests that the innovative atmosphere of high tech businesses in the province tends to lead towards volatility. However, there are signs of potential stability as the gaps in entry and exit rates between the high tech sector and BC's establishments as a whole have narrowed in recent years.

Indicators B-4 & B-5

Entry and exit rates are higher than average in the high tech sector, 2001-2006

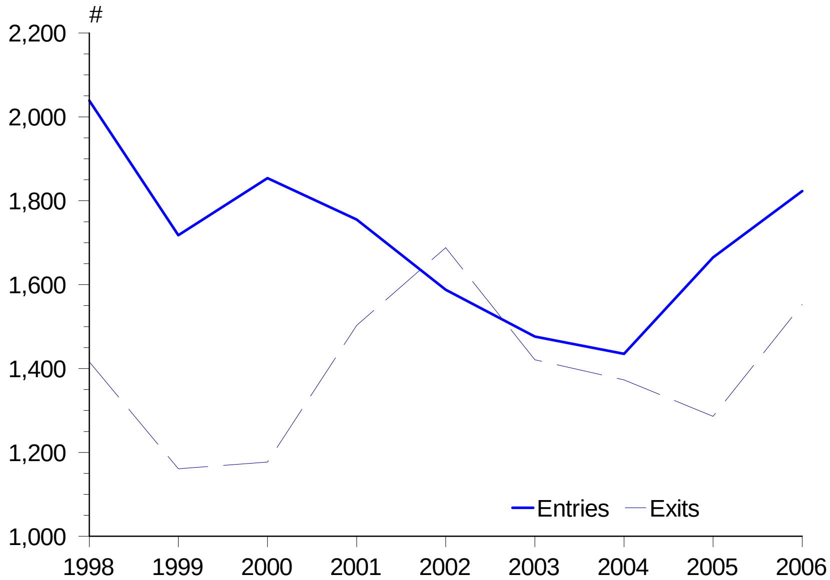


Data Source: Statistics Canada

With the exception of 2002, entries into the high technology sector have exceeded exits over the last decade, such that the overall number of high technology establishments has been growing fairly steadily. The anomaly in 2002 was a reflection of the downturn that was affecting high technology throughout North America. Although the gap between businesses entering the high tech sector and those leaving has narrowed compared to the 1998 through 2000 period, it still remains significant, such that the number of high technology establishments continues to exhibit strong growth, at a rate exceeding that of the economy as a whole.

Exit levels remain lower than entries in the high tech sector

Indicators B-4 & B-5



Data Source: Statistics Canada

High Growth Companies

The indicator explained

High levels of growth are strong indicators of the success of a sector. An increasing number of high growth companies will create new jobs, new wealth and new government revenues.

BC Stats defines "high growth companies" as those which increase by at least two employment size categories in one year. For example, a firm that has one to four employees would be considered "high growth" if it expanded to have 10 to 19 employees. Similarly, a company with 100-149 workers expanding to 200-249 workers would also be considered high growth. There are 21 employment size categories, which provide a considerable amount of detail. However, it should be cautioned that because the exact number of workers in a firm is not known, this measure will be somewhat imprecise. Further, because the last employment category is "5,000 and over," it is impossible for a large corporation to be classified as "high growth." These data, then, principally apply to small and medium-sized establishments.

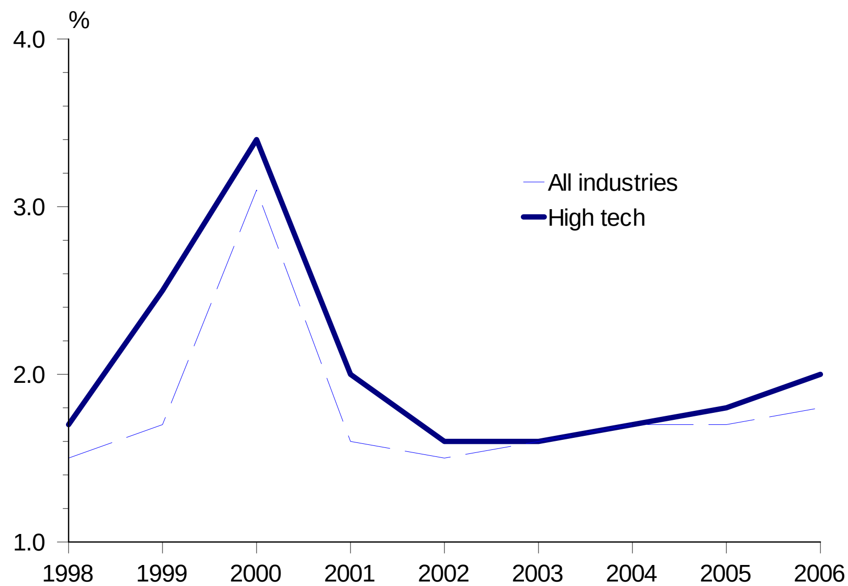
High technology companies exhibiting high levels of growth are indicative of the potential of the high tech sector. Very few companies qualify as "high growth," but they can be slightly more common in the high tech sector than elsewhere. The high technology sector is often thought to be a breeding ground for rapid growth firms—small start-up companies that grow by leaps and bounds.

High technology companies are slightly more likely to experience "high growth" than BC companies as a whole

The share of high growth companies originating in the high tech sector increased rapidly during the late 1990s, but by the mid 2000s, in the wake of a slower economy, had slowed. In 2006, a mere 1.8% of all companies in BC showed rapid growth in number of employees, up just slightly from 2005. With the exception of the year 2000, when the rate spiked at 3.1%, the share of high growth companies has remained relatively stable since 1997. Despite remaining virtually on par since 2002, the percentage of high growth companies in BC's high technology sector (2.0%) edged that for BC businesses as a whole (1.8%) in 2006. At the end of the 1990s and in the early 2000s, the high tech sector tended to have more firms with rapid employment growth compared to the aggregate of all companies in the province. When comparing long term averages, this trend still holds true.

Indicator B-6

"High Growth" companies as a percentage of firms in all industries vs. high tech industries, 1998-2006



Data Source: Statistics Canada prepared by BC Stats

Venture Capital Investment

Why are these indicators important?

Venture capitalists specialize in investing in high-risk company start-ups or expansions, providing the seed funds for projects that are more often than not involved in the development of new products or processes. They take a portfolio approach, such that, while many high-risk investments in their portfolio may never be commercially viable, those that do succeed are expected to provide high enough returns to compensate for the total risk capital invested across the portfolio. Thus, venture capital investment by province gives an indication of both the quality of ventures in a given province as well as the investors' assessment of the business climate. It also reflects the risk tolerance of investors in different regions and over time. Most venture money is lost when the product or service is not viable to the market, but companies that do succeed often have a very large payback.

Following strong growth throughout the 1990s, Canadian venture capital investment declined in the early half of the 2000s. The anticipation of a new millennium coincided with an explosion in Canadian venture capital investment[16] during the latter part of the 1990s, rising from a modest $270 million in 1991 to a peak of nearly $5.3 billion in 2000. However, by 2003, investment had plummeted to $1.7 billion. Since then, overall investment has remained stable, amounting to $1.7 billion in 2006.

Venture capital investment in BC continues to grow – the province maintains a solid rank of third in the country.

Venture capital investment has historically been characterized by boom or bust volatility. Since Ontario and Quebec accounted for 74% of Canadian venture capital over the period 1996 to 2006, this has largely been a central Canadian phenomenon. Similar to the overall Canadian trend, venture capital investment in BC more than tripled between 1998 and 2000. At the peak of the boom, BC attracted $540 million in venture capital investment, compared to $2.9 billion in Ontario and $1.4 billion in Quebec. In that same year, BC attracted significantly more investments than neighbouring Alberta ($243 million). By 2006, the province had ranked third in venture capital investment for more than a decade. In that year, venture capital investment in BC attracted $298 million in investment income, compared to $34 million in Alberta, but still considerably less than in Quebec ($603 million) and Ontario ($686 million). Usu-

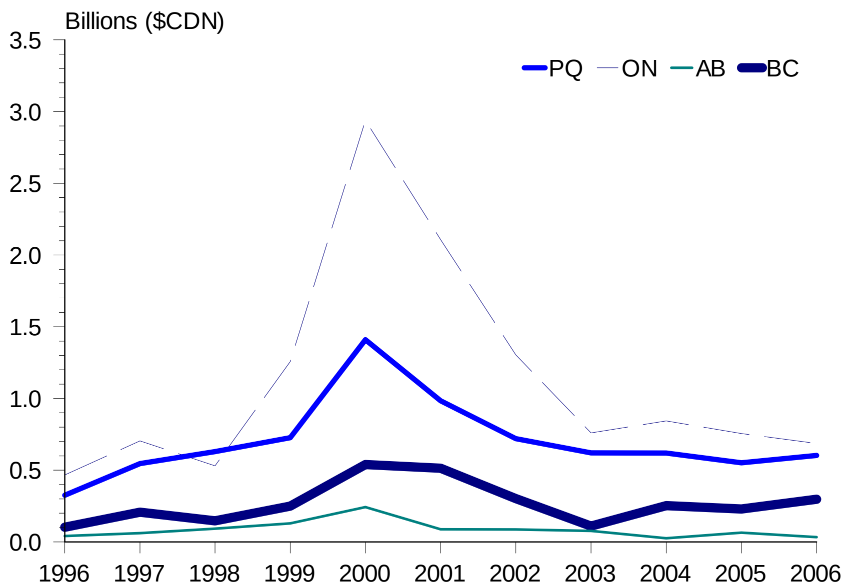
[16] Most of the other potential financing indicators, such as debt financing, are either available only for Canada with no provincial breakdown, or do not provide sufficient years of reporting to establish trends and are therefore not included in this report, although table 12 in Appendix III does offer some data on total Canadian investment in scientific and research development.

ally ranking better than the national average, BC has also faired relatively well in terms of investments per capita.

BC boasted an 18% share of the country's venture capital investment in 2006, four percentage points higher than the previous year and a far greater share than in any other province outside Canada's industrial core. Indeed, the amount of investment in BC between 1996 and 2006 (nearly $3.0 billion) exceeded that of Alberta, Saskatchewan, Manitoba and the Atlantic provinces combined ($2.2 billion). Part of BC's gain in venture capital investment is due to the relative decline in Ontario investment. A slowdown by the Ontario retail investment funds following the Ontario government's decision to phase out the tax credits available to retail investors is a likely contributing factor in the recently sluggish pace of overall investment in Canada's largest industrial centre. Nonetheless, in 2006, Ontario (41%) maintained its stronghold, with the largest share of the country's venture capital investment. However, Quebec was a close second (36%).

Indicator B-7

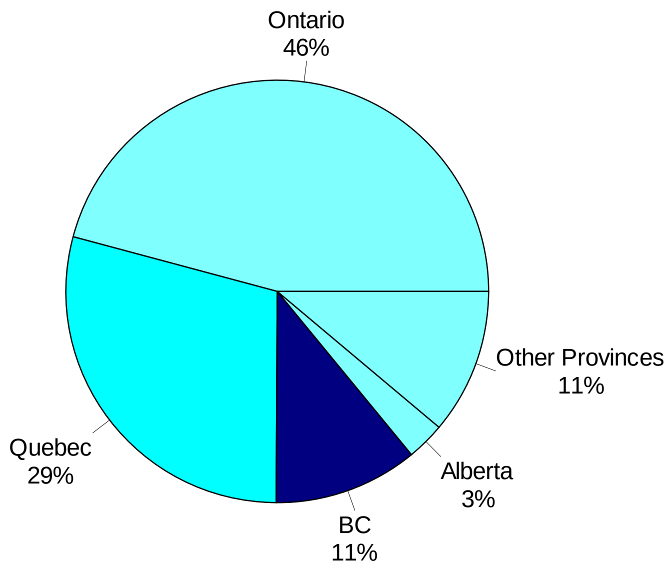
Canadian venture capital investment by province of investment ($ billion)



Data Source: Canadian Venture Capital Association

Proportional share of Canadian venture capital investment, 1996-2006

Indicator B-8



Data Source: Canadian Venture Capital Association

BC shows even more potential when one considers Venture capital investment per capita. The province's per capita venture capital investment has shown volatility in recent years, dropping substantially from record highs recorded in 2000 ($134) and 2001 ($126). However, in 2006, the province boasted an average per capita venture capital investment of over $69, surpassing that of Ontario ($54) for the first time on record. BC's per capita rate was close to seven times that of Alberta ($10) and neared that of Quebec ($79).

Performance of R&D by the Business Sector

Why is this indicator important?

Research and Development (R&D) provides the potential for innovation and new discoveries either in the form of a new product, a service or a process that eventually enhances productivity. In this way, R&D is viewed as an investment in future production of the economy. The ratio of R&D performed by business to GDP is an indicator of the proportional investment in R&D by the business sector relative to the size of the overall economy. It is assumed that a higher proportion is likely to lead to higher rates of discovery.

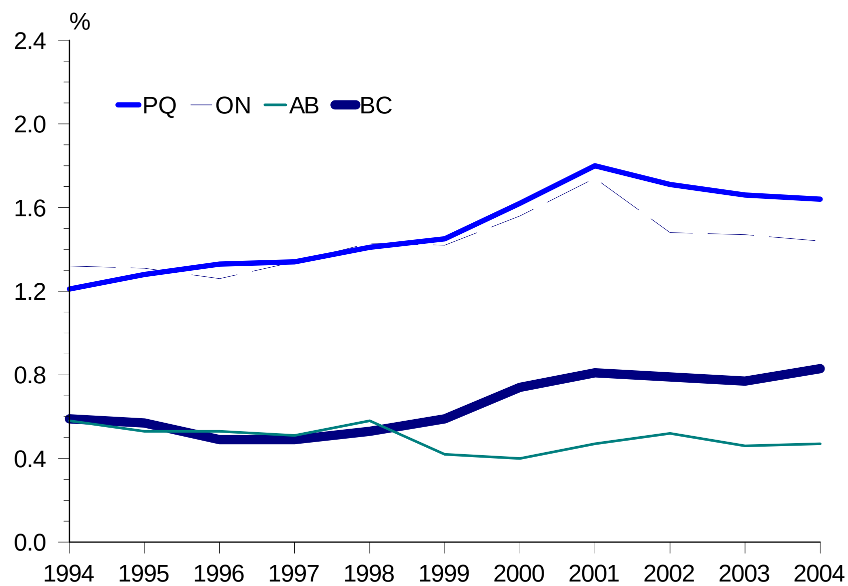
BC surpassed Alberta in the ratio of business R&D to the province's overall GDP for the sixth consecutive year.

In 2004, the business sector in Canada performed $14.4 billion worth of R&D, amounting to just over 1% of Canada's GDP in that year. Over the past decade, the ratio of business R&D to provincial GDP has been much higher in Quebec and Ontario than in BC and Alberta. However, in 2004 (the latest year for which data is available), the ratio decreased slightly in Quebec and Ontario, while inching up in Alberta and BC.

Ontario and Quebec alone made up 81% of business R&D in Canada in 2004 (BC accounted for 9%). The ratio of business R&D to GDP in Quebec and Ontario is about twice that in BC. In recent years, business R&D has seriously lagged in Alberta, resulting in its falling well behind BC.

Indicator B-9

Ratio of business performance of R&D to GDP



Data Source: Statistics Canada

Government Indicators

The government sector affects high technology firms by providing a regulatory, tax, and infrastructure environment for the private sector to operate within by funding and directly performing R&D.

The tax regime is similar across provinces. Quebec has a considerably lower corporate income tax rate than other provinces, while Alberta and New Brunswick have the lowest small business tax rate.

This section also includes a summary of gross expenditures on R&D in British Columbia. This includes R&D performed by business, higher education, and federal and provincial governments. Direct performance of R&D by government has lagged in BC compared to other provinces but has recently shown signs of growth.

TABLE 4: Quick Summary of Indicators for the Government Sector

INDICATORS	Trend	Latest year	Relative to other provinces
G-1: Personal tax index for $80,000 income	↓	↓	below average
G-2: Small business tax rate	→	→	below average
G-3: Corporate income tax rate	↓	→	below average
G-4: Government performance of R&D to GDP ratio	↓	↑	below average
G-5: Gross expenditure on R&D (GERD) to GDP ratio	↑	↑	below average

Tax Rates: Individual and Corporate

Why are these indicators important?

High technology companies are highly mobile because much of the input to their production is derived from human capital. As a result, high technology companies are often free to seek an ideal location to establish operations. Lower levels of taxation are thought to attract investment and encourage a skilled labour pool. On the other hand, desirable amenities that may play an equal role in attracting skilled workers such as quality of life, social programs, environmental standards and regulated working conditions tend to result in higher levels of taxation.

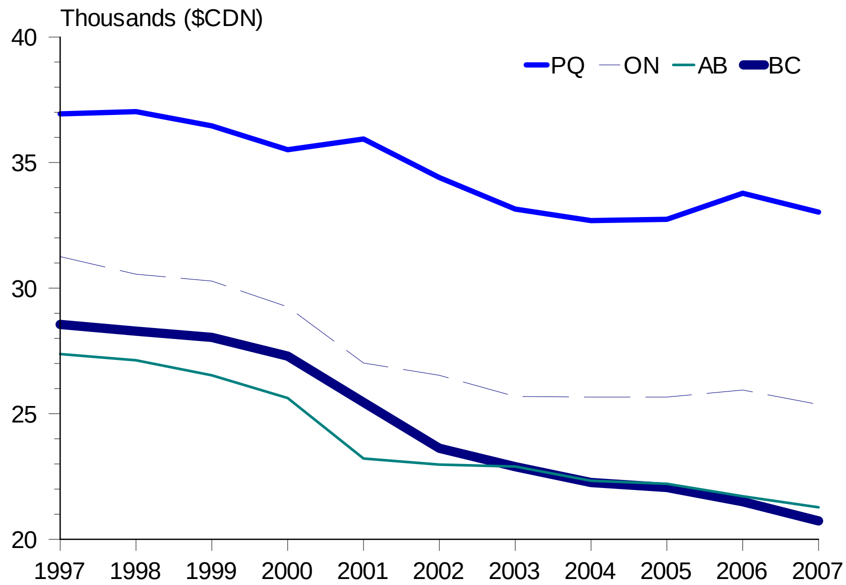
Tax rates are a major policy area over which government has complete control. Lower levels of taxation are thought to attract investment and a skilled workforce, both of which are essential to the high technology sector. On the other hand, a better quality of life associated with regulation of working conditions, environmental standards and universal social programs are also thought to be appealing to high technology workers. Such amenities generally result in higher levels of taxation.

BC's taxation rates remain comparatively favourable for attracting investment

The level of taxation in BC for high-income individuals has declined steadily over the past decade. The total taxes levied to a single (unattached) individual earning $80,000 a year in the province averaged $20,731 (or 26%) in 2007, the lowest level in Canada. [17] This rate was 3.6% lower than in 2006 and reflects a considerable decline since 1997, when taxes amounted to $28,558 (36%). The long-term decrease in personal taxes on high-income earners has not been unique to BC as taxation rates have also revealed a downward trend in most other provinces. As average taxes paid by high-income earners in BC continue to fall, the province's rates remain well below those in Quebec ($33,024) and Ontario ($25,369). However, taxes paid in BC remain close to those paid in Alberta (which fell -2.0% to $21,272) in 2007.

Indicator G-1

All taxes paid by unattached individuals earning $80,000 per year ($ '000)



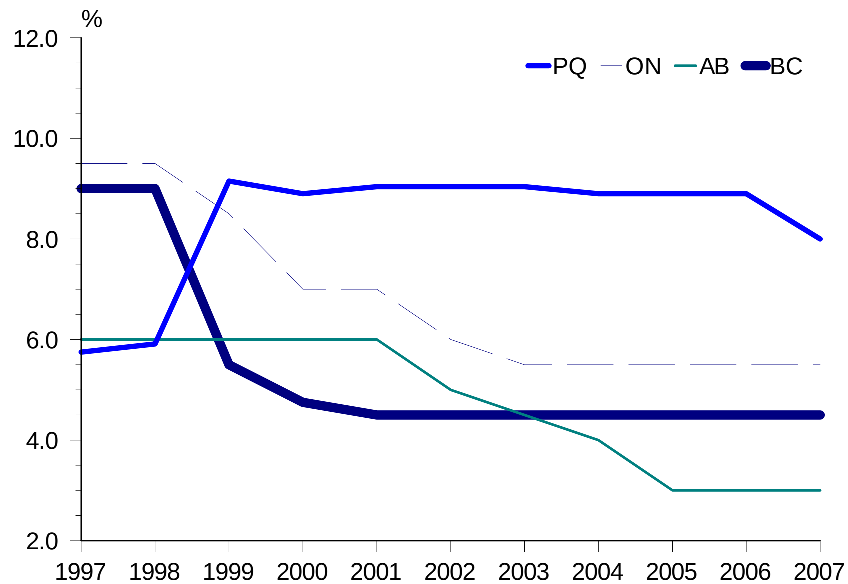
Data Source: BC Ministry of Finance

BC's small business tax rate declined in 1996 and 1999 through to 2001, giving the province the lowest small business tax rate (4.5%) of

[17] Note that this includes all federal and provincial taxes, such as the GST, health care premiums, income tax, etc. Data for 2007 are Balanced Budget tax rates as of February 6th, 2007.

the high technology provinces. In 2003, however, Alberta lowered its small business rate 0.5 percentage points to match the BC rate and has continued its drop through to 2007, where it sits at 3.0%, lowest of all high tech provinces. Quebec's tax rate increased in 1999 and, in 2007 (8.0%), remains almost double the rate in BC. BC's small business tax rate has rested at 4.5% for seven consecutive years.

Small business tax rate **Indicator G-2**

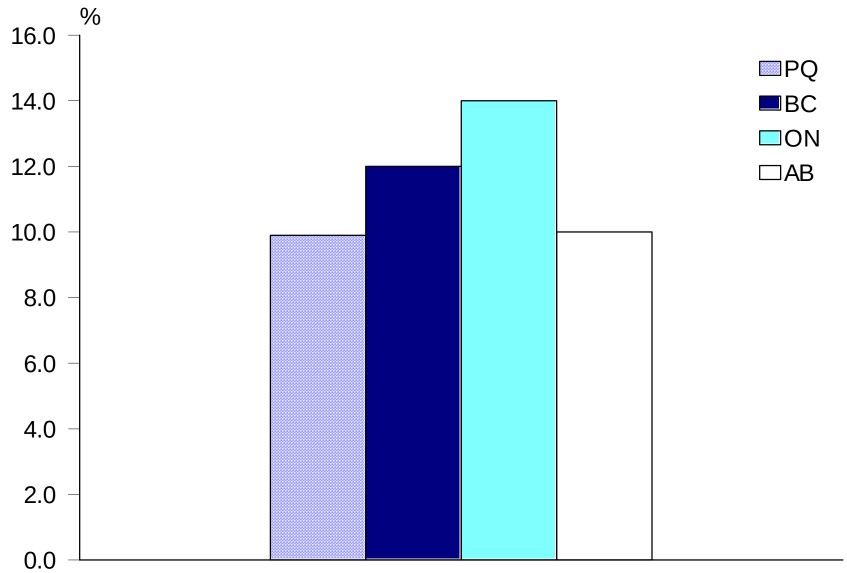


Data Source: BC Ministry of Finance

In contrast to the small business rate, BC's general corporate income tax rate (12.0%) ranks third among the high tech provinces. Quebec stands out as having a low corporate income tax rate (9.9%), and Ontario's rate (14.0%) is higher. The difference between BC and Alberta used to be rather marginal, but in 2007, Alberta dropped its rate to 10.0%, widening the gap.

Indicator G-3

General corporate income tax rate in 2007



Data Source: BC Ministry of Finance

Performance of R&D by the Government Sector

Why is this indicator important?

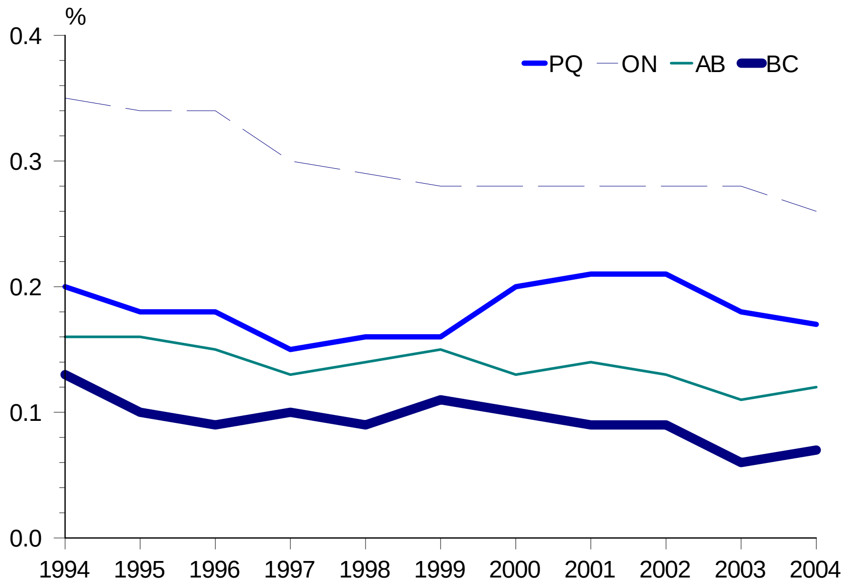
Government tends to fund much more R&D than it actually performs. However, in some fields, governments do maintain research personnel in order to provide independent testing of products, processes and practices. The purpose of most internal government research is not necessarily focused on innovation, but serves a review function. Significant innovations developed by government researchers are often spun-off to the private sector. The ratio of government R&D to GDP is an indicator of the proportional investment in R&D by the government sector relative to the size of the overall economy.

Overall, the government sector in Canada performed $2.4 billion worth of R&D in 2004 (the latest year for which data is available), up slightly from 2003 and remaining at one of the highest levels in over a decade. This amount accounted for just under 0.2% of Canada's GDP.

Within the high technology provinces, Ontario has maintained by far the highest ratio of government R&D to GDP for at least the last 15 years. BC's ratio has historically ranked last compared to all provinces, while Alberta has held the ninth place rank. These positions held true in 2004. The BC (0.07%) ratio was approximately a third of the Canadian average (0.20%). Ontario's (0.12%) and Quebec's (0.18%) ratios declined slightly in 2004, while Alberta (0.12%) and BC each inched up.

Ratio of combined federal and provincial performance of R&D to GDP

Indicator G-4



Data Source: Statistics Canada

Gross Expenditure on R&D

Why is this indicator important?

The overall ratio of total R&D effort to the overall economy, also known as the GERD ratio, is a measure of how much a jurisdiction is willing to sacrifice current consumption for potential increased future capacity. The changing structure of the ratio (the relative size of the component investments by the government, business and higher education sectors) over time is a measure of the shifting importance different sectors place on the performance of R&D. Although the meaningfulness of the GERD ratio has been challenged in recent times, the measurement of R&D effort as an indicator for the high technology sector remains a primary objective of national statistical agencies.

Gross Canadian expenditure on research and development (GERD) reached over $26.0 billion in 2004, amounting to 2.0% of Canada's GDP in that year. Across Canada, the GERD to GDP ratio rose from

1996 to 2001, peaking at 21%, before slipping back slightly over the next few years.

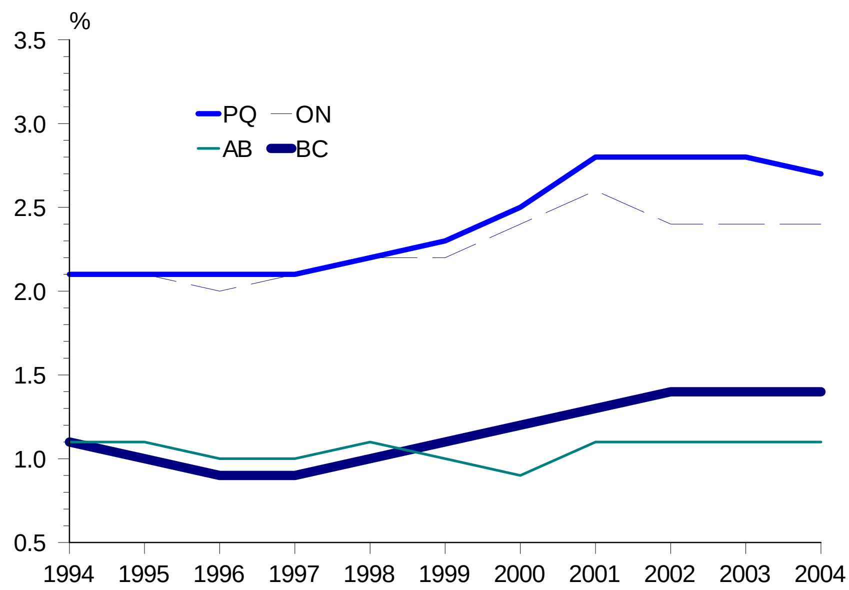
GERD ratios for Quebec and Ontario are the highest in the country, and have increased substantially over the last ten years. Ratios for BC and Alberta hovered at approximately 1.0% of GDP over the same period. By 2004, Alberta's ratio was at 1.1%, while BC's rose to 1.5%.

The business sector is by far the largest performer of R&D in the province

The business sector in BC performed the bulk of R&D (57%) in 2004. Higher education made up over a third (38%), while the rest (5%) was done by the federal and provincial governments. This is also a common trend among other high tech provinces. In Alberta, higher education accounted for 46% of performed R&D and the business sector made up 43%. The business sector performed most of the R&D in both Quebec (60%) and Ontario (59%) in 2004. As in other high tech provinces, the amount of R&D performed by government in BC has held steady over the past decade, while R&D in business and higher education has been increasing.

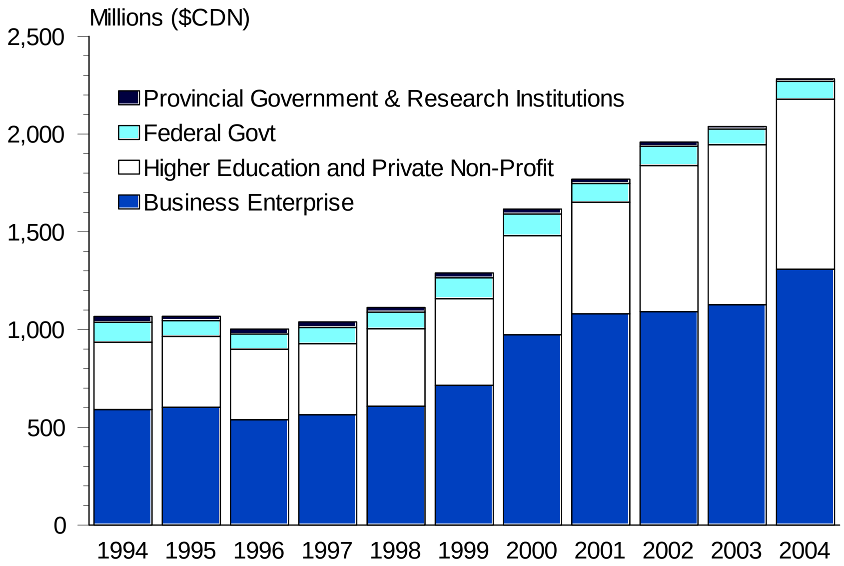
Indicator G-5

Ratio of total expenditure on R&D to GDP



Data Source: Statistics Canada

The Business sector is the leading performer of R&D



Data Source: Statistics Canada

External Indicators

The British Columbia economy is highly dependent on trade with other provinces and foreign countries both as a source of goods and services used in BC and as markets for its products. Trade relationships play an integral role in the high tech sector, as they do in the economy as a whole. BC imports of high technology goods, which can be an indicator of future production, since imported components are often used to produce high tech products, increased steadily throughout the 1990s, before falling in 2002 and 2003. After two years of decline, imports have shown signs of recovery with 2006 marking the third consecutive year of increases.

Canada and British Columbia also benefit from a large number of well-trained and educated immigrants. The number of immigrants and their level of schooling upon entry into Canada has increased greatly in recent years. BC is also likely to gain educated and trained workers when there is migration from other provinces. In the early part of the decade, BC was losing people to other parts of the country, but in recent years the flow has reversed and the province has been experiencing interprovincial in-migration as it continues to gain people from other provinces.

TABLE 5: Quick Summary of Indicators for the External Sector

INDICATORS	Trend	Latest year	Relative to other provinces
X-1: Percentage of immigrants with higher education	↑	↓	below average
X-2: Median years of schooling of immigrants	↑	↓	average
X-3: Net inter-provincial migration	↑	↑	above average
X-4: High technology imports	↑	↑	n/a

Educational Background of Immigrants

Why are these indicators important?

The economic effects of immigration depend on the skills and resources immigrants bring with them. Two specific indicators of the educational attainment of immigrants are the percentage of immigrants aged 25 years and older with 16 or more years of education (sufficient levels to obtain a university degree in Canada) and the median years of education of immigrants aged 25 years and older at landing. An influx of highly educated immigrants—an increase in the supply of skilled labour—can provide a significant boost to high technology companies. Immigrants also offset the loss of skilled workers who move to other provinces or out of Canada.

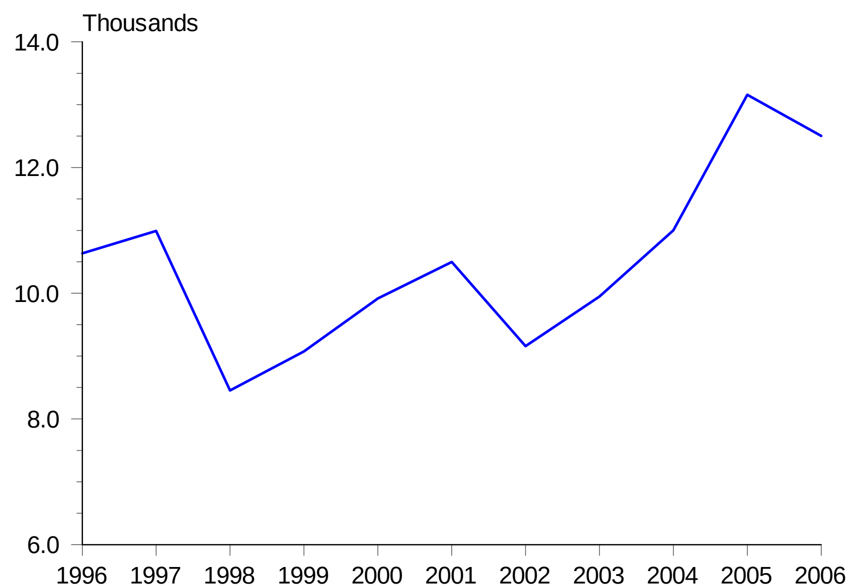
British Columbia has experienced high levels of immigration over the past decade, and the trend has continued through to 2006.[18] Overall, immigrants to BC tend to be well educated. Indeed the median education level of adult immigrants (aged 25 years and older at landing) to the province was 15.2 years of schooling in 2006. This was on par with Alberta (15.2) and similar to that in Ontario (15.1) and Quebec (15.7).

The increase in number of skilled immigrants to BC over the last decade outpaces that of every other province

The number of skilled immigrants to BC has increased substantially (+240%) since 1990. Ontario (+143%), Quebec (+142%) and Alberta (+139%) have also experienced a significant influx, but not to the same degree. BC has certainly been a central destination for skilled immigrants. Over the period of 1996 to 2006, BC received over 115,000 immigrants with 16 or more years of education—more than any other province except Ontario. One reason for BC's success in attracting these immigrants is that Asia has become the top origin for immigrants to Canada and BC's relative proximity to Asia compared to the rest of Canada makes it a prime destination for such immigrants.

Indicator X-1

Adult immigrants to BC with 16 or more years of schooling at time of landing



Data Source: Citizenship and Immigration Canada

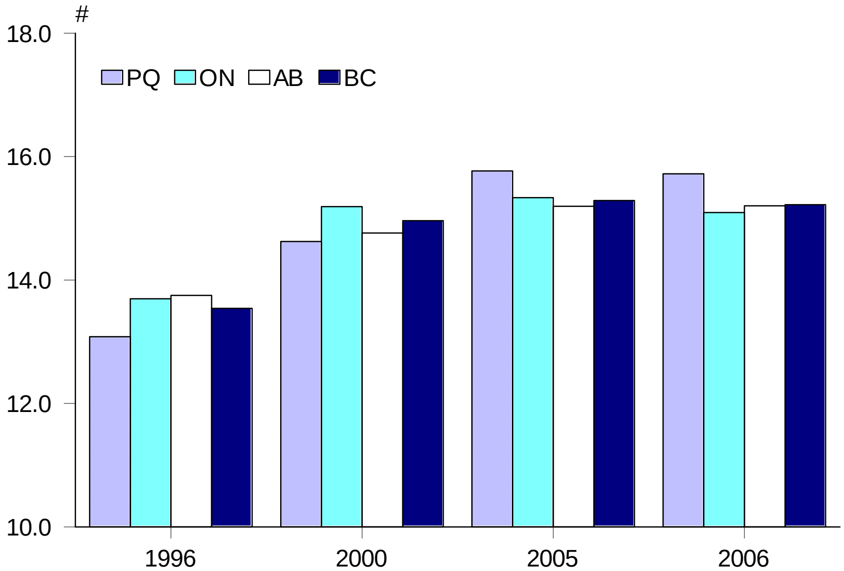
The median years of schooling of immigrants aged 25 years and older has increased notably over the past decade. The Canadian

[18] For detailed immigration data, see the BC Stats website: http://www.bcstats.gov.bc.ca

median jumped from 13.6 years of education to 15.2 years between 1996 and 2006. In BC, median education rose from 13.5 years to 15.2 years over the same period. Other provinces have seen a similar trend.

Median years of schooling of immigrants 25 years and older

Indicator X-2



Data Source: Citizenship and Immigration Canada

It seems clear that Canada acquires many high-technology workers through immigration. In the past decade, new immigrants have played a significant role in the growth of highly skilled occupations – those customarily requiring a university education. In 2001, for example, 12.0% of recent immigrants aged 25-44 worked in information technology occupations in contrast to only 3.0% of Canadian-born workers. Recent immigrants between the ages of 25-44 in the labour force were also over-represented in natural science and engineering professions with 3.0% working in engineering and 1.2% in natural sciences versus 1.0% and 0.6% of Canadian-born workers respectively.[19]

[19] Source: Statistics Canada, 2001 Census.

Inter-provincial Migration

Why is this indicator important?

Canadian workers are much freer to move within the borders of the country than they are internationally. In aggregate, population movement between provinces is a general indicator of perceived economic opportunity and general attractiveness. Individuals and families often relocate for economic reasons. In this way, this indicator points to the overall perception of the strength of provincial economies.

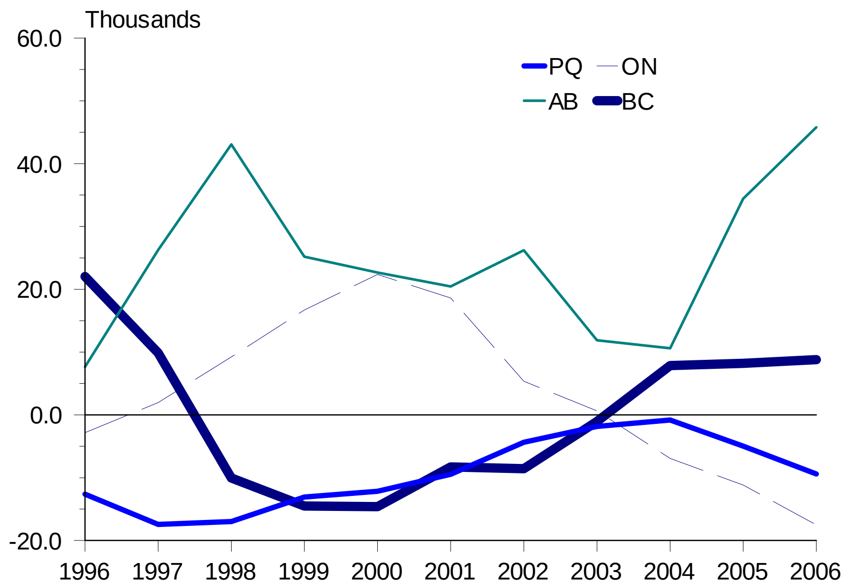
In recent years, BC has been attracting inter-provincial migrants from all over the country.

People seeking better economic opportunities contribute significantly to the pattern of inter-provincial migration in Canada. Net migration to BC peaked in 1992, with a net inflow of nearly 40,000 people. 1994 marked the beginning of a steep downward slide and by 1998 there was a net outflow of over 17,000 individuals. Parallel to this was a soaring increase in migration to Alberta. Indeed, the migration patterns of these two provinces have been almost mirror images over the last decade. Out-migration from BC has gradually eased since then, with an inflow of nearly 9,000 migrants recorded in 2006.

Despite the recent upsurge in interprovincial migration, the province is certainly not the destination of choice that it once was. Over the last decade, for example, Alberta experienced an annual net in-migration average of nearly 23,000, while over the same period, BC lost an average of over 900 residents to other provinces.

Net inter-provincial migration

Indicator X-3



Data Source: Statistics Canada

In Ontario, population inflows in the late 1990s and early 2000s were reversed in 2004, and by 2006 there were more than 17,500 net out-migrants to other provinces. Despite recent losses, between 1996 and 2006 Ontario experienced an average annual net in-migration of over 5,400 people. Quebec has seen consistent net out-migration over the past decade, losing an average of nearly 9,400 people annually.

High Technology Imports

Why is this indicator important?

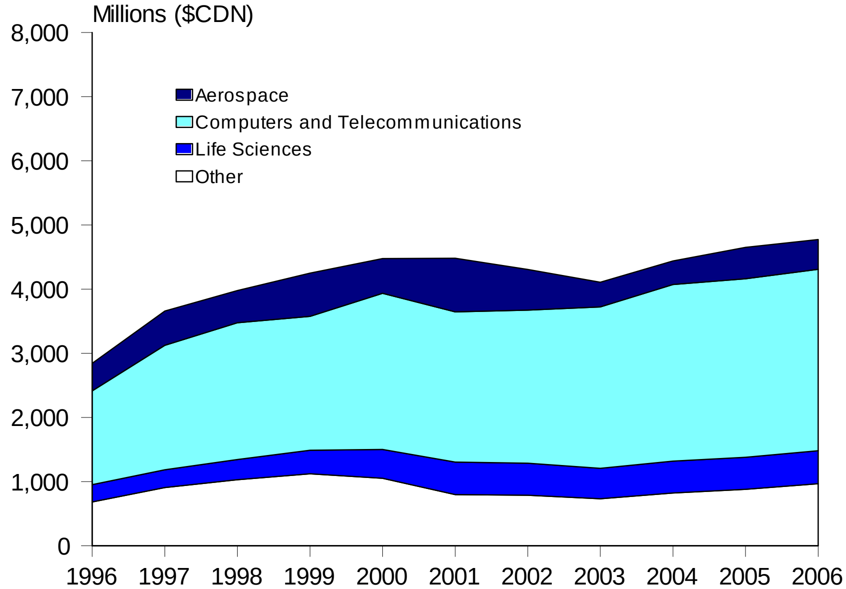
Although a heavy reliance on imports can create a negative trade balance (the difference between the value of goods exported and the value imported), imports of high technology goods are often essential because they can be turned into future exports. For instance, without state-of-the-art telecommunications, the high technology sector as a whole would struggle. Similarly, purchases of computer integrated manufacturing technology would displace future imports of other goods, whether high technology or low technology, and could generate goods for export.

BC's high technology sector relies on imports of high technology goods in order to thrive. Computers and telecommunications are the main component (59%) of high technology imports. Life sciences (11%) and aerospace (10%) also make up notable shares. Imports of high technology goods increased steadily between 1991 and 2001, before declining in 2002 and 2003 as the entire high tech sector went through a slump. Since then, high tech imports appear to be experiencing a rebound, as 2006 (+2.6%) marked the third consecutive year of increases for BC.[20]

[20] Note that imports have not been adjusted for inflation or exchange rate effects.

Indicator X-4

Value of high technology imports to BC ($ Million)



Data Source: BC Stats

Labour Indicators

Most of the indicators in this report are grouped according to the sector that provides or affects the input. However, in the case of labour input, indicators such as the unemployment rate are not attributable to a single source sector. This section contains a set of indicators that are specific to the labour market but represent a combined impact of the source sectors.

Across the country, unemployment rates among workers in the natural and applied sciences are well under those in the economy overall. Further, these unemployment rates have been falling quite consistently since the early 1990s, most notably in the last three reporting years (2004-06).

TABLE 6: Quick Summary of Indicators for Labour

INDICATORS	Trend	Latest year	Relative to other provinces
L-1: Unemployment rate for natural and applied sciences	↓	↓	below average
L-2: Research personnel per 100,000 population	n/a	↑	below average
L-3: Quality of life	n/a	→	above average
L-4: Cost of Living	→	↑	above average

Unemployment Rate in Natural and Applied Sciences

Why are these indicators important?

A low level of unemployment in natural and applied sciences occupations is desirable because some components of this group (e.g., computer scientists) are the engines of innovation in the high technology economy. Higher levels of unemployment in this group indicate idle intellectual capital, which has the effect of slowing the overall rate of innovation. Also, a lower ratio between the unemployment rate for natural and applied science occupations and the overall labour force indicates heightened demand for these specializations. This should attract high tech workers from other jurisdictions as well as more students into these areas.

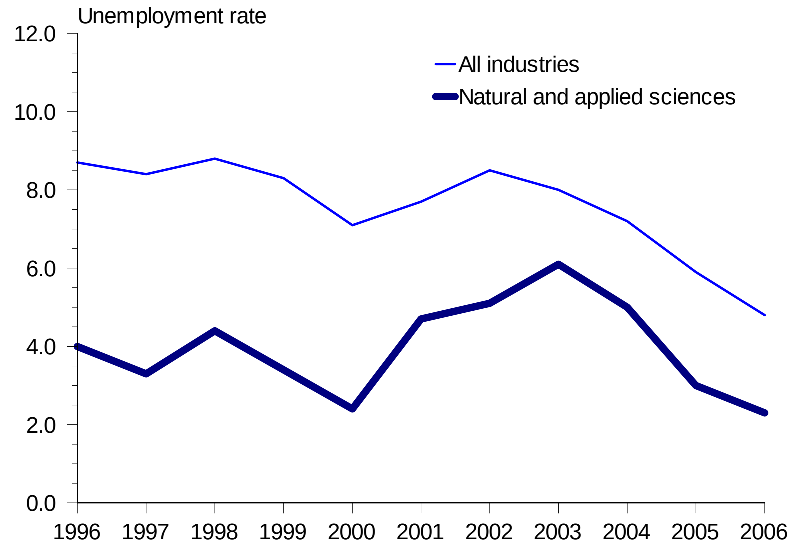
Nationally, the highest recorded unemployment rate between 1990 and 2006 for all occupations was 11.4% in 1993. The highest rate of unemployment for natural and applied sciences was 6.0% in the same year. Throughout the past two decades, persons employed in the natural and applied sciences occupations have enjoyed an employment advantage compared to the labour force as a whole.

Unemployment rates for natural and applied science occupations reached a record

Indicator L-1

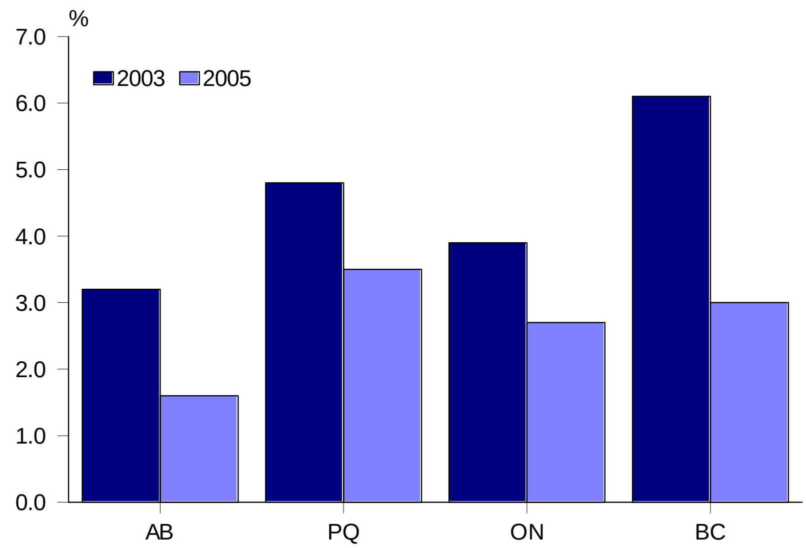
In 2006, the unemployment rate for natural and applied sciences in BC reached a decade low of 2.3%. However, between 2000 and 2001, BC went from having the lowest to the highest high tech unemployment rate among the four provinces. The situation has since improved and in 2006 high tech unemployment in BC remained below Quebec's rate of 3.7%, such that BC had the third lowest unemployment rate for natural and applied sciences.

BC unemployment rate for natural and applied science occupations (%)



Data Source: Citizenship and Immigration Canada

Unemployment rate for natural and applied science occupations has dropped in BC (%)



Data Source: Statistics Canada

Research Personnel

Why is this indicator important?

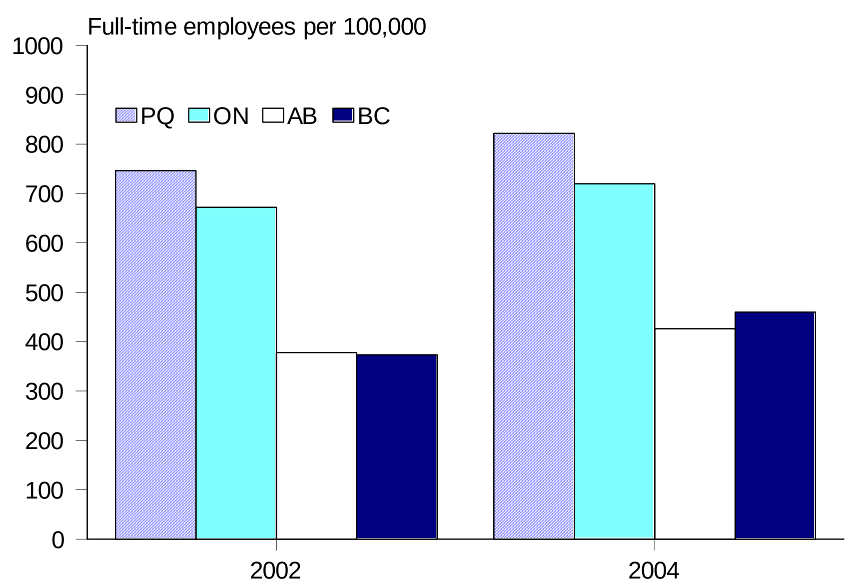
The absolute number of researchers and technicians engaged in research is an important determinant of the volume of scientific and technical discoveries that may result in patent applications, and later, in the birth of new firms or the growth of existing firms. The structure of the research workforce is also important in terms of the employment sector, whether federal government, provincial government, business enterprise or higher education. Each sector has different reasons for developing new technology and different methods of bringing new discoveries to market.

The total number of researchers in other provinces also increased in 2004. Ontario has the largest research workforce per 100,000 in absolute numbers, followed by Quebec. In 2004, British Columbia's workforce of 19,320 (up 25.8% from 2002) researchers and technicians replaced Alberta's as the third largest per 100,000 persons across Canada. The total number of researchers in other provinces also increased in 2004, though not nearly at the same pace as in BC. Ontario (89,360 workers), which saw a 9.9% increase over 2002, maintained the largest research workforce in absolute numbers, followed by Quebec (+11.7% to 62,040). Alberta's research and technician work force grew 16.1% (to 13,670) over the same period.

BC's workforce of researchers and technicians is the third largest per capita in the country

Total research workforce per 100,000 persons, 2002 and 2004

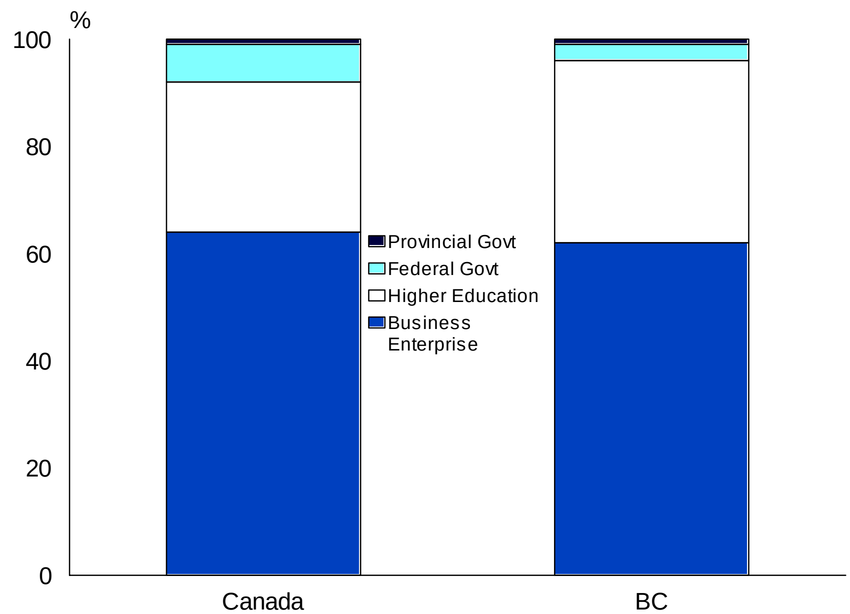
Indicator L-2



Data Source: Statistics Canada

In 2004 (the latest year for which data is available), there were approximately 623 researchers per 100,000 persons, working in the areas of government, business and higher education across Canada. Business and higher education claimed the largest shares of Canadian research personnel (64% and 28%, respectively). Although business accounts for the largest proportion of the research workforce in each of the high technology provinces, the proportions ranged from 45% of personnel in Alberta to 70% in Quebec in 2004. Ontario has the largest portion of federal research personnel due to the concentration of federal agencies in the National Capital Region (Ottawa). Alberta's provincial government research workforce is more than triple the Canadian average.

Structure of the research workforce by sector in 2004



Data Source: Statistics Canada

Quality of Life

Vancouver[21] is consistently ranked as having the highest overall quality of life in North America and among the highest in the world. Granted BC is made up of many diverse regions and cities, but since Vancouver is the largest metropolitan area in the province, its high ranking reflects on the province as a whole as well. Also, most of the quality of life variables are at equally high levels in other parts of the province. The positive ranking for Vancouver would seem to provide a substantial competitive advantage in attracting high tech workers.

[21] The Mercer Human Resource quality of life scales give rankings only to large target urban centres. An urban centre's ranking is, however, representative of other surrounding regions.

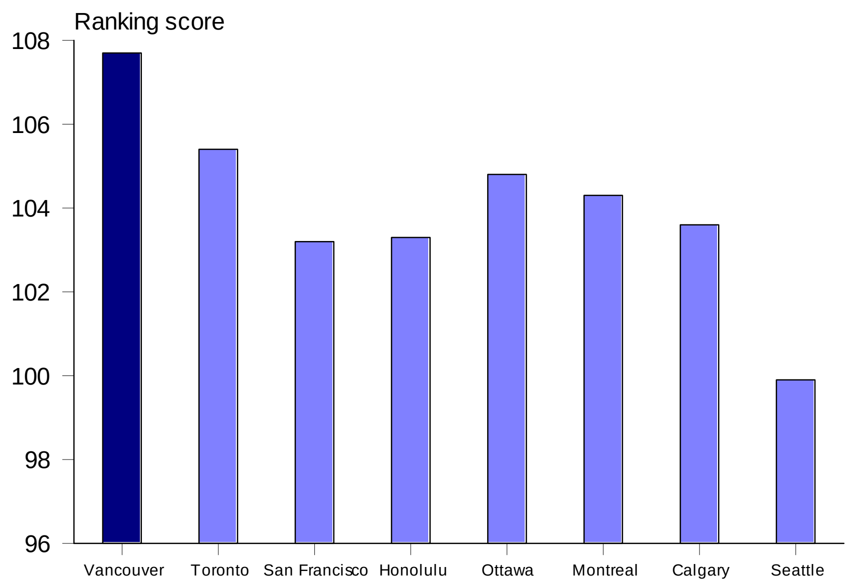
The indicator explained...

Mercer Human Resource Consulting—a large international management firm—developed "quality of life" scales to assist companies in determining hardship pay. Such allowances are often provided when a company sends employees to work in foreign (particularly third world) countries. The Mercer quality of life survey provides rankings based on 39 indicators, grouped into ten categories:

- "Political and social environment (political stability, crime, law, enforcement, etc.)
- Economic environment (currency exchange regulations, banking services, etc.)
- Socio-cultural environment (censorship, limitations on personal freedom, etc.)
- Medical and health considerations (medical supplies and services, infectious diseases, sewage, waste disposal, air pollution, etc.)
- Schools and education (standard of schools)
- Public services and transportation (electricity, water, public transport, traffic congestion, etc.)
- Recreation (restaurants, theatres, cinemas, sports and leisure, etc.)
- Consumer goods (availability of food/daily consumption items, cars, etc.)
- Housing (housing, household appliances, furniture, maintenance services, etc.)
- Natural environment (climate, record of natural disasters)"

Quality of life index scores, 2007 (New York = 100)

Indicator L-3



Data Source: Mercer Human Resource Consulting

Vancouver's score of 107.7 on the overall quality of life index is well above Toronto (105.4), Ottawa (104.8), Montreal (104.3), and

Calgary (103.6). In terms of ranking among the 235 cities included in the study, Vancouver ranks third (tied with Vienna), far higher than Toronto (15th), Ottawa (18th), Montreal (22nd), and Calgary (24th). Key American cities with which BC competes for high tech workers and firms (particularly Seattle and San Francisco) also rank considerably lower than Vancouver.

	Score	Global Rank	North Am. Rank
Vancouver	107.7	3	1
Toronto	105.4	15	2
Ottawa	104.8	18	3
Montreal	104.3	22	4
Calgary	103.6	24	5
Honolulu	103.3	27	6
San Francisco	103.2	29	7
Seattle	99.9	49	13

Cost of Living

The indicators explained

The inter-city price index compares the cost of consumer goods and services in different parts of the country. The “all items” price index is based on a bundle of goods and services that represents the expenditure patterns of a hypothetical average Canadian household. The largest component of the all items index is shelter. This includes the cost of owned or rented housing and related expenses (insurance, electricity, fuel oil, etc.). Prices recorded are the final price facing consumers, including sales and excise taxes and are based on a combined city average (100).

The high quality of life in Vancouver comes with a price. Vancouver is the second most expensive urban centre in Canada, in terms of general retail prices and third in terms of shelter cost.

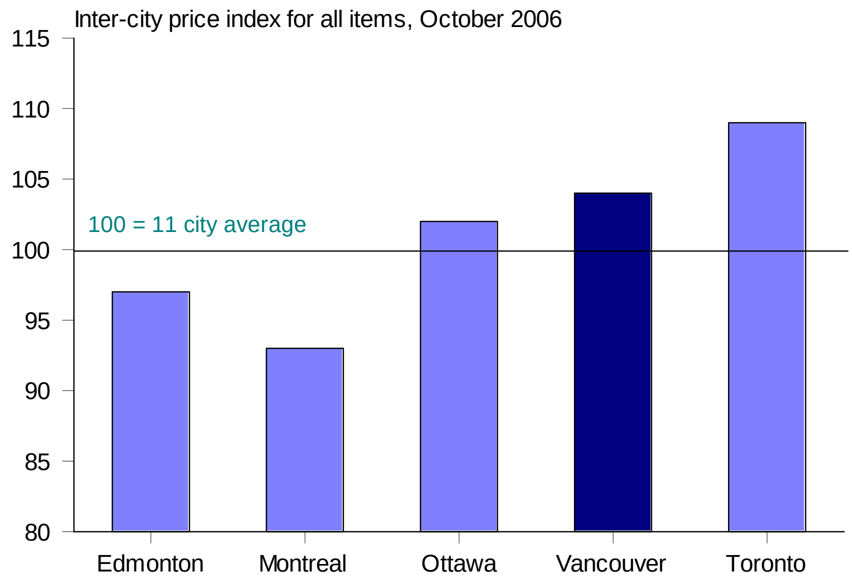
The cost of living in Vancouver climbed in 2006, and now surpasses that of the nation’s capital city.

With a rate of 104, retail prices in Vancouver were 4% higher than the combined city average (100) in October 2006, up from 102 in 2005. Vancouver’s rate was just above Ottawa (103) but significantly below Toronto (109). In Edmonton (97), prices were 3% below the combined city average and prices in Montreal (93) were 7% lower. The absence of a provincial sales tax in Alberta partly explains Edmonton’s comparatively low prices. Before 2006, retail prices in Vancouver had been declining (compared to the average) in recent years. Between 2001 and 2005, retail prices went down from 6% to 2% above average.

The largest component of the inter-city price index is shelter costs. In Vancouver, 2006 shelter costs were 3% above the combined city average, the third highest in Canada. In Toronto, shelter costs were a substantial 21% above average. Shelter costs were well below average in Edmonton (9% lower) and Montreal (15% lower). Despite recent fluctuations, the cost of shelter in Vancouver has declined considerably (compared to the combined city average) in recent years, while other cities have remained relatively unchanged. For example, in 2001, Vancouver's inter-city shelter price index was recorded as 10% above the combined city average, significantly higher than in 2006.

Vancouver has third-highest retail prices in Canada

Indicator L-4



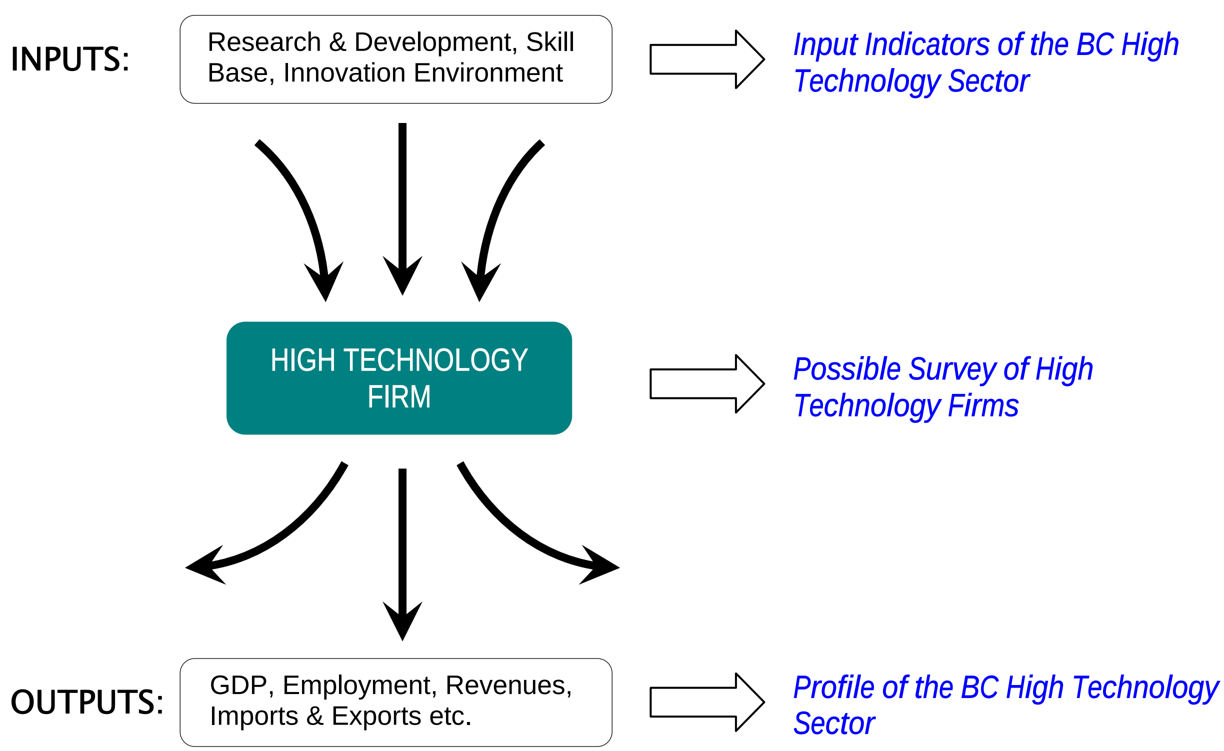
Data Source: Statistics Canada

Appendix I:
BC STATS' Sector Model

In BC STATS' model of the high technology sector (see "Modeling the High Technology Sector," below), the **firm** is the centre of the system of high technology production. The firm receives inputs, in the form of labour, physical and financial capital, raw materials and parts, and knowledge. Knowledge may be embodied in labour (human capital) or other inputs, or it may come in the form of patents and copyrights, books and electronic information, etc. Through its internal operations, the firm then produces outputs. These outputs are products and services, and (in some views) also include employment and other benefits to society.

This firm-centred view underlies BC STATS' publication strategy for high technology sector information, as shown in the diagram below.

TABLE 7: BC STATS' Products for Monitoring the High Technology Sector



What is an Indicator?

The concept of indicators is well understood in the operation of machines. For instance, the dashboard of a car has many indicators. The speedometer measures the main output, which is forward motion. However, gauges such as oil pressure and water temperature assess how well the engine is working as a system. They predict the engine's future performance, and may suggest the need for specific adjustments.

When we want to predict the future, in terms of the economy, we need to examine the chain of events that leads to the production of specific outputs, and develop indicators for those steps in the chain judged to be most important. When we want to predict the future in terms of the high technology sector, we similarly need to develop a model of what drives growth in the sector, and then obtain indicators for each component of the model.

In selecting indicators, consideration must be given not only to their place in a growth model of the high technology sector, but also to their accuracy and availability. Indicators should meet other tests as well. In the annual (since 1997) *Index of the Massachusetts Innovation Economy,*[22] all potential indicators are subject to a set of five criteria. The indicators selected for inclusion in the report are:

- Derived from objective and reliable data sources,
- Statistically measurable on an ongoing basis,
- Bellwethers that reflect the fundamentals of economic vitality,
- Understood and accepted by the community, and
- Measurements of conditions in which there is an active public interest.

These criteria help ensure that the indicators become relevant to politicians and citizens as well as to statisticians, and have thus been adopted for this report as well.

[22] Collaborative Economics and Massachusetts Technology Collaborative, *Index of the Massachusetts Innovation Economy*, 2006. Available at: http://www.mtpc.org

How is Research Progressing in this Field?

Detailed and generally accepted models for high technology sector growth do not exist at present. However, there has been loose agreement on some of the most important factors. One of the first of these factors to be explored was "research and development" spending. At the international level, the Organization for Economic Cooperation and Development (OECD), of which Canada is a member nation, took the lead with the *Frascati Manual: Proposed Standard Practice for Surveys of Research and Experimental Development* (1963). Meeting in Frascati, Italy, national experts of research and development statistics recognized the need for consistent, comparable international measures. Their proposal became the international standard.

In 1995, the Science and Technology Agency of Japan published *Science and Technology Indicators: 1994—A Systematic Analysis of Science & Technology Activities in Japan*, an update and revision of a similar document published in 1991. This comprehensive project was heavily focused on international comparisons between Japan and other nations, on the one hand comparing ratios of science and technology expenditures to Gross National Product for several leading science and technology countries, while on the other comparing the number of museums in Japan to the number in other countries. The critical focus, however, was on comparisons of R&D expenditures and effort between nations.

In 1997, the Massachusetts Technology Collaborative, a joint effort of government, industry and academia, produced the first of its annual publications, *Index of the Massachusetts Innovation Economy* that presented 20 indicator clusters (a mixture of both input and output indicators). However, these indicators are focused more on the intangible *innovation* economy which is "based on a dynamic conceptual framework that links resources to economic results through an innovation process." The index annually tracks the benchmark performance of key industry clusters for ten leading technology states throughout the United States.

A similar effort has been produced by the Progressive Policy Institute (PPI) in the United States, which is responsible for the "New Economy Index." PPI offers thirty-nine indicators at the national level, and seventeen for each of fifty states.[23]

[23] Available at http://www.neweconomyindex.org/states/

In 1998, Statistics Canada published *Science and Technology Activities and Impacts: A framework for a statistical information system* as well as *A Five-Year Strategic Plan for the Development of an Information System for Science and Technology*. These documents did not themselves contain any indicators but rather proposed a framework and strategy for the collection of science and technology indicators. However, Statistics Canada also stated "There is little underlying theory of how science and technology develops and interacts with other activities in different institutions. There are some procedural measures, many unsubstantiated beliefs and myths, and there are major information gaps." These caveats from Statistics Canada show that there is still much work to be done in this field.

In 1998, BC STATS, the Information, Science and Technology Agency of British Columbia, and the Science Council of British Columbia began a collaboration to devise a model of the BC high technology sector, with an associated set of indicators. This resulted in two working papers. The first reviewed definitions of the high technology sector and models of the innovation economy in other jurisdictions, while the second proposed a model for use in BC, together with a large number of potential indicators for that model.[24] Subsequently BC STATS has simplified the model and prepared a corresponding shorter list of indicators. The simplified model and indicators form the basis for this publication.

Modeling the High Technology Sector

The traditional model of economic production focuses on land, labour and capital, which are the "factors of production" or inputs into the production process. These factors are transformed by firms, other organizations, or individuals into valued goods and services. GDP is the main measure of that value and is the most common statistic used to describe the production of economic sectors. This traditional model can be thought of as an input/output view of the economy. The inputs are obtained from a variety of sources and enter a production process, resulting in outputs.[25]

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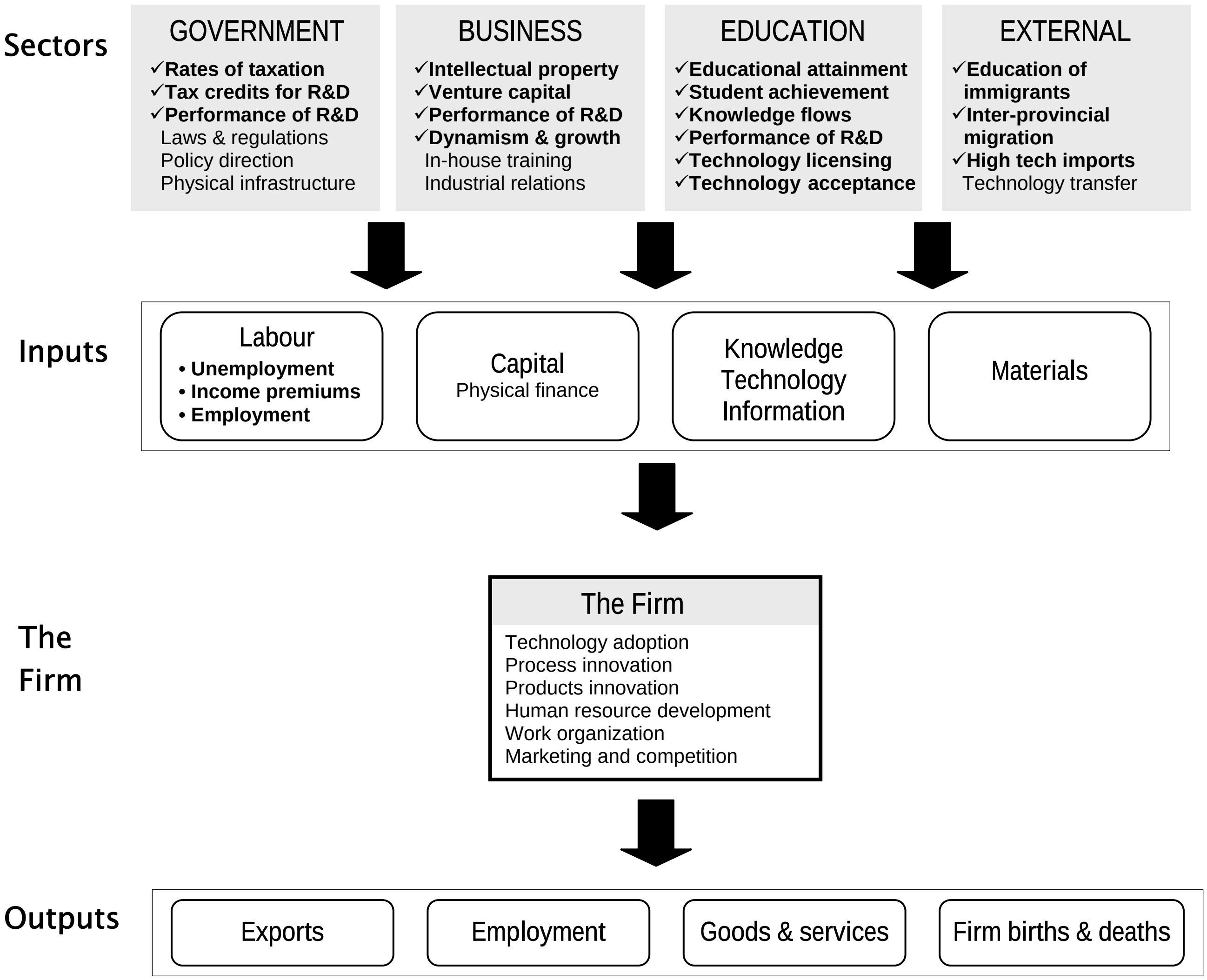
[24] Koebberling, Uschi and Veneranda Dettmers, "A Model of the BC High Technology Sector: Description of Factors and Linkages Affecting the Growth of the High Technology Sector in the Context of an Innovation Economy," Science Council of BC, April 1999.

[25] This is also referred to as the neoclassical model. See Lipsey, Richard G. and Kenneth Carlaw, "A Structuralist Assessment of Technology Policies—Taking Schumpeter Seriously on Policy," Working Paper #25, Industry Canada, Research Publications Program, October 1998. Available at http://strategis.ic.gc.ca

The advent of the "information economy" has added a new dimension to traditional economic production, and some efforts to describe it seem quite new as well. However, the input/output view can readily be adapted to the information economy. In the model above the firm is at the centre of the productive system. As in the traditional model, the firm receives inputs; however, knowledge, technology, and information are distinguished as a unique category. This can include patents and copyrights, software, information on production methods, etc. In addition, it is recognized that the other factors, labour, capital, and materials each have critical and increasing quantities of knowledge embodied in them.

The diagram then looks beyond the production inputs, to analyze their sources (the top row of boxes). For example, skilled labour may come from training courses in educational institutions, from in-house training, or from other provinces or countries. The sources for the inputs have been categorized as four "sectors." Within each sector, particular areas that bear on the production inputs are identified. These areas are the ones for which indicator variables have been sought out. The areas listed in bold, and checked, are the ones for which data is available and has been collected by BC STATS.

TABLE 8: Model of the High Technology Sector



While the indicator variables have normally been sought out at the level of the source sectors, certain labour indicators, such as the unemployment rate, are not attributable to a single source sector. Such indicators have been grouped in a separate "labour" section.

Once the inputs are obtained by the firm, they are transformed in a way that depends on the firm's many characteristics. Some of the characteristics of most importance for high technology firms are listed within the FIRM box in the diagram.[26]

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[26] For an in-depth study of uses of knowledge within high technology firms, see Canada's 2002 Innovation Strategy reports: *Knowledge Matters: Skills and Learning for Canadians and Achieving Excellence: Investing in People, Knowledge and Opportunity* available at http://www.innovationstrategy.gc.ca/ and Schuetze, Hans, *Innovation, Skills, and Learning: A Study of Knowledge and Human Resources Manage-*

Finally, the firm produces and sells goods and services, some of which are consumed locally, while the remainder are exported. This is depicted in the bottom row. It should be recognized that even with a simplified model such as the one set out here, it is possible to imagine a large number of interactions. That is, almost every box or element within the boxes could be joined by an arrow to every other box or element. In turn, a complete statistical system based on the model would track the flows of people, dollars, or information along each of the pathways (arrows). Such a comprehensive approach is neither practical, nor would it in the end necessarily lead to greater understanding and better policy. However, statistics are available on a significant number of the interactions, providing a strong database for future research.

ment in Small and Medium Sized Enterprises in British Columbia, Centre for Policy Studies in Education, University of British Columbia, March 1998.

Appendix II:
Definitions of the high technology sector

The table below describes the North American Industry Classification System-based definition of the High Tech Sector in BC. This is the most recent definition developed to describe BC's high technology sector. More detail on the industries and why they are included can be found in the *Profile of the British Columbia High Technology Sector*, which can be found at: *http://www.bcstats.gov.bc.ca*.

TABLE 9: Industries in the High Technology Sector

NAICS	Industry
Manufacturing Industries	
325189	Other Inorganic Chemicals
325410	Pharmaceutical and Medicine
333310	Commercial and Service Industry
334110	Computer and Peripheral
334210	Telephone Apparatus
334220	Radio, Television Broadcasting & Wireless Communications Equipment
334290	Other Communications Equipment
334310	Audio and Video Equipment
334410	Semiconductor and Other Electronic Components
334511	Navigational and Guidance Instruments
334512	Measuring, Medical and Controlling Devices
334610	Manufacturing and Reproducing Magnetic and Optical Media
335315	Switchgear and Switchboard, and Relay and Industrial Control Apparatus
335920	Communication and Energy Wire and Cable
335990	All Other Electrical Equipment and Component
336410	Aerospace Products and Parts
339110	Medical Equipment and Supplies

Service Industries

511210	Software Publishers
512110	Motion Picture and Video Production
512190	Post-Production and Other Motion Picture and Video Industries
515210	Pay and Specialty Television
516110	Internet Publishing and Broadcasting
517110	Wired Telecommunications Carriers
517210	Wireless Telecommunications Carriers (Except Satellite)
517310	Telecommunications Resellers
517410	Satellite Telecommunications
517510	Cable and Other Program Distribution
517910	Other Telecommunications
518111	Internet Service Providers
518112	Web Search Portals
518210	Data Processing, Hosting and Related
541330	Engineering
541360	Geophysical Surveying and Mapping Services
541370	Surveying and Mapping (Except Geophysical) Services
541380	Testing Laboratories
541510	Computer Systems Design and Related
541620	Environmental Consulting
541690	Other Scientific and Technical Consulting
541710	Research and Development in Physical, Engineering and Life Sciences
541720	Research and Development in the Social Sciences and Humanities

Appendix III: Detailed Tables

Educational Indicators

Indicator E-1. Percentage of the population aged 15 years and older with a high school diploma

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	68.9%	70.0%	70.7%	71.5%	72.6%	73.6%	74.5%	75.8%	76.3%	77.1%	77.5%
NFLD	58.6%	59.3%	60.3%	61.4%	62.7%	63.7%	65.8%	67.9%	67.2%	68.7%	69.5%
PEI	61.5%	61.7%	63.1%	63.5%	64.8%	67.2%	69.6%	69.9%	70.6%	71.9%	72.2%
NS	64.3%	66.0%	67.5%	68.1%	69.1%	70.9%	70.9%	72.4%	73.2%	74.0%	74.2%
NB	62.6%	64.9%	66.4%	66.6%	67.0%	68.6%	69.8%	71.3%	71.9%	72.4%	73.7%
PQ	63.8%	66.0%	66.5%	67.2%	68.0%	68.9%	70.2%	71.9%	72.4%	73.6%	74.2%
ON	70.4%	71.1%	71.6%	73.1%	74.4%	75.2%	76.0%	77.3%	77.9%	78.4%	78.8%
MB	66.5%	67.8%	68.2%	68.5%	70.1%	71.2%	72.1%	73.0%	73.7%	74.4%	74.5%
SK	64.8%	66.1%	67.9%	67.9%	69.4%	70.2%	71.3%	73.1%	73.7%	74.6%	74.7%
AB	73.7%	74.6%	75.5%	75.1%	75.9%	77.3%	77.8%	78.1%	78.5%	79.9%	79.9%
BC	76.2%	76.0%	76.5%	76.7%	77.9%	78.7%	79.1%	80.2%	80.8%	81.1%	81.0%

Source: Statistics Canada

Indicator E-2. Percentage of the population aged 15 years and older with post-secondary credentials

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	38.3%	40.1%	40.7%	41.3%	41.5%	43.0%	43.8%	44.7%	45.1%	46.5%	47.4%
NFLD	33.4%	35.2%	36.5%	37.5%	38.1%	39.3%	40.9%	43.1%	42.2%	43.8%	42.9%
PEI	36.2%	37.2%	37.8%	38.6%	38.6%	41.2%	42.3%	43.3%	45.6%	45.0%	44.9%
NS	40.1%	42.0%	42.7%	43.3%	43.5%	45.5%	44.8%	46.0%	47.4%	47.0%	47.0%
NB	33.2%	34.7%	35.7%	37.7%	37.8%	39.1%	38.7%	39.6%	41.1%	41.2%	42.7%
PQ	39.2%	41.4%	42.0%	42.3%	42.5%	43.7%	45.2%	46.7%	47.2%	48.9%	50.0%
ON	38.4%	40.6%	40.8%	41.8%	42.3%	43.9%	44.7%	45.4%	45.9%	47.7%	48.9%
MB	33.3%	34.7%	36.3%	37.1%	36.8%	37.6%	37.7%	38.4%	38.4%	39.1%	39.2%
SK	31.8%	33.1%	34.7%	34.8%	35.3%	36.4%	37.0%	39.3%	38.7%	39.5%	39.8%
AB	40.2%	41.7%	42.9%	42.5%	42.2%	44.8%	45.3%	44.7%	44.5%	46.2%	46.3%
BC	40.0%	41.0%	41.3%	41.9%	41.8%	42.6%	42.8%	43.6%	44.5%	45.0%	45.5%

Source: Statistics Canada

Indicator E-3. Canada-wide rank of 16-year old achievement in science

	1996 rank	1999 rank	2004 rank
Newfoundland and Labrador	4	5	2
Prince Edward Island	6	2	9
Nova Scotia	10	6	7
New Brunswick	9	9	9
Quebec	8	4	5
Ontario	6	10	2
Manitoba	2	3	6
Saskatchewan	3	8	8
Alberta	1	1	1
British Columbia	5	6	4

Source: Council of Ministers of Education, Canada

Indicator E-4, table a. Total bachelor degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	652.6	644.3	633.8	609.0	591.3	586.1	585.9	581.9	596.3	622.5	642.7
NFLD	541.2	506.6	585.4	593.4	609.3	619.7	574.9	577.5	575.0	591.6	607.2
PEI	538.7	553.4	484.4	528.5	376.4	489.7	475.4	537.3	478.8	539.5	569.0
NS	940.0	905.5	876.7	877.9	890.2	854.0	854.8	819.9	833.1	913.2	954.2
NB	600.2	614.4	652.9	634.3	594.5	580.7	578.1	587.0	628.1	644.0	686.1
PQ	840.1	820.0	794.7	744.7	693.0	686.9	663.4	663.6	694.9	726.2	756.3
ON	646.1	647.3	644.9	616.1	607.0	591.4	595.7	592.4	598.0	628.9	652.7
MB	642.9	638.2	604.3	586.2	559.2	535.3	525.6	528.3	519.1	564.2	598.1
SK	577.8	608.1	601.7	554.1	562.4	575.9	604.9	595.5	600.9	613.7	602.6
AB	491.3	483.6	483.8	490.1	481.0	486.4	492.9	511.5	539.5	557.3	565.7
BC	413.4	401.0	383.9	389.8	400.3	423.7	452.4	424.7	434.3	433.8	431.4

* 2004 is the latest year for which information is available.

Source: Statistics Canada

Indicator E-4, table b. Total bachelor degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	150,363	150,306	149,736	145,734	143,079	143,493	145,347	146,433	152,334	161,169	168,651
NFLD	2,466	2,295	2,634	2,646	2,679	2,709	2,502	2,499	2,487	2,565	2,637
PEI	561	582	516	567	405	531	519	591	531	603	642
NS	6,978	6,747	6,570	6,609	6,723	6,492	6,525	6,279	6,429	7,095	7,461
NB	3,606	3,708	3,963	3,867	3,630	3,561	3,561	3,630	3,903	4,023	4,308
PQ	48,624	47,790	46,620	44,007	41,196	41,136	40,056	40,425	42,732	45,084	47,442
ON	55,644	56,448	56,940	55,206	55,149	54,534	55,950	56,805	58,527	62,613	66,042
MB	5,640	5,631	5,364	5,223	5,001	4,821	4,767	4,824	4,773	5,232	5,604
SK	4,470	4,743	4,734	4,371	4,452	4,569	4,791	4,707	4,749	4,866	4,800
AB	10,194	10,197	10,401	10,794	10,908	11,295	11,709	12,429	13,434	14,133	14,610
BC	12,174	12,168	11,991	12,444	12,933	13,848	14,958	14,244	14,766	14,955	15,105

* 2004 is the latest year for which information is available. Source: Statistics Canada

Indicator E-5, table a. Total graduate degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	118.0	116.9	117.8	115.5	117.3	120.4	123.9	123.4	129.7	141.6	150.4
NFLD	56.0	61.6	60.7	67.9	72.3	92.0	98.6	83.9	95.0	94.1	123.0
PEI	8.6	-	8.4	5.6	-	11.1	13.7	13.6	24.3	21.5	29.2
NS	151.5	153.0	141.3	142.3	130.3	164.2	145.4	161.4	167.2	193.8	240.9
NB	66.4	73.1	76.6	73.3	65.3	68.0	76.0	74.2	76.3	78.3	93.2
PQ	159.4	155.6	164.2	162.1	166.1	164.1	178.7	176.1	183.4	204.5	219.5
ON	121.1	117.8	120.0	114.0	116.6	119.2	118.3	118.1	123.2	131.8	139.3
MB	73.5	77.5	75.0	75.1	71.1	69.0	63.2	62.8	82.5	61.1	69.2
SK	71.4	88.1	84.3	81.8	81.1	80.5	86.7	87.7	86.5	91.2	92.3
AB	100.5	98.5	85.7	91.7	92.5	97.5	98.5	109.4	117.0	120.8	131.7
BC	84.1	86.2	84.0	83.7	88.1	93.9	97.2	89.3	95.0	117.8	108.5

\- Nil or less than 5 Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-5, table b. Total graduate degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	27,195	27,261	27,834	27,639	28,395	29,487	30,741	31,047	33,126	36,663	39,480
NFLD	255	279	273	303	318	402	429	363	411	408	534
PEI	9	3	9	6	3	12	15	15	27	24	33
NS	1,125	1,140	1,059	1,071	984	1,248	1,110	1,236	1,290	1,506	1,884
NB	399	441	465	447	399	417	468	459	474	489	585
PQ	9,228	9,069	9,633	9,582	9,873	9,825	10,791	10,728	11,277	12,699	13,770
ON	10,425	10,269	10,593	10,218	10,599	10,989	11,115	11,328	12,060	13,122	14,097
MB	645	684	666	669	636	621	573	573	759	567	648
SK	552	687	663	645	642	639	687	693	684	723	735
AB	2,085	2,076	1,842	2,019	2,097	2,265	2,340	2,658	2,913	3,063	3,402
BC	2,478	2,616	2,625	2,673	2,847	3,069	3,213	2,994	3,231	4,062	3,801

* 2004 is the latest year for which information is available. Source: Statistics Canada

Indicator E-6 (a), table a. Architecture, Engineering and related technology bachelor degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	43.1	43.6	43.6	41.2	41.3	40.2	41.3	42.2	43.2	46.5	47.1
NFLD	27.0	30.5	28.0	28.3	30.0	30.9	29.0	37.4	41.6	50.5	56.0
PEI	23.0	31.4	11.3	11.2	13.9	-	-	27.3	13.5	18.8	26.6
NS	88.5	84.6	89.3	95.6	84.6	72.6	61.7	56.4	56.8	65.6	62.5
NB	41.9	47.7	45.5	46.7	60.9	39.1	42.4	38.3	32.3	32.7	34.9
PQ	59.1	57.6	55.6	50.8	50.7	51.5	49.5	52.7	51.0	54.9	59.3
ON	43.8	46.0	47.3	44.1	44.2	42.2	44.6	45.6	49.0	52.7	52.2
MB	24.3	25.2	27.0	24.9	27.2	23.7	22.8	24.3	24.8	24.3	28.5
SK	29.9	31.5	33.6	34.2	32.6	34.8	43.6	44.0	44.8	48.1	45.2
AB	32.5	30.9	33.8	31.6	32.8	32.2	37.5	37.4	41.3	43.9	39.8
BC	18.5	20.0	17.6	17.8	17.5	21.8	23.1	21.0	19.5	20.8	20.4

\- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-6 (a), table b. Architecture, Engineering and related technology bachelor degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	9,924	10,182	10,305	9,855	9,993	9,855	10,239	10,620	11,046	12,045	12,348
NFLD	123	138	126	126	132	135	126	162	180	219	243
PEI	24	33	12	12	15	-	-	30	15	21	30
NS	657	630	669	720	639	552	471	432	438	510	489
NB	252	288	276	285	372	240	261	237	201	204	219
PQ	3,423	3,357	3,264	3,003	3,012	3,087	2,988	3,210	3,135	3,411	3,720
ON	3,774	4,014	4,179	3,948	4,017	3,894	4,185	4,368	4,800	5,250	5,277
MB	213	222	240	222	243	213	207	222	228	225	267
SK	231	246	264	270	258	276	345	348	354	381	360
AB	675	651	726	696	744	747	891	909	1,029	1,113	1,029
BC	546	606	549	567	567	714	765	705	663	717	714

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-6 (b), table a. Architecture, Engineering and related technology graduate degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	13.3	13.3	12.9	12.8	12.5	12.0	12.4	12.6	14.3	16.5	19.2
NFLD	4.0	4.6	7.3	8.1	12.3	9.6	6.9	7.6	7.6	9.0	8.3
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	7.3	9.3	9.6	11.6	8.7	11.0	8.6	14.1	16.3	15.8	26.1
NB	10.5	11.4	9.9	12.8	7.4	7.3	9.3	7.8	6.8	9.1	12.4
PQ	17.5	17.6	16.6	16.8	16.1	15.3	18.3	16.7	17.5	22.2	26.5
ON	13.8	13.2	12.9	12.2	12.2	11.8	11.5	12.3	14.7	17.3	19.5
MB	12.3	14.6	14.5	16.8	15.8	12.0	10.3	11.5	19.9	10.7	14.7
SK	8.9	12.3	11.8	11.0	11.0	9.5	9.8	10.2	10.2	10.2	12.1
AB	13.9	12.4	11.2	10.8	10.2	11.5	10.2	11.9	14.6	15.9	19.1
BC	9.5	9.5	9.8	9.4	10.7	9.6	9.6	8.9	9.2	11.0	10.3

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-6 (b), table b. Architecture, Engineering and related technology graduate degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	3,072	3,114	3,039	3,057	3,033	2,946	3,066	3,159	3,663	4,272	5,046
NFLD	18	21	33	36	54	42	30	33	33	39	36
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	54	69	72	87	66	84	66	108	126	123	204
NB	63	69	60	78	45	45	57	48	42	57	78
PQ	1,011	1,023	972	990	957	918	1,107	1,017	1,077	1,377	1,665
ON	1,188	1,155	1,137	1,092	1,107	1,089	1,080	1,176	1,443	1,722	1,974
MB	108	129	129	150	141	108	93	105	183	99	138
SK	69	96	93	87	87	75	78	81	81	81	96
AB	288	261	240	237	231	267	243	288	363	402	492
BC	279	288	306	300	345	315	318	297	312	378	360

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-7 (a), table a. Mathematics, Computer and Information Sciences bachelor degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	23.8	25.0	23.6	23.2	23.1	25.3	28.3	29.7	31.9	33.2	33.1
NFLD	15.8	15.9	20.0	26.9	23.9	26.1	18.6	30.5	27.7	24.9	18.0
PEI	8.6	5.7	2.8	11.2	-	8.3	5.5	8.2	13.5	10.7	13.3
NS	30.3	31.0	35.2	33.9	33.0	34.3	36.2	30.9	33.8	41.3	40.7
NB	20.0	19.9	20.3	18.2	19.7	22.5	22.4	30.6	33.8	32.7	31.5
PQ	29.1	30.1	27.1	27.8	27.5	31.9	34.9	34.7	34.9	32.9	29.2
ON	26.5	27.6	26.6	25.7	25.8	27.5	31.1	33.7	38.1	40.2	42.3
MB	30.4	30.9	26.7	24.2	24.2	22.0	24.1	21.4	16.0	14.9	19.5
SK	25.2	25.8	24.0	20.5	23.1	24.6	33.3	33.8	35.7	29.5	27.9
AB	13.6	16.1	15.1	14.0	14.2	16.3	15.4	20.0	20.6	23.4	24.7
BC	11.4	14.5	13.2	12.6	13.3	14.0	19.0	18.4	20.8	27.8	26.3

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-7 (a), table b. Mathematics, Computer and Information Sciences bachelor degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	5,475	5,835	5,583	5,541	5,595	6,192	7,008	7,479	8,139	8,607	8,688
NFLD	72	72	90	120	105	114	81	132	120	108	78
PEI	9	6	3	12	-	9	6	9	15	12	15
NS	225	231	264	255	249	261	276	237	261	321	318
NB	120	120	123	111	120	138	138	189	210	204	198
PQ	1,683	1,752	1,590	1,641	1,635	1,908	2,109	2,112	2,148	2,040	1,833
ON	2,286	2,406	2,352	2,307	2,343	2,538	2,925	3,231	3,732	3,999	4,284
MB	267	273	237	216	216	198	219	195	147	138	183
SK	195	201	189	162	183	195	264	267	282	234	222
AB	282	339	324	309	321	378	366	486	513	594	639
BC	336	441	411	402	429	456	627	618	708	960	921

- Nil or zero
Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-7 (b), table a. Mathematics, Computer and Information Sciences graduate degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	5.9	5.8	6.0	5.5	5.7	6.2	5.8	6.2	7.2	7.8	9.1
NFLD	1.3	1.3	1.3	-	1.4	2.1	2.1	2.1	2.1	2.8	2.1
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	6.9	9.3	8.4	7.2	7.9	22.9	12.2	8.6	9.7	12.0	14.2
NB	3.0	3.5	2.5	3.0	4.9	4.9	4.4	4.4	6.8	6.7	4.3
PQ	6.9	6.6	7.6	7.9	7.3	7.8	8.3	9.1	10.2	11.0	11.7
ON	6.3	6.4	6.6	5.7	5.7	5.9	5.7	6.1	7.1	7.7	9.4
MB	3.4	2.7	2.7	2.4	2.7	2.7	2.6	1.3	1.6	1.9	2.6
SK	4.7	3.8	3.4	3.0	4.5	3.4	4.2	2.7	3.8	3.0	4.9
AB	5.6	5.4	4.3	4.0	4.8	3.9	3.7	4.3	5.8	6.7	9.3
BC	5.0	4.8	5.0	4.2	4.6	4.9	3.8	5.8	6.2	6.5	7.1

- Nil or zero
Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-7 (b), table b. Mathematics, Computer and Information Sciences graduate degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	1,353	1,356	1,413	1,326	1,368	1,521	1,440	1,572	1,851	2,028	2,379
NFLD	6	6	6	3	6	9	9	9	9	12	9
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	51	69	63	54	60	174	93	66	75	93	111
NB	18	21	15	18	30	30	27	27	42	42	27
PQ	399	384	447	468	435	465	504	555	627	684	732
ON	546	561	579	513	522	543	537	585	696	762	948
MB	30	24	24	21	24	24	24	12	15	18	24
SK	36	30	27	24	36	27	33	21	30	24	39
AB	117	114	93	87	108	90	87	105	144	171	240
BC	147	147	156	135	150	159	126	195	210	225	249

- Nil or zero
Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-8 (a), table a. Physical and Life Sciences bachelor degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	45.7	47.1	49.9	51.5	52.3	48.3	48.1	47.3	44.2	44.5	45.1
NFLD	49.4	53.0	57.3	67.3	86.0	78.9	74.4	62.4	59.6	56.1	56.0
PEI	57.6	59.9	59.1	75.5	61.3	88.5	82.4	76.4	48.7	64.4	87.7
NS	92.9	93.0	98.9	101.6	108.8	91.6	80.6	78.0	74.6	82.6	82.1
NB	39.0	47.2	51.4	51.2	56.5	58.2	48.7	40.8	42.5	43.7	44.9
PQ	47.1	45.1	48.3	49.7	48.0	34.2	34.8	33.4	33.1	28.8	30.4
ON	46.7	50.3	52.9	55.4	55.8	54.6	55.4	54.8	49.7	51.9	51.5
MB	51.0	54.7	61.5	57.6	59.7	56.6	55.2	70.3	49.3	54.0	51.9
SK	27.9	29.6	30.5	33.5	34.5	41.2	36.7	33.8	31.1	34.8	32.4
AB	40.2	38.3	46.2	47.3	48.3	47.0	42.9	44.8	46.9	47.6	50.5
BC	36.2	38.7	36.4	36.1	37.6	40.6	44.9	41.7	40.2	39.2	39.8

* 2004 is the latest year for which information is available.
Source: Statistics Canada

Indicator E-8 (a), table b. Physical and Life Sciences bachelor degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	10,521	10,989	11,790	12,324	12,651	11,826	11,925	11,892	11,286	11,520	11,823
NFLD	225	240	258	300	378	345	324	270	258	243	243
PEI	60	63	63	81	66	96	90	84	54	72	99
NS	690	693	741	765	822	696	615	597	576	642	642
NB	234	285	312	312	345	357	300	252	264	273	282
PQ	2,724	2,631	2,832	2,934	2,856	2,046	2,103	2,034	2,034	1,785	1,908
ON	4,023	4,383	4,668	4,968	5,070	5,034	5,202	5,253	4,863	5,169	5,208
MB	447	483	546	513	534	510	501	642	453	501	486
SK	216	231	240	264	273	327	291	267	246	276	258
AB	834	807	993	1,041	1,095	1,092	1,020	1,089	1,167	1,206	1,305
BC	1,065	1,173	1,137	1,152	1,215	1,326	1,485	1,398	1,368	1,350	1,395

* 2004 is the latest year for which information is available. Source: Statistics Canada

Indicator E-8 (b), table a. Physical and Life Sciences graduate degrees awarded per 100,000 persons aged 15 years and older*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	11.3	11.4	12.0	11.9	12.0	11.3	11.3	11.6	11.7	12.2	12.8
NFLD	11.2	13.2	14.7	15.5	18.4	20.6	20.0	6.9	6.9	8.3	12.4
PEI	-	-	-	-	2.8	-	-	-	-	-	-
NS	11.3	12.1	14.8	13.5	15.9	11.0	8.6	12.1	10.9	12.0	15.0
NB	6.5	4.0	7.4	4.4	5.4	5.9	5.8	7.3	5.3	5.8	8.1
PQ	13.8	13.9	14.6	14.9	14.6	14.5	14.5	16.0	15.9	17.3	17.6
ON	12.2	12.2	12.9	12.9	12.2	11.3	11.1	11.8	11.8	12.0	12.7
MB	8.5	8.2	8.8	10.1	9.1	8.3	8.9	6.6	10.1	7.1	8.6
SK	5.4	9.2	8.8	6.8	9.5	9.8	8.7	8.0	9.1	8.7	7.5
AB	9.5	9.0	8.5	8.7	8.7	9.3	9.9	9.1	9.5	10.9	9.3
BC	8.8	9.6	9.4	9.2	10.2	8.7	9.4	8.9	8.9	9.4	10.5

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-8 (b), table b. Physical and Life Sciences graduate degrees awarded*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	2,598	2,670	2,844	2,859	2,901	2,778	2,802	2,916	2,994	3,165	3,363
NFLD	51	60	66	69	81	90	87	30	30	36	54
PEI	-	-	-	-	3	-	-	-	-	-	-
NS	84	90	111	102	120	84	66	93	84	93	117
NB	39	24	45	27	33	36	36	45	33	36	51
PQ	801	813	855	879	870	870	873	972	978	1,074	1,107
ON	1,047	1,062	1,143	1,152	1,110	1,044	1,044	1,128	1,158	1,191	1,287
MB	75	72	78	90	81	75	81	60	93	66	81
SK	42	72	69	54	75	78	69	63	72	69	60
AB	198	189	183	192	198	216	234	222	237	276	240
BC	258	291	294	294	330	285	312	300	303	324	366

- Nil or zero Source: Statistics Canada
* 2004 is the latest year for which information is available.

Indicator E-9. Percentage of households with home computers

	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	39.8	45.0	49.8	54.9	59.8	64.1	66.6	68.7	72.0
NFLD	28.1	34.4	38.6	41.7	48.8	50.6	51.3	55.2	60.8
PEI	26.9	32.6	39.6	40.3	48.5	52.3	57.3	63.3	65.6
NS	32.8	37.2	42.1	47.8	56.1	57.7	61.1	63.5	66.8
NB	30.2	32.1	37.4	44.0	48.3	49.3	53.2	57.9	61.8
PQ	32.1	38.4	42.2	44.8	50.9	56.8	59.2	61.4	65.7
ON	44.1	48.9	54.6	60.6	66.2	68.4	71.7	72.6	75.8
MB	32.6	40.9	44.2	47.6	51.2	56.4	60.5	65.1	65.5
SK	35.1	37.3	42.3	48.4	51.4	57.5	60.3	63.3	68.9
AB	46.2	50.7	57.9	61.2	65.9	70.4	72.3	73.5	76.8
BC	46.9	51.8	54.5	63.1	64.2	71.4	71.9	75.2	76.8

Source: Statistics Canada

Indicator E-10. Percentage of households with Internet access from the home (%)*

	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	17.4	24.7	33.1	42.3	49.9	54.5	56.9	59.8	64.3
NFLD	13.6	21.0	23.4	29.4	39.6	39.9	40.3	44.6	52.1
PEI	13.8	18.1	27.3	31.9	39.7	42.3	48.9	51.5	58.0
NS	16.6	20.7	28.0	36.8	45.5	47.9	52.4	55.4	59.3
NB	15.8	20.0	25.0	33.1	40.1	41.6	44.7	47.1	52.7
PQ	10.9	18.8	24.3	33.0	40.8	46.1	47.8	50.0	55.5
ON	20.0	27.2	37.8	47.5	57.1	58.9	63.0	65.0	69.4
MB	13.6	21.7	27.3	35.7	42.1	47.0	50.0	54.6	57.6
SK	12.9	20.0	27.6	35.9	40.6	48.0	51.3	54.7	61.7
AB	19.9	29.6	40.5	48.7	55.4	60.5	61.2	66.0	69.2
BC	24.3	30.3	39.1	49.5	52.3	63.6	63.2	67.5	70.5

Source: Statistics Canada

Indicator E-11. Percentage of small businesses using the Internet

	1998	1999	2000	2001	2002	2003	2004	2005	2006
CAN	52.1	65.1	69.5	72.5	73.2	79.6	82.0	84.2	85.8
NFLD	43.9	57.9	51.5	53.8	68.3	71.1	72.0	84.4	81.8
PEI	54.0	69.1	70.4	78.0	80.4	85.3	89.0	85.9	86.2
NS	57.4	65.6	74.5	76.1	71.5	80.0	85.0	79.4	87.3
NB	48.7	61.7	66.9	69.8	70.3	78.9	79.0	85.7	81.9
PQ	36.1	53.0	59.8	63.0	67.1	72.8	75.0	77.4	81.6
ON	57.6	68.8	75.1	77.0	75.1	82.5	86.0	88.4	88.4
MB	51.0	62.0	66.7	75.8	73.7	81.1	85.0	88.8	89.5
SK	48.6	63.7	65.1	63.2	70.0	76.7	77.0	75.6	88.4
AB	56.2	72.2	71.8	77.8	79.3	84.2	88.0	87.8	85.3
BC	58.3	69.0	72.2	76.0	77.6	82.7	85.0	86.8	86.3

Source: Canadian Federation of Independent Business

Indicator E-12. Gross income from technology licenses at G-10 universities (in $ thousands CDN)*

INSTITUTION	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
U of Toronto	3,084	3,344	2,216	2,219	1,332	2,747	2,985	1,889	2,955	3,115	1,697
McMaster U	-	-	-	-	-	412	918	731	887	976	1,527
U of Western Ontario	15	11	63	63	66	32	206	812	394	1,089	4,363
Queens U	547	1,304	765	766	1,006	8,019	4,201	4,372	4,874	6,168	895
U of Waterloo	1,781	1,735	1,166	2,197	684	619	1,172	812	827	811	778
U of Montreal	-	-	-	-	-	418	4,289	548	847	1,877	-
McGill U	-	-	-	-	-	714	9,927	1,528	2,046	1,515	1,579
U Laval	-	-	-	-	-	-	169	229	179	280	352
U of Alberta	988	4,189	4,213	4,218	3,640	1,616	7,621	2,109	1,470	1,090	1,054
U of BC	1,274	743	1,194	1,196	1,252	4,156	8,657	11,890	13,669	14,254	15,986

note: The University of Western Ontario includes Lawson Health Research Institute and Robarts Research Institute.
McMaster University includes Hamilton Health Science & St. Joseph's Healthcare Hamilton.

- Data not available

Source: Association of University Technology Managers

* 2005 is the latest year for which information is available.

Table 10. Licenses and Options yielding income at selected Canadian G-10 universities (actual)*

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Queens	21	32	19	19	27	28	29	29	31	35	43
U of Toronto	29	37	53	53	21	27	36	21	45	32	53
U of Western Ontario	2	4	16	16	16	7	28	46	17	31	41
U of Alberta	22	24	41	41	20	30	36	40	42	46	32
U of BC	46	48	59	59	55	70	71	73	65	90	91

note: The University of Western Ontario includes Lawson Health Research Institute and Robarts Research Institute.

* 2005 is the latest year for which information is available.

Source: Association of University Technology Managers

Table 11. Gross income per technology license at selected G-10 universities (in $ thousands CDN)*

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Queens U	26	41	40	40	37	286	145	151	157	176	21
U of Toronto	106	90	42	42	63	102	83	90	66	97	32
U of Western Ontario	8	3	4	4	4	5	7	18	23	35	106
U of Alberta	45	175	103	103	182	54	212	53	35	24	33
U of BC	28	15	20	20	23	59	122	163	210	158	176

note: The University of Western Ontario includes Lawson Health Research Institute and Robarts Research Institute.

* 2005 is the latest year for which information is available. Source: Association of University Technology Managers

Indicator E-13. Number of US patents issued to G-10 universities (actual)*

INSTITUTION	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
U of Toronto	3	5	7	7	6	13	13	11	3	4	8
McMaster U	-	-	-	0	2	2	1	5	3	7	2
U of Western Ont.	3	4	5	5	4	3	3	1	4	7	8
Queens U	11	8	3	3	12	19	17	17	14	7	8
U of Waterloo	11	8	9	6	6	5	4	2	6	0	0
U of Montreal	-	-	-	4	13	12	11	17	11	4	-
McGill U	-	-	-	-	17	20	28	19	45	30	10
U of Laval	-	-	-	-	-	-	5	9	8	11	3
U of Alberta	8	13	12	12	11	12	13	18	11	13	10
U of BC	16	26	18	22	50	23	29	29	19	18	25

note: The University of Western Ontario includes Lawson Health Research Institute and Robarts Research Institute.
McMaster University includes Hamilton Health Science & St. Joseph's Healthcare Hamilton.

- Data not available Source: Association of University Technology Managers

* 2005 is the latest year for which information is available.

Indicator E-14. Number of university start-up companies formed (actual)*

INSTITUTION	2003	2004	2005
U of Toronto	7	5	3
McMaster U	0	0	2
U of Western Ont.	0	1	5
Queens U	0	6	3
U of Waterloo	13	7	2
U of Montreal	3	2	-
McGill U	5	5	1
U of Laval	3	0	0
U of Alberta	4	3	2
U of BC	4	2	2

note: The University of Western Ontario includes Lawson Health Research Institute and Robarts Research Institute.
McMaster University includes Hamilton Health Science & St. Joseph's Healthcare Hamilton.

- Data not available Source: Association of University Technology Managers

* 2005 is the latest year for which information is available.

Table 12. Simon Fraser University gross income from technology licenses (in $ '000 CDN), US patents issued and start-up companies formed*

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Technology License Income ('000)	-	-	-	-	-	256	263	735	86	152	343
US Patents Issued	2	3	2	2	5	3	3	4	4	3	10
Start-Up companies formed	-	-	-	-	-	-	-	-	4	3	1

- Data not available Source: Association of University Technology Managers

* 2005 is the latest year for which information is available.

Table 13. University of Victoria gross income from technology licenses (in $ '000 CDN) and US patents issued and start-up companies formed *

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Technology License Income ('000)	-	-	-	-	-	-	-	-	130	151	178
US Patents Issued	-	-	-	-	-	-	-	-	0	4	3
Start-Up companies formed	-	-	-	-	-	-	-	-	0	0	2

- Data not available

Source: Association of University Technology Managers

* 2005 is the latest year for which information is available.

Indicator E-15. Ratio of higher education performance of R&D to GDP (%)*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	0.49	0.47	0.45	0.45	0.49	0.52	0.54	0.59	0.65	0.68	0.71
NFLD	0.57	0.54	0.55	0.59	0.64	0.65	0.60	0.63	0.58	0.63	0.59
PEI	0.16	0.15	0.14	0.18	0.37	0.35	0.45	0.44	0.51	0.66	0.60
NS	0.61	0.61	0.60	0.62	0.77	0.88	0.82	0.81	0.84	0.91	0.90
NB	0.36	0.35	0.34	0.35	0.46	0.47	0.45	0.44	0.48	0.55	0.50
PQ	0.67	0.63	0.62	0.61	0.65	0.73	0.72	0.77	0.86	0.94	0.93
ON	0.48	0.45	0.44	0.44	0.46	0.47	0.53	0.57	0.63	0.65	0.74
MB	0.49	0.46	0.44	0.40	0.47	0.55	0.61	0.63	0.66	0.67	0.70
SK	0.44	0.43	0.39	0.41	0.47	0.57	0.67	0.71	0.75	0.67	0.61
AB	0.36	0.37	0.34	0.34	0.39	0.43	0.39	0.45	0.50	0.50	0.50
BC	0.34	0.34	0.33	0.32	0.34	0.37	0.39	0.43	0.54	0.56	0.55

* 2005 is the latest year for which information is available.

Source: Statistics Canada

Business Indicators

Indicator B-1. Patents awarded per 100,000 population*

	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	2.73	4.34	3.64	4.01	3.86	4.06	4.57	4.63
NFLD	0.74	1.12	0.57	0.77	0.77	0.96	0.77	0.78
PEI	0.74	1.47	1.47	0.73	0.73	0.73	0.73	2.17
NS	0.43	1.18	0.64	0.86	1.82	1.39	1.28	2.03
NB	1.87	2.26	1.07	1.33	1.33	2.00	1.73	1.33
PQ	2.80	4.14	3.91	4.31	4.27	4.83	4.50	4.37
ON	3.31	5.62	4.24	4.49	4.05	3.88	4.78	4.67
MB	1.76	2.80	2.09	2.52	2.94	3.79	3.25	3.92
SK	3.24	3.25	3.27	2.70	2.61	2.51	4.93	6.16
AB	3.10	5.55	5.09	6.08	6.26	6.77	8.61	8.94
BC	1.91	2.57	2.57	3.09	2.79	3.18	3.05	3.31

* 2005 is the latest year for which information is available.

Source: Canadian Intellectual Property Office

Indicator B-2. Patents granted as a percent of patent applications*

	2000	2001	2002	2003	2004	2005
CANADA	25	26	24	25	27	29
NFLD	13	25	20	24	19	20
PEI	29	13	20	25	20	60
NS	18	14	29	22	24	31
NB	18	19	17	37	24	24
PQ	23	22	22	27	23	24
ON	27	27	24	21	27	27
MB	19	28	31	47	37	36
SK	36	19	22	26	40	47
AB	26	32	33	30	35	38
BC	24	26	20	23	22	26

* 2005 is the latest year for which information is available.
Source: Canadian Intellectual Property Office

Indicator B-3. Entrepreneurial activity by region*

	2000	2001	2002	2003
British Columbia	-	-	12	10
Prairies Provinces	-	-	10	10
Ontario	-	-	10	7
Quebec	-	-	6	7
Atlantic Provinces	-	-	3	7
Canada	12	11	9	8

* 2003 is the latest year for which information is available.
- Data not available

Source: Global Entrepreneurship Monitor

Indicators B-4, B-5 and B-6. Number of establishments, entries, exits, and high growth companies

Total BC Economy

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Establishments	153,289	154,027	154,944	157,371	157,421	157,652	158,470	158,421	162,732	167,845
Entries	n/a	26,533	24,005	23,533	21,536	21,560	21,663	20,883	23,861	25,078
Exits	n/a	25,795	23,088	21,106	21,486	21,329	20,845	20,932	19,550	19,965
High Growth Companies	n/a	2,286	2,590	4,903	2,441	2,318	2,524	2,772	2,745	2,814

High Technology Sector

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Establishments	6,243	6,866	7,423	8,100	8,352	8,252	8,307	8,369	8,748	9,018
Entries	n/a	2,039	1,718	1,854	1,755	1,588	1,476	1,435	1,665	1,823
Exits	n/a	1,416	1,161	1,177	1,503	1,688	1,421	1,373	1,286	1,553
High Growth Companies	n/a	118	187	277	170	129	131	141	159	159

Source: Statistics Canada

Indicator B-7. Canadian venture capital investment by province of investment ($ million)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	1,045	1,679	1,495	2,491	5,269	3,800	2,529	1,674	1,839	1,678	1,695
ATLANTIC	27	22	34	61	75	49	34	55	37	36	32
PQ	325	546	630	727	1,410	984	720	621	620	552	603
ON	467	704	531	1,257	2,939	2,107	1,304	760	844	755	686
MB	39	88	26	46	39	44	34	28	23	11	25
SK	42	51	34	21	23	14	48	23	36	29	17
AB	42	61	93	129	243	88	87	77	26	65	34
BC	103	207	147	250	540	514	302	110	253	230	298

Source: Canadian Venture Capital Association

Indicator B-8. Proportional share of Canadian venture capital investment

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
ATLANTIC	2.7	1.3	2.3	2.5	1.4	1.3	1.3	3.3	2.0	2.1	1.9
PQ	32.5	32.5	42.2	29.2	26.1	25.9	28.5	37.1	33.7	32.9	35.6
ON	46.7	41.9	35.5	50.5	54.5	55.4	51.6	45.4	45.9	45.0	40.5
MB	3.9	5.2	1.7	1.8	0.7	1.2	1.3	1.7	1.3	0.7	1.5
SK	4.2	3.0	2.3	0.8	0.4	0.4	1.9	1.4	2.0	1.7	1.0
AB	4.2	3.6	6.2	5.2	4.5	2.3	3.4	4.6	1.4	3.9	2.0
BC	10.3	12.3	9.8	10.0	10.0	13.5	11.9	6.6	13.8	13.7	17.6

Source: Canadian Venture Capital Association

Table 14. Canadian venture capital investment per capita ($)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	35.43	60.89	54.91	89.46	216.01	122.50	80.61	80.61	52.86	57.48	51.97
ATLANTIC	11.35	9.27	14.42	25.91	31.93	20.93	14.52	23.47	15.78	15.39	13.72
PQ	44.85	75.06	86.35	99.27	191.65	133.03	96.70	82.86	82.13	72.65	78.81
ON	42.14	62.70	46.71	109.24	251.51	177.09	107.75	61.98	67.97	60.12	54.07
MB	34.39	77.46	22.86	40.26	33.99	38.22	29.42	24.10	19.65	9.37	21.23
SK	41.21	50.09	33.42	20.70	22.82	14.00	48.20	23.12	36.18	29.29	17.25
AB	15.13	21.55	32.08	43.68	80.87	28.79	27.92	24.36	8.11	19.83	10.07
BC	26.59	52.42	36.91	62.32	133.69	126.03	73.38	26.47	60.19	54.02	69.13

Source: Canadian Venture Capital Association

Table 15. Canadian total component investment in scientific and research development ($1997 million, chained)

1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
185.0	235.4	277.3	367.8	491.3	737.1	503.5	409.0	526.7	636.9	795.8

Source: Statistics Canada

Indicator B-9. Ratio of business performance of R&D to GDP (%)*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	0.98	0.99	0.96	0.99	1.06	1.06	1.15	1.29	1.17	1.13	1.12
NFLD	0.12	0.10	0.16	0.13	0.15	0.15	0.14	0.15	0.13	0.14	0.13
PEI	0.08	0.11	0.11	0.07	0.10	0.09	0.15	0.17	0.11	0.18	0.15
NS	0.33	0.33	0.28	0.27	0.29	0.27	0.27	0.35	0.35	0.27	0.30
NB	0.32	0.32	0.35	0.21	0.22	0.20	0.20	0.22	0.30	0.28	0.32
PQ	1.21	1.28	1.33	1.34	1.41	1.45	1.62	1.80	1.71	1.66	1.64
ON	1.32	1.31	1.26	1.34	1.43	1.42	1.56	1.74	1.48	1.47	1.44
MB	0.39	0.36	0.33	0.30	0.33	0.46	0.39	0.49	0.41	0.36	0.41
SK	0.29	0.28	0.20	0.28	0.25	0.25	0.22	0.26	0.33	0.23	0.28
AB	0.58	0.53	0.53	0.51	0.58	0.42	0.40	0.47	0.52	0.46	0.47
BC	0.59	0.57	0.49	0.49	0.53	0.59	0.74	0.81	0.79	0.77	0.83

* 2004 is the latest year for which information is available.

Source: Statistics Canada

Government Indicators

Indicator G-1. Index of all taxes paid by unattached individuals earning $80,000 per year ($)

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NFLD	32,294	32,206	31,824	30,590	29,194	28,991	28,662	28,169	28,281	29,120	28,687
PEI	29,771	30,142	29,723	28,859	26,986	26,785	26,299	25,855	25,938	26,427	25,956
NS	30,029	30,385	29,170	28,491	27,893	27,693	26,685	26,189	26,301	27,479	27,453
NB	29,452	29,587	29,120	28,430	27,378	26,981	25,558	25,010	25,115	25,377	25,482
PQ	36,941	37,025	36,459	35,510	35,938	34,402	33,147	32,691	32,741	33,779	33,024
ON	31,259	30,559	30,281	29,258	27,022	26,533	25,688	25,667	25,667	25,943	25,369
MB	33,024	32,978	32,338	31,266	30,034	29,607	29,863	28,127	28,127	27,112	26,437
SK	30,857	31,744	30,750	29,952	27,480	27,098	25,124	24,711	24,825	26,041	25,952
AB	27,378	27,132	26,528	25,626	23,220	22,977	22,895	22,334	22,212	21,710	21,272
BC	28,558	28,287	28,041	27,295	25,452	23,628	22,892	22,261	22,063	21,497	20,731

Source: BC Ministry of Finance

Indicator G-2. Small business tax rate

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NFLD	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
PEI	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	5.4
NS	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
NB	7.0	7.0	6.0	6.0	4.5	4.0	3.0	3.0	2.5	2.0	1.0
PQ	5.8	5.9	9.2	8.9	9.0	9.0	9.0	8.9	8.9	8.9	8.0
ON	9.5	9.5	8.5	7.0	7.0	6.0	5.5	5.5	5.5	5.5	5.5
MB	9.0	9.0	9.0	7.0	7.0	5.0	5.0	5.0	5.0	4.5	3.0
SK	8.0	8.0	8.0	8.0	8.0	6.0	6.0	5.5	5.0	5.0	4.5
AB	6.0	6.0	6.0	6.0	6.0	5.0	4.5	4.0	3.0	3.0	3.0
BC	9.0	9.0	5.5	4.8	4.5	4.5	4.5	4.5	4.5	4.5	4.5

Source: BC Ministry of Finance

Indicator G-3. General corporate income tax rate

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
NFLD	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
PEI	15.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
NS	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
NB	17.0	17.0	17.0	17.0	17.0	16.0	13.0	13.0	13.0	13.0	12.0
PQ	8.9	9.2	9.2	9.0	9.0	9.0	9.0	8.9	8.9	8.9	9.9
ON	15.5	15.5	15.5	14.0	14.0	12.5	12.5	14.0	14.0	14.0	14.0
MB	17.0	17.0	17.0	17.0	17.0	16.5	16.0	15.5	15.0	15.0	14.0
SK	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	13.0
AB	15.5	15.5	15.5	15.5	15.5	13.5	13.0	12.5	11.5	11.5	10.0
BC	16.5	16.5	16.5	16.5	16.5	13.5	13.5	13.5	13.5	12.0	12.0

Source: BC Ministry of Finance

Indicator G-4. Combined federal and provincial performance of R&D as a % of GDP*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	0.26	0.24	0.24	0.22	0.21	0.21	0.22	0.22	0.22	0.20	0.19
NFLD	0.36	0.29	0.28	0.26	0.27	0.25	0.25	0.23	0.22	0.15	0.14
PEI	0.44	0.34	0.35	0.36	0.34	0.38	0.48	0.47	0.22	0.32	0.25
NS	0.48	0.43	0.44	0.38	0.39	0.34	0.38	0.29	0.30	0.25	0.29
NB	0.20	0.19	0.20	0.20	0.20	0.19	0.15	0.15	0.24	0.16	0.13
PQ	0.20	0.18	0.18	0.15	0.16	0.16	0.20	0.21	0.21	0.18	0.17
ON	0.35	0.34	0.34	0.30	0.29	0.28	0.28	0.28	0.28	0.28	0.26
MB	0.32	0.27	0.27	0.20	0.16	0.18	0.21	0.23	0.21	0.18	0.19
SK	0.25	0.25	0.21	0.29	0.22	0.22	0.21	0.22	0.18	0.18	0.17
AB	0.16	0.16	0.15	0.13	0.14	0.15	0.13	0.14	0.13	0.11	0.12
BC	0.13	0.10	0.09	0.10	0.09	0.11	0.10	0.09	0.09	0.06	0.07

* 2004 is the latest year for which information is available. Source: Statistics Canada

Indicator G-5. Total expenditures (private and public sector) on R&D as a % of GDP*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	1.73	1.70	1.65	1.66	1.76	1.80	1.91	2.09	2.04	2.01	2.01
NFLD	1.05	0.94	0.99	0.98	1.06	1.04	0.99	1.01	0.93	0.92	0.87
PEI	0.67	0.60	0.60	0.61	0.81	0.82	1.07	1.08	0.84	1.16	0.99
NS	1.42	1.37	1.32	1.26	1.45	1.48	1.47	1.46	1.49	1.42	1.49
NB	0.88	0.85	0.90	0.75	0.88	0.87	0.80	0.80	1.03	0.97	0.95
PQ	2.08	2.10	2.12	2.10	2.22	2.33	2.54	2.77	2.79	2.77	2.74
ON	2.15	2.10	2.05	2.09	2.18	2.17	2.36	2.59	2.39	2.40	2.44
MB	1.20	1.09	1.04	0.90	0.97	1.20	1.21	1.35	1.27	1.22	1.30
SK	0.98	0.96	0.81	0.98	0.94	1.05	1.11	1.20	1.26	1.08	1.05
AB	1.10	1.06	1.02	0.98	1.10	0.99	0.92	1.06	1.15	1.08	1.09
BC	1.06	1.01	0.92	0.91	0.96	1.07	1.23	1.32	1.42	1.40	1.45

* 2004 is the latest year for which information is available. Source: Statistics Canada

Table 16. Profile of the BC total expenditures on R&D ($ million)*

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Business Enterprise	591	602	538	564	608	714	973	1,080	1,092	1,127	1,309
Higher Education & Private Non-Profit	344	363	361	364	396	444	507	571	747	818	869
Federal Govt	103	81	78	83	85	106	111	96	99	80	91
Provincial Government & Research Institutions	29	22	25	28	24	26	25	22	21	14	13

* 2004 is the latest year for which information is available. Source: Statistics Canada

External Indicators

Indicator X-1. Percentage of immigrants aged 25 years and older with 16 or more years of education

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	32.7	35.8	36.8	40.1	42.3	43.4	45.0	44.6	47.1	46.7	44.7
NFLD	48.3	46.2	45.9	48.0	52.1	41.4	45.3	47.2	45.9	45.5	53.0
PEI	23.2	41.6	34.2	27.1	29.9	38.6	27.9	38.5	52.8	51.3	40.3
NS	40.3	43.0	43.6	41.8	45.6	48.6	51.2	53.6	57.9	57.1	54.1
NB	43.0	42.4	45.3	45.1	42.1	45.2	49.4	45.2	50.2	52.3	55.7
PQ	30.2	30.6	34.7	38.7	40.5	44.2	49.6	51.9	53.0	52.9	51.8
ON	33.3	37.1	37.6	41.7	44.2	44.6	45.8	44.2	46.9	46.4	43.3
MB	30.4	34.0	31.7	31.3	29.9	28.5	31.2	27.7	29.4	29.2	26.9
SK	37.9	36.2	38.9	40.1	39.3	41.2	40.4	43.0	48.0	43.8	41.7
AB	32.9	34.5	36.7	38.4	39.4	39.8	41.1	38.5	43.5	43.8	44.2
BC	32.1	35.6	36.1	38.0	39.8	40.9	40.4	42.5	44.6	45.1	44.4

Source: Citizenship and Immigration Canada

Indicator X-2. Median years of schooling of immigrants aged 25 years and older

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	13.6	14.1	14.4	14.8	15.0	15.1	15.2	15.2	15.4	15.4	15.2
NFLD	15.3	14.8	15.0	15.4	15.9	14.7	15.4	15.6	15.2	15.1	15.8
PEI	12.2	13.7	12.9	13.2	13.1	14.1	12.8	14.3	15.7	15.6	14.7
NS	14.2	14.7	14.6	14.7	15.1	15.5	15.7	15.8	16.0	15.9	15.8
NB	14.6	14.7	15.1	15.1	14.8	15.0	15.6	15.1	15.6	15.7	15.8
PQ	13.1	13.2	13.9	14.4	14.6	15.0	15.6	15.7	15.8	15.8	15.7
ON	13.7	14.3	14.5	15.0	15.2	15.2	15.3	15.2	15.4	15.3	15.1
MB	13.7	14.0	13.7	13.9	13.8	13.8	14.0	13.6	13.9	13.9	13.9
SK	14.0	14.0	14.3	14.5	14.5	14.8	14.7	15.0	15.5	15.1	14.5
AB	13.7	14.0	14.3	14.7	14.8	14.9	15.0	14.8	15.1	15.2	15.2
BC	13.5	14.0	14.3	14.8	15.0	15.0	15.0	15.1	15.2	15.3	15.2

Source: Citizenship and Immigration Canada

Indicator X-3. Net inter-provincial migration (number of persons)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
NFLD	-7436	-8134	-9490	-5695	-4263	-4493	-3352	-1683	-2027	-3710	-4342
PEI	638	136	-416	193	104	165	62	165	144	-139	-639
NS	-1245	-1648	-2569	201	-270	-2077	-898	510	-772	-3041	-3024
NB	-369	-1263	-3192	-1244	-1183	-1530	-1218	-843	-760	-2074	-3487
PQ	-12626	-17436	-16958	-13065	-12146	-9442	-4350	-1829	-822	-4963	-9411
ON	-2822	1977	9231	16706	22369	18623	5354	637	-6935	-11172	-17501
MB	-3566	-5873	-5276	-2113	-3456	-4323	-4344	-2875	-2565	-7227	-7881
SK	-2161	-2794	-1940	-4333	-7947	-8410	-8820	-5141	-4521	-9515	-7083
AB	7656	26282	43089	25191	22674	20457	26235	11903	10606	34423	45795
BC	22025	9880	-10029	-14484	-14610	-8286	-8556	-1037	7865	8214	8800

Source: Statistics Canada

Indicator X-4. Value of high technology imports to BC by commodity type ($ million)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Biotechnology	24.6	21.6	32.5	33.8	33.7	57.6	49.3	42.5	37.9	40.5	50.2
Life Sciences	267.6	276.1	313.9	367.5	448.6	506.7	497.9	473.4	494.1	498.1	513.5
Opto-Electronics	78.1	96.3	97.4	93.6	121.8	123.7	117.2	106.7	126.0	186.7	293.2
Computers & Telecommunications	1,463.1	1,940.3	2,132.9	2,087.3	2,432.6	2,340.0	2,384.9	2,514.9	2,753.9	2,784.6	2,825.6
Electronics	371.7	545.2	680.0	676.9	547.7	333.4	367.8	325.2	400.1	424.3	394.1
Computer Integrated Manufacturing	145.2	183.3	133.8	153.0	186.9	166.3	189.6	200.6	196.1	183.0	180.1
Material Design	31.0	33.2	62.5	141.0	133.0	83.1	37.1	25.4	25.9	25.4	25.0
Aerospace	427.0	532.7	501.1	672.0	539.6	835.3	633.3	384.0	367.1	488.4	465.5
Weapons and Nuclear	34.7	30.2	24.1	24.2	31.2	34.5	29.1	34.2	39.4	20.4	26.4
Total	2,842.9	3,658.8	3,978.1	4,249.3	4,475.0	4,480.6	4,306.1	4,106.8	4,440.4	4,651.5	4,773.7

Source: BC STATS

Labour Indicators

Indicator L-1. Unemployment rate for natural and applied science occupations (%)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	4.3	3.6	3.5	3.4	3.0	3.8	4.5	4.5	3.8	2.9	2.6
NFLD	6.7	6.8	8.0	9.7	8.2	8.2	7.8	9.3	6.7	9.5	5.1
PEI	12.9	14.8	12.5	9.4	7.1	5.9	5.4	8.3	11.4	5.0	4.4
NS	5.2	6.1	5.4	4.2	4.6	4.5	5.9	7.2	4.2	5.0	4.5
NB	5.4	6.0	6.5	5.0	5.6	5.2	4.7	5.5	4.6	5.5	4.3
PQ	5.7	5.1	4.4	3.4	3.1	4.2	4.4	4.8	4.5	3.5	3.7
ON	3.6	2.7	2.7	3.2	2.8	3.5	4.7	3.9	3.3	2.7	2.2
MB	3.5	2.8	2.7	2.5	3.0	2.8	3.5	3.1	1.9	-	2.5
SK	4.5	3.2	2.8	4.3	4.5	2.6	2.7	4.7	-	-	2.2
AB	4.1	2.4	2.1	3.1	2.7	2.6	3.0	3.2	3.4	1.6	1.8
BC	4.0	3.3	4.4	3.4	2.4	4.7	5.1	6.1	5.0	3.0	2.3

- Data not available

Source: Statistics Canada

Indicator L-2. FTE Research workforce per 100,000 population, 2002 and 2004*

	Federal		Provincial		Business		Higher education		TOTAL	
	2002	2004	2002	2004	2002	2004	2002	2004	2002	2004
CANADA	44.5	42.9	10.5	8.0	356.4	396.2	150.9	175.5	564.6	622.6
NFLD	40.4	27.1	0.0	0.0	48.1	75.4	161.7	179.8	250.3	282.3
PEI	43.8	50.8	0.0	0.0	65.7	72.5	87.6	94.3	197.2	217.6
NS	61.0	57.6	0.0	0.0	105.9	134.3	166.9	198.3	339.2	390.2
NB	29.3	23.9	13.3	12.0	80.0	103.7	114.6	138.3	239.9	277.9
PQ	32.6	30.2	12.4	11.8	523.7	574.0	177.0	205.9	746.2	821.9
ON	67.4	66.4	8.6	3.1	447.6	484.6	147.4	165.6	672.0	719.7
MB	48.5	41.0	3.5	5.1	116.0	129.9	130.7	153.8	308.9	329.8
SK	42.2	36.2	21.1	26.1	92.4	102.5	140.6	158.8	296.2	323.7
AB	20.5	24.0	23.7	21.5	164.9	193.3	157.2	187.4	377.7	426.3
BC	16.3	14.8	5.1	3.6	226.2	282.9	124.7	158.4	373.2	459.6

FTE: full time equivalent position

* 2004 is the latest year of which information is available

Source: Statistics Canada

Table 17. Structure of the research workforce by sector in 2004 (%)*

	Federal	Provincial	Business	Higher edu.	Total FTE
PQ	3.7	1.4	69.8	25.0	62,040
ON	9.2	0.4	67.3	23.0	89,360
AB	5.6	5.0	45.4	44.0	13,670
BC	3.2	0.8	61.5	34.5	19,320

FTE: full time equivalent position

*2004 is the latest year of which information is available.

Source: Statistics Canada

Indicator L-3. Quality of life index scores, 2007 (New York = 100)

	Score	Global Rank	North Am. Rank
Vancouver	107.7	3	1
Toronto	105.4	15	2
Ottawa	104.8	18	3
Montreal	104.3	22	4
Calgary	103.6	24	5
Honolulu	103.3	27	6
San Francisco	103.2	29	7
Seattle	99.9	49	13

Source: Mercer Human Resource Consulting

Indicator L-4. All Items inter city retail price index (units)

	Oct-01	Oct-02	Oct-03	Oct-04	Oct-05	Oct-06
Edmonton	93	95	97	97	97	97
Montreal	94	95	93	93	93	93
Ottawa	104	105	103	103	103	102
Vancouver	106	105	103	102	102	104
Toronto	110	110	110	110	110	109

Source: Statistics Canada

Reference Tables

Reference Table 1. Total population

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
CANADA	29,907,172	30,157,082	30,403,878	30,689,035	31,021,251	31,372,587	31,676,077	31,995,199	32,312,077	32,649,482	32,976,026
NFLD	551,011	539,932	533,409	528,043	521,986	519,449	518,428	517,303	514,144	509,940	506,275
PEI	136,109	135,819	136,296	136,486	136,672	136,934	137,325	137,862	138,188	138,027	138,627
NS	932,481	931,907	933,847	933,881	932,389	934,507	936,513	937,960	935,990	935,050	934,147
NB	752,543	750,551	750,611	750,518	749,890	750,327	751,222	752,040	751,319	749,225	749,782
PQ	7,274,630	7,295,973	7,323,308	7,357,029	7,396,990	7,445,745	7,494,690	7,548,984	7,598,034	7,651,033	7,700,807
ON	11,228,284	11,367,018	11,506,359	11,685,380	11,897,647	12,102,045	12,262,560	12,420,289	12,565,446	12,705,328	12,803,861
MB	1,136,137	1,137,515	1,142,491	1,147,373	1,151,285	1,155,584	1,161,896	1,170,555	1,174,150	1,178,492	1,186,679
SK	1,018,067	1,017,506	1,014,707	1,007,767	1,000,134	995,886	994,732	994,898	990,044	987,520	996,869
AB	2,830,056	2,899,452	2,953,255	3,004,940	3,056,739	3,116,332	3,161,371	3,208,173	3,280,728	3,370,600	3,473,984
BC	3,948,544	3,983,077	4,011,342	4,039,198	4,078,447	4,115,413	4,155,370	4,203,807	4,260,246	4,320,255	4,380,256

Source: Statistics Canada

Reference Table 2. Population aged 15 years and older

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
CANADA	23,929,642	24,198,590	24,484,577	24,805,470	25,166,713	25,547,149	25,889,014	26,247,085	26,614,504	26,997,972	27,362,980
NFLD	445,937	439,690	437,141	435,225	432,718	432,527	433,540	434,327	433,599	431,684	429,678
PEI	107,289	107,604	108,439	109,166	110,000	110,894	111,763	112,808	113,698	114,119	115,170
NS	752,823	755,263	760,226	763,378	765,807	771,683	776,979	781,893	784,280	787,210	789,452
NB	609,634	610,579	613,260	615,958	618,379	621,397	624,698	627,875	630,150	631,226	634,259
PQ	5,909,345	5,944,436	5,988,636	6,037,533	6,091,888	6,149,789	6,208,372	6,273,162	6,339,009	6,408,684	6,469,863
ON	8,959,902	9,086,175	9,221,832	9,392,459	9,588,641	9,787,847	9,955,173	10,121,283	10,281,103	10,438,688	10,563,158
MB	891,019	894,291	900,627	907,042	913,111	919,505	927,321	937,071	943,394	949,849	958,902
SK	788,789	791,538	793,432	792,056	790,469	790,358	792,891	796,484	796,224	797,176	806,883
AB	2,202,366	2,267,761	2,322,379	2,375,617	2,430,106	2,489,885	2,536,071	2,583,609	2,651,959	2,733,741	2,825,848
BC	3,192,111	3,231,184	3,268,249	3,306,213	3,353,847	3,400,032	3,447,269	3,502,110	3,563,874	3,627,657	3,690,761

Source: Statistics Canada

Reference Table 3. Number of households*

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	10,650,340	10,851,840	10,990,880	11,182,540	11,361,810	11,522,400	11,657,730	11,749,230	11,952,550	12,180,090
NFLD	184,920	184,520	184,940	185,830	188,830	190,580	189,820	191,880	192,810	195,790
PEI	47,600	48,110	48,760	50,020	50,380	50,580	51,750	50,970	52,000	52,620
NS	328,490	340,220	338,960	348,010	350,790	355,160	355,920	360,150	360,630	363,860
NB	264,510	269,430	273,700	277,200	276,160	281,780	281,350	283,940	287,380	290,000
PQ	2,771,560	2,825,110	2,843,900	2,869,180	2,930,590	2,953,150	2,998,460	3,019,380	3,084,260	3,136,310
ON	3,924,200	3,974,730	4,043,020	4,147,740	4,210,680	4,302,710	4,352,690	4,347,130	4,451,030	4,505,860
MB	403,870	402,420	406,860	406,390	407,970	412,250	411,920	423,700	424,310	429,390
SK	356,390	365,120	364,720	366,560	372,500	371,220	370,530	361,220	364,290	360,550
AB	962,840	993,800	1,020,710	1,044,520	1,056,890	1,084,100	1,101,490	1,137,600	1,149,840	1,195,670
BC	1,405,960	1,448,380	1,465,310	1,487,090	1,517,030	1,520,870	1,543,790	1,542,650	1,586,000	1,618,530

*Canada is the sum of the 10 provinces.
2005 is the last year for which information is available.

Source: Statistics Canada

Reference Table 4. Population of immigrants aged 25 years or older

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	141,104	135,120	108,996	121,285	145,759	161,343	148,892	144,022	151,622	166,708	162,350
NFLD	402	266	244	256	257	220	243	231	344	303	330
PEI	82	89	79	85	107	83	68	96	178	189	335
NS	1,745	1,529	1,065	961	937	1,032	865	890	1,109	1,175	1,620
NB	456	415	457	419	468	485	431	414	516	642	998
PQ	17,918	16,614	15,850	18,028	20,570	24,303	25,022	26,423	29,423	28,759	29,569
ON	74,909	73,702	58,000	66,505	85,654	95,415	86,376	77,637	79,716	88,546	80,610
MB	2,445	2,227	1,758	2,162	2,551	2,624	2,606	3,628	4,060	4,391	5,601
SK	1,123	1,060	976	1,071	1,093	976	952	942	1,144	1,216	1,609
AB	8,730	8,198	7,067	7,823	9,128	10,402	9,545	10,226	10,353	12,231	13,413
BC	33,147	30,879	23,396	23,865	24,894	25,676	22,680	23,415	24,673	29,143	28,140

Source: Citizenship and Immigration Canada

Reference Table 5. Unemployment rate for all occupations (%)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	9.6	9.1	8.3	7.6	6.8	7.2	7.7	7.6	7.2	6.8	6.3
NFLD	19.1	18.4	17.9	16.9	16.7	16.1	16.7	16.5	15.7	15.2	14.8
PEI	14.7	15.4	13.9	14.3	12.1	11.9	12.0	11.0	11.3	10.8	11.0
NS	12.4	12.2	10.5	9.6	9.1	9.7	9.6	9.1	8.8	8.4	7.9
NB	11.6	12.7	12.2	10.2	10.0	11.1	10.2	10.3	9.8	9.7	8.8
PQ	11.9	11.4	10.3	9.3	8.5	8.8	8.6	9.1	8.5	8.3	8.0
ON	9.0	8.4	7.2	6.3	5.8	6.3	7.1	6.9	6.8	6.6	6.3
MB	7.3	6.5	5.6	5.6	5.0	5.1	5.1	5.0	5.3	4.8	4.3
SK	6.7	6.0	5.8	6.1	5.1	5.8	5.7	5.6	5.3	5.1	4.7
AB	6.9	5.9	5.6	5.7	5.0	4.6	5.3	5.1	4.6	3.9	3.4
BC	8.7	8.4	8.8	8.3	7.1	7.7	8.5	8.0	7.2	5.9	4.8

Source: Statistics Canada

Reference Table 6. Gross domestic product ($ million)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	836,864	882,733	914,973	982,441	1,076,577	1,108,048	1,152,905	1,213,175	1,290,828	1,375,080	1,446,307
NFLD	10,417	10,533	11,176	12,184	13,922	14,179	16,457	18,119	19,302	21,496	25,608
PEI	2,823	2,800	2,981	3,159	3,366	3,431	3,701	3,798	3,994	4,118	4,304
NS	19,512	20,368	21,401	23,059	24,658	25,909	27,082	28,851	30,014	31,575	31,997
NB	16,626	16,845	17,633	19,041	20,085	20,684	21,169	22,366	23,534	24,190	25,346
PQ	180,526	188,424	196,258	210,809	224,928	231,624	241,448	250,752	262,890	272,672	282,841
ON	338,173	359,353	377,897	409,020	440,759	453,701	477,763	493,081	516,792	536,908	557,784
MB	28,434	29,751	30,972	31,966	34,057	35,157	36,559	37,451	39,859	41,682	44,851
SK	28,944	29,157	29,550	30,778	33,828	33,127	34,343	36,653	40,417	43,773	45,922
AB	98,634	107,048	107,439	117,080	144,789	151,274	150,594	170,113	189,521	222,159	240,025
BC	108,865	114,383	115,641	120,921	131,333	133,514	138,193	145,642	157,365	169,404	180,328

Source: Statistics Canada

Reference Table 7. Gross domestic product ($2002 million, chained)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
CANADA	913,364	951,962	990,968	1,045,786	1,100,515	1,120,146	1,152,905	1,174,592	1,210,656	1,247,780	1,282,204
NFLD	11,835	11,979	12,631	13,323	14,013	14,233	16,457	17,419	17,117	17,159	17,719
PEI	3,201	3,213	3,360	3,502	3,570	3,532	3,701	3,778	3,893	3,945	4,049
NS	21,454	22,376	23,210	24,482	25,234	26,036	27,082	27,464	27,836	28,336	28,597
NB	17,509	17,712	18,361	19,508	19,917	20,248	21,169	21,765	22,069	22,174	22,843
PQ	196,932	203,253	209,715	222,716	232,378	235,832	241,448	244,422	250,673	255,638	259,895
ON	364,762	381,235	399,655	429,697	455,234	463,357	477,763	484,341	496,208	510,740	521,648
MB	31,182	32,343	33,716	34,248	35,708	35,996	36,559	37,059	38,033	39,061	40,323
SK	31,267	32,486	33,868	33,936	34,820	34,487	34,343	35,921	37,303	38,598	38,433
AB	119,905	128,018	134,750	136,603	144,886	147,394	150,594	155,359	163,457	172,047	183,372
BC	117,442	121,177	122,766	126,708	132,578	133,403	138,193	141,435	146,629	153,208	158,335

Source: Statistics Canada