Input Indicators of the British Columbia High Technology Sector

A joint project of BC Stats and Leading Edge BC

2005 Edition

BRITISH COLUMBIA

Service BC
Ministry of Labour and Citizens' Services

LeadingEdge BRITISH COLUMBIA

BC STATS

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March 2006

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Leading Edge British Columbia is a not-for-profit marketing and investment attraction organization dedicated to marketing British Columbia's competitive business environment for technology enterprise. Leading Edge British Columbia helps technology businesses by:

- Marketing, branding and promoting British Columbia (B.C.) in six key technology clusters: wireless, new media, biotechnology and life sciences, energy technologies, sustainability technologies, and information and communications technology.
- Raising the profile of B.C. investment and business opportunities globally.
- Locating international investment opportunities and business partnerships.
- Working with multiple partners to assist companies market their products and services.
- Organizing and facilitating joint marketing ventures.
- Leading focused business-to-business missions to maximize networking opportunities.
- Assisting investors, enterprise, site selectors and recruits to identify opportunities in B.C.
- Leading Edge British Columbia was elected to represent the technology industry for the Vancouver-Whistler 2010 Olympic and Paralympic Winter Games. Currently business-to-business activities are being developed to raise the profile of B.C. companies in the lead up to the Games.

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Executive Summary

The 2005 edition of the *High Technology Input Indicators* report, which was prepared by BC Stats, in conjunction with Leading Edge BC, is the fifth in a series of annual reports that highlight conditions affecting the province's high technology sector from a supply-side perspective. This report tracks 35 business and economic climate indicators for the province, and provides comparisons to other provinces for 31 of them. The indicators cover key aspects of the educational, business, government, external, and labour sectors from the point of view of their effect 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 2005.[1]

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, exports and imports.

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

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 →). Since the 2003 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.

[1] Some of the data come from reports, studies, and/or surveys that are only released bi-annually and others 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 and http://www.leadingedgebc.ca.

Highlights

Education sector

The data for the last reporting year show that BC continues to have the highest percentage of the population with high school education. On the other hand, BC shows a deficiency with respect to the training of new graduates in the areas of 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 now leads 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.

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. Business sector performance of research and development has historically been on par with, and sometimes lagged behind Alberta, but BC has surpassed Alberta for five consecutive years (1999-2003), maintaining a third place ranking among the provinces. Also per capita venture capital investment in BC exceeds the national average.

Government Sector

Individual and small business tax rates in the province shrank during the 1990s and early 2000s and individual rates have remained the lowest in the country for the past three years (2003-2005). The corporate income tax rate, which remained fixed from 1993 to 2001, has declined since then and is lower than all but two other provinces. As a share of GDP, combined federal and provincial government research and development activities remain the lowest in the country. However, the province ranks fourth in the country 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 individuals from other countries. Following the outflow of people from BC to other parts of Canada in recent years, the increase of in-migration from other provinces in 2004 has begun to

bolster the province's supply of well-trained, educated workers. 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 in 2004 for the first time in three years.

Labour

Unemployment rates among workers in the natural and applied sciences fell during the 1990s, but began to creep up from 2001 to 2004, before finally dropping significantly in 2005. However, these rates have consistently remained 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 2002 (the latest year for which data is available). However, the number of researchers has not increased as much as in most other provinces.

TABLE 1: Quick Summary of Indicators

INDICATORS	Trend	Latest year	Relative to Canadian average	Page
EDUCATION SECTOR				
E-1: High school diplomas per capita	↑	↑	above average	8
E-2: Post-secondary credentials per capita	↑	↑	below average	9
E-3: 16 year-old student achievement in science	↓	↓	below average	10
E-4: Total Bachelor degrees awarded per 100,000	↑	→	below average	11
E-5: Total Graduate degrees awarded per 100,000	↑	↑	below average	11
E-6: Annual graduates in engineering*	↑	↑	below average	12
E-7: Annual graduates in computer science*	↑	↑	below average	13
E-8: Annual graduates in physical & life sciences*	↑	↓	below average	13
E-9: Percentage of households with computers	↑	↑	above average	14
E-10: Percentage of households using the Internet	↑	↑	above average	14
E-11: Percentage of small businesses using the Internet	↑	↑	above average	15
E-12: Gross income per technology license at universities	↑	↑	above average	17
E-13: US patents issued to G-10 universities	→	↓	above average	18
E-14: Higher education performance of R&D to GDP ratio	↑	↑	below average	19
BUSINESS SECTOR				
B-1: Patents per 100,000 persons	↑	↑	below average	22
B-2: Patents granted as a percent of patent applications	→	↑	below average	23
B-3: Number of Entries to the high tech sector	↓	↓	n/a	24
B-4: Number of Exits from the high tech sector	→	↓	n/a	24
B-5: Number of high growth high tech companies	→	↑	n/a	25
B-6: Venture capital investment	↑	↑	above average	26
B-7: Venture capital investment: share of Canadian total	→	↑	above average	27
B-8: Business performance of R&D to GDP ratio	↑	↓	below average	27
GOVERNMENT SECTOR				
G-1: Personal tax index individual with $80,000 income	↓	↓	below average	30
G-2: Small business tax rate	↓	→	below average	30
G-3: Corporate income tax rate	↓	↓	below average	31
G-4: Government performance of R&D to GDP ratio	↓	↓	below average	32
G-5: Gross expenditure on R&D (GERD) to GDP ratio	↑	↓	below average	33
EXTERNAL SECTOR				
X-1: Percentage of immigrants with higher education	↑	↑	below average	36
X-2: Median years of schooling of immigrants	↑	↑	average	36
X-3: Net inter-provincial migration	↓	↑	above average	37
X-4: High technology imports	↑	↑	n/a	38
LABOUR				
L-1: Unemployment rate for natural and applied sciences	→	↓	average	40
L-2: Research personnel per 100,000 population	n/a	↑	below average	41
L-3: Quality of life	n/a	→	above average	43
L-4: Cost of Living	n/a	↓	above average	44

* 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 have expanded rapidly in high technology industries, which rely heavily on knowledge as a primary input.

The first edition of *British Columbia High Technology Input Indicators: The 1990s* was released in 2000. The purpose of the report was to monitor 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. The report has been updated regularly since then. This is the fifth edition.

This report is intended to complement another annual publication, the *Profile of the British Columbia High Technology Sector*,[3] 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

[3]Available at http://www.bcstats.gov.bc.ca and http://www.leadingedgebc.ca.

secondary school system may seem very different from output subsidies 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

Comparisons to other provinces show the range of what is possible, or what has been achieved in the high technology sector within a Canadian context. This 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 Canada. 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: 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 past decade, British Columbia has had strong educational attainment in the general population. The data for the last reporting year shows BC continuing to have the highest percentage of the population with a high school education. However, BC lags behind other provinces in the training of new graduates in engi-

neering, 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

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 percentage of those with bachelor and graduate level degrees — have all shown steady increase across Canada over the past decade.

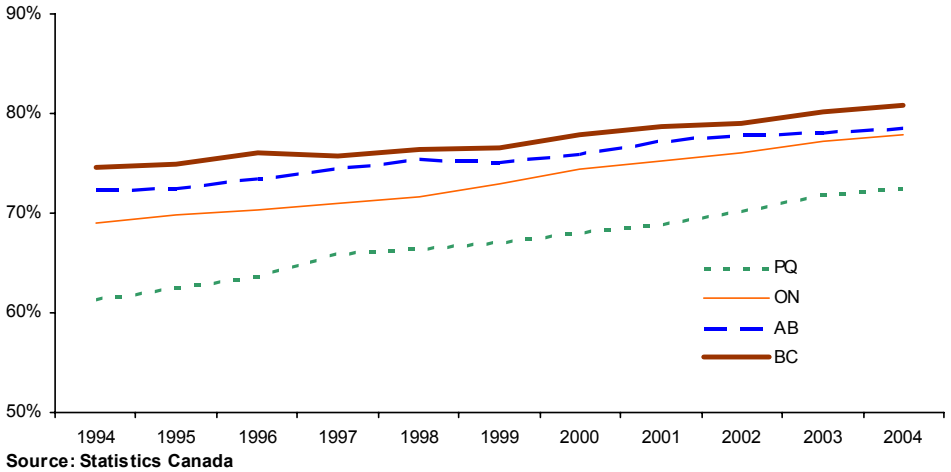
Why are these indicators important?

Higher levels of educational attainment enable high technology firms to draw from a broader, more highly developed skill base.

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 fourteen percentage points separated BC from Quebec. In 2004, the share of the population with a high school diploma was three percentage points higher than in Ontario (78%) and nine percentage points higher than in Quebec (72%).

Indicator E-1

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



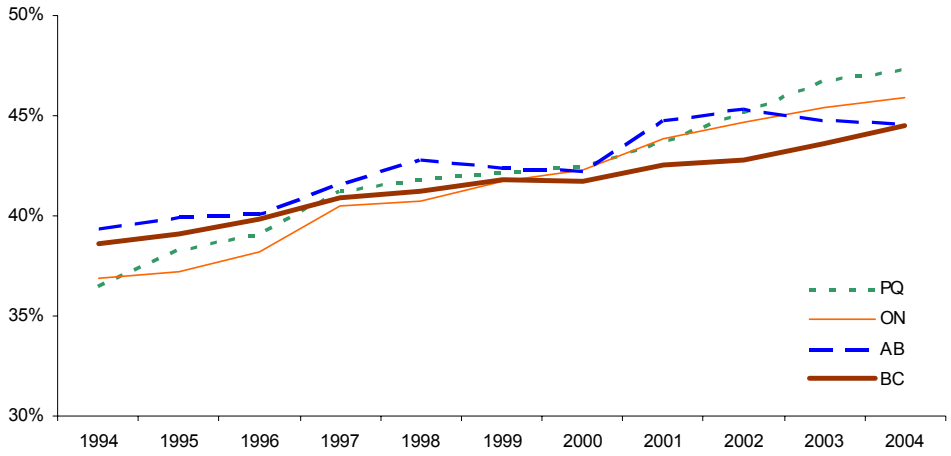
Source: Statistics Canada

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[4] are quite small, and have narrowed slightly in the period observed. Until the early 2000s, Alberta consistently had the most post-secondary degrees per capita. In 2004, the gap between provinces remained small with 44% of the adult population in BC having post-secondary degrees, compared with slightly higher percentages for Alberta (45%), Ontario (46%) and Quebec (47%).

Indicator E-2

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



Source: Statistics Canada

Achievement on Canadian Standardized Tests

From the inception of the School Achievement Indicators Project, BC has continued to rank in the top four provinces in terms of the percentage of 16-year olds demonstrating excellence on Canada-wide standardized science tests. Alberta has ranked consistently among the top provinces.

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.

Why is this indicator important?

Standardized testing in science offers a comparable measure nation-wide 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.

[4] 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.

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.

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

Why are these indicators important?

The number of degrees awarded within a given population is directly indicative of the potential human resources available to the province. Looking at 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. 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.

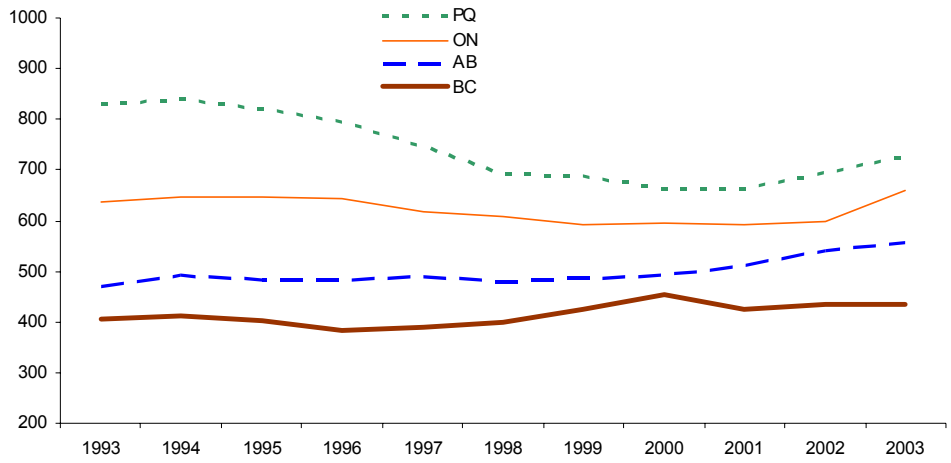
Degrees Awarded

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.

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 the high tech provinces in terms of degrees granted per 100,000 persons, although the gap has narrowed over the past decade. In 2003 (the latest year for which data is available), the number of bachelor degrees awarded in BC per 100,000 people (434) remained unchanged from 2002, 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

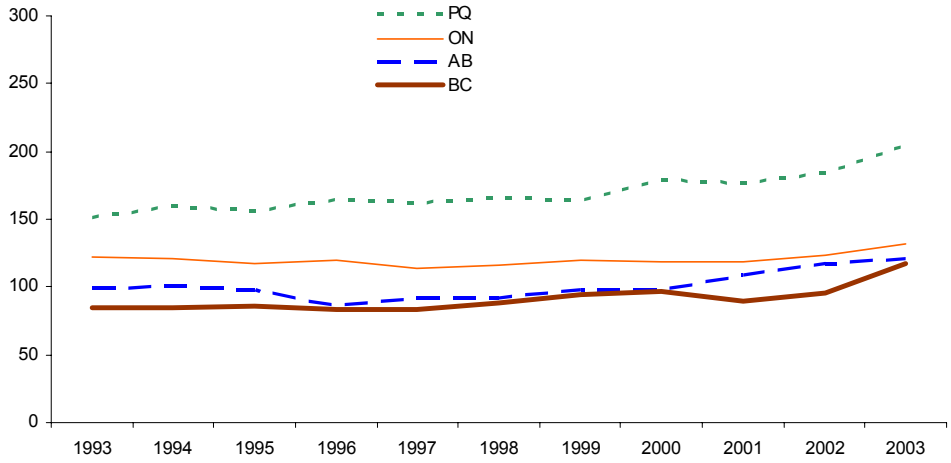


Source: Statistics Canada

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 2003, BC awarded 118 graduate degrees per 100,000 persons, the highest recorded over the last decade and not far behind Alberta (121). Quebec (205) remained the leader of the high tech provinces, while Ontario (132) also reported prominent numbers in 2003.

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

Indicator E-5

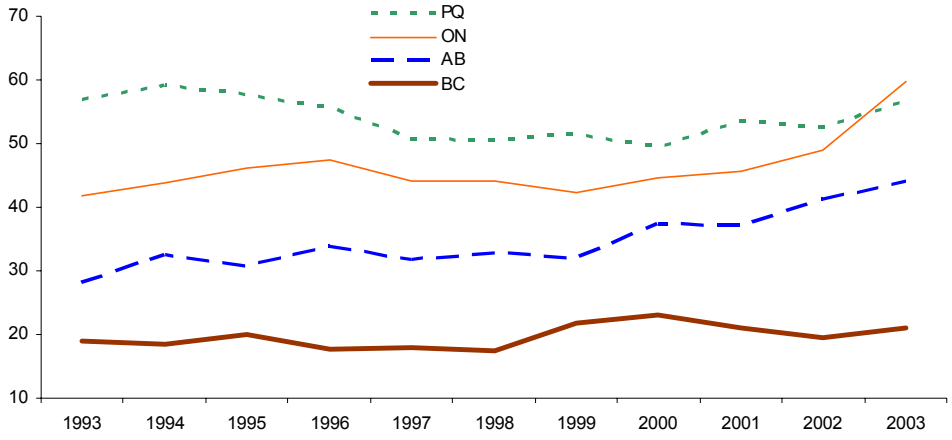


Source: Statistics Canada

Between 1993 and 2003, 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.

Indicator E-6

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



Source: Statistics Canada

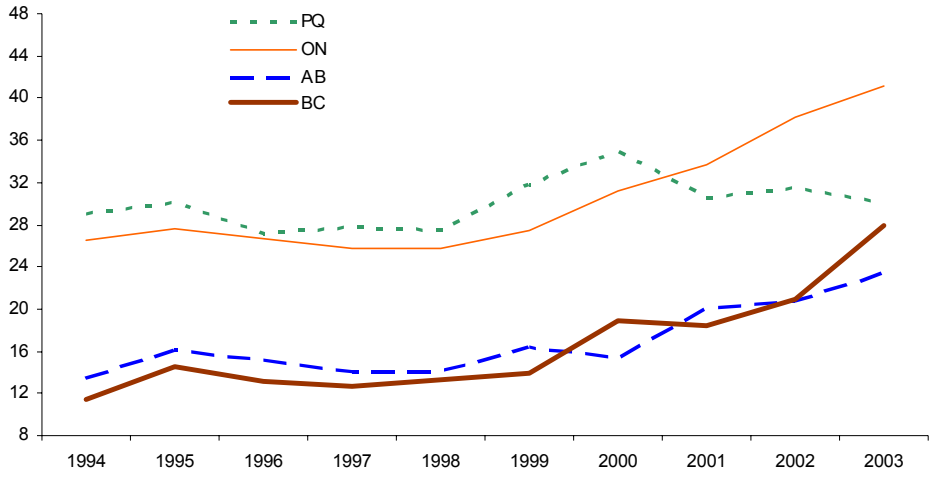
Over the past ten years, BC has shown consistent increases in the number of graduate level degrees awarded per 100,000 persons in this area, but at 11.0, remains well behind the Canadian average (17.1) and more than 50% below Quebec (24.4), the leader of the high tech provinces.

The number of BC graduates with a bachelor degree in the area of mathematics, computer & information science per 100,000 persons 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 (10.1) remains the leader among the high tech provinces, while BC (6.5) 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 few years.

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

Indicator E-7



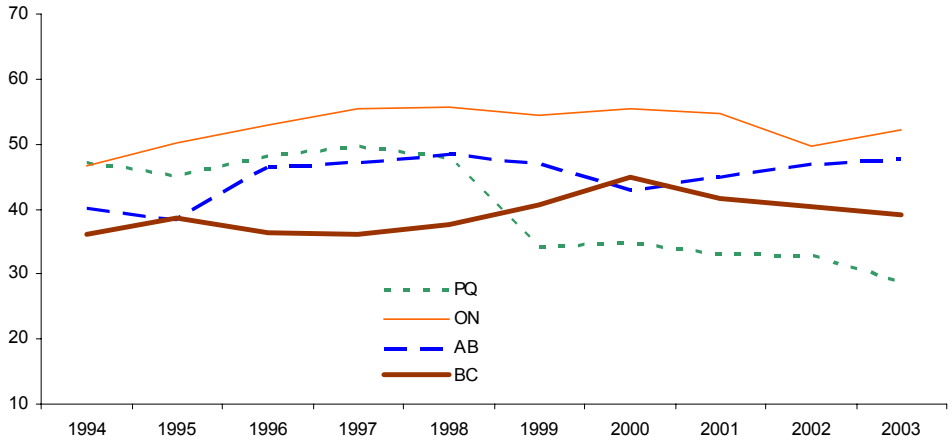
Source: Statistics Canada

At 39.2 per 100,000 persons in 2003 (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 44.6. However, during the last five years (1999-2003), BC's rate of new graduates has surpassed that of Quebec, ranking it third among the four high tech provinces.

In 2003, BC awarded 9.4 graduate degrees per 100,000 persons in physical & life sciences & technologies, continuing to rank fourth among the high tech provinces and sitting below the Canadian average (12.3).

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

Indicator E-8



Source: Statistics Canada

Why are these indicators important?

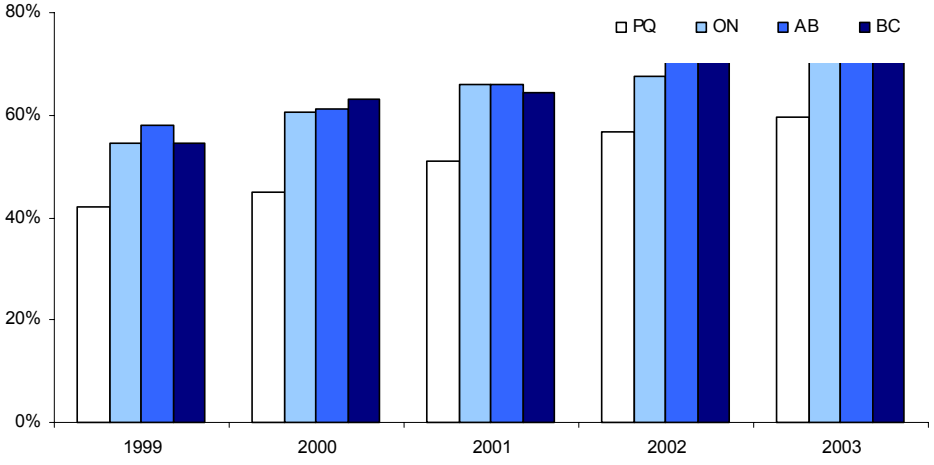
High technology businesses are attracted to locations where the population tends toward higher rates of technology adoption. Greater familiarity with technology—for example, computer literacy—is likely to strengthen local market demand for high tech goods and services.

Technology Adoption

Canadians are increasingly making use of new information technologies. For example, all provinces have recorded increased use of personal computers by households. In 2003, 73% of BC households had home computers, up from 63% in 2000. The prevalence of home computers was the same in Alberta and Ontario (72% in both provinces in 2003), but BC recorded the highest percentage in the country for the second consecutive year.

Indicator E-9

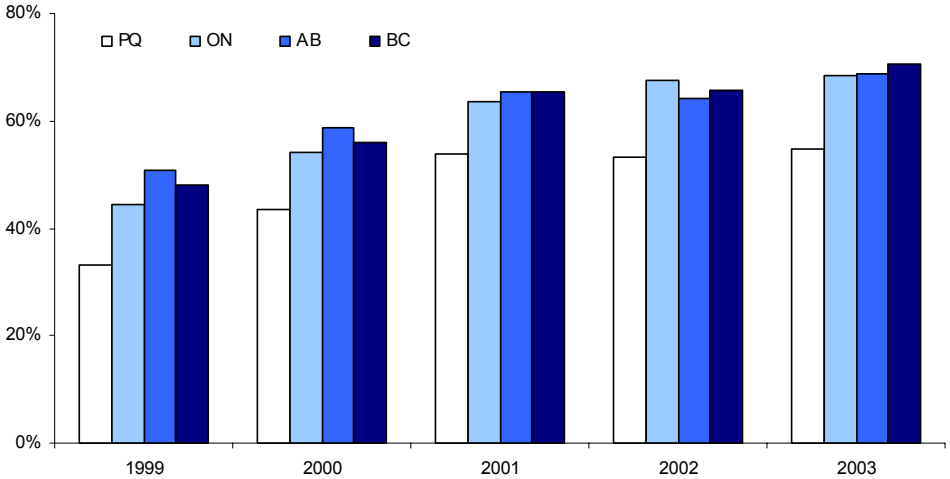
Percentage of households with home computers



Source: Statistics Canada

Indicator E-10

Percentage of households using the Internet from any location

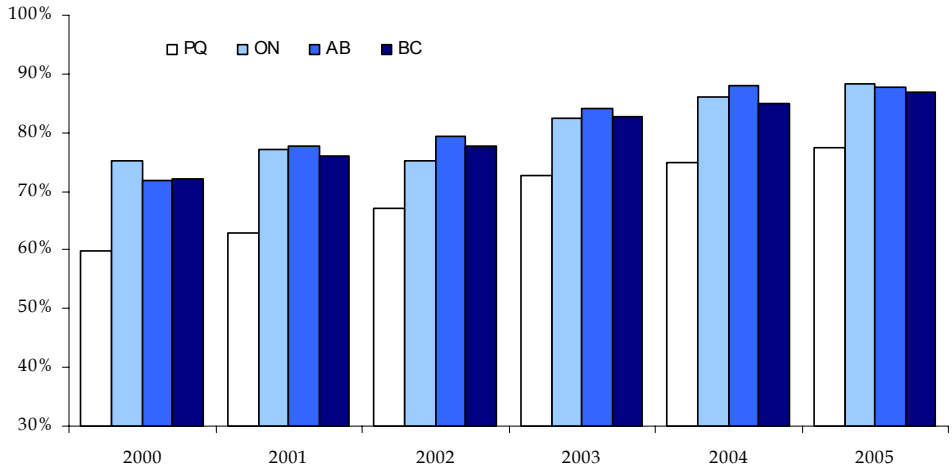


Source: Statistics Canada

For Internet use, 71% of households in BC regularly went online in 2003—well above the Canadian average of 64%. Historically, Alberta has generally recorded the highest household Internet usage,[5] but in the last two years, it has been out-ranked by BC. While the percentage of people using the Internet was lowest in Quebec (55%), this province had the highest growth rate between 1999 and 2003.

Among small businesses, there has been an upward trend in Internet usage. In BC, the percentage of small businesses using the Internet has risen from 72% in 2000 to 87% in 2005.[6] There has been a similar pattern across provinces, although Quebec lags behind.

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



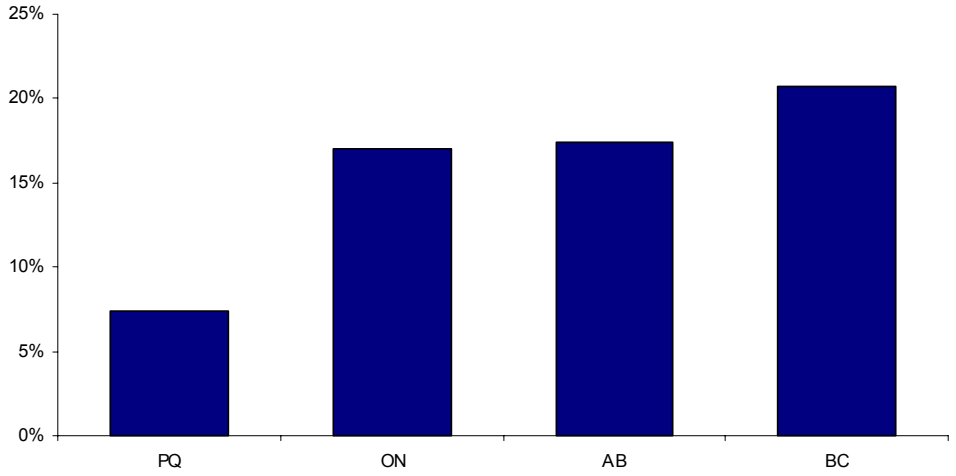
Source: Canadian Federation of Independent Business

There are greater differences when it comes to more intensive Internet usage by business. BC leads the high tech provinces in terms of maintaining a business website and selling on-line. In 2005, 46% of BC's small businesses reported having their own website, the same as in Ontario, compared to 42% in Alberta, and 30% in Quebec. Twenty-four percent of BC's small businesses were selling their goods or services on-line, a notably higher share than in other regions.

[5] Note that household Internet use—meaning usage by members of households—includes access from home, work, school, libraries and other locations.

[6] Survey conducted March, 2005.

Percentage of small businesses selling on-line (2005)



Source: Canadian Federation of Independent Business

Thus, while general business usage of the Internet is similar across most of the high tech provinces, BC firms seem to be doing more to integrate the technology into their core business strategies.

Why are these indicators important?

University faculty members are at the forefront of research. One indication of their research productivity is 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 is also an important indicator of future revenues.[7]

Technology Licensing

Across Canada, universities began to develop industry liaison offices in the mid-1980s. The University of Toronto office opened in 1980; UBC's University-Industry Liaison Office (UILO) opened in 1985; the University of Alberta office opened in 1987. These offices work with industry to spin-off technology developed at the university into successful companies.

During the most recent reporting period, there has been a great deal of shuffling of ranks among the major universities. The University of British Columbia now leads all other G-10 universities[8] with a gross income of

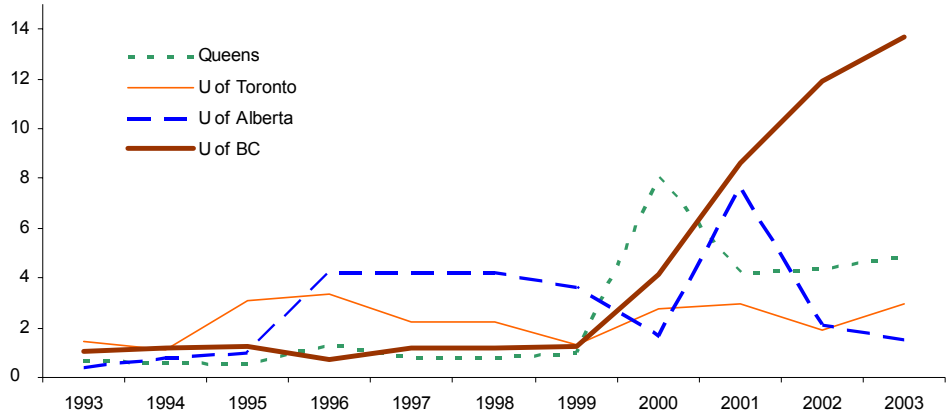
[7] As a caution, one must keep in mind that a key purpose of universities is to conduct "primary" research—work that does not have any immediate application. This work, when successful, becomes the foundation of further applied research and development. A good example is the Human Genome Project, which 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.

[8] 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

nearly $13.7 million from technology licences in 2003 (the latest year for which data is available). McGill University, which was the leader in 2001, slipped to fourth place in 2003. Ranked second, Queens University was well below UBC with a gross income of $4.9 million in 2003.

Gross income from technology licenses (in millions of $CDN) [9]

Indicator E-12



Source: Association of University Technology Managers

BC has consistently shown strong results in terms of the number of US patents awarded to its top institution (UBC). In 1999, UBC, which is classified as one of Canada's ten leading research universities (G-10), was issued a whopping 50 US patents, more than all five Ontario G-10 universities combined. At 150, BC ranked third in terms of the cumulative number of patents granted in the five year period from 1999 to 2003. Quebec (215) led the pack, followed by Ontario (176) while Alberta's G-10 university was awarded 65 US patents over the same five-year period.

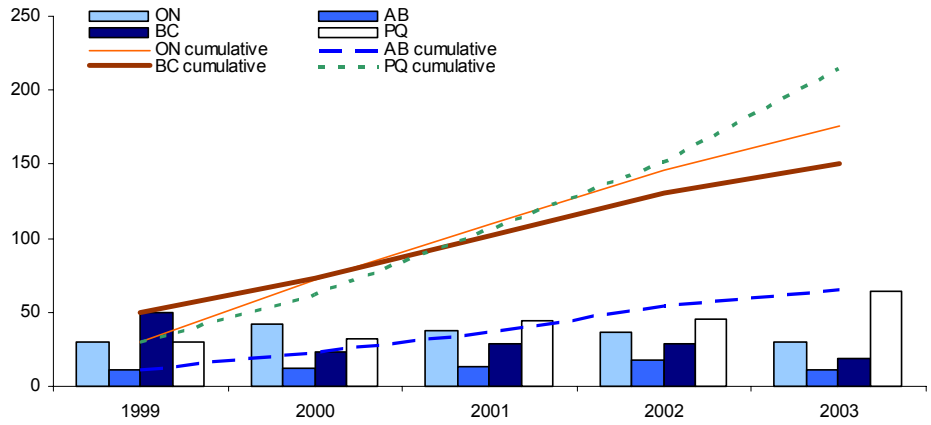
The number of patents issued in the province is rather impressive considering that BC, like Alberta, is home to only one G-10 university. UBC was well ahead of all other G-10 universities in this respect, with McGill (129) being the only other G-10 university to exceed 80 patents issued over the five-year period. In future years, as these patented discoveries are spun-off, this advantage may translate into higher revenues from technology licenses for BC.

Ontario (Ontario), Université de Montréal (Quebec), McGill University (Quebec), and Université Laval (Quebec).

[9] Data from the years 1993-2002 have been converted from US dollars to Canadian dollars using annual exchange rate averages.

Indicator E-13

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



Source: Assosiation of University Technology Managers, Inc.

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.

Performance of R&D by the Higher Education Sector

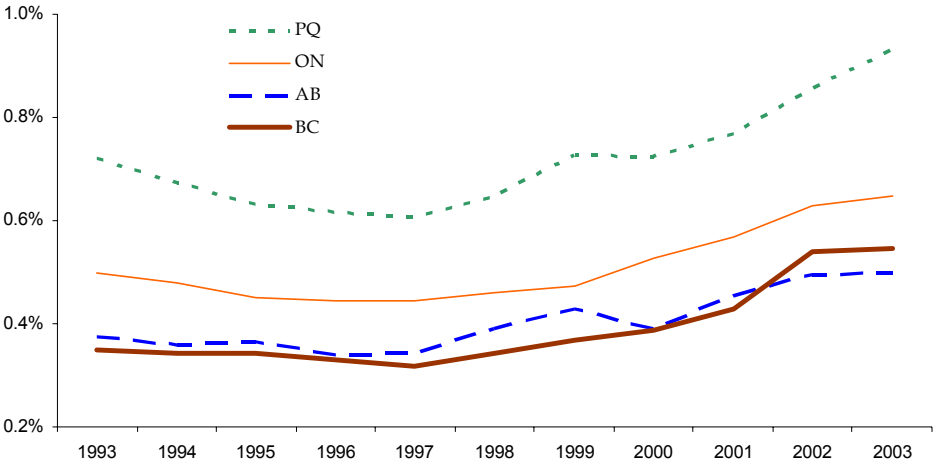
The higher education sector in Canada performed over $8.2 billion worth of R&D in 2003. This amounted to almost 0.7% of Canada's GDP in that year. The ratio of R&D performed by the higher education sector to provincial GDP was highest in Quebec at 0.9% in 2003. Of the high tech provinces, BC's ratios edged up to 0.6% to rank third. 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 has rebounded and by 2003 had reached its highest level in at least a decade. Higher education R&D relative to the size of the economy has increased in all the high tech provinces since 1997, although both Quebec and Alberta saw declines in 2000.

[10] Data includes all G-10 universities from each respective high tech province with the exception of Université Laval, which has been excluded due to lack of available data for 1999 and 2000. From 2001 to 2003 Université Laval was issued a total of 22 US patents.

Ratio of higher education performance of R&D to GDP

Indicator E-14



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 returns below average ratings in all of the business stimulus indicators. However, some indicators show long-term upward trends. These include venture capital investment and the ratio of business R&D performance to provincial GDP. Although business sector performance of R&D in BC also lagged the Canadian average, it has risen substantially since 1997.

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: Number of Entries to the high tech sector	↓	↓	n/a
B-4: Number of Exits from the high tech sector	→	↓	n/a
B-5: Number of high growth companies	→	↑	n/a
B-6: Venture capital investment	↑	↑	above average
B-7: Venture capital investment: share of Canadian total	→	↑	above average
B-8: Business performance of R&D to GDP ratio	↑	↓	below average

Why are these indicators important?

Patents establish legal property rights for inventions. 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."

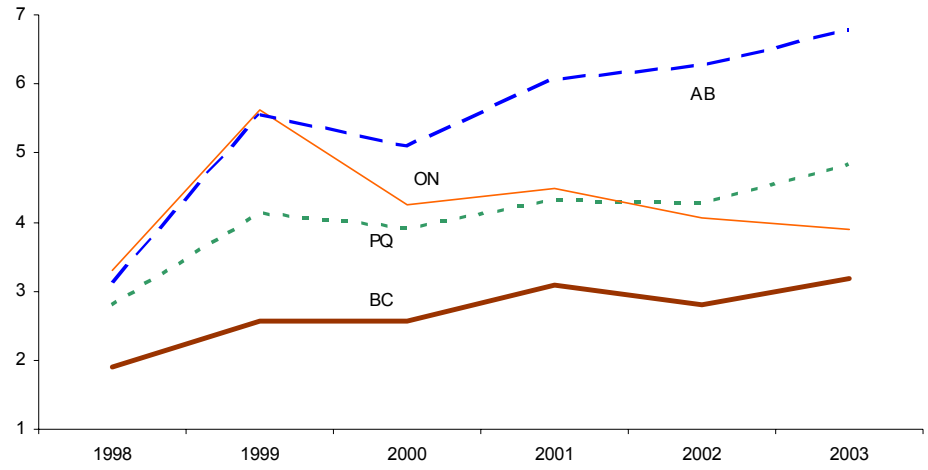
Patents and Applications

Applications 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.

There were 132 patents awarded to BC applicants in 2003, or 3.2 per 100,000 population. Alberta, with 6.8 patent awards per 100,000 population, clearly leads other Canadian provinces. Quebec (4.8) and Ontario (3.9) also have comparatively high patent rates—roughly 52% and 22% higher respectively than in BC. Compared to the other high technology provinces, British Columbia has not been highly successful in patenting new inventions.

Indicator B-1

Patents awarded per 100,000 population



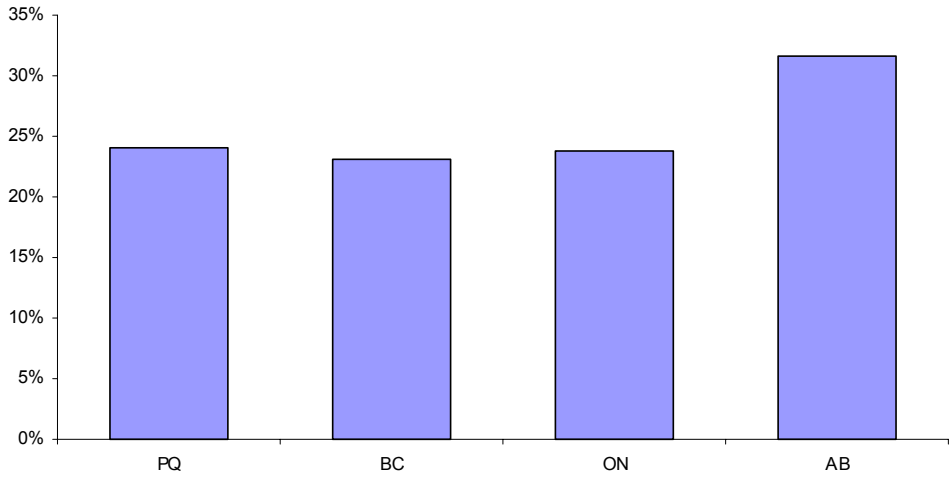
Source: Canadian Intellectual Property Office

Most applications for patent protection are rejected. In BC, only about 23% of applications resulted in the issuing of a patent in the 2001 to 2003 period.[11] This is relatively on par with Quebec (24%) and Ontario (24%), but significantly lower than Alberta (32%).

[11] Patent applications take an average of 25 months to be processed. Thus, to know how many applications filed in 2001 were accepted, one must look at patents granted in 2003. Figures presented here show patent grants during 2001-2003 as a percent of applications during 1999-2001.

Patents granted as a percent of patent applications (three-year average, 2001-2003)

Indicator B-2



Source: Canadian Intellectual Property Office

The low acceptance rates across the country suggest that many—or even most—applicants begin the process with little knowledge of their chances of success. This pattern seems somewhat more common in British Columbia.

Sector Dynamism: Entries and Exits[12]

An indicator of the vibrancy of the innovation economy is the number of entries to and exits from the high technology sector. The 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.

Entrepreneurialism is a characteristic of the high tech sector. For the BC economy as a whole, the entry rates of new firms into the market averaged 14.6% over 1998 to 2004. In the high tech sector, the entry rates were over 50% higher (22.7%). However, exit rates in high tech (18.3%) are also significantly higher than average (14.2%), implying that high tech businesses in the province tend to be volatile.

Why are these indicators important?

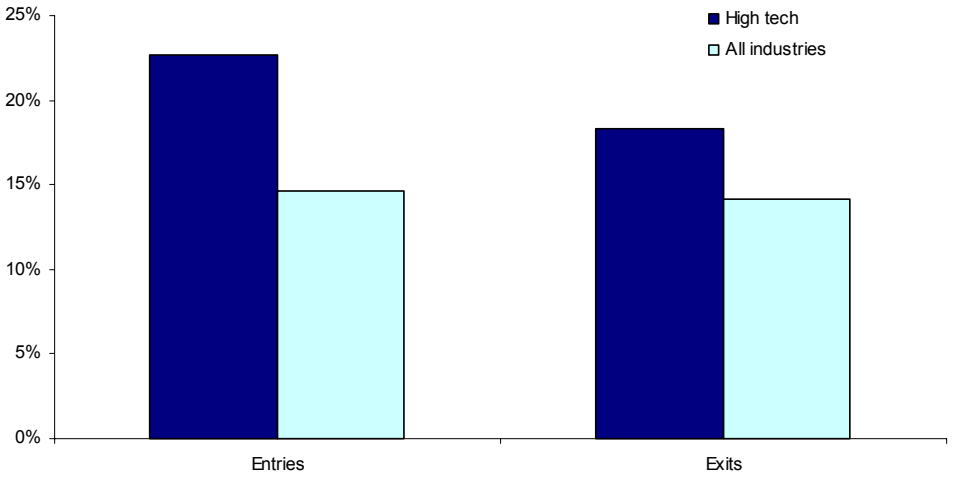
A dynamic sector, characterized by a healthy mixture of large and small, old and new firms, is ideal for generating high levels of innovation. Large, established firms provide employment and earnings stability while small start-ups provide market responsiveness and creativity.

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.

[12] Note that a comparison with other provinces for indicators B-3, B-4 and B-5 is not available because BC STATS does not have access to the necessary data.

Indicators B-3 & B-4

Entry and exit rates are higher than average in the high tech sector, 1998-2004

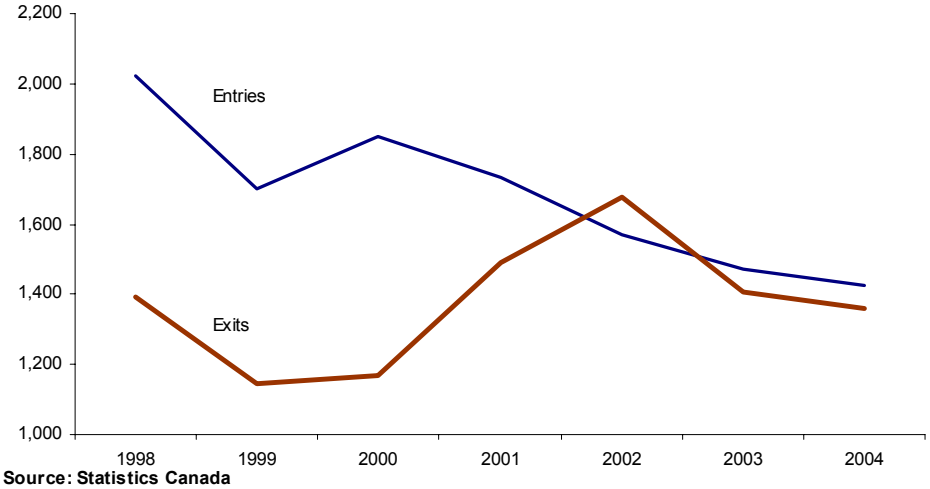


Source: Statistics Canada

Over the last five years, the number of entries into the high tech sector has been declining, while exits have grown more frequent. By 2002, exits outweighed entries, and the number of firms in the sector declined for the first time in at least five years. The numbers did, however, begin to show signs of recovery in 2003 and 2004.

Indicators B-3 & B-4

Exits return to lower levels than entries in the high tech sector



Source: Statistics Canada

High Growth Companies

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. Few firms qualify as "high growth," but they are relatively more common in the high tech sector than elsewhere.

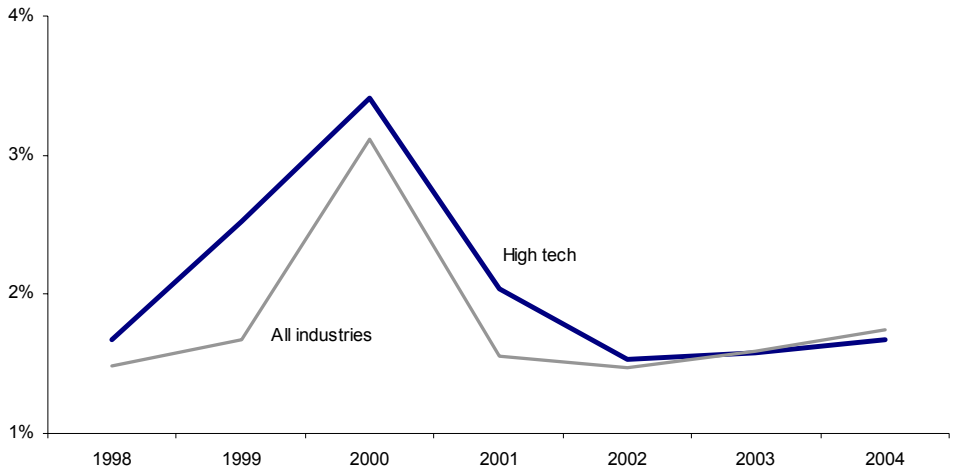
In 2004, only 1.7% of companies in BC showed rapid growth in employees, down significantly from the spike of 2000. While BC's high technology sector had virtually the same percentage of high growth companies in 2004, for most years in the last decade the sector has had more firms with rapid employment growth compared to the aggregate of all companies in the province. Between 1998 and 2004, 1.8% of BC firms were "high growth companies," compared to 2.1% of BC high tech firms.

The indicator explained

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 Growth" companies as a percentage of firms in all industries vs. high tech industries, 1998-2004

Indicator B-5



Source: Statistics Canada, Prepared by BC STATS

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.

Venture Capital Investment

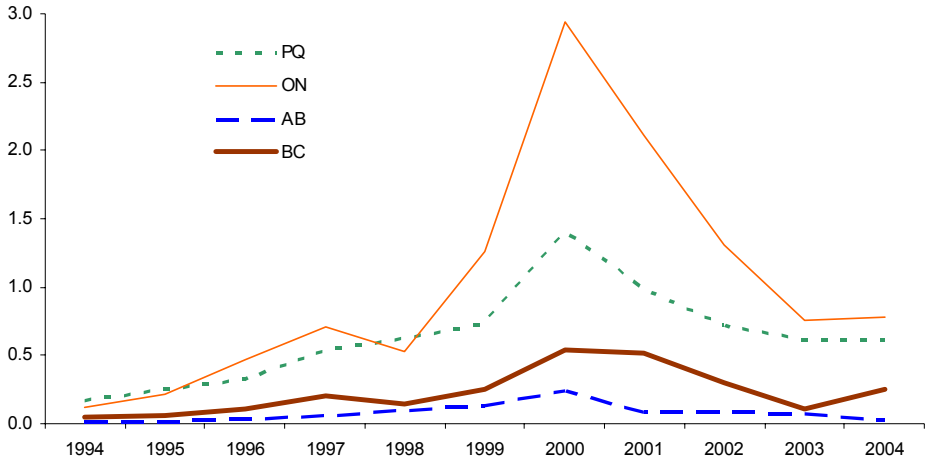
Canadian venture capital investment[13] exploded during the 1990s, rising from a modest $270 million in 1991 to nearly $5.3 billion in 2000 (nearly 20 times greater than in 1991). Since then, however, investment has plummeted to $1.8 billion (a 67% drop from 2000 to 2004).

The boom and bust of venture capital investment has largely been a central Canadian phenomenon, with Ontario and Quebec accounting for 74% of Canadian venture capital over the period 1994 to 2004. At the peak of the boom, BC attracted $540 million in venture capital investment, compared to $2.9 billion in Ontario. However, BC has done fairly well in terms of investments per capita, ranking better than the national average.

In 2004, BC's 14% share of venture capital investment was far greater than in any other province outside Canada's industrial core, exceeding the province's share of population. Indeed, the amount of investment in BC over the last decade ($2.5 billion) exceeds that of Alberta, Saskatchewan, Manitoba and the Atlantic provinces combined ($2.0 billion).

Indicator B-6

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

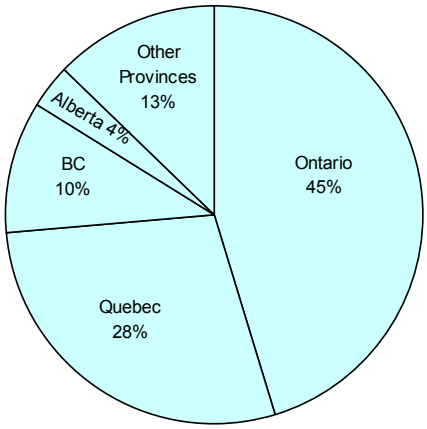


Source: Canadian Venture Capital Association

[13] 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.

Proportional share of Canadian venture capital investment, 1994-2004

Indicator B-7



Source: Canadian Venture Capital Association

Performance of R&D by the Business Sector

In 2003, the business sector in Canada performed $13.4 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. In 2003 (the latest year for which data is available), the ratio decreased in all four provinces.

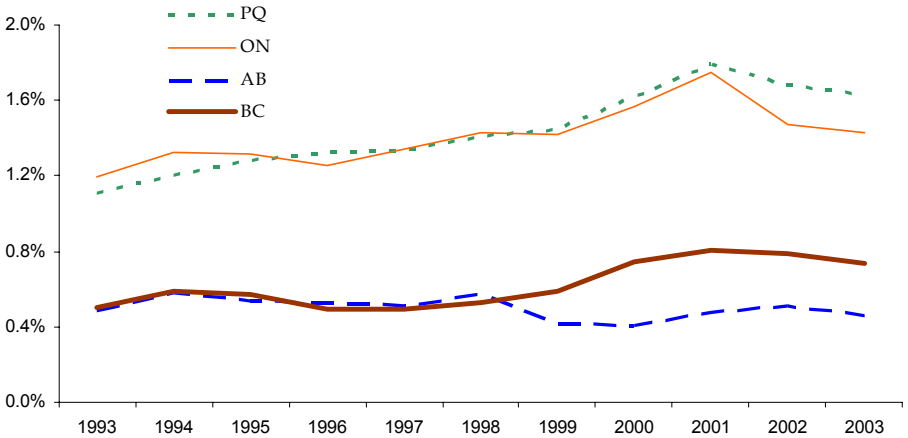
Ontario and Quebec alone made up 83% of business R&D in Canada in 2003 (BC accounted for 8%). The ratio of business R&D to GDP in Quebec and Ontario is about twice that in BC. In recent years, business R&D has seriously lagged in Alberta, resulting in its falling well behind BC.

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 output. 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.

Ratio of business performance of R&D to GDP

Indicator B-8



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. Government also funds and performs a substantial amount of research and development.

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.

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

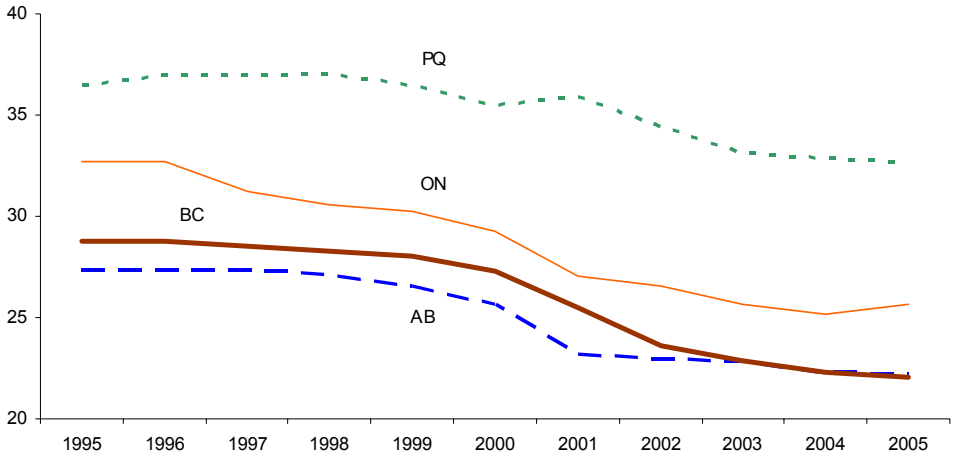
Tax rates are one significant policy area over which the government has complete control. The total taxes levied on a single (unattached) individual earning $80,000 a year in BC averaged $22,063 in 2005, the lowest level in Canada (note that this includes all federal and provincial taxes, such as the GST, health care premiums, income tax, etc.). Indeed, the level of taxation in BC for high-income individuals has declined considerably since 1995 (when taxes amounted to $28,782). Personal taxes on high-income earners continue to drop in all four provinces. Average taxes paid by high-income earners in BC remain well below those in Quebec ($32,741) and Ontario ($25,667). Taxes paid in Alberta ($22,212) are very close to those paid in BC.

Why are these indicators important?

Lower levels of taxation can be tools to attract investment and a skilled workforce, both essential to the high technology sector. However, a better quality of life associated with environmental protection and broad social programs (education, health care, and social services) is also thought to be attractive to high technology workers. These amenities result in higher levels of taxation.

Indicator G-1

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

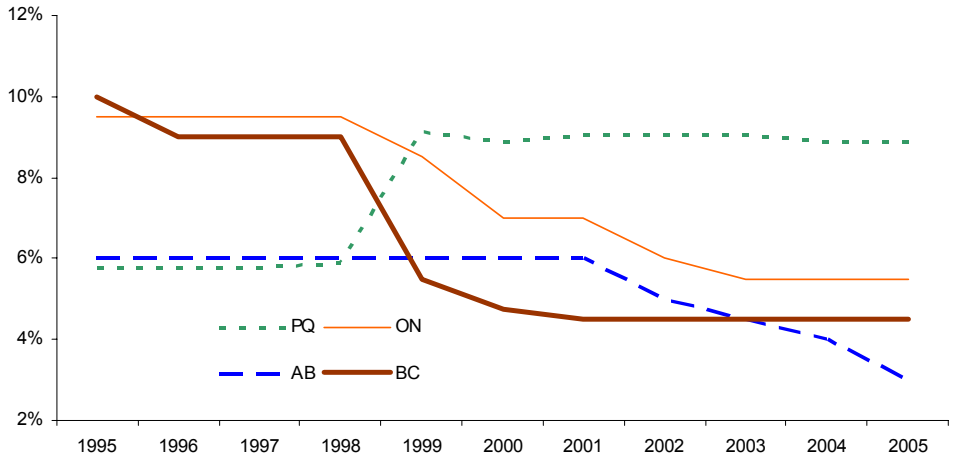


Source: BC Ministry of Finance

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 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 2005, where it sits at 3.0%, lowest of all high tech provinces. Quebec's tax rate increased in 1999 (to 9.0%) and, in 2005, remains double the rate in BC (Quebec no longer has a different tax rate for small business).

Indicator G-2

Small business tax rate

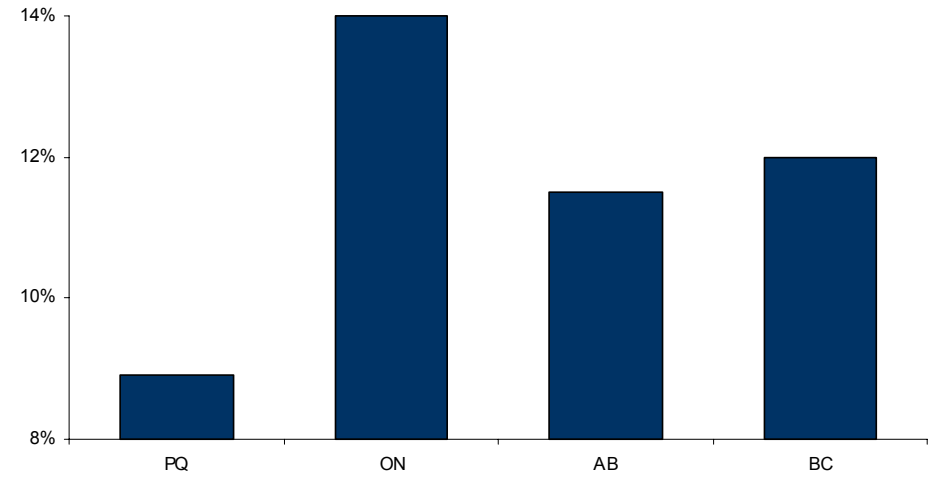


Source: BC Ministry of Finance

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 (8.9%), and Ontario's rate (14.0%) is higher, but the difference between BC and Alberta (11.5%) is marginal.

Indicator G-3

General corporate income tax rate in 2005



Source: BC Ministry of Finance

Performance of R&D by the Government Sector

Overall, the government sector in Canada performed $2.5 billion worth of R&D in 2003 (the latest year for which data is available), posting the first annual decrease in six years, but remaining at one of the highest levels in over a decade. This amount accounted for 0.2% of Canada's GDP.

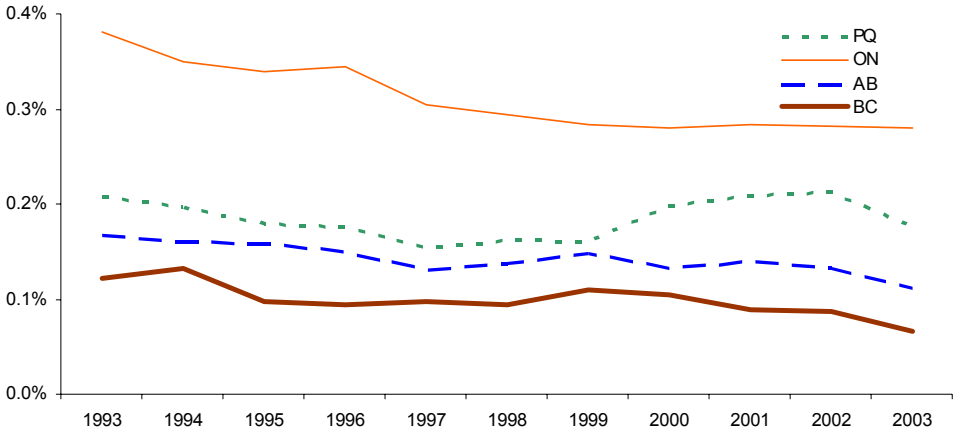
Within the high technology provinces, Ontario has maintained by far the highest ratio of government R&D to GDP for at least the last decade. BC's ratio has historically ranked last compared to all provinces, while Alberta has held the ninth place rank. These positions held true in 2003. The BC (0.07%) ratio was approximately a third of the Canadian average (0.20%). Alberta's (0.11%) and Quebec's (0.18%) ratios declined slightly while Ontario (0.28%) has remained the same over the last five years.

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.

Indicator G-4

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



Source: Statistics Canada

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 Expenditure on R&D

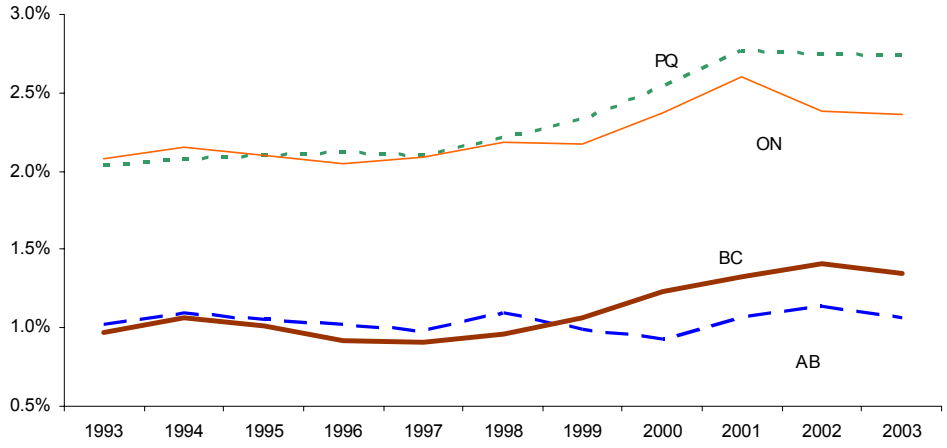
Gross Canadian expenditure on research and development (GERD) reached almost $24.0 billion in 2003, amounting to 2.0% of Canada's GDP in that year. Across Canada, the GERD to GDP ratio has been rising since 1996 and reached a high of 2.1% in 2001.

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 during the same period. By 2003, Alberta's ratio was at 1.1%, while BC's rose to 1.3%.

The business sector in BC performed the bulk of R&D (55%) in 2003. Higher education made up over a third (40%), 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 47% 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 (61%) in 2003. 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.

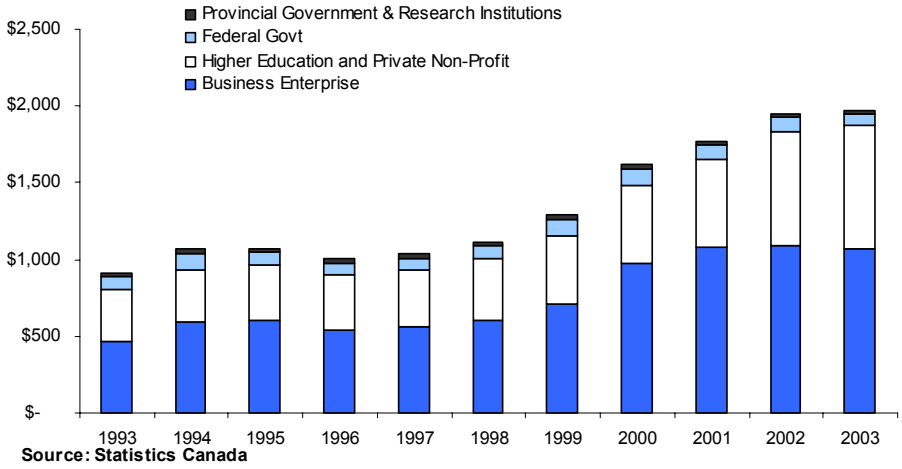
Ratio of total expenditure on R&D to GDP

Indicator G-5



Source: Statistics Canada

The Business sector is the leading performer of R&D



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 for the first time in 2002. After two years of decline, imports recovered somewhat in 2004.

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, but in recent years the flow has reversed, with the province losing people to other parts of Canada.

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

British Columbia experienced high levels of immigration over the past decade, and this trend continued in 2004. Overall, immigrants to BC tend to be well educated. The median education level of adult immigrants (aged 25 years and older at landing) is 15.4 years of schooling. This is on par with Ontario (15.4) and similar to that in Alberta (15.1) and Quebec (15.8).

The number of skilled immigrants to BC has increased substantially (+201%) since 1990. Quebec (147%) and Ontario (162%) have also experienced a significant influx, whereas Alberta (82%) lags be-

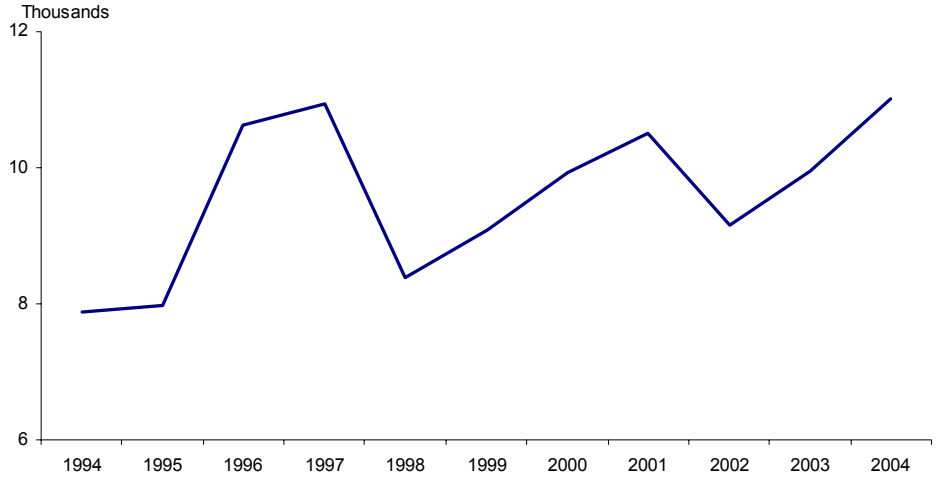
Why are these indicators important?

The economic effects of immigration depend on the skills and resources immigrants bring with them. 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.

hind. Indeed, BC has been a central destination for skilled immigrants. Over the period of 1994 to 2004, BC received over 125,000 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 these Asian immigrants.

Indicator X-1

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

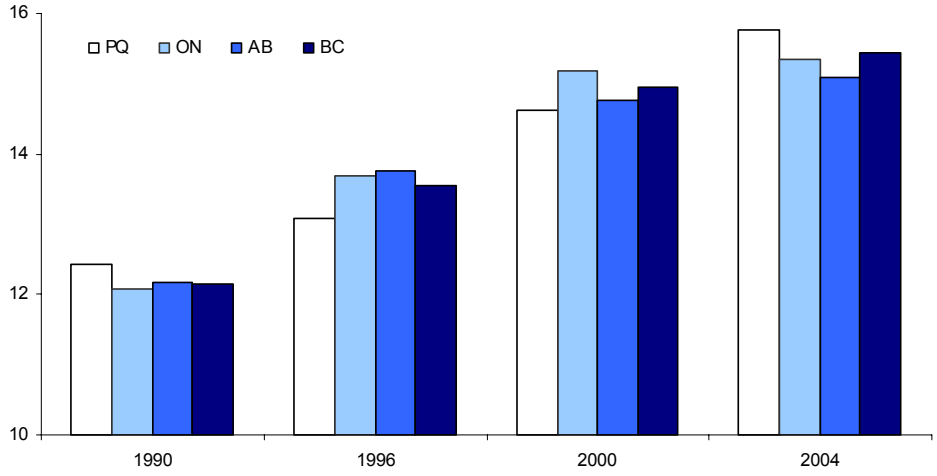


Source: Citizenship and Immigration Canada

The median years of schooling of immigrants aged 25 years and older increased over the past decade. In BC, median education rose from 12.3 years to 15.4 years between 1994 and 2004. Other provinces have seen a similar trend.

Indicator X-2

Median years of schooling of immigrants 25 years and older



Source: Citizenship and Immigration Canada

It seems clear that Canada acquires many high-technology workers. 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% of recent immigrants aged 25-44 worked in information technology occupations in contrast to only 3% 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% working in engineering and 1.2% in natural sciences versus 1% and 0.6% of Canadian-born workers respectively.[14]

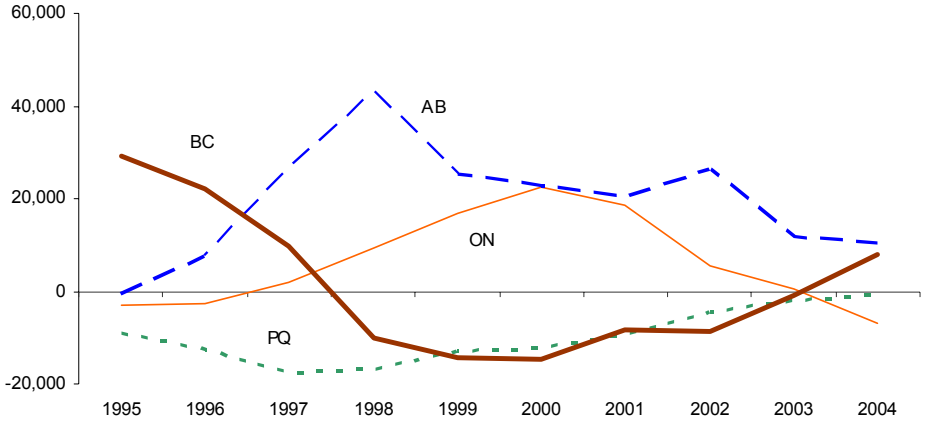
Inter-provincial Migration

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 1998, with an inflow of almost 8,000 migrants recorded in 2004, but the province is certainly not the destination of choice that it once was.

Why is this indicator important?

In aggregate, population movement between provinces is a general indicator of perceived economic opportunity and general attractiveness.

Net inter-provincial migration **Indicator X-3**



Source: Statistics Canada

Quebec has seen consistent net out-migration over the past decade. In Ontario, population outflows in the early 1990s were reversed in

[14] Source: Statistics Canada, 2001 Census.

1997, and in 2000 there were more than 23,000 net migrants to the province. However, by 2004, Ontario recorded a net out-migration of 6,935 individuals.

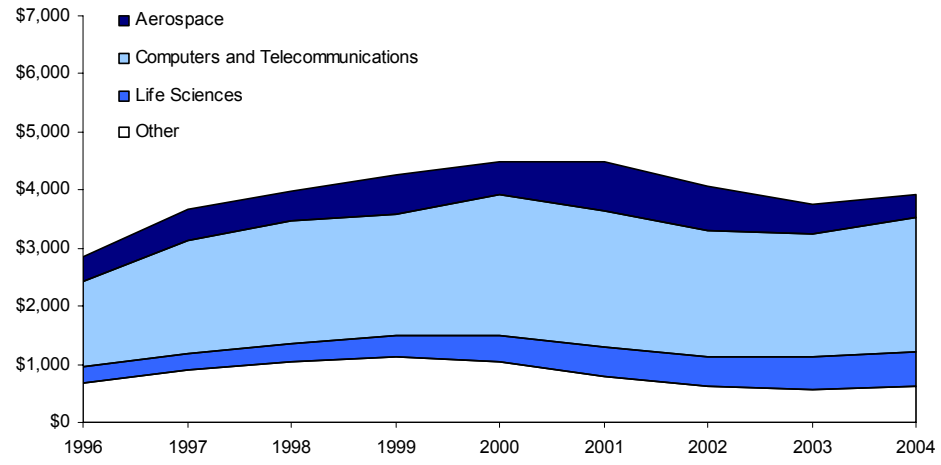
Why is this indicator important?

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.

High Technology Imports

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. Aerospace (10%) and life sciences (15%) also make up notable shares. Imports of high technology goods increased steadily between 1991 and 2001, but have declined in recent years. However, 2004 showed promise of a rebound, as BC recorded a 4.9% increase in high technology imports over the previous year.[15]

Indicator X-4 **Value of high technology imports to BC ($ Million)**



Source: BC STATS

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

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, although they have begun to climb back up in the last four reporting years (2001-04).

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	→	↓	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	n/a	↓	above average

Unemployment Rate in Natural and Applied Sciences

Nationally, the highest recorded unemployment rate between 1990 and 2005 for all occupations was 11.4% in 1993. The highest rate of unemployment for natural and applied sciences was 5.9% in the same year. Throughout the 1990s and early 2000s, persons employed in the natural and applied sciences occupations have enjoyed an employment advantage compared to the labour force as a whole.

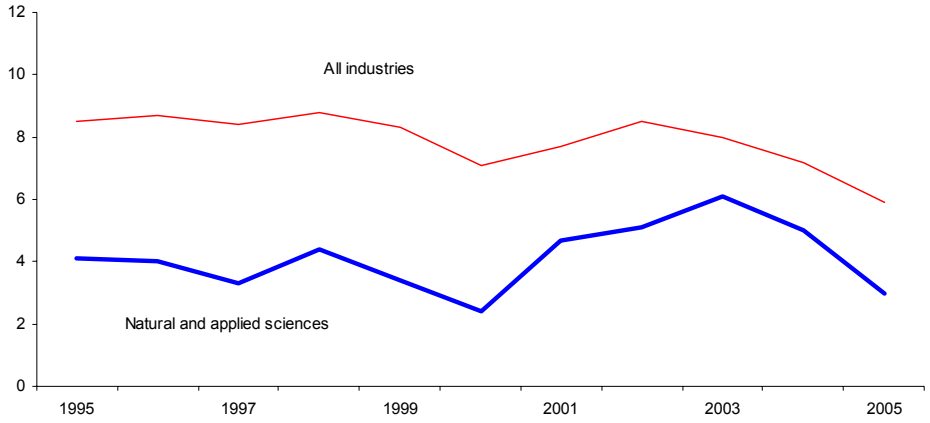
In 2000, the unemployment rate for natural and applied sciences in BC reached a decade low of 2.4%. However, between 2000 and 2004, BC changed from having the lowest to the highest high tech unemployment rate among the four provinces. The situation improved in 2005 as high tech unemployment in BC dropped to 3.0%, below Quebec's rate of 3.5%, such that BC had the third lowest unemployment rate for natural and applied sciences in 2005.

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 more workers—and students—into this sector of the job market.

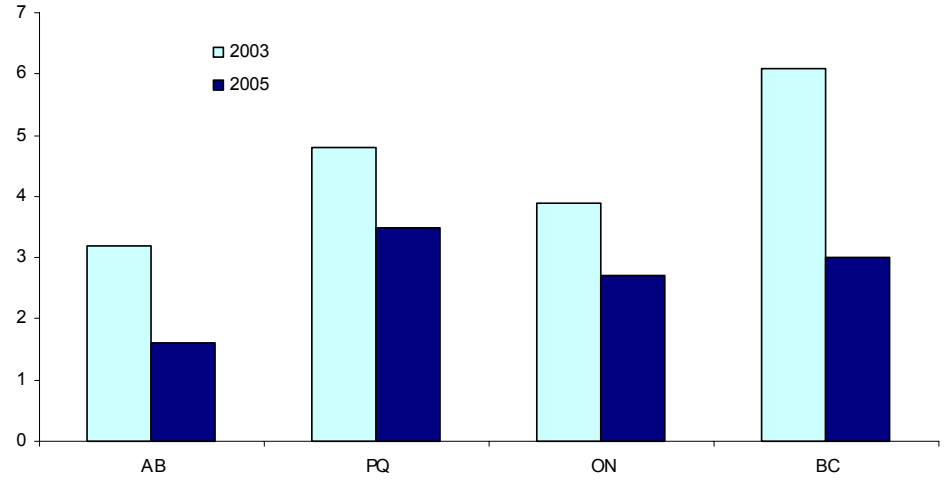
Indicator L-1

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



Source: Statistics Canada

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



Source: Statistics Canada

Research Personnel

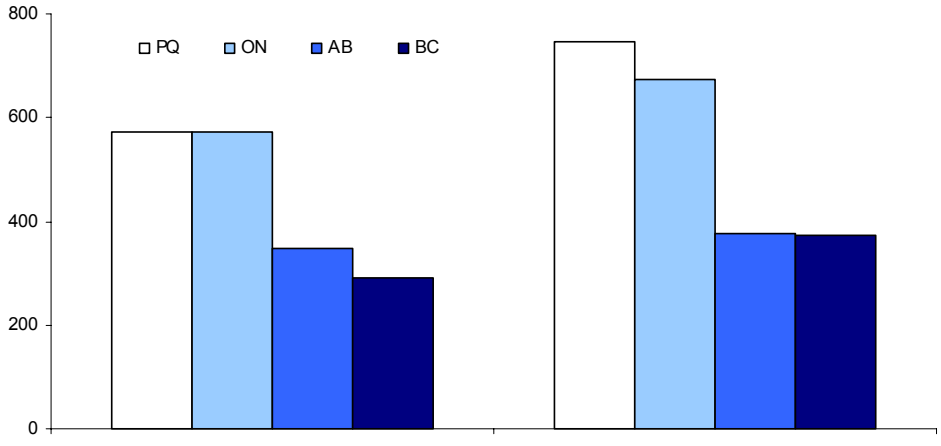
In 2002 (the latest year for which data is available), there were approximately 566 researchers per 100,000 persons, working in the areas of government, business and higher education across Canada. Business and higher education claimed the largest shares of Canadian research personnel (63% and 27%, respectively).

British Columbia's workforce of researchers and technicians was the fourth largest per 100,000 persons across Canada in 2002, the same rank as in 1998, but up from an eighth place rank in 1995. The total number of researchers in other provinces also increased in 2002. Ontario has the largest research workforce per 100,000 in absolute numbers, followed by Quebec.

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. Each sector (federal government, provincial government, business enterprise or higher education) has different reasons for developing new technology and different methods of bringing new discoveries to market.

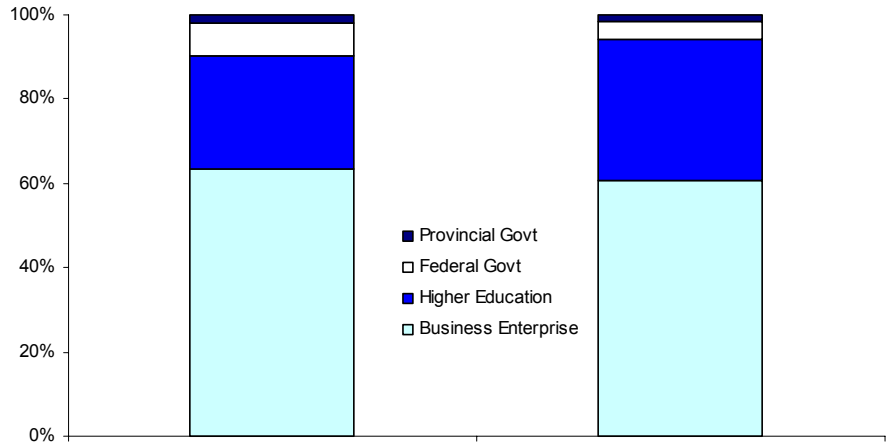
Total research workforce per 100,000 persons **Indicator L-2**



Source: Statistics Canada

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 2002. 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 2002



Source: Statistics Canada

Quality of Life

Vancouver[16] is ranked as having the highest overall quality of life in North America and third highest in the world. Although BC is

The indicator explained...

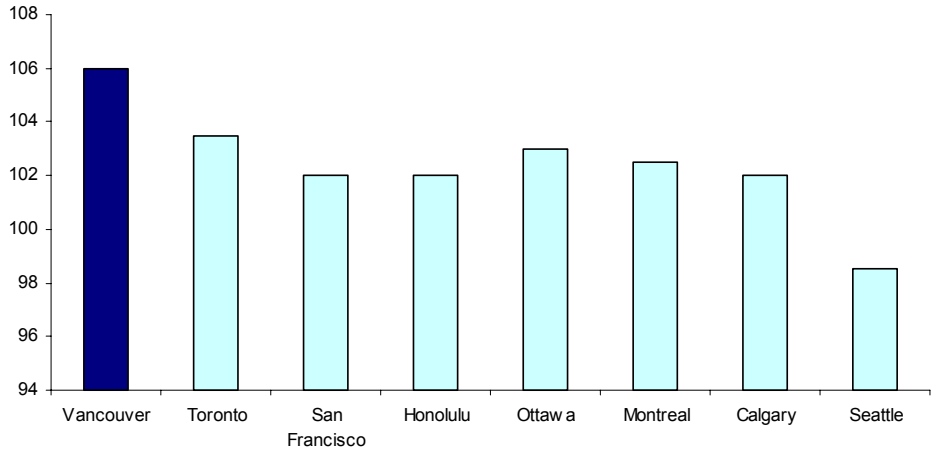
Mercer Human Resource Consulting—a large international management firm—developed "quality of life" scales to assist companies in determining hardship pay. Such allowances are often provided when a company sends employees to work in foreign (particularly third world) countries. The Mercer quality of life 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)"

[16] 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.

comprised of many regions and cities, many of the quality of life variables are available at equally high levels in most other parts of the province and since Vancouver is the largest metropolitan area in the province, its high ranking reflects on the province as a whole as well. The positive ranking for Vancouver would seem to provide a substantial competitive advantage in attracting high tech workers.

Quality of life index scores, 2005 (New York = 100) Indicator L-3



Source: Mercer Human Resource Consulting

Vancouver's score of 106.0 on the overall quality of life index is well above Toronto (103.5), Ottawa (103.0), Montreal (102.5), and Calgary (102.0). In terms of ranking among the 235 cities included in the study, Vancouver ranks third (tied with Vienna), far higher than Toronto (14th), Ottawa (20th), Montreal (22nd), and Calgary (25th). 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	106.0	3	1
Toronto	103.5	15	2
San Francisco	102.0	24	4
Honolulu	102.0	24	4
Ottawa	103.0	20	3
Montreal	102.0	24	4
Calgary	102.0	24	4
Seattle	98.5	45	8

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).

Cost of Living

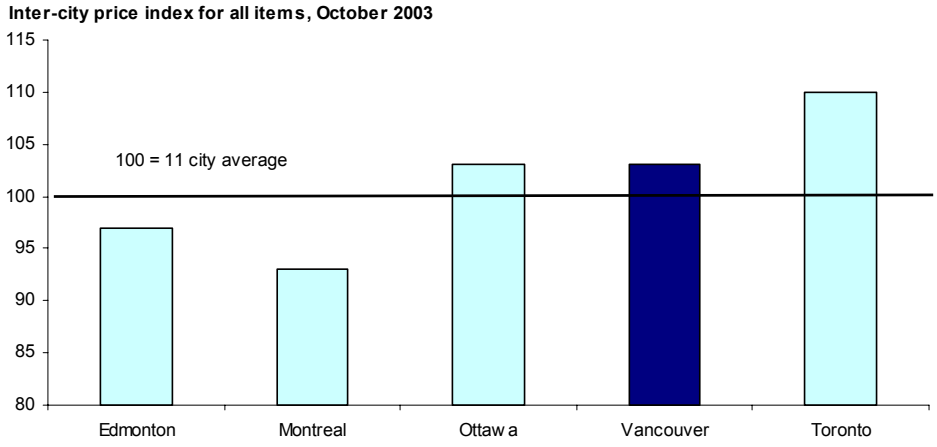
The high quality of life in Vancouver comes with a price. Vancouver is the second most expensive urban centre in Canada, in terms of general retail prices and third in terms of shelter cost.

In Vancouver, retail prices were 3% higher than the combined city average in October 2003, on par with Ottawa and second only to Toronto (10% above average). In Edmonton, prices were 3% below the combined city average and prices in Montreal were 7% below. The absence of a provincial sales tax in Alberta partly explains Edmonton's comparatively low prices. Between 2001 and 2003, retail prices inched down (compared to the average) in Vancouver (from 6% to 3% above average).

The largest component of the inter-city price index is shelter costs. In Vancouver, shelter costs were 3% above the combined city average, the third highest in Canada. In Toronto, shelter costs were a striking 24% above average. Shelter costs were well below average in Edmonton (12% lower) and Montreal (15% lower).

Indicator L-4

Vancouver has second-highest retail prices in Canada



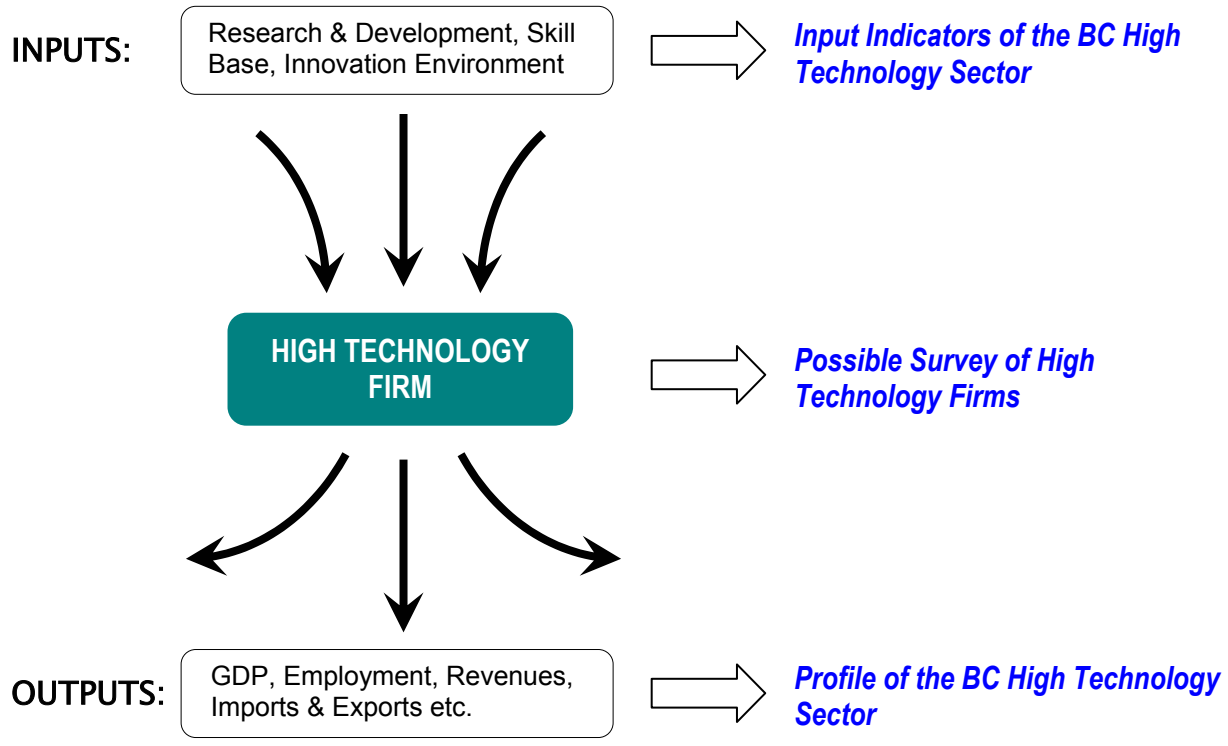
Source: Statistics Canada

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,*[17] 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.

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

[17] Collaborative Economics and Massachusetts Technology Collaborative, *Index of the Massachusetts Innovation Economy*, 2004. Available at:

http://www.mtpc.org/research/

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 33 indicators (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 (indicators) of nine key industry clusters for six leading technology states throughout the United States. The 2004 version of the *Index* covers 30 separate indicators.

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.[18]

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,

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

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.[19] 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.[20]

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,

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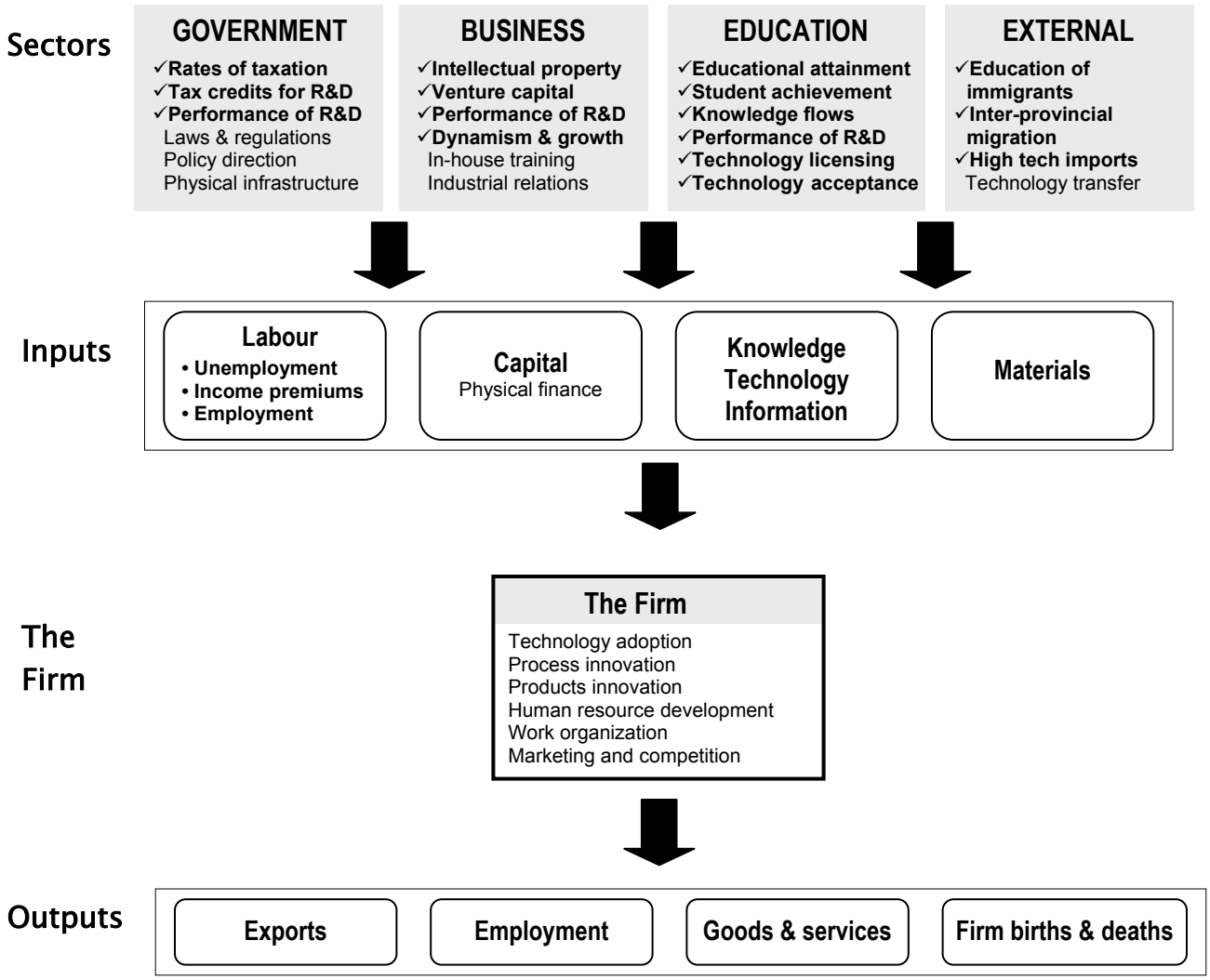
[19] Koebberling, Uschi and Veneranda Dettmers, "A Model of the BC High Technology Sector: Description of Factors and Linkages Affecting the Growth of the High Technology Sector in the Context of an Innovation Economy," Science Council of BC, April 1999.

[20] 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

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.[21]

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.

[21] 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 Management 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

In recent years, a more broadly-based view of high technology has evolved, which encompasses some industries not considered high tech just a few years ago. As such, this edition of the *Indicators* report has incorporated an expanded definition. Note that these definitions were used in this publication to determine the number of establishments, entries, exits and high growth companies for the high tech sector. This is not intended to be a statement of what the permanent definition of high tech is as it is subject to revision in the future.

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

Appendix III: Detailed Tables

Educational Indicators

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	67.1	68.0	68.8	69.9	70.6	71.4	72.6	73.6	74.5	75.8	76.3
NFLD	55.9	57.4	58.3	58.7	60.3	61.4	62.7	63.7	65.8	67.9	67.3
PEI	58.0	59.7	61.1	61.3	63.1	63.4	64.8	67.2	69.6	69.9	70.6
NS	62.1	63.3	64.2	65.9	67.3	68.0	69.0	70.9	70.8	72.4	73.2
NB	62.0	63.2	62.5	64.9	66.5	66.6	67.0	68.7	69.8	71.3	71.9
PQ	61.4	62.5	63.7	65.9	66.3	67.1	68.0	68.9	70.2	71.9	72.4
ON	69.0	69.8	70.3	71.0	71.6	73.0	74.3	75.2	76.0	77.3	77.9
MB	63.9	65.1	66.6	67.8	68.0	68.4	70.1	71.2	72.1	73.0	73.7
SK	63.4	64.5	64.7	65.8	67.8	67.9	69.4	70.2	71.3	73.1	73.7
AB	72.2	72.5	73.4	74.4	75.5	75.1	75.9	77.3	77.8	78.1	78.5
BC	74.6	75.0	76.1	75.8	76.4	76.6	77.9	78.7	79.1	80.2	80.8

Source: Statistics Canada

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	36.5	37.4	38.1	40.0	40.6	41.2	41.5	43.0	43.8	44.7	45.1
NFLD	32.2	33.9	33.5	35.2	36.4	37.6	38.2	39.3	40.9	43.1	42.2
PEI	35.0	36.9	36.2	37.1	37.7	38.5	38.6	41.2	42.3	43.3	45.5
NS	38.1	38.7	40.0	41.9	42.6	43.1	43.5	45.5	44.8	46.0	47.5
NB	32.6	33.7	33.3	34.7	35.7	37.8	37.7	39.2	38.8	39.7	41.1
PQ	36.5	38.3	39.1	41.2	41.8	42.1	42.5	43.7	45.2	46.7	47.3
ON	36.9	37.2	38.2	40.5	40.7	41.7	42.3	43.9	44.7	45.4	45.9
MB	30.0	32.2	33.1	34.5	36.1	37.0	36.8	37.6	37.7	38.4	38.4
SK	31.4	32.4	31.6	32.9	34.7	34.7	35.3	36.4	37.0	39.3	38.7
AB	39.4	39.9	40.1	41.6	42.8	42.4	42.2	44.7	45.3	44.8	44.6
BC	38.6	39.1	39.9	40.9	41.2	41.8	41.7	42.6	42.8	43.6	44.5

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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	645.5	652.6	644.3	633.8	609.0	591.3	586.0	585.9	581.8	596.3	634.7
NFLD	516.3	541.0	506.6	585.6	593.1	609.5	619.9	575.6	577.7	575.4	591.2
PEI	471.7	537.8	551.5	488.1	526.6	376.4	488.8	476.3	536.4	477.9	536.9
NS	908.6	940.3	905.2	877.4	878.0	890.4	853.7	854.8	819.4	833.2	915.3
NB	589.6	600.1	613.9	653.2	634.0	594.5	580.5	578.8	587.0	628.5	644.7
PQ	828.3	840.1	820.0	794.7	744.7	693.0	686.9	663.4	663.6	694.9	726.4
ON	637.5	646.1	647.3	644.9	616.1	607.0	591.4	595.7	592.4	597.9	660.3
MB	607.2	642.9	638.1	604.5	586.4	559.7	535.2	525.3	528.4	518.7	564.2
SK	709.0	577.8	607.7	601.8	554.0	562.2	576.0	604.8	595.2	601.0	613.9
AB	471.1	491.3	483.5	483.8	490.2	481.1	486.4	492.9	511.5	539.5	557.8
BC	406.2	413.4	401.1	383.9	389.9	400.3	423.8	452.3	424.7	434.4	434.1

* 2003 is the latest year for which information is available.

Source: Statistics Canada

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	146,920	150,360	150,305	149,735	145,735	143,075	143,490	145,345	146,425	152,335	164,280
NFLD	2,360	2,465	2,295	2,635	2,645	2,680	2,710	2,505	2,500	2,490	2,565
PEI	485	560	580	520	565	405	530	520	590	530	600
NS	6,710	6,980	6,745	6,575	6,610	6,725	6,490	6,525	6,275	6,430	7,110
NB	3,525	3,605	3,705	3,965	3,865	3,630	3,560	3,565	3,630	3,905	4,025
PQ	47,605	48,625	47,790	46,620	44,005	41,195	41,135	40,055	40,425	42,735	45,085
ON	54,260	55,645	56,450	56,935	55,205	55,150	54,535	55,950	56,805	58,525	65,710
MB	5,300	5,640	5,630	5,365	5,225	5,005	4,820	4,765	4,825	4,770	5,230
SK	5,455	4,470	4,740	4,735	4,370	4,450	4,570	4,790	4,705	4,750	4,865
AB	9,625	10,195	10,195	10,400	10,795	10,910	11,295	11,710	12,430	13,430	14,135
BC	11,590	12,175	12,170	11,990	12,445	12,935	13,850	14,955	14,245	14,770	14,955

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	116.9	118.0	116.9	117.8	115.5	117.3	120.4	123.9	123.4	129.7	141.8
NFLD	63.4	56.0	60.7	61.1	68.4	72.8	92.6	98.8	84.4	94.7	94.5
PEI	14.6	9.6	-	9.4	4.7	-	9.2	13.7	13.6	22.5	22.4
NS	149.0	151.5	153.0	141.4	142.8	130.4	164.4	145.4	161.3	167.2	193.8
NB	69.4	66.6	72.9	76.6	73.0	65.5	67.7	76.3	74.4	76.5	78.5
PQ	151.8	159.4	155.6	164.3	162.1	166.0	164.1	178.7	176.1	183.3	204.6
ON	122.1	121.1	117.8	120.0	114.1	116.6	119.2	118.3	118.2	123.2	132.2
MB	75.0	73.5	77.6	74.9	75.2	71.0	68.8	63.4	63.0	82.1	61.0
SK	76.7	71.1	87.8	84.5	81.8	81.5	80.7	86.5	87.9	86.7	90.9
AB	98.6	100.5	98.4	85.6	91.7	92.4	97.5	98.5	109.3	117.1	121.0
BC	84.5	84.2	86.2	84.0	83.8	88.0	93.9	97.2	89.3	95.0	117.8

- Nil or less than 5 Source: Statistics Canada
* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	26,605	27,195	27,265	27,835	27,640	28,395	29,485	30,745	31,045	33,125	36,705
NFLD	290	255	275	275	305	320	405	430	365	410	410
PEI	15	10	-	10	5	-	10	15	15	25	25
NS	1,100	1,125	1,140	1,060	1,075	985	1,250	1,110	1,235	1,290	1,505
NB	415	400	440	465	445	400	415	470	460	475	490
PQ	8,725	9,225	9,070	9,635	9,580	9,870	9,825	10,790	10,730	11,275	12,700
ON	10,390	10,425	10,270	10,595	10,220	10,595	10,990	11,115	11,330	12,060	13,160
MB	655	645	685	665	670	635	620	575	575	755	565
SK	590	550	685	665	645	645	640	685	695	685	720
AB	2,015	2,085	2,075	1,840	2,020	2,095	2,265	2,340	2,655	2,915	3,065
BC	2,410	2,480	2,615	2,625	2,675	2,845	3,070	3,215	2,995	3,230	4,060

- Nil or less than 5 Source: Statistics Canada
* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	40.9	43.1	43.6	43.6	41.2	41.3	40.2	41.3	42.4	43.6	49.6
NFLD	26.3	26.3	29.8	27.8	28.0	29.6	30.9	28.7	37.0	41.6	49.6
PEI	14.6	24.0	33.3	9.4	14.0	13.9	-	-	27.3	13.5	17.9
NS	73.1	88.9	84.6	89.4	95.6	84.1	72.3	61.6	56.8	56.4	65.7
NB	46.8	42.4	47.2	45.3	46.7	60.6	39.1	42.2	38.0	33.0	32.0
PQ	56.9	59.2	57.6	55.7	50.9	50.6	51.6	49.4	53.6	52.6	56.7
ON	41.8	43.8	46.0	47.3	44.1	44.2	42.2	44.6	45.5	49.0	59.6
MB	23.5	24.5	24.9	27.0	25.3	26.8	23.9	22.6	24.1	24.5	24.3
SK	29.2	30.4	31.4	33.7	34.2	32.8	34.7	43.6	44.3	44.9	47.9
AB	28.1	32.5	30.8	33.7	31.8	32.9	32.1	37.5	37.2	41.4	44.0
BC	18.9	18.5	19.9	17.6	17.9	17.5	21.9	23.1	21.0	19.6	20.9

- Nil or zero Source: Statistics Canada
* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	9,315	9,920	10,180	10,305	9,855	9,995	9,855	10,240	10,675	11,140	12,840
NFLD	120	120	135	125	125	130	135	125	160	180	215
PEI	15	25	35	10	15	15	-	-	30	15	20
NS	540	660	630	670	720	635	550	470	435	435	510
NB	280	255	285	275	285	370	240	260	235	205	200
PQ	3,270	3,425	3,355	3,265	3,005	3,010	3,090	2,985	3,265	3,235	3,520
ON	3,555	3,775	4,015	4,180	3,950	4,015	3,890	4,185	4,365	4,800	5,935
MB	205	215	220	240	225	240	215	205	220	225	225
SK	225	235	245	265	270	260	275	345	350	355	380
AB	575	675	650	725	700	745	745	890	905	1,030	1,115
BC	540	545	605	550	570	565	715	765	705	665	720

- Nil or zero Source: Statistics Canada
* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	12.4	13.3	13.3	12.9	12.8	12.5	12.0	12.4	12.9	14.8	17.1
NFLD	8.8	4.4	4.4	7.8	7.8	12.5	9.2	6.9	8.1	8.1	9.2
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	11.5	6.7	9.4	9.3	11.3	8.6	11.2	8.5	14.4	16.2	15.4
NB	10.9	10.8	11.6	9.9	12.3	7.4	7.3	8.9	7.3	7.2	8.8
PQ	14.3	17.4	17.6	16.5	16.8	16.1	15.4	18.3	18.2	19.3	24.4
ON	13.1	13.8	13.2	12.9	12.2	12.2	11.8	11.5	12.3	14.7	17.4
MB	14.3	12.5	14.7	14.6	16.8	15.7	12.2	9.9	11.5	19.6	10.8
SK	9.7	9.0	12.2	12.1	10.8	11.4	9.5	9.5	10.8	10.1	10.1
AB	13.0	13.7	12.3	11.2	10.7	10.1	11.4	10.3	11.9	14.7	15.8
BC	8.2	9.5	9.6	9.8	9.4	10.7	9.6	9.7	8.8	9.3	11.0

- Nil or zero Source: Statistics Canada
* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	2,825	3,075	3,110	3,040	3,055	3,035	2,945	3,065	3,250	3,770	4,430
NFLD	40	20	20	35	35	55	40	30	35	35	40
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	85	50	70	70	85	65	85	65	110	125	120
NB	65	65	70	60	75	45	45	55	45	45	55
PQ	820	1,010	1,025	970	990	955	920	1,105	1,110	1,185	1,515
ON	1,115	1,190	1,155	1,135	1,095	1,110	1,090	1,080	1,175	1,440	1,735
MB	125	110	130	130	150	140	110	90	105	180	100
SK	75	70	95	95	85	90	75	75	85	80	80
AB	265	285	260	240	235	230	265	245	290	365	400
BC	235	280	290	305	300	345	315	320	295	315	380

- Nil or zero Source: Statistics Canada
* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	23.9	23.8	25.0	23.6	23.2	23.1	25.3	28.3	28.7	31.0	33.0
NFLD	10.9	15.4	15.5	20.0	26.9	23.9	26.3	18.4	30.0	27.7	24.2
PEI	14.6	9.6	4.8	-	14.0	-	9.2	4.6	4.5	13.5	8.9
NS	25.1	30.3	30.9	35.4	33.9	32.4	34.2	36.0	30.7	33.7	41.2
NB	17.6	20.0	19.9	19.8	18.0	19.7	22.8	22.7	30.7	33.8	32.8
PQ	31.6	29.0	30.0	27.1	27.8	27.5	31.8	34.9	30.5	31.5	30.0
ON	26.5	26.5	27.6	26.7	25.8	25.8	27.5	31.1	33.7	38.2	41.1
MB	27.5	30.8	30.6	26.5	24.1	24.0	21.7	24.3	21.4	16.3	15.1
SK	27.9	25.2	25.6	23.5	20.3	22.7	24.6	33.5	34.2	35.4	29.7
AB	13.2	13.5	16.1	15.1	14.1	14.1	16.4	15.4	20.0	20.7	23.5
BC	10.0	11.4	14.5	13.1	12.7	13.3	13.9	18.9	18.5	20.9	27.9

- Nil or zero Source: Statistics Canada
* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	5,430	5,475	5,835	5,585	5,540	5,595	6,190	7,010	7,225	7,925	8,530
NFLD	50	70	70	90	120	105	115	80	130	120	105
PEI	15	10	5	-	15	-	10	5	5	15	10
NS	185	225	230	265	255	245	260	275	235	260	320
NB	105	120	120	120	110	120	140	140	190	210	205
PQ	1,815	1,680	1,750	1,590	1,640	1,635	1,905	2,110	1,860	1,935	1,865
ON	2,255	2,285	2,405	2,355	2,310	2,345	2,535	2,925	3,230	3,735	4,095
MB	240	270	270	235	215	215	195	220	195	150	140
SK	215	195	200	185	160	180	195	265	270	280	235
AB	270	280	340	325	310	320	380	365	485	515	595
BC	285	335	440	410	405	430	455	625	620	710	960

- Nil or zero

Source: Statistics Canada

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	5.9	5.9	5.8	6.0	5.5	5.7	6.2	5.8	6.2	7.1	7.6
NFLD	1.1	1.1	1.1	1.1	0.0	1.1	2.3	2.3	1.2	2.3	2.3
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	6.1	7.4	9.4	8.7	7.3	7.9	23.0	12.4	8.5	9.7	12.2
NB	1.7	3.3	3.3	2.5	2.5	4.9	4.9	4.9	4.0	6.4	6.4
PQ	6.6	6.9	6.6	7.6	8.0	7.3	7.8	8.4	8.7	9.6	10.1
ON	6.8	6.3	6.5	6.6	5.7	5.8	5.9	5.7	6.1	7.1	7.6
MB	2.9	3.4	2.8	2.8	2.2	2.8	2.8	2.2	1.1	1.6	2.2
SK	3.9	4.5	3.8	3.2	3.2	4.4	3.8	3.8	2.5	3.8	3.2
AB	5.1	5.5	5.5	4.4	3.9	4.6	3.9	3.6	4.3	5.8	6.7
BC	5.4	4.9	4.9	5.0	4.2	4.6	4.7	3.8	5.8	6.2	6.5

- Nil or zero

Source: Statistics Canada

* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	1,335	1,350	1,355	1,410	1,325	1,370	1,520	1,440	1,550	1,810	1,970
NFLD	5	5	5	5	-	5	10	10	5	10	10
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	45	55	70	65	55	60	175	95	65	75	95
NB	10	20	20	15	15	30	30	30	25	40	40
PQ	380	400	385	445	470	435	465	505	530	590	625
ON	580	545	565	580	515	525	540	535	585	695	760
MB	25	30	25	25	20	25	25	20	10	15	20
SK	30	35	30	25	25	35	30	30	20	30	25
AB	105	115	115	95	85	105	90	85	105	145	170
BC	155	145	150	155	135	150	155	125	195	210	225

- Nil or zero

Source: Statistics Canada

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	41.2	45.7	47.1	49.9	51.5	52.3	48.3	48.1	47.2	44.1	44.6
NFLD	36.1	49.4	53.0	57.8	67.3	85.3	78.9	74.7	62.4	58.9	56.5
PEI	58.4	57.6	61.8	56.3	74.6	60.4	87.6	82.4	77.3	49.6	62.6
NS	92.1	92.9	92.6	98.7	101.6	109.2	91.4	80.6	78.3	74.5	82.4
NB	42.6	39.1	47.2	51.1	50.9	56.5	57.9	48.7	41.2	42.7	44.0
PQ	38.5	47.1	45.1	48.2	49.7	48.0	34.1	34.8	33.2	32.9	28.8
ON	42.7	46.7	50.3	52.9	55.5	55.8	54.5	55.4	54.8	49.7	52.2
MB	48.1	51.3	55.0	61.4	57.2	59.8	56.6	55.1	70.6	48.4	53.9
SK	31.8	27.8	29.5	30.5	33.6	34.7	41.0	36.6	33.5	31.6	34.7
AB	37.2	40.2	38.4	46.3	47.2	48.3	46.9	42.9	44.9	46.8	47.6
BC	33.1	36.2	38.7	36.3	36.0	37.6	40.5	44.9	41.7	40.3	39.2

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	9,370	10,520	10,990	11,790	12,325	12,650	11,825	11,925	11,880	11,270	11,555
NFLD	165	225	240	260	300	375	345	325	270	255	245
PEI	60	60	65	60	80	65	95	90	85	55	70
NS	680	690	690	740	765	825	695	615	600	575	640
NB	255	235	285	310	310	345	355	300	255	265	275
PQ	2,210	2,725	2,630	2,830	2,935	2,855	2,045	2,100	2,020	2,025	1,790
ON	3,630	4,020	4,385	4,670	4,970	5,070	5,030	5,200	5,255	4,865	5,195
MB	420	450	485	545	510	535	510	500	645	445	500
SK	245	215	230	240	265	275	325	290	265	250	275
AB	760	835	810	995	1,040	1,095	1,090	1,020	1,090	1,165	1,205
BC	945	1,065	1,175	1,135	1,150	1,215	1,325	1,485	1,400	1,370	1,350

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	11.6	11.3	11.4	12.0	12.0	12.0	11.4	11.3	11.7	11.8	12.3
NFLD	9.8	11.0	13.2	14.4	15.7	18.2	20.6	19.5	6.9	6.9	8.1
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	11.5	11.5	12.1	14.7	13.3	15.9	11.2	8.5	11.8	10.4	11.6
NB	5.0	6.7	4.1	7.4	4.1	5.7	6.5	5.7	7.3	5.6	6.4
PQ	13.7	13.8	14.0	14.6	14.9	14.6	14.5	14.5	16.4	16.4	17.8
ON	12.8	12.2	12.2	13.0	12.9	12.2	11.3	11.1	11.7	11.9	12.0
MB	8.0	8.5	7.9	8.4	10.1	8.9	8.3	8.8	6.6	10.3	7.0
SK	9.1	5.8	9.0	8.3	7.0	9.5	10.1	8.8	8.2	8.9	8.2
AB	8.8	9.6	9.0	8.6	8.6	8.8	9.3	9.9	9.3	9.6	10.9
BC	10.0	8.7	9.6	9.4	9.2	10.2	8.7	9.4	8.9	9.0	9.4

\- Nil or zero Source: Statistics Canada

* 2003 is the latest year for which information is available.

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	2,645	2,600	2,670	2,845	2,860	2,900	2,780	2,805	2,935	3,025	3,195
NFLD	45	50	60	65	70	80	90	85	30	30	35
PEI	-	-	-	-	-	-	-	-	-	-	-
NS	85	85	90	110	100	120	85	65	90	80	90
NB	30	40	25	45	25	35	40	35	45	35	40
PQ	785	800	815	855	880	870	870	875	1,000	1,010	1,105
ON	1,090	1,050	1,060	1,145	1,155	1,110	1,045	1,045	1,125	1,160	1,190
MB	70	75	70	75	90	80	75	80	60	95	65
SK	70	45	70	65	55	75	80	70	65	70	65
AB	180	200	190	185	190	200	215	235	225	240	275
BC	285	255	290	295	295	330	285	310	300	305	325

\- Nil or zero Source: Statistics Canada

* 2003 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
CANADA	39.8	45.0	49.8	54.9	59.9	63.9	66.8
NFLD	27.9	34.4	38.6	41.7	49.3	51.5	51.9
PEI	28.4	32.6	39.6	40.3	48.6	52.6	57.3
NS	33.5	37.2	42.1	47.8	56.0	57.3	61.8
NB	31.1	32.1	37.4	44.0	48.1	49.6	53.5
PQ	31.7	38.4	42.2	44.8	51.1	56.7	59.5
ON	44.3	48.9	54.6	60.6	66.1	67.7	71.6
MB	33.2	40.9	44.2	47.6	51.6	57.3	61.1
SK	36.0	37.3	42.3	48.4	51.1	57.7	60.8
AB	46.7	50.7	57.9	61.2	66.1	70.3	72.1
BC	46.8	51.8	54.5	63.1	64.3	71.7	72.6

* 2003 is the latest year for which information is available. Source: Statistics Canada

Indicator E-10. Percentage of households using the Internet (%)*

	1997	1998	1999	2000	2001	2002	2003
CANADA	29.0	35.9	41.8	51.3	60.2	61.6	64.2
NFLD	26.1	28.8	35.2	45.5	50.2	50.8	56.3
PEI	25.7	35.4	40.5	51.1	57.8	54.1	59.4
NS	31.8	37.8	41.1	52.0	57.4	58.1	63.1
NB	28.1	31.0	38.0	45.2	52.4	48.6	53.3
PQ	19.8	26.2	33.1	43.6	53.7	53.2	54.9
ON	32.9	39.1	44.5	54.2	63.7	67.4	68.4
MB	28.8	33.3	38.3	49.8	56.7	60.1	64.2
SK	26.4	33.7	39.9	46.9	52.6	57.6	62.6
AB	34.0	45.1	50.8	58.8	65.3	64.3	68.8
BC	33.0	42.0	48.1	55.9	65.3	65.7	70.6

*Includes use from home, work, school, libraries and other locations
2003 is the latest year for which information is available. Source: Statistics Canada

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

	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	52	65	70	73	73	80	82	84
NFLD	44	58	52	54	68	71	72	84
PEI	54	69	70	78	80	85	89	86
NS	57	66	75	76	72	80	85	79
NB	49	62	67	70	70	79	79	86
PQ	36	53	60	63	67	73	75	77
ON	58	69	75	77	75	83	86	88
MB	51	62	67	76	74	81	85	89
SK	49	64	65	63	70	77	77	76
AB	56	72	72	78	79	84	88	88
BC	58	69	72	76	78	83	85	87

Source: Canadian Federation of Independent Business

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

INSTITUTION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
U of Toronto	1,444	1,121	3,091	3,354	2,223	2,224	1,328	2,749	2,981	1,889	2,955
McMaster U	-	-	-	-	-	-	-	412	906	731	887
U of Western Ont.	5	10	15	11	64	63	65	32	206	812	394
Queens U	681	602	548	1,308	767	767	1,003	8,023	4,195	4,372	4,874
U of Waterloo	1,600	1,912	1,785	1,740	1,169	2,201	682	618	1,170	812	827
U of Montreal	-	-	-	-	-	-	-	418	4,283	548	847
McGill U	-	-	-	-	-	-	-	714	9,914	1,528	2,046
U Laval	-	-	-	-	-	-	-	-	169	229	179
U of Alberta	374	792	990	4,201	4,225	4,227	3,630	1,617	7,612	2,109	1,470
U of BC	1,023	1,201	1,277	745	1,197	1,198	1,248	4,159	8,646	11,890	13,669

- Data not available Source: Association of University Technology Managers
* 2003 is the latest year for which information is available.

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

INSTITUTION	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	1999-2003
U of Toronto	4	6	3	5	7	7	6	13	13	11	3	46
McMaster U	-	-	-	-	-	0	2	2	1	5	3	13
U of Western Ont.	1	2	3	4	5	5	4	3	3	1	4	15
Queens U	13	9	11	8	3	3	12	19	17	17	14	79
U of Waterloo	8	3	11	8	9	6	6	5	4	2	6	23
U of Montreal	-	-	-	-	-	4	13	12	11	17	11	64
McGill U	-	-	-	-	-	-	17	20	28	19	45	129
U of Laval	-	-	-	-	-	-	-	-	5	9	8	_
U of Alberta	11	6	8	13	12	12	11	12	13	18	11	65
U of BC	21	18	16	26	18	22	50	23	29	29	19	150

- Data not available Source: Association of University Technology Managers
* 2003 is the latest year for which information is available.

Table 10. Simon Fraser University gross income from technology licenses (in $ '000 CDN) and US patents issued*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Technology License Income	-	-	-	-	-	-	-	256	263	735	86
US Patents Issued	2	0	2	3	2	2	5	3	3	4	4

- Data not available
Source: Association of University Technology Managers
* 2003 is the latest year for which information is available.

Indicator E-14. Ratio of higher education performance of R&D to GDP (%)*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	0.51	0.49	0.47	0.45	0.45	0.49	0.52	0.54	0.58	0.65	0.67
NFLD	0.61	0.57	0.54	0.55	0.59	0.64	0.65	0.60	0.63	0.58	0.63
PEI	0.16	0.16	0.15	0.14	0.18	0.37	0.35	0.45	0.44	0.51	0.60
NS	0.65	0.61	0.61	0.60	0.62	0.77	0.88	0.82	0.81	0.84	0.91
NB	0.37	0.36	0.35	0.34	0.35	0.46	0.47	0.45	0.44	0.48	0.53
PQ	0.72	0.67	0.63	0.62	0.61	0.65	0.73	0.72	0.77	0.86	0.93
ON	0.50	0.48	0.45	0.44	0.44	0.46	0.47	0.53	0.57	0.63	0.65
MB	0.49	0.49	0.46	0.44	0.40	0.47	0.55	0.61	0.60	0.64	0.66
SK	0.46	0.44	0.43	0.39	0.41	0.47	0.57	0.67	0.71	0.75	0.67
AB	0.37	0.36	0.37	0.34	0.34	0.39	0.43	0.39	0.45	0.50	0.50
BC	0.35	0.34	0.34	0.33	0.32	0.34	0.37	0.39	0.43	0.54	0.55

* 2003 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
CANADA	2.73	4.34	3.64	4.01	3.86	4.06
NFLD	0.74	1.12	0.57	0.77	0.77	0.96
PEI	0.74	1.47	1.47	0.73	0.73	0.73
NS	0.43	1.18	0.64	0.86	1.82	1.39
NB	1.87	2.26	1.07	1.33	1.33	2.00
PQ	2.80	4.14	3.91	4.31	4.27	4.83
ON	3.31	5.62	4.24	4.49	4.05	3.88
MB	1.76	2.80	2.09	2.52	2.94	3.79
SK	3.24	3.25	3.27	2.70	2.61	2.51
AB	3.10	5.55	5.09	6.08	6.26	6.77
BC	1.91	2.57	2.57	3.09	2.79	3.18

* 2003 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*

	2001	2002	2003	Average
CANADA	26	24	25	25
NFLD	25	20	24	23
PEI	13	20	25	19
NS	14	29	22	22
NB	19	17	37	24
PQ	22	22	27	24
ON	27	24	21	24
MB	28	31	47	36
SK	19	22	26	22
AB	32	33	30	32
BC	26	20	23	23

* 2003 is the latest year for which information is available.
Source: Canadian Intellectual Property Office

Indicators B-3, B-4 and B-5. Number of establishments, entries, exits, and high growth companies in the BC economy

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

Source: Statistics Canada

Indicators B-3, B-4 and B-5. Number of establishments, entries, exits, and high growth companies in the high technology sector

High tech	1997	1998	1999	2000	2001	2002	2003	2004
Establishments	6,158	6,790	7,342	8,026	8,270	8,164	8,226	8,288
Entries	n/a	2,022	1,699	1,850	1,735	1,571	1,470	1,423
Exits	n/a	1,390	1,147	1,166	1,491	1,677	1,408	1,361
High Growth Companies	n/a	114	185	274	169	125	130	139

Source: Statistics Canada

Indicator B-6. Canadian venture capital investment by province of investment ($ million)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	420	617	1,045	1,679	1,495	2,491	5,269	3,800	2,529	1,662	1,763
ATLANTIC	2	7	27	22	34	61	75	49	34	55	37
PQ	172	258	325	546	630	727	1,410	984	720	614	618
ON	125	218	467	704	531	1,257	2,939	2,107	1,304	759	786
MB	21	15	39	88	26	46	39	44	34	20	24
SK	45	37	42	51	34	21	23	14	48	23	28
AB	10	18	42	61	93	129	243	88	87	77	22
BC	45	64	103	207	147	250	540	514	302	114	248

Source: Canadian Venture Capital Association

Indicator B-7. Proportional share of Canadian venture capital investment

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
ATLANTIC	0.5	1.1	2.7	1.3	2.3	2.5	1.4	1.3	1.3	3.3	2.1
PQ	40.9	41.9	32.5	32.5	42.2	29.2	26.1	25.9	28.5	36.9	35.1
ON	29.7	35.4	46.7	41.9	35.5	50.5	54.5	55.4	51.6	45.7	44.6
MB	5.0	2.4	3.9	5.2	1.7	1.8	0.7	1.2	1.3	1.2	1.4
SK	10.7	6.0	4.2	3.0	2.3	0.8	0.4	0.4	1.9	1.4	1.6
AB	2.4	2.9	4.2	3.6	6.2	5.2	4.5	2.3	3.4	4.6	1.2
BC	10.7	10.4	10.3	12.3	9.8	10.0	10.0	13.5	11.9	6.9	14.1

Source: Canadian Venture Capital Association

Table 11. Canadian venture capital investment per capita ($)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	15.86	22.83	35.43	60.89	54.91	89.46	216.01	122.50	80.61	80.61	52.48
ATLANTIC	0.84	2.94	11.35	9.27	14.42	25.91	31.93	20.93	14.52	23.48	15.79
PQ	23.92	35.74	44.85	75.06	86.35	99.27	191.65	133.03	96.70	81.95	81.93
ON	11.55	19.91	42.14	62.70	46.71	109.24	251.51	177.09	107.75	61.93	63.42
MB	18.70	13.28	34.39	77.46	22.86	40.26	33.99	38.22	29.42	17.22	20.51
SK	44.58	36.48	41.21	50.09	33.42	20.70	22.82	14.00	48.20	23.13	28.13
AB	3.70	6.58	15.13	21.55	32.08	43.68	80.87	28.79	27.92	24.38	6.87
BC	12.24	16.94	26.59	52.42	36.91	62.32	133.69	126.03	73.38	27.44	59.02

Source: Canadian Venture Capital Association

Table 12. Canadian total component investment in scientific and research development ($1997 million, chained)

1994	66.5
1995	134.2
1996	174.4
1997	235.4
1998	276.2
1999	374.6
2000	530.8
2001	758.0
2002	485.3
2003	409.9
2004	633.0
2005	623.2

Source: Statistics Canada

Indicator B-8. Ratio of business performance of R&D to GDP (%)*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	0.88	0.98	0.99	0.96	0.99	1.06	1.06	1.16	1.29	1.16	1.10
NFLD	0.11	0.12	0.10	0.16	0.13	0.15	0.15	0.14	0.15	0.11	0.10
PEI	0.08	0.08	0.11	0.11	0.07	0.07	0.09	0.15	0.17	0.13	0.18
NS	0.24	0.33	0.33	0.28	0.27	0.29	0.27	0.27	0.35	0.33	0.27
NB	0.28	0.32	0.32	0.35	0.22	0.23	0.21	0.20	0.22	0.21	0.19
PQ	1.11	1.21	1.28	1.33	1.34	1.41	1.45	1.62	1.79	1.68	1.63
ON	1.20	1.32	1.31	1.26	1.34	1.43	1.42	1.57	1.75	1.47	1.43
MB	0.37	0.39	0.36	0.33	0.30	0.33	0.46	0.39	0.49	0.38	0.33
SK	0.26	0.29	0.28	0.20	0.28	0.25	0.25	0.22	0.26	0.33	0.23
AB	0.49	0.58	0.53	0.53	0.51	0.58	0.42	0.41	0.47	0.51	0.46
BC	0.50	0.59	0.57	0.49	0.49	0.53	0.59	0.74	0.81	0.79	0.74

* 2003 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 $80,000 per year ($)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
NFLD	32,660	32,689	32,294	32,206	31,824	30,590	29,194	28,991	28,662	28,270	28,281
PEI	29,764	29,791	29,771	30,142	29,723	28,859	26,986	26,785	26,299	25,910	25,938
NS	30,160	30,188	30,029	30,385	29,170	28,491	27,893	27,693	26,685	25,817	26,301
NB	29,604	29,632	29,452	29,587	29,120	28,430	27,378	26,981	25,558	25,165	25,115
PQ	36,482	36,959	36,941	37,025	36,459	35,510	35,938	34,402	33,147	32,881	32,741
ON	32,672	32,702	31,259	30,559	30,281	29,258	27,022	26,533	25,688	25,202	25,667
MB	32,516	33,043	33,024	32,978	32,338	31,266	30,034	29,607	29,863	28,229	28,127
SK	30,919	30,877	30,857	31,744	30,750	29,952	27,480	27,098	25,124	24,838	24,825
AB	27,392	27,396	27,378	27,132	26,528	25,626	23,220	22,977	22,895	22,334	22,212
BC	28,782	28,765	28,558	28,287	28,041	27,295	25,452	23,628	22,892	22,261	22,063

Source: BC Ministry of Finance

Indicator G-2. Small business tax rate

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
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	7.5
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	4.0	7.0	7.0	6.0	6.0	4.5	4.0	3.0	3.0	2.5
PQ	5.8	5.8	5.8	5.9	9.2	8.9	9.0	9.0	9.0	8.9	8.9
ON	9.5	9.5	9.5	9.5	8.5	7.0	7.0	6.0	5.5	5.5	5.5
MB	9.0	9.0	9.0	9.0	9.0	7.0	7.0	5.0	5.0	5.0	5.0
SK	8.0	8.0	8.0	8.0	8.0	8.0	8.0	6.0	6.0	5.5	5.0
AB	6.0	6.0	6.0	6.0	6.0	6.0	6.0	5.0	4.5	4.0	3.0
BC	10.0	9.0	9.0	9.0	5.5	4.8	4.5	4.5	4.5	4.5	4.5

Source: BC Ministry of Finance

Indicator G-3. General corporate income tax rate

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
NFLD	16.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0
PEI	15.0	15.0	15.0	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	14.0	17.0	17.0	17.0	17.0	17.0	17.0	16.0	13.0	13.0	13.0
PQ	8.9	8.9	8.9	9.2	9.2	9.0	9.0	9.0	9.0	8.9	8.9
ON	15.5	15.5	15.5	15.5	15.5	14.0	14.0	12.5	12.5	14.0	14.0
MB	17.0	17.0	17.0	17.0	17.0	17.0	17.0	16.5	16.0	15.5	15.0
SK	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
AB	15.5	15.5	15.5	15.5	15.5	15.5	15.5	13.5	13.0	12.5	11.5
BC	16.5	16.5	16.5	16.5	16.5	16.5	16.5	13.5	13.5	13.5	12.0

Source: BC Ministry of Finance

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

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	0.28	0.26	0.24	0.24	0.22	0.21	0.21	0.22	0.22	0.22	0.20
NFLD	0.41	0.36	0.29	0.28	0.26	0.27	0.25	0.25	0.23	0.22	0.15
PEI	0.45	0.44	0.34	0.35	0.36	0.34	0.38	0.48	0.47	0.21	0.31
NS	0.44	0.48	0.43	0.44	0.38	0.39	0.34	0.38	0.29	0.30	0.25
NB	0.24	0.20	0.19	0.20	0.20	0.20	0.19	0.15	0.15	0.24	0.15
PQ	0.21	0.20	0.18	0.18	0.15	0.16	0.16	0.20	0.21	0.21	0.18
ON	0.38	0.35	0.34	0.34	0.30	0.29	0.28	0.28	0.28	0.28	0.28
MB	0.35	0.32	0.27	0.27	0.20	0.16	0.18	0.21	0.23	0.20	0.18
SK	0.29	0.25	0.25	0.21	0.29	0.22	0.22	0.21	0.22	0.18	0.18
AB	0.17	0.16	0.16	0.15	0.13	0.14	0.15	0.13	0.14	0.13	0.11
BC	0.12	0.13	0.10	0.09	0.10	0.09	0.11	0.10	0.09	0.09	0.07

* 2003 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*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	1.68	1.73	1.70	1.65	1.66	1.76	1.80	1.92	2.09	2.03	1.97
NFLD	1.14	1.05	0.94	0.99	0.98	1.06	1.04	0.99	1.01	0.91	0.89
PEI	0.69	0.67	0.60	0.60	0.61	0.77	0.82	1.07	1.08	0.86	1.09
NS	1.34	1.42	1.37	1.32	1.26	1.45	1.48	1.47	1.46	1.47	1.43
NB	0.88	0.88	0.85	0.90	0.77	0.89	0.87	0.80	0.80	0.93	0.87
PQ	2.04	2.08	2.10	2.12	2.10	2.22	2.33	2.54	2.77	2.75	2.74
ON	2.08	2.15	2.10	2.05	2.09	2.18	2.17	2.37	2.60	2.38	2.36
MB	1.20	1.20	1.09	1.04	0.90	0.97	1.20	1.21	1.32	1.22	1.17
SK	1.02	0.98	0.96	0.81	0.98	0.94	1.05	1.11	1.20	1.26	1.07
AB	1.03	1.10	1.06	1.02	0.98	1.10	0.99	0.93	1.07	1.14	1.06
BC	0.97	1.06	1.01	0.92	0.91	0.96	1.07	1.23	1.32	1.41	1.35

* 2003 is the latest year for which information is available. Source: Statistics Canada

Table 13. Profile of the BC total expenditures on R&D ($ million)*

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Business Enterprise	471	591	602	538	564	608	714	973	1080	1086	1075
Higher Education and Private Non-Profit	330	344	363	361	364	396	444	507	571	747	797
Federal Govt	88	103	81	78	83	85	106	111	96	99	80
Provincial Government & Research Institutions	27	29	22	25	28	24	26	25	22	21	17

* 2003 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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	24.8	28.3	32.7	35.9	36.8	40.1	42.3	43.4	45.0	44.6	47.1
NFLD	47.5	51.2	48.4	48.5	48.8	48.0	52.1	41.6	45.3	47.2	45.9
PEI	21.5	33.7	22.6	42.2	34.2	27.1	29.9	38.6	27.9	38.1	52.8
NS	42.0	42.2	40.3	43.0	44.1	41.8	45.5	48.6	51.2	53.5	57.9
NB	37.2	42.9	42.8	41.2	46.3	45.0	42.4	45.4	49.4	45.4	50.2
PQ	27.7	30.1	30.2	30.2	34.4	38.7	40.5	44.2	49.6	52.0	53.0
ON	23.9	27.2	33.3	37.2	37.8	41.7	44.2	44.6	45.8	44.3	46.9
MB	26.6	30.7	30.4	34.9	31.6	31.3	29.9	28.5	31.1	27.7	29.4
SK	32.1	38.9	37.9	37.0	38.7	40.1	39.3	41.2	40.5	42.9	48.0
AB	22.2	28.2	32.9	34.9	36.7	38.4	39.4	39.8	41.1	38.6	43.5
BC	24.7	27.8	32.1	35.4	35.8	38.0	39.8	40.9	40.4	42.5	44.6

Source: Citizenship and Immigration Canada

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	12.3	12.6	13.6	14.1	14.4	14.8	15.0	15.1	15.2	15.2	15.4
NFLD	15.3	15.6	15.3	14.8	15.0	15.4	15.9	14.7	15.4	15.6	15.2
PEI	12.2	13.8	12.2	13.7	12.9	13.2	13.1	14.1	12.8	14.3	15.7
NS	14.5	14.5	14.2	14.7	14.6	14.7	15.1	15.5	15.7	15.8	16.0
NB	14.0	14.7	14.6	14.7	15.1	15.1	14.9	15.0	15.6	15.1	15.6
PQ	12.5	13.0	13.1	13.2	13.9	14.4	14.6	15.0	15.6	15.7	15.8
ON	12.2	12.5	13.7	14.3	14.5	15.0	15.2	15.2	15.3	15.2	15.4
MB	12.4	13.5	13.7	14.0	13.7	13.9	13.8	13.8	14.0	13.6	13.9
SK	12.6	14.1	14.0	14.0	14.3	14.5	14.5	14.8	14.7	15.0	15.5
AB	12.1	12.6	13.7	14.0	14.3	14.7	14.8	14.9	15.0	14.8	15.1
BC	12.3	12.5	13.5	14.0	14.3	14.8	15.0	15.0	15.0	15.2	15.4

Source: Citizenship and Immigration Canada

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
NFLD	-6,204	-6,974	-7,436	-8,134	-9,490	-5,695	-4,263	-4,493	-3,352	-1,683	-2,027
PEI	694	349	638	136	-416	193	104	165	62	165	144
NS	-2,694	-2,741	-1,245	-1,648	-2,569	201	-270	-2,077	-898	510	-772
NB	-505	-813	-369	-1,263	-3,192	-1,244	-1,183	-1,530	-1,218	-843	-760
PQ	-10,252	-8,947	-12,626	-17,436	-16,958	-13,065	-12,146	-9,442	-4,350	-1,829	-822
ON	-4,527	-2,841	-2,822	1,977	9,231	16,706	22,369	18,623	5,354	637	-6,935
MB	-4,010	-3,220	-3,566	-5,873	-5,276	-2,113	-3,456	-4,323	-4,344	-2,875	-2,565
SK	-3,958	-3,652	-2,161	-2,794	-1,940	-4,333	-7,947	-8,410	-8,820	-5,141	-4,521
AB	-2,684	-556	7,656	26,282	43,089	25,191	22,674	20,457	26,235	11,903	10,606
BC	34,449	29,291	22,025	9,880	-10,029	-14,484	-14,610	-8,286	-8,556	-1,037	7,865

Source: Statistics Canada

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Biotechnology	17.4	21.7	24.6	21.6	32.5	33.8	33.7	57.6	53.3	55.2	49.2
Life Sciences	228.5	253.6	267.6	276.1	313.9	367.5	448.6	506.7	528.2	555.0	578.8
Opto-Electronics	71.3	72.8	78.1	96.3	97.4	93.6	121.8	123.7	104.6	94.3	112.6
Computers and Telecommunications	1,438.3	1,464.2	1,463.1	1,940.3	2,132.9	2,087.3	2,432.6	2,340.0	2,177.3	2,120.4	2,321.0
Electronics	397.6	476.7	371.7	545.2	680.0	676.9	547.7	333.4	228.0	203.4	249.3
Computer Integrated Manufacturing	168.4	154.5	145.2	183.3	133.8	153.0	186.9	166.3	162.6	169.5	162.1
Material Design	29.0	27.8	31.0	33.2	62.5	141.0	133.0	83.1	29.9	21.7	22.1
Aerospace	305.7	256.2	427.0	532.7	501.1	672.0	539.6	835.3	752.5	493.4	396.8
Weapons and Nuclear	30.8	29.7	34.7	30.2	24.1	24.2	31.2	34.5	28.6	28.0	32.7
Total	2,687.0	2,757.2	2,842.9	3,658.8	3,978.1	4,249.3	4,475.0	4,480.6	4,065.0	3,740.9	3,924.6

Source: BC STATS

Labour Indicators

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

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	4.2	4.3	3.6	3.5	3.4	3.0	3.8	4.5	4.5	3.8	2.9
NFLD	8.9	6.7	6.8	8.0	9.7	8.2	8.2	7.8	9.3	6.7	9.5
PEI	19.2	12.9	14.8	12.5	9.4	7.1	5.9	5.4	8.3	11.4	5.0
NS	4.8	5.2	6.1	5.4	4.2	4.6	4.5	5.9	7.2	4.2	5.0
NB	5.9	5.4	6.0	6.5	5.0	5.6	5.2	4.7	5.5	4.6	5.5
PQ	5.7	5.7	5.1	4.4	3.4	3.1	4.2	4.4	4.8	4.5	3.5
ON	3.2	3.6	2.7	2.7	3.2	2.8	3.5	4.7	3.9	3.3	2.7
MB	2.7	3.5	2.8	2.7	2.5	3.0	2.8	3.5	3.1	1.9	-
SK	3.7	4.5	3.2	2.8	4.3	4.5	2.6	2.7	4.7	-	-
AB	4.1	4.1	2.4	2.1	3.1	2.7	2.6	3.0	3.2	3.4	1.6
BC	4.1	4.0	3.3	4.4	3.4	2.4	4.7	5.1	6.1	5.0	3.0

- Data not available

Source: Statistics Canada

Indicator L-2. Research workforce per 100,000 population, 1998 and 2002*

	Federal		Provincial		Business		Higher education		Other		TOTAL	
	1998	2002	1998	2002	1998	2002	1998	2002	1998	2002	1998	2002
CANADA	45.4	44.5	9.5	10.5	253.6	356.4	146.4	150.9	7.9	2.3	462.8	564.6
NFLD	38.9	40.4	0.0	0.0	37.0	48.1	133.4	161.7	0.0	0.0	209.3	250.3
PEI	58.9	43.8	0.0	0.0	36.8	65.7	73.6	87.6	0.0	0.0	169.3	197.2
NS	70.8	61.0	0.0	0.0	68.7	105.9	81.6	166.9	2.1	5.4	223.2	339.2
NB	34.6	29.3	13.3	13.3	50.6	80.0	101.3	114.6	4.0	2.7	203.9	239.9
PQ	27.4	32.6	12.1	12.4	342.4	523.7	185.0	177.0	6.7	0.5	573.6	746.2
ON	71.6	67.4	5.1	8.6	341.1	447.6	144.5	147.4	10.7	0.9	573.0	672.0
MB	38.7	48.5	5.3	3.5	86.2	116.0	130.1	130.7	22.0	10.4	282.2	308.9
SK	44.2	42.2	25.6	21.1	71.7	92.4	127.8	140.6	0.0	0.0	269.3	296.2
AB	25.9	20.5	22.4	23.7	140.0	164.9	146.2	157.2	12.1	11.2	346.6	377.7
BC	17.3	16.3	7.5	5.1	142.9	226.2	122.5	124.7	0.8	1.0	291.0	373.2

FTE: full time equivalent position

Source: Statistics Canada

* 2002 is the latest year of which information is available

Table 14. Structure of the research workforce by sector in 2002 (%)*

	Federal	Provincial	Business	Higher education	Total FTE
PQ	4.4	1.7	70.2	23.7	55,520
ON	10.0	1.3	66.7	22.0	81,210
AB	5.6	6.5	45.0	42.9	11,420
BC	4.4	1.4	60.8	33.5	15,320

FTE: full time equivalent position

Source: Statistics Canada

*2002 is the latest year of which information is available.

Indicator L-3. Quality of life index scores, 2005 (New York = 100)

	Score	Global Rank	North Am. Rank
Vancouver	106.0	3	1
Toronto	103.5	15	2
San Francisco	102.0	24	4
Honolulu	102.0	24	4
Ottawa	103.0	20	3
Montreal	102.0	24	4
Calgary	102.0	24	4
Seattle	98.5	45	8

Source: Mercer Human Resource Consulting

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

	Oct-02	Oct-03
Edmonton	95	97
Montreal	95	93
Ottawa	105	103
Vancouver	105	103
Toronto	110	110

*2003 is the latest year of which information is available.

Source: Statistics Canada

Reference Tables

Reference Table 1. Total population

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	29,302,091	29,610,757	29,907,172	30,157,082	30,403,878	30,689,035	31,021,251	31,372,587	31,669,150	31,974,363	32,270,507
NFLD	567,442	559,807	551,011	539,932	533,409	528,043	521,986	519,449	518,350	517,027	515,961
PEI	134,407	135,751	136,109	135,819	136,296	136,486	136,672	136,934	137,266	137,864	138,113
NS	928,193	931,413	932,481	931,907	933,847	933,881	932,389	934,507	936,165	936,960	937,889
NB	750,979	752,312	752,543	750,551	750,611	750,518	749,890	750,327	750,896	751,384	752,006
PQ	7,219,446	7,246,896	7,274,630	7,295,973	7,323,308	7,357,029	7,396,990	7,445,745	7,492,333	7,542,760	7,598,146
ON	10,949,976	11,083,052	11,228,284	11,367,018	11,506,359	11,685,380	11,897,647	12,102,045	12,256,645	12,392,721	12,541,410
MB	1,129,146	1,134,188	1,136,137	1,137,515	1,142,491	1,147,373	1,151,285	1,155,584	1,161,552	1,170,268	1,177,556
SK	1,014,126	1,019,100	1,018,067	1,017,506	1,014,707	1,007,767	1,000,134	995,886	994,428	995,391	994,126
AB	2,734,515	2,775,163	2,830,056	2,899,452	2,953,255	3,004,940	3,056,739	3,116,332	3,158,641	3,201,895	3,256,816
BC	3,777,004	3,874,276	3,948,544	3,983,077	4,011,342	4,039,198	4,078,447	4,115,413	4,154,591	4,201,867	4,254,522

Source: Statistics Canada

Reference Table 2. Population aged 15 years and older

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	23,328,961	23,625,206	23,929,642	24,198,590	24,484,577	24,805,470	25,166,713	25,547,149	25,883,529	26,232,820	26,585,051
NFLD	453,063	449,951	445,937	439,690	437,141	435,225	432,718	432,771	433,861	434,485	435,176
PEI	105,177	106,527	107,289	107,604	108,439	109,166	110,000	110,893	111,756	112,861	113,661
NS	745,107	749,403	752,823	755,263	760,226	763,378	765,807	771,728	776,765	781,311	785,827
NB	603,510	606,984	609,634	610,579	613,260	615,958	618,379	621,320	624,333	627,228	630,489
PQ	5,828,149	5,866,034	5,909,345	5,944,436	5,988,636	6,037,533	6,091,888	6,149,751	6,206,828	6,269,182	6,340,112
ON	8,720,499	8,828,780	8,959,902	9,086,175	9,221,832	9,392,459	9,588,641	9,787,746	9,951,721	10,105,931	10,265,004
MB	882,302	887,579	891,019	894,291	900,627	907,042	913,111	919,530	926,938	936,664	945,881
SK	779,974	786,751	788,789	791,538	793,432	792,056	790,469	790,328	792,509	796,718	799,466
AB	2,108,608	2,149,784	2,202,366	2,267,761	2,322,379	2,375,617	2,430,106	2,489,564	2,534,019	2,580,088	2,632,956
BC	3,034,379	3,123,597	3,192,111	3,231,184	3,268,249	3,306,213	3,353,847	3,400,337	3,445,350	3,496,998	3,559,109

Source: Statistics Canada

Reference Table 3. Number of households*

	1996	1997	1998	1999	2000	2001	2002	2003
CANADA	10,650,340	10,851,840	11,017,230	11,209,960	11,361,810	11,552,010	12,021,010	12,214,130
NFLD	184,920	184,520	184,940	185,830	188,830	190,580	196,450	197,680
PEI	47,600	48,110	48,760	50,020	50,380	50,580	53,250	53,970
NS	328,490	340,220	338,960	348,010	350,790	355,160	366,850	369,240
NB	264,510	269,430	273,700	277,200	276,160	281,780	290,090	291,670
PQ	2,771,560	2,825,110	2,843,900	2,869,180	2,930,590	2,953,150	3,082,910	3,116,620
ON	3,924,200	3,974,730	4,043,020	4,147,740	4,210,680	4,302,710	4,487,230	4,559,920
MB	403,870	402,420	406,860	406,390	407,970	412,250	424,290	427,620
SK	356,390	365,120	364,720	366,560	372,500	371,220	380,170	380,140
AB	962,840	993,800	1,020,710	1,044,520	1,056,890	1,084,100	1,139,820	1,162,790
BC	1,405,960	1,448,380	1,465,310	1,487,090	1,517,030	1,520,870	1,599,960	1,623,170

*Canada is the sum of the 10 provinces.
2003 is the last year for which information is available.

Source: Statistics Canada

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

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	140,252	132,644	141,097	135,121	108,978	121,291	145,750	161,355	148,895	144,024	151,633
NFLD	364	369	401	266	240	256	257	221	243	231	344
PEI	93	101	84	90	79	85	107	83	68	97	178
NS	1,773	1,886	1,747	1,529	1,074	961	938	1,031	863	891	1,110
NB	379	406	456	417	460	420	467	489	431	414	516
PQ	15,791	15,960	17,921	16,613	15,846	18,030	20,569	24,301	25,025	26,428	29,431
ON	74,319	72,463	74,910	73,666	57,934	66,508	85,654	95,431	86,381	77,641	79,734
MB	2,534	2,277	2,444	2,234	1,758	2,162	2,551	2,627	2,608	3,627	4,060
SK	1,372	1,245	1,126	1,066	984	1,070	1,094	975	951	943	1,141
AB	11,395	9,016	8,726	8,201	7,071	7,825	9,125	10,400	9,539	10,216	10,353
BC	31,885	28,734	33,132	30,886	23,394	23,864	24,888	25,669	22,682	23,416	24,660

Source: Citizenship and Immigration Canada

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

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
CANADA	9.5	9.6	9.1	8.3	7.6	6.8	7.2	7.7	7.6	7.2	6.8
NFLD	18.0	19.1	18.4	17.9	16.9	16.7	16.1	16.7	16.5	15.7	15.2
PEI	14.8	14.7	15.4	13.9	14.3	12.1	11.9	12.0	11.0	11.3	10.8
NS	12.2	12.4	12.2	10.5	9.6	9.1	9.7	9.6	9.1	8.8	8.4
NB	11.4	11.6	12.7	12.2	10.2	10.0	11.1	10.2	10.3	9.8	9.7
PQ	11.5	11.9	11.4	10.3	9.3	8.5	8.8	8.6	9.1	8.5	8.3
ON	8.7	9.0	8.4	7.2	6.3	5.8	6.3	7.1	6.9	6.8	6.6
MB	7.3	7.3	6.5	5.6	5.6	5.0	5.1	5.1	5.0	5.3	4.8
SK	6.7	6.7	6.0	5.8	6.1	5.1	5.8	5.7	5.6	5.3	5.1
AB	7.8	6.9	5.9	5.6	5.7	5.0	4.6	5.3	5.1	4.6	3.9
BC	8.5	8.7	8.4	8.8	8.3	7.1	7.7	8.5	8.0	7.2	5.9

Source: Statistics Canada

Reference Table 6. Gross domestic product ($ million)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	770,873	810,426	836,864	882,733	914,973	982,441	1,076,577	1,108,048	1,154,204	1,216,191	1,290,185
NFLD	10,264	10,652	10,417	10,533	11,176	12,184	13,922	14,179	16,452	18,131	19,433
PEI	2,521	2,662	2,823	2,800	2,981	3,159	3,366	3,431	3,715	3,845	4,023
NS	18,667	19,296	19,512	20,368	21,401	23,059	24,658	25,909	27,079	28,715	29,879
NB	15,286	16,380	16,626	16,845	17,633	19,041	20,085	20,684	21,152	22,179	22,976
PQ	170,478	177,331	180,526	188,424	196,258	210,809	224,928	231,624	242,011	252,367	265,063
ON	311,096	329,317	338,173	359,353	377,897	409,020	440,759	453,701	478,141	493,345	517,407
MB	25,958	26,966	28,434	29,751	30,972	31,966	34,057	35,157	36,644	37,719	39,990
SK	24,480	26,425	28,944	29,157	29,550	30,778	33,828	33,127	34,327	36,394	39,999
AB	88,041	92,036	98,634	107,048	107,439	117,080	144,789	151,274	150,814	171,175	187,152
BC	100,512	105,670	108,865	114,383	115,641	120,921	131,333	133,514	138,252	145,948	157,241

Source: Statistics Canada

Reference Table 7. Gross domestic product ($1997 million, chained)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
CANADA	810,695	833,456	846,952	882,733	918,910	969,750	1,020,488	1,038,702	1,070,789	1,092,388	1,124,428
NFLD	10,672	10,913	10,407	10,533	11,107	11,715	12,322	12,515	14,564	15,471	15,248
PEI	2,546	2,708	2,789	2,800	2,928	3,052	3,111	3,078	3,255	3,304	3,365
NS	19,090	19,410	19,529	20,368	21,127	22,285	22,970	23,700	24,702	24,925	25,271
NB	16,013	16,533	16,652	16,845	17,462	18,553	18,942	19,257	20,105	20,449	20,867
PQ	177,782	180,781	182,564	188,424	194,414	206,467	215,424	218,626	224,574	229,244	234,445
ON	328,500	340,081	343,826	359,353	376,716	405,034	429,105	436,762	450,636	457,649	470,026
MB	27,753	27,828	28,683	29,751	31,014	31,503	32,846	33,111	33,735	34,338	35,136
SK	26,968	27,269	28,063	29,157	30,398	30,459	31,252	30,953	30,894	32,073	33,168
AB	95,278	98,268	100,264	107,048	112,677	114,227	121,153	123,250	126,328	130,256	135,837
BC	105,669	108,194	110,857	114,383	115,883	119,604	125,145	125,924	130,324	133,888	139,205

Source: Statistics Canada