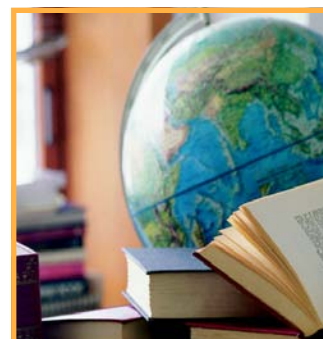


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## Education Indicators in Canada

# Handbook for the Pan-Canadian Education Indicators Program



December 2011

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# Education Indicators in Canada

## Handbook for the Pan-Canadian Education Indicators Program

December 2011

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### Note of appreciation

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## Acronyms and abbreviations

<b>BSSTSD</b>	Business Special Surveys and Technology Statistics Division (formerly SIEID - Science, Innovation and Electronic Information Division)
<b>BTSD</b>	basic training for skill development
<b>CANSIM</b>	Canadian Socio-economic Information Management System
<b>CAUBO</b>	Canadian Association of University Business Officers
<b>CCSIS</b>	Community College Student Information System
<b>CEGEP</b>	Collège d'enseignement général et professionnel
<b>CES</b>	Centre for Education Statistics
<b>CESC</b>	Canadian Education Statistics Council
<b>CFI</b>	Canada Foundation for Innovation
<b>CIHR</b>	Canadian Institutes of Health Research
<b>CIP</b>	Classification of Instructional Programs
<b>CMA</b>	census metropolitan area
<b>CMEC</b>	Council of Ministers of Education, Canada
<b>CPI</b>	Consumer Price Index
<b>CV</b>	coefficient of variation
<b>EAG</b>	Education at a Glance
<b>ESES</b>	Elementary-Secondary Education Survey (formerly ESESP - Elementary-Secondary Education Statistics Project)
<b>FINCOL</b>	Financial Statistics of Community Colleges and Vocational Schools
<b>FIUC</b>	Financial Information of Universities and Colleges Survey
<b>FOG</b>	Follow-up Survey of Graduates
<b>FTE</b>	full-time equivalent
<b>GERD</b>	gross domestic expenditures on research and development
<b>GDP</b>	gross domestic product
<b>GED</b>	general education diploma
<b>HRSDC</b>	Human Resources and Skills Development Canada
<b>IALSS</b>	International Adult Literacy and Skills Survey

ICT	information and communication technologies
ILO	International Labour Organisation
INES	Indicators of Educational Systems
ISCED	International Standard Classification of Education
JRT	job readiness training
LFS	Labour Force Survey
LICO	low-income cutoff
NGS	National Graduates Survey
NSERC	Natural Sciences and Engineering Research Council of Canada
NLSCY	National Longitudinal Survey of Children and Youth
OECD	Organisation for Economic Co-operation and Development
OAC	Ontario Academic Credits
PCAP	Pan-Canadian Assessment Program
PCEIP	Pan-Canadian Education Indicators Program
PIAAC	Programme for the International Assessment of Adult Competencies
PISA	Programme for International Student Assessment
PPVT-R	Peabody Picture Vocabulary Test-Revised
PSIS	Postsecondary Student Information System
PSSD	Public Sector Statistics Division (formerly PID - Public Institutions Division)
R&D	research and development
RAIS	Registered Apprenticeship Information System
SAIP	School Achievement Indicators Program
SCF	Survey of Consumer Finances
SCI	Survey of Colleges and Institutes
SHS	Survey of Household Spending
SLID	Survey of Labour and Income Dynamics
SSGS	Secondary School Graduates Survey
SSHRC	Social Sciences and Humanities Research Council of Canada
TLAC	Tuition and Living Accommodation Costs for Full-time Students at Canadian Degree-granting Institutions
TVOC	Trade/Vocational Enrolment Survey
UCASS	University and College Academic Staff System
USIS	University Student Information System
YITS	Youth in Transition Survey

## Introduction

This handbook, based on the first edition, entitled *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*, was developed to update the general descriptions for the indicators of the Pan-Canadian Education Indicators Program (PCEIP) as new sets of tables are released. It complements the tables, and both share a common objective: to provide consistent and high-quality information on education in Canada. The up-to-date array of indicators helps support informed decision-making, policy formulation and program development throughout the country.

This companion Handbook is a reference document that gives readers a broad understanding of each indicator, rather than the very specific methodological descriptions that would be necessary to reproduce the indicator using the raw data.

The PCEIP tables highlight the most recent available data in a series of detailed data tables and include five broad indicator sets:

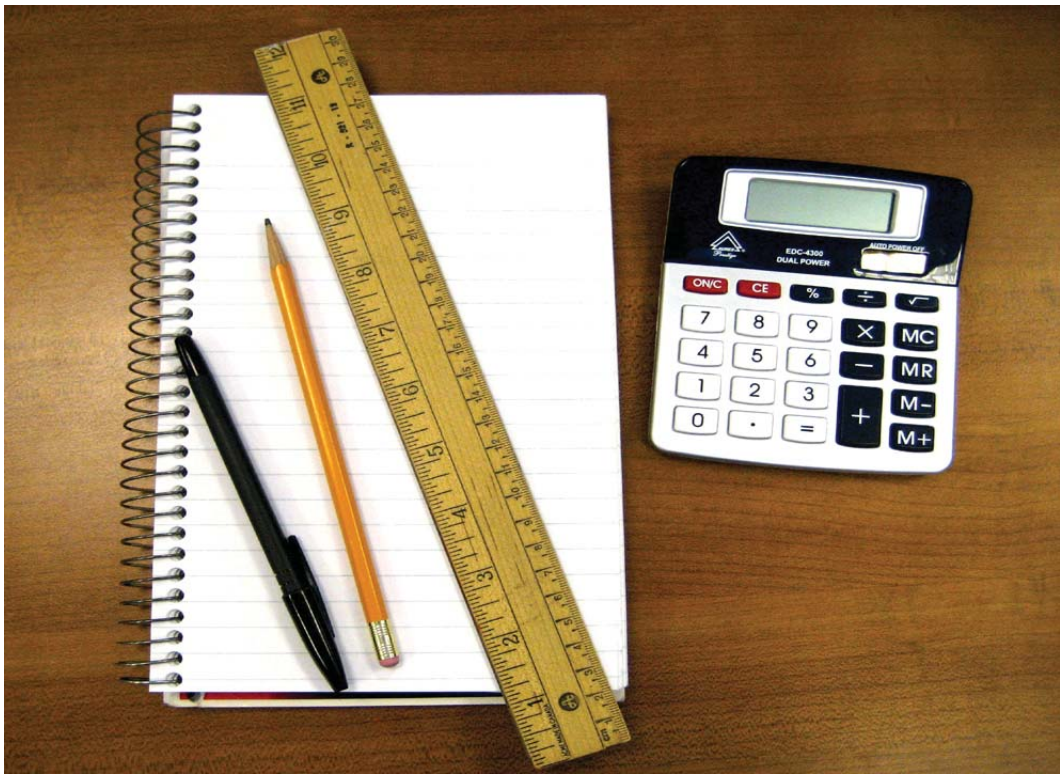
- A A portrait of the school-age population
- B Financing education systems
- C Elementary and secondary education
- D Postsecondary education
- E Transitions and outcomes.

The following information forms the main body of the Handbook, and is presented for each of the PCEIP indicators:

- A brief, general description.
- The major concepts and definitions used.
- An overview of the methodology.
- A short review of any major data limitations, including interjurisdictional comparability as needed.
- A list of the data sources used to produce the indicator.

The relevant data tables are cited for the reader's information.

Two appendices conclude the Handbook. The first presents the structure of education and training in Canada. The second offers a glossary of terms used in the PCEIP tables.





# Population size

## Table A.1.1

Indicator A1 examines the evolution in the size of the estimated and projected Canadian pre-school and school-age population, and the population aged 25 to 29 (Table A.1.1).

### Concepts and definitions

- For this indicator, the **school-age population** includes all individuals aged 5 to 24, whether or not they are attending school. Estimates and projections are also provided for the pre-school-age population (aged 0 to 4), and the population aged 25 to 29. The following **age groups**, which align with the standard used by the Organisation for Economic Co-operation and Development (OECD) and Statistics Canada, have been adopted for PCEIP: 5 to 14; 15 to 19; 20 to 24; and 25 to 29.
- The **scenario** used for the total Canadian population projection is the **medium-growth, historical migration trends scenario**, which is based on the following assumptions: a total fertility rate constant of 1.7 births per woman; a Canadian life expectancy that reaches 84.0 years for males and 87.3 years of age for females in 2036; a constant national effective of 252,500 immigrants for the first three years of the projection, and then a constant national immigration rate of 0.75%; interprovincial migrations based on the trends observed between 1981 and 2008.
- **Interjurisdictional migration** is the movement of population from one province or territory to another, involving a permanent change in residence. A person who takes up residence in another province/territory is an out-migrant with reference to the province/territory of origin and an in-migrant with respect to the province/territory of destination. Net migration is the difference between in- and out-migrants.

### Methodology

- The population data for 1991 through 2006 are from Statistics Canada's demographic estimates program; more precisely, final intercensal estimates for 1991 through 2001, and final postcensal estimates for 2006. Postcensal estimates are based on the latest census counts adjusted for census net undercoverage, incompletely enumerated Indian reserves and for estimated population growth that occurred since that census. Intercensal estimates are based on postcensal estimates and census counts that have been adjusted preceding and following the year considered.

- The population data for the year 2011 and after are from the demographic projections for Canada, provinces and territories, 2009 to 2036. The base population for these projections is from the postcensal estimates of population for Canada, provinces and territories, as of July 1, 2009.

### Limitations

- Although commonly used for planning purposes, population projections should be interpreted with caution as they are based on assumptions about the future course of demographic components. For instance, fertility is the main determinant of the school-age population and it may not remain stable over the next 25 years as assumed.
- The interpretation of projections at the jurisdictional level should be done with special care because these estimates are sensitive to interjurisdictional migration, a demographic component that is generally volatile.

### Data sources

- Estimates of population, Demography Division, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3601, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3601&lang=en&db=imdb&adm=8&dis=2>
- Population projections for Canada, the provinces and territories, 2009 to 2036, Demography Division, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3602, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3602&lang=en&db=imdb&adm=8&dis=2>

# A2

This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)



## Low income

### Tables A.3.1.1 through A.3.1.3 and Table A.3.2

Indicator A3 provides information on the proportion of the population aged 0 to 24 living in low-income circumstances. The percentage of 0- to 24-year-olds in low income situations is presented by age group and type of living arrangement ([Table A.3.1.1](#), [Table A.3.1.2](#) and [Table A.3.1.3](#)). The length of time the individuals aged 5 to 24 have been living in such situations is presented in [Table A.3.2](#). These data are presented for Canada and the provinces.

### Concepts and definitions

- This indicator refers to the pre-school as well as the school-age population and includes all individuals aged 0 to 24, whether or not they are attending school. The following age groups have been adopted for PCEIP: 0 to 4, 5 to 19 and 20 to 24.
- Two living arrangements are presented for the population aged 0 to 4 in low-income circumstances: living with two parents or living with a lone parent. For the population 5 to 24, three types of living arrangements are presented: living with two parents, living with a lone parent, and not living with any parent.
- The distribution of the population aged 5 to 24 by number of years in low income is categorized as follows: never in low income, up to one year in low income, and more than one year in low income.
- Parents captures biological and step-parents, as well as those who have adopted children. Lone parent refers to guardians and adults, regardless of marital status, without a partner but with children in their care.
- Low income is determined using Statistics Canada's low-income cutoffs (LICOs), which indicate when a family may be in "strained circumstances." This means that the family is likely to spend 20% more of its net income on basic items such as food, shelter and clothing than the average family, which leaves less money available for other expenses such as health, education, transportation and recreation. LICOs are calculated for families and communities of different sizes.

### Methodology

- Data for this indicator are drawn primarily from the Survey of Labour and Income Dynamics (SLID), an important source for income data for Canadian families, households and individuals. Introduced in 1993, SLID provides an

added dimension to traditional surveys on labour market activity and income: the changes experienced by individuals and families through time. In 1998, SLID officially replaced the annual Survey of Consumer Finances (SCF) as the main source of information on family income.

- After-tax low-income cut-offs (LICOs), which better reflect the income a family has to spend on basic and other items, were used to report the percentage of children living in low-income families and the distribution by number of years in low income. LICOs are updated annually to reflect increases in the cost of living. They are also updated periodically to reflect changes in family spending patterns.
- Low-income rates are calculated for families with all members of an economic family having the same low-income status. An economic family is defined as a group of two or more persons related by blood, marriage, common-law or adoption, who live in the same dwelling.

### Limitations

- There is no internationally accepted standard for measuring “poverty”, nor is there an official definition of poverty in Canada. LICOs provide one of many possible measures to monitor trends in the relative economic well-being of Canadian families.
- The Survey of Labour and Income Dynamics (SLID) was designed to follow individuals for six years; therefore, the income of a given family may be estimated for a maximum of six consecutive years using data from SLID.
- The feasibility of developing low income indicators for the Aboriginal population using SLID was explored. However, the Aboriginal identifier variable used in SLID is not comparable with that used in the census or in the Labour Force Survey (LFS). The identifier used in SLID is based on Aboriginal ancestry and Treaty/Registered Indian status, while the identifier used in the census and the LFS is based on Aboriginal self-identification. Moreover, the sample size of Aboriginal children aged 5 to 24 in low income in Canada is too small to support a breakdown by family characteristics and by province. And, most importantly, SLID is not recommended by subject matter experts in the Social and Aboriginal Statistics Division at Statistics Canada as a reliable source of information on the Aboriginal population.

### Data sources

- Survey of Consumer Finances, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3502, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3502&lang=en&db=imdb&adm=8&dis=2>
- Survey of Labour and Income Dynamics, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3889, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3889&lang=en&db=imdb&adm=8&dis=2>

# A4

This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)

# B1

This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)



# Public and private expenditure on education

## Average expenditures per household

### Table B.2.7

This subset of Indicator B2 (total education expenditure in Canada) presents information on the percentage of households incurring education expenditures and the average expenditure per household, in current dollars (Table B.2.7). Data are from the Survey of Household Spending (SHS).

### Concepts and definitions

- **Household** refers to a person or a group of persons who occupy a private dwelling and do not have a usual place of residence elsewhere in Canada.
- **Percentage of households reporting educational expenses** was calculated by dividing the number of households that incurred educational expenses by the total number of private households, then multiplying by 100.
- **Expenditures on education** are presented for the following four categories: supplies (all levels); textbooks (all levels); tuition (pre-elementary and elementary-secondary); and tuition (postsecondary).

For supplies, textbooks and tuition fees, the SHS asks about spending on kindergarten, nursery school, elementary and secondary education, and postsecondary education (e.g., university, trade, and professional courses). The survey also asks households to report spending on other courses and lessons (e.g., music, dancing, sports, crafts), and other educational services (e.g., tutoring, rental of school books, equipment); driving lessons are excluded. The data include special and private schools, but exclude day care and lodging expenses.

- **Average education expenditure per household** was calculated by dividing the total amounts of household educational expenditure by the total number of private households that incurred spending in one or more of the four expenditure categories in a given calendar year. In other words, this measure reflects average spending on education only for the households that actually incurred such costs.
- All education expenditures are presented in **current dollars**. To convert this current dollar data to constant dollar amounts for comparison over time, it is recommended that the Consumer Price Index at the Canada level be used, for both national and provincial-level conversions. For the index and further details on converting, see [Table F.1.3](#).

## Methodology

- The **Survey of Household Spending (SHS)** is carried out annually across Canada in private households in the 10 provinces. Data for the territories are available every other year starting with 2001. The survey covers about 98% of the population of the 10 provinces. The main purpose of the survey is to obtain detailed information about household spending during the reference year (previous calendar year).
- The following groups are excluded from the SHS: (1) those living on Indian reserves and crown lands; (2) official representatives of foreign countries living in Canada and their families; (3) members of religious and other communal colonies; (4) members of the Canadian Forces living in military camps; (5) people living in residences for senior citizens; and (6) people living full-time in institutions; e.g., inmates of penal institutions and chronic care patients living in hospitals and nursing homes.
- The sample size for 2008 was 28% smaller than that used for the 2007 SHS. The reduction of the sample size compared with previous years will have an impact on the data quality; in particular, the variance will, in most cases, be larger than before.
- In 2007, in order to reduce respondent burden, new screening questions were added to the SHS questionnaire for some categories. For a few categories, including education, this change resulted in a lower than expected percentage reporting and may have affected the average expenditures for some items in those categories.
- Beginning with 2006 data, the SHS has removed the distinction between full-year and part-year household members. Spending data is collected for the reference year for all members of the household present at the time of the interview. Since the standard tables prior to 2006 were based on full-year households only, in order to maintain comparability, data for 1997 to 2005 have been revised to include both full-year and part-year households.
- The SHS is a stratified, multi-stage sample selected from the Labour Force Survey (LFS) sampling frame. Sample selection comprises two main steps: the selection of clusters (small geographic areas) from the LFS frame and the selection of dwellings within these selected clusters. The sample size of the SHS now ranges between 16,000 and 17,000 households, depending on the collection year (the sample is larger in odd years when the collection is carried out in the Territories).

## Limitations

- Starting with 2001, Survey of Household spending (SHS) data for Canada include the territories every second year. For the other years, Canada-level statistics include the 10 provinces only.
- Caution should be exercised when making year-to-year comparisons since changes may not be statistically significant. Special caution is necessary when using estimates from small sub-groups. For more information about data quality, see the *User Guide for the Survey of Household Spending, 2009*, Statistics Canada Catalogue no. 62F0026MWE, no. 6. (<http://www.statcan.gc.ca/pub/62f0026m/62f0026m2010006-eng.htm>).

## Data source

- Survey of Household Spending, Statistics Canada. For more information consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3508. <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3508&lang=en&db=imdb&adm=8&dis=2>

# Public and private expenditure on education

## Average university tuition fees

### Tables B.2.9 and B.2.11

This subset of Indicator B2 includes data on average undergraduate and graduate university tuition fees, over time, in current dollars, at the Canada level and by province ([Table B.2.9](#)) and by field of study ([Table B.2.11](#)). These tables are based on data from the Tuition and Living Accommodation Costs for Full-time Students at Canadian Degree-granting Institutions (TLAC), which covers the academic year.

### Concepts and definitions

- Average **university tuition fees** represent the tuition fees charged to full-time Canadian students over the academic year; that is, September to April. Foreign students are not included. Average tuition fees for graduate studies (Master's and doctorates) are also presented. These average tuition fees do not include additional compulsory fees such as those for athletics, health services and student associations.
- The **fields of study** classification for **undergraduate** and **graduate programs** are adapted from the Classification of Instructional Programs (CIP), Statistics Canada's standard. The average tuition amounts for both types of programs are presented ranked from highest to lowest, based on the most recent year of data.

Information is presented for the following 17 fields of study in both undergraduate and graduate programs: agriculture, natural resources and conservation; architecture and related services; business, management and public administration; dentistry; education; engineering; humanities; law; mathematics, computer and information sciences; medicine; nursing; other health, parks, recreation and fitness; pharmacy; physical and life sciences and technologies; social and behavioural sciences; veterinary medicine; and visual and performing arts, and communications technologies.

The graduate programs also include Master of Business Administration (MBA) programs; specifically, Regular MBA and Executive MBA.

- All tuition fee amounts are presented in **current dollars**. To convert the current dollar amounts to constant dollar amounts for comparison over time, it is suggested that the September Consumer Price Index corresponding with the beginning of the university academic year (September to August) be used. For the index and further details on converting, see [Table F.1.4](#).

## Methodology

- The Tuition and Living Accommodation Costs for Full-time Students at Canadian Degree-granting Institutions (TLAC) is an annual survey that was developed to collect student financial information (tuition fees, additional compulsory fees, and living accommodation costs) on all universities and degree-granting colleges in Canada.
- The target population of TLAC is all degree-granting institutions (universities and colleges) in Canada. The survey is a census with a cross-sectional design. Data are collected for all units of the target population; therefore, no sampling is done.
- A major redesign of the Tuition and Living Accommodation Costs for Full-time Students at Canadian Degree-granting Institutions (TLAC) questionnaire was implemented for the 2007/2008 collection cycle, when fields of study based on the Classification of Instructional Programs (CIP) were used. Executive MBA and Regular MBA, previously included in the “Business, management and public administration” category were presented independently under the graduate programs; this change had a substantial impact. In 2010/2011, MBA programs were excluded from the national and provincial weighted averages to eliminate the impact of the high cost of these programs on the overall tuition fee averages for graduate programs.
- Using the most current enrolment data available, average tuition fees have been weighted by the number of students enrolled by institution and field of study.
- In Nova Scotia and in Quebec, for some years, the weighted averages take into account the different fees paid by in- and out-of-province students. In Ontario, adjustments to the calculation of weighted averages were introduced to account for fees that vary according to the year of study. In Saskatchewan, the weighted averages were calculated using the enrolments of 2004.
- All surveys are subject to errors. Only non-sampling errors apply to this survey given that no sampling process was used to produce the final results. Each year, data comparability is performed for each university and college, and any major discrepancies are investigated with the respondent. Tuition fees per program are available publicly at the institutional level.

## Limitations

- Since the distribution of enrolment across various programs varies from period to period, caution should be exercised when making historical comparisons.

## Data source

- Survey of Tuition and Living Accommodation Costs for Full-time Students (TLAC), Statistics Canada. For more information consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3123, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3123&lang=en&db=imdb&adm=8&dis=2>

# Public and private expenditure on education

## University revenues

### Table B.2.12

This subset of Indicator B2 presents the percentage distribution of university revenues, by source, at the Canada and provincial levels ([Table B.2.12](#)). Amounts are presented in current dollars.

### Concepts and definitions

- **Government revenues** at universities refer to grants and contracts from government departments and agencies at federal, provincial, municipal and foreign level.

The federal portion of income is mainly from six major federal government agencies: the Social Sciences and Humanities Research Council of Canada (SSHRC), Health Canada (HC), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), and Canadian Research Chairs. Also included are grants and contracts from all other federal government departments and agencies.

Grants and contracts at the provincial level include: (1) income from provincial government departments and agencies, including provincial CFI matching grants; and (2) provincial CFI matching income from the ministry responsible for the institution.

Income from other provinces includes grants from, and contracts with, provinces other than the province with jurisdiction.

Grants from urban transit, communication and parking authorities are examples of income from municipal governments.

Income from foreign nations includes grants from the National Endowment for Humanities, the National Institutes of Health, and the National Science Foundation.

- **Private revenues** at universities refer to those obtained from any source other than government, categorized as:

**Student fees:** Payments obtained from students directly in the form of tuition (credit and non-credit courses) and other fees.

**Non-government grants and contracts, donations and bequests:** Financial support received by colleges and universities from donors, bequests from wills and contracts from sources other than government, the latter provided with specific stipulations.

**Sales:** Institution revenue from sales of services and products.

**Investment:** Revenue from dividends, bonds, mortgages, short-term notes, and bank interest.

**Miscellaneous:** Commissions, royalties, and fees from the use of institution-owned rights or properties, fees for services rendered, library and other similar fines, rentals, net gain or loss on the sale of fixed assets, and any type of revenue not identified under other forms of revenue.

## Methodology

- Table B.2.12 data were drawn from the Financial Information of Universities and Colleges Survey (FIUC), which was developed to provide financial information (income and expenditures) on all universities and affiliated institutions (institution may refer to universities, university-colleges, colleges, institutes and hospitals) in Canada. The survey is a census with a cross-sectional design, and the target population is all degree-granting institutions (universities and colleges) in Canada. Data are collected for all units of the target population; therefore, no sampling is done.

The collection process of the FIUC is done using two separate questionnaires:

- a) A questionnaire developed in conjunction with the Canadian Association of University Business Officers (CAUBO), which was designed and implemented by the CAUBO Finance Committee that comprises financial administrators from six universities. These administrators meet twice a year and any proposed changes to the questionnaire and guidelines are discussed and implemented by the Committee.
  - b) A non-CAUBO questionnaire, which is a virtual duplicate of the CAUBO questionnaire. Any modifications to the CAUBO questionnaire or guidelines are applied to the non-CAUBO questionnaire.
- Ontario CAUBO universities report to the province's own collection authorities (Council of Finance Officers — Universities of Ontario [COFO]). This information is then sent to Statistics Canada (STC). A mapping and integration process is then done to convert the COFO data into the CAUBO format database.
  - In 1999/2000, there was a break in the series as major changes were made to the CAUBO questionnaire and guidelines, which affected the historical comparability of the data; therefore, 1999/2000 was selected as the basis for comparison. The years 1999/2000 and 2004/2005 are comparable as they are both on the same guideline definitions.
  - "University-colleges" are part of the FIUC universe made by CAUBO and as such are considered universities.
  - Each university (and university-college) returns its questionnaire with accompanying audited financial statements, thus ensuring data accuracy. Nevertheless, each year a data comparability review is done for each institution and any major discrepancies are investigated with the respondent.

## Limitations

- Non-CAUBO data are amalgamated with the CAUBO data at the provincial level. Data for non-CAUBO institutions are not released publicly at the institution level. They can only be released at the provincial level.
- Comparisons of financial data over multiple years should be done with caution because of changes in generally accepted accounting principles that could alter the underlying data and changes in the Guidelines that govern the reporting of the data.

## Data source

- Financial Information of Universities and Colleges Survey, Statistics Canada. For more information, consult “Definitions, data sources and methods,” Statistics Canada Web site, survey 3121, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3121&lang=en&db=imdb&adm=8&dis=2>





# Public and private expenditure on education

## University expenditures

### Tables B.2.13 and B.2.14

This subset of Indicator B2 includes university expenditures by type of expenditure for Canada and the provinces. Amounts are presented in current dollars (Table B.2.13) and percentage distributions (Table B.2.14).

### Concepts and definitions

- The **capital expenditures** category captures the purchase of assets intended to last longer than one year. It also provides a measure of the value of capital acquired during the year in question, including debt servicing. Spending for the construction, renovation or major repair of buildings, and to replace or purchase new equipment is included.
- **Operating expenditures** reflects the items that an institution purchases and consumes within a year, and those the institution purchases on an ongoing basis. Included are costs directly attributable to instruction such as salaries, instructional aids, administrative support, teacher development, and costs for other educators such as counselors. Operating expenditures are categorized further into:
  - **Compensation of staff (educators and other staff)**, which includes gross salaries (before deduction of taxes, contributions for retirement or health care plans, and other contributions or premiums for social insurance or other purposes), plus expenditure on retirement (actual or imputed expenditure by employers or third parties to finance retirement benefits for current educational personnel) and other non-salary compensation (fringe benefits).

Statistics on compensation of university staff are categorized as follows:

- **academic salaries** paid to full- and part-time staff members engaged in instruction and research activities (includes: deans, professors, associate professors, assistant professors and lecturers; also include payments to staff members in the academic ranks for various types of leave such as administrative, academic or sabbatical.)
- **other salaries and wages** include payments to other full- and part-time non-instructional (support) staff including, among others, technicians, teaching and research laboratory technicians, clerical and secretarial, professional and managerial, janitorial, trades and maintenance.

- **benefits** such as pensions, group life insurance, salary continuance insurance, medical and dental plans, Workers' Compensation, health taxes, tuition remission, Employment Insurance, and other costs of employee benefit programs. Also, includes the cost of benefits paid during early retirement periods as well as the cost of post retirement benefits.
- **Other operating expenditures**, which covers all non-salary related items such as spending on tuition fees and books, spending attributable to research and development, membership fees including fees paid by the institution to organizations such as the AUCC and CAUBO, utilities, school services under contract, building operations and maintenance staff, and so on. Other non-salary costs include those related to the maintenance of buildings, as well as supplementary costs such as lunch programs and transportation, and other expenses not covered elsewhere.

## Methodology

- "Operating expenditures" includes the following funds: general operating; special purpose and trust; sponsored research; and ancillary enterprises.
- "Other salaries and wages" includes payments to all full- and part-time non-instructional (support). Includes payments to individuals who may hold an academic rank (or equivalent), but are engaged in activities other than instruction and research.
- "Benefits" refers to the costs of institutions' contributions (with respect to salaries) for pensions (including payments for actuarial deficiencies and past service liability), group life insurance, salary continuance insurance, dental plans, Workers' Compensation, health taxes, tuition remission, Employment Insurance, and other costs of employee benefit programs.
- Table B.2.14 presents percentages that were calculated using the current dollar values for Canada from Table B.2.13.

## Limitations

- While considerable effort is made to ensure that universities and colleges are preparing information in accordance with the prescribed Guidelines, there are limitations with the comparability of data. The limitations can result because of differences in the underlying accounting practices followed by institutions. Institutional comparisons are subject to interpretation and clarification because of differences such as size, academic programs, structure, physical environment, management philosophy, and budgetary and accounting procedures. Therefore, comparisons of financial data over multiple years should be done with caution.
- When making inter-jurisdictional comparisons, the following should be taken into account: variations in sources of funding; differences in fiscal year-end dates, which can vary from March 31st to June 30th, and variations in provincial policies and provincial funding responsibilities.

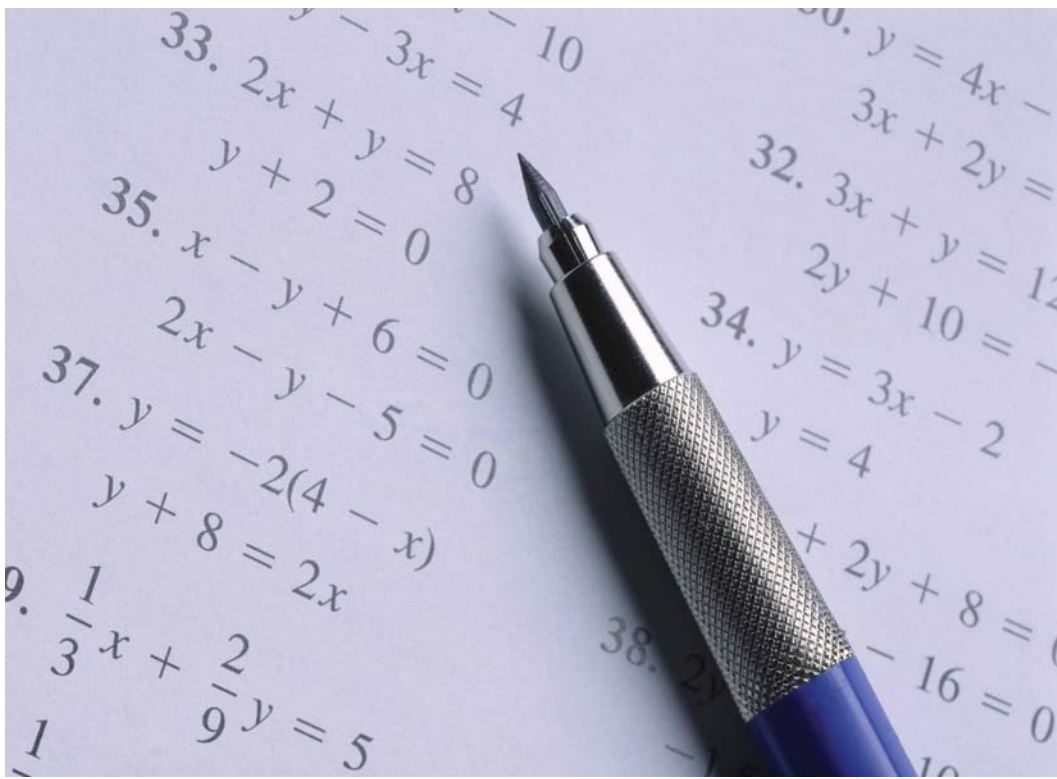
## Data source

- Financial Information of Universities and Colleges Survey (FIUC), Statistics Canada. For more information, consult "Definitions, data sources and methods," Statistics Canada Web site, survey 3121, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3121&lang=en&db=imdb&adm=8&dis=2>

# B3

This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)



# Early years and school readiness

## Tables C.1.1 and C.1.2

Indicator C1 assesses the early years and school readiness of 4- and 5-year-old children by examining their health status (including any health limitations), participation in activities, exposure to reading and reading materials ([Table C.1.1](#)), and their language scores/vocabulary skills ([Table C.1.2](#)).

## Concepts and definitions

- The child's **general health** was classified as: excellent; very good; good; or fair or poor. The categories were read to the adult respondents who answered on behalf of their children in the National Longitudinal Survey of Children and Youth (NLSCY).
- This indicator also considers certain **health limitations** affecting the child. One set of questions asked about the child's day-to-day health and focused on his or her abilities relative to other children of the same age. The adult respondents were told that these same questions would be asked of everyone. This indicator considers the following: difficulty seeing; difficulty hearing; difficulty being understood when speaking; difficulty walking; and pain or discomfort. Pain or discomfort reflects the "no" responses to a question asking if the child is "usually free of pain or discomfort." These questions are part of an index called the Health Utility Index.

Before being asked about chronic conditions, the adult who was responding on behalf of the child was told that this referred to "conditions that have lasted or are expected to last six months or more and have been diagnosed by a health professional" and was instructed to mark all that apply. This indicator presents information for long-term allergies and long-term bronchitis, as well as asthma. The questions for asthma were asked separately, and the information presented reflects the percentage of children aged 4 or 5 who had ever been diagnosed with asthma, not just those who had had an asthma attack in the 12 months before the survey interview.

- **Weekly physical activities outside of school hours** refers to weekly participation (ranging from most days to about once a week) in: sports that involved a coach or instructor (except dance, gymnastics or martial arts); lessons or instruction in organized physical activities such as dance, gymnastics or martial arts; lessons or instruction in music, art or other non-sport activities; and participation in any clubs, groups or community programs with leadership (for example, Beavers,

Sparks or church groups). The adults who responded on behalf of these young children were asked to provide information on the children's physical activities for the 12-month period leading up to the survey interview.

- **Daily reading activities outside of school hours** reflects some of the information obtained from questions about literacy, including how often a parent read aloud to the child or listened to the child read (or try to read). Respondents were also asked how often the child looked at books, magazines, comics, etc. on his/her own, or tried to read on his/her own (at home).
- The **Peabody Picture Vocabulary Test-Revised (PPVT-R)** measures children's receptive vocabulary, which is the vocabulary that is understood by the child when he or she hears the words spoken. It is a "normed" test; that is, a child's performance is scored relative to that of an overall population of children at the same age level as the child. A wide range of scores represents an average level of ability, taking the age of the child into consideration. Scores below the lower threshold of this average range reflect a delayed receptive vocabulary, and scores above the higher threshold demonstrate an advanced receptive vocabulary.

The PPVT-R is scaled to an average of 100. The range of average receptive vocabulary measured by the PPVT-R covers scores from 85 to 115. A score below 85 is considered to indicate delayed receptive vocabulary; a score above 115, advanced. Scoring is adjusted to reflect the different abilities of 4- and 5-year-olds. English and French scores are assessed separately and are not directly comparable.

## Methodology

- The **National Longitudinal Survey of Children and Youth (NLSCY)** is a long-term study of Canadian children that follows their development and well-being from birth to early adulthood. The survey was designed to collect information about factors influencing a child's social, emotional and behavioural development and to monitor the impact of these factors on the child's development over time.
- This indicator is based on nationally representative data for 4- and 5-year-olds from cycle 8 of the NLSCY, which was conducted in 2008/2009.
- The information presented was obtained from the NLSCY child component; specifically, the questions on child health, activities (sports, lessons, clubs, etc.) and literacy. Responses were provided by the person most knowledgeable (PMK) about the child, which is usually the mother.

## Limitations

- The NLSCY relies on the perceptions of the adult most familiar with the child to report on the child's general health and development, and such reports may not always be entirely objective or accurate.
- The following are possible sources of non-sampling errors in the NLSCY: response errors due to sensitive questions, poor memory, translated questionnaires, approximate answers, and conditioning bias; non-response errors; and coverage errors.

## Data source

- National Longitudinal Survey of Children and Youth (NLSCY), Statistics Canada. For more information, consult "Definitions, data sources and methods", Statistics Canada Web site, survey 4450, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4450&clang=en&db=imdb&adm=8&dis=2>.

## Elementary-secondary school: enrolments and educators

### Tables C.2.1 through C.2.7

Information on enrolment in public schools at the elementary-secondary level ([Table C.2.1](#)), as well as on the number of full-time educators ([Table C.2.2](#)), is captured in Indicator C2. A student-educator ratio, which measures the total human resources available to students, is also presented ([Table C.2.3](#)), along with some characteristics of the educator workforce ([Table C.2.4](#), [Table C.2.5](#), [Table C.2.6](#) and [Table C.2.7](#)).

### Concepts and definitions

- **Public schools** are those established and operated by local school districts/authorities pursuant to the public schools legislation of the province or territory. Also included in this category are Protestant and Roman Catholic separate schools and schools operated in Canada by the Department of National Defence within the framework of the public school systems.
- This indicator includes all data for public **elementary and secondary schools** only and does not include private schools, federal schools and schools for the visually and hearing impaired. Schools are classified as elementary if they provide Grade 6 and under or a majority of elementary grades, and secondary if they offer Grade 7 and over or a majority of secondary grades. **Federal schools** include schools administered directly by the federal government, overseas schools operated by the Department of National Defence for dependants of Canadian Forces personnel, and schools operated by Aboriginal Affairs and Northern Development Canada or by band councils. The organization of grades varies by jurisdiction and can also vary at the local level within a jurisdiction. For a full description of the structure of education and training in Canada, see [Appendix 1](#).
- **Full-time equivalent (FTE) enrolments** represent the number of full-time students enrolled as of September 30th (or as close as possible thereafter) of the school year, plus the sum of part-time enrolments according to the portion of time spent in the classroom and for which students are funded (determined by the province or territory) ([Table C.2.1](#)).
- **Educators** includes all employees in the public school system (either school-based or school district-based) who belong to one of the three following categories: teachers, school administrators and pedagogical support. The term “educator” generally includes classroom teachers, principals, vice-principals and professional non-teaching staff such as pedagogical consultants, guidance counselors, special



education teachers, religious and pastoral counselors. It captures all educators in regular public schools, provincial reformatory or custodial schools, and of other students recognized and funded by a province or territory. This definition also includes all teachers in regular programs for youth, adult upgrading programs and vocational programs for youth and adults. It excludes educators involved with correspondence or distance programs, any programs offered at the postsecondary level, private schools or independent schools financed by federal departments (e.g., the Department of National Defence and Aboriginal Affairs and Northern Development Canada) substitute/supply teachers, temporary replacement teachers, teachers on leave, student assistants, teaching assistants and other personnel who do not get paid for their employment.

- **Full-time equivalent (FTE) educators** is defined as the number of full-time educators as of September 30th (or as close as possible thereafter) of the school year, plus the sum of part-time educators according to their percentage of a full-time employment allocation (determined by the province or territory) (Table C.2.2). For example, if a normal full-time work allocation is 10 months per year, an educator who works for 6 months of the year would be counted as  $6/10$  (0.6) of a full-time equivalent, or an employee who works part-time for 10 months at 60% of full-time would be 0.6 of an FTE.
- **Full-time educators (headcount)** (Table C.2.4) refers to the number of educators as of September 30th (or as close as possible thereafter) of the school year who are responsible for providing services to the students.
- The **labour force** comprises the portion of the civilian, non-institutional population 15 years of age and over who form the pool of available workers in Canada. To be considered a member of the labour force, an individual must be working either full- or part-time or be unemployed but actively looking for work. The age distribution of the full-time and part-time employed labour force is presented in Table C.2.5.

## Methodology

- The **Elementary-Secondary Education Survey (ESES)**, formerly called the Elementary-Secondary Education Statistics Project) is a national survey that enables Statistics Canada to provide information on enrolments (including minority and second language programs), graduates, educators and finance of Canadian elementary-secondary public educational institutions. Every year, Statistics Canada conducts a survey of all Departments/Ministries of education in all 10 provinces and 3 territories that collects data on enrolments, graduates, educators and finance data of the public elementary-secondary schools.
- The full-time equivalent (FTE) enrolment rate represents the time fraction spent in the classroom and for which students are funded. If this fraction is not known, an estimate should be used. For example, for junior kindergarten and kindergarten students taking a half-time program and where a half-time program is being funded, the FTE enrolment would be the headcount enrolment divided by two (0.5). If a student is only taking one-quarter of the usual course load and is funded on that basis, the FTE enrolment would be the headcount enrolment divided by 4, which is 0.25.
- The student-educator ratio (Table C.2.3) is calculated using full-time equivalent enrolment in Grades 1 to 12 (OAC in Ontario) and ungraded programs, plus pre-elementary full-time equivalent enrolment, divided by the full-time equivalent number of educators, both teaching and non-teaching.



- The Labour Force Survey data used to compare the age distribution of the overall full-time and part-time employed labour force with that of the full-time and part-time educator workforce are based on a monthly average from September to August (Table C.2.5).

## Limitations

- In Ontario, data for full-time equivalent enrolments (Table C.2.1) and full-time equivalent educators (Table C.2.2) exclude publicly funded hospital and provincial schools, care, treatment and correctional facilities. Data for 2006/2007 and 2007/2008 are not directly comparable with those from previous years due to a change in data collection methods.
- Northwest Territories and Nunavut do not report headcount data on full-time or part-time educators, or on these combined; only data on full-time equivalent educators are reported. Data for females, all ages, include a small number of cases for which age is not reported. Percentage distributions are based on educators for whom age is reported.
- The following points apply to data for Saskatchewan: (1) Educators in provincially funded schools (including “associated independent” and “historic” high schools) are included, but those in “independent” “First Nations” schools and postsecondary sites are excluded. (2) The counts vary year by year partly because the number of “associated independent” schools that receive provincial funding through agreements with school boards has changed over time. (3) Educators in Lloydminster serve students who live in Alberta and in Saskatchewan, but all of these educators are included in Saskatchewan’s counts only (Tables C.2.2 and C.2.4). (4) Headcounts and FTEs include: classroom teachers, school administrators at the school level (but not at the higher level management) and pedagogical support.
- The student–educator ratio should not be taken as a measure of classroom size, nor should it be interpreted as a student–teacher ratio. Average classroom size depends not only on the number of teachers and students, but also on the hours of instructional time per week, the per-teacher hours worked, and the division of time between classroom instruction and other activities. The number of educators in this indicator includes both teaching and non-teaching educators (such as school principals, librarians, guidance counselors, etc.).

## Data sources

- Elementary-Secondary Education Survey, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site survey 5102 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5102&lang=en&db=imdb&adm=8&dis=2>).
- Labour Force Survey, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3701 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>).



This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)

## Student achievement

### Programme for International Student Assessment (PISA)

#### Tables C.4.2, C.4.4, C.4.5, C.4.10 and C.4.17

Indicator C4 reports on student achievement in three key areas—reading, mathematics, and science—and looks at changes in results over time. Performance was examined using results from the Programme for International Student Assessment (PISA), an international program of the Organisation for Economic Co-operation and Development (OECD).

This sub-indicator presents detailed information on the performance of 15-year-old students in Canada in the major PISA domain of reading, assessed in 2009, by looking at average scores and the distribution of students by proficiency levels on the combined reading scale (Table C.4.2) and at average scores on the reading subscales (Table C.4.17). It also compares performance over time in reading (Table C.4.4), science (Table C.4.5) and mathematics (Table C.4.10).

#### Concepts and definitions

- The Programme for International Student Assessment (PISA) is a collaborative effort of member countries of the OECD along with partner countries to regularly assess youth outcomes, using common international tests, for three domains: **reading, mathematics, and science**. The goal of PISA is to measure students' skills in reading, mathematics, and science not only in terms of mastery of the school curriculum, but also in terms of the knowledge and skills needed for full participation in society.

**Reading:** An individual's capacity to understand, reflect on, and engage with written texts, in order to achieve one's goals, to develop one's knowledge and potential and to participate in society.

**Mathematics:** An individual's capacity to identify and understand the role that mathematics plays in the world, to make well-founded judgments and to use and engage with mathematics in ways that meet the needs of that individual's life as a constructive, concerned and reflective citizen.

**Science:** An individual's capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.

## Methodology

- Internationally, around 470,000 students from 65 countries and economies participated in PISA 2009. PISA's target population comprises 15-year-olds who are attending school. In Canada, the student sample is drawn from Canada's 10 provinces; the territories have not participated in PISA to date. The PISA assessments are administered in schools, during regular school hours, in the spring. Students of schools located on Indian reserves were excluded, as were students of schools for those with severe learning disabilities, schools for blind and deaf students, and students who were being home-schooled. In 2009, the PISA assessment was a two-hour paper- and- pencil test.<sup>1</sup> It was administered in English and in French according to the respective school system.
- While all three of the PISA domains are tested in each assessment, only one forms the major domain in each cycle, meaning it includes more assessment items than the others. In each cycle, two-thirds of testing time is devoted to the major domain. Reading was the major domain in 2000, mathematics in 2003, and science in 2006. With the repetition of the cycle, the major focus of the 2009 assessment was again on reading.
- Results for the major domains are available in a combined domain scale (which represents students' overall performance across all the questions in the assessment for that domain), as well as on the sub-domains that make up each overall scale. As fewer items are tested as part of the minor domains, only combined or overall results are available from PISA.
- In 2009, the reading sub-scales refer to three aspects of reading—accessing and retrieving information, integrating and interpreting, and reflecting and evaluating—and two text formats—continuous and non-continuous.

### Reading aspect sub-scales:

**Accessing and retrieving:** Involves going to the information space provided and navigating in that space to locate and retrieve one or more distinct pieces of information.

**Integrating and interpreting:** Involves processing what is read to make internal sense of a text.

**Reflecting and evaluating:** Involves drawing upon knowledge, ideas or attitudes beyond the text in order to relate the information provided within the text to one's own conceptual and experiential frames of reference.

### Reading text format sub-scales:

**Continuous texts:** Consist of documents that are formed by sentences organized into paragraphs. These include newspaper articles, essays, short stories, reviews or letters.

**Non-continuous texts:** Consist of documents that combine several text elements such as lists, tables, graphs, diagrams, advertisements, schedules, catalogues, indexes or forms.

- In PISA, student performance is expressed as a number of points on a scale constructed so that the average score for the major domains for students in all

1. For the first time in 2009, 20 countries elected to give their students additional questions via computer to assess their capacity to read digital texts. Canada did not administer these extra questions.

participating countries was 500 and its standard deviation was 100. This means that about two-thirds of the students scored between 400 and 600. This average was established in the year in which the domain became the main focus of the assessment. Due to change in performance over time, the OECD average scores in PISA 2009 differ slightly from 500.

- PISA results can also be presented as the distribution of student performance across levels of proficiency. In PISA 2009, seven levels were used in reporting reading achievement, to identify the most difficult test items a student could answer; therefore, a student at one level could be assumed to have the ability to answer questions at all lower levels. To help in interpretation, these levels were linked to specific score ranges on the original scale:
  - Below Level 1b (scores lower than or equal to 262 points)
  - Level 1b (scores higher than 262 but lower than or equal to 335 points);  
Level 1a (scores higher than 335 but lower than or equal to 407 points)
  - Level 2 (scores higher than 407 but lower than or equal to 480 points)
  - Level 3 (scores higher than 480 but lower than or equal to 553 points)
  - Level 4 (scores higher than 553 but lower than or equal 626 points)
  - Level 5 (scores higher than 626 but lower than or equal to 698 points) and
  - Level 6 (scores higher than 698 points).

According to the OECD, Level 2 can be considered a baseline level of proficiency, at which students begin to demonstrate the reading competencies that will enable them to participate effectively and productively in life. Students performing below Level 2 can still accomplish some reading tasks successfully, but they lack some fundamental skills that may prepare them to either enter the workforce or pursue postsecondary education.

- When comparing student performance among countries, provinces, or population subgroups, the PISA tables identify statistically significant differences. Statistical significance is determined by mathematical formulas and considers issues such as sampling and measurement errors. Sampling errors relate to the fact that performance was computed from the scores of random samples of students from each country and not from the entire population of students in each country. Consequently, it cannot be said with certainty that a sample average has the same value as a population average that would have been obtained had all 15-year-old students been assessed. Additionally, a degree of error is associated with the scores describing student skills as these scores are estimated based on student responses to test items.
- Standard errors and confidence intervals have been used as the basis for performing comparative statistical tests. The standard error expresses the degree of uncertainty around the survey results associated with sampling and measurement errors. The standard error is used to construct a confidence interval, which indicates the probability that a given error range (given by the standard error) around the sample statistic includes the population number. The PISA survey results are statistically different if the confidence intervals do not overlap. Furthermore, an additional t-test was conducted to confirm statistical difference.
- It is possible to compare changes in student performance over time in each PISA domain because a number of common test questions are used in each survey.

However, the limited number of such common test items used increases the chances of measurement error. To account for this, an extra error factor, known as the linking error, is introduced into the standard error. The standard errors with linking errors should be used whenever comparing performance across assessments (but not when comparing results across countries/economies or subpopulation within a particular assessment).

- This indicator compares the performance of students in the 2009 PISA assessment with the first major assessment in each domain: reading in 2000 (Table C.4.4), mathematics in 2003 (Table C.4.10), and science in 2006 (Table C.4.5). It is not possible to include in this comparison the results from any minor assessments that took place before the first major (full) assessment of a domain. This is because the framework for the domain is not fully developed until the cycle in which it is assessed as a major domain. Consequently, the results measured as a minor domain beforehand are not comparable.

### Limitations

- Looking at the relative performance of different groups of students on the same or comparable assessments at different time periods shows whether the level of achievement is changing. Obviously, scores on an assessment alone cannot be used to evaluate a school system, because many factors combine to produce the average scores. Nonetheless, these assessments are one of the indicators of overall performance.
- Since data are compared for only two points in time, it is not possible to assess to what extent the observed differences are indicative of longer term trends.
- Statistical significance is determined by mathematical formulas and considers issues such as sampling. Whether a difference in results has implications for education is a matter of interpretation; for example, a statistically significant difference may be quite small and have little effect. There are also situations in which a difference that is perceived to have educational significance may not, in fact, have statistical significance.

### Data sources

- Human Resources and Skills Development Canada, Statistics Canada, and Council of Ministers of Education, Canada. 2010. *Measuring Up: Canadian Results of the OECD PISA Study: The Performance of Canada's Youth in Reading, Mathematics and Science. 2009 First Results for Canadians Aged 15*. Statistics Canada. Catalogue no. 81-590-XIE-4.
- Organisation for Economic Co-operation and Development, 2010. *PISA 2009 Results: What Students Know and Can Do – Student Performance in Reading, Mathematics and Science (Volume I)*.
- For more information, consult “Definitions, data sources and methods,” Statistics Canada web site, survey 5060 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5060&lang=en&db=imdb&adm=8&dis=2>)

# C5

This section of the handbook will be updated in an upcoming issue. For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-8/81-582-82008001-eng.pdf>)



$$\frac{\sin^3 x - \cos^3 x}{1 + \sin x \cos x} = \sin x - \cos x$$

$$\sqrt{\frac{1 + \sin x}{1 - \sin x}} + \sqrt{\frac{1 - \sin x}{1 + \sin x}}$$

$$\cos x = -\frac{24}{25}, \operatorname{ctg} x < 0$$

$$\sin x = \frac{15}{17}, \frac{\pi}{2} < x < \pi$$





# Postsecondary enrolment

## Registered apprentices

### Tables D.1.1 through D.1.3

Overall, Indicator D1 portrays postsecondary enrolment. This sub-indicator presents information on the number of registered apprentices in Canada, and in its provinces and territories ([Table D.1.1](#)), including breakdowns by sex and major trade group ([Table D.1.2](#)), and by age group ([Table D.1.3](#)).

### Concepts and definitions

- Information on the number of **registered apprentices** is based on data provided by apprenticeship branches in the provinces and territories and includes all individuals registered in an apprenticeship program, whether or not they had been enrolled in any formal classroom training during the year. This information is collected through the Registered Apprenticeship Information System (RAIS), which gathers information on individuals who receive training and those who obtain certification in a trade for which apprenticeship training is being offered; specifically, the number of registered apprentices taking in-class and on-the-job training in trades that have either Red Seal or non-Red Seal endorsement, and for which apprenticeship training is either compulsory or voluntary. The RAIS survey also compiles data on the number of provincial and interprovincial certificates granted to apprentices or trade qualifiers (challengers).<sup>1</sup>

Provincial and territorial governments co-ordinate apprenticeship programs in their jurisdiction. Most of the apprentice's training time is spent on the job working with experienced tradespersons, usually over a period of three to four years. A portion of the apprenticeship program is spent in formal classroom instruction prior to or during their apprenticeship period.

- The numbers of registered apprentices are presented for the following **22 major trade groups**, by sex: automotive service; carpenters; early childhood educators and assistants; electricians<sup>2</sup>; electronics and instrumentation; exterior finishing; food service; hairstylists and estheticians; heavy duty equipment mechanics; heavy equipment and crane operators<sup>2</sup>; interior finishing; landscape and horticulture

1. "Trade qualifiers (challengers)" refers to individuals who receive a Certificate of Qualification in a trade for which apprenticeship is voluntary. This means that they did not register for or complete apprenticeship training, but they did succeed in obtaining certification within that trade.

2. Changes to the Emploi-Québec reporting decreased the number of registered apprentices in 2008, especially in the "Industrial electrician" and "Heavy equipment and crane operators" trades.

technicians and specialists; machinists; metal workers (other); millwrights; oil and gas well drillers, servicers, testers and related workers; plumbers, pipefitters and steamfitters; refrigeration and air conditioning mechanics; sheet metal workers; user support technicians; welders; and other<sup>3</sup>. These 22 major trade groups comprise a special grouping that was created using the National Occupation Classification (NOC).

- The numbers and percentages of registered apprentices are provided for the following seven **age groups**: under 20; 20 to 24; 25 to 29; 30 to 34; 35 to 39; 40 to 44; 45 and over; and for those whose age was unknown.

## Methodology

- The **Registered Apprenticeship Information System (RAIS)** survey is an annual census. Data are collected for all registered apprentices and trade qualifiers (challengers); no sampling is done. Response is mandatory and data are collected directly from respondents and extracted from administrative files. The information is requested in individual record format and each record represents a registered apprentice or trade qualifier (challenger). The reference period is the calendar year, and the collection period is February through September of the reference year.

The RAIS collected aggregate data by trade programs from 1980 to 1990. It included information on the number of new registrations, total registrations, leavers, completions and certificates granted. In 1991, in response to requests for more information on individual apprentices, the survey began collecting additional information on sex and age and requested information in individual record format.

In 2008, the RAIS underwent a major survey redesign, and a number of new data elements were added and requested from the jurisdictions. Some of the new data elements being requested relate to the number of technical and on-the-job hours completed by apprentices during their training.

- Beginning with the 2008 data, the RAIS used the National Occupation Classification (NOC) to create a special grouping of 22 major trade groups. All RAIS historical data have been revised to reflect these 22 groups.

## Limitations

- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. As a result, when the data are summed or grouped, the total value may not match the sum of the individual values, since the total and subtotals are independently rounded. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.
- The information on number and percentage distribution of registered apprentices that is presented by age group also includes an “age unknown” category, as age was not available for some records due to missing information.

## Data source

- Registered Apprenticeship Information System (RAIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3154 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3154&lang=en&db=imdb&adm=8&dis=2>.)

3. “Other” consists of miscellaneous trades and occupations not classified elsewhere.

# Postsecondary enrolment

## Colleges

### Tables D.1.4 and D.1.7

Overall, Indicator D1 portrays postsecondary enrolment. This sub-indicator presents information on student enrolment in colleges, by sex, registration status and program type ([Table D.1.4.1](#) and [Table D.1.4.2](#)). These counts are presented for full- and part-time students. The percentage of female enrolment relative to total full-time college enrolment, by program type, is also examined ([Table D.1.7.1](#) and [Table D.1.7.2](#)). Data are presented for Canada, and for the provinces and territories.

### Concepts and definitions

- The information presented reflects **college enrolment**.<sup>1</sup> Counts represent the number of students who were enrolled in an educational activity on October 31st and thus present a snapshot of enrolments on that day.

**Colleges** are created under the authority of either a province's *Colleges Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily to offer certificate, diploma, and transfer or continuing education and professional development programs requiring less than three years of full-time study. They are often circumscribed by government and often need to seek government approval to introduce new programs, especially degree programs. High school completion is generally required for admission.

**College** refers to community colleges, CEGEPs (collège d'enseignement général et professionnel or college of general and vocational education in Quebec), technical institutes, hospital and regional schools of nursing, radiography, medical technology and health records, as well as establishments providing technological training in specialized fields.

- **Registration status** captures enrolment for full- and part-time students on the day of the snapshot. Since there is no commonly accepted definition for the registration status of full- and part-time students, it is defined by the reporting postsecondary institutions.

1. For information on **university enrolment**, please see the Handbook section "[Postsecondary enrolments, universities.](#)"

- Information is presented for the following **program types** offered at colleges:
- **Total enrolment, all programs**, for both part-time and full-time students, also includes the category “Other program levels,” which is not presented in the tables. “Other program levels” includes “program levels not applicable” or “non-programs” (taking non-credit courses or taking courses without seeking a credential).
- **College certificate or diploma and other programs at the college level** includes college postsecondary programs; college post-diploma programs; collaborative degree programs; university transfer programs from a college or CEGEP (includes associate degrees); and college preliminary year courses.
- **Undergraduate** enrolment captures those programs leading to a bachelor’s degree, an applied degree, a university preliminary year or pre-bachelor, or to an undergraduate-level certificate or diploma.
- **Graduate** portrays programs leading to a master’s degree or other university graduate-level certificates or diplomas.

## Methodology

- The data on college enrolments were extracted from the **Postsecondary Student Information System (PSIS)**, a national survey that enables Statistics Canada to publish information on enrolments in and graduates of postsecondary education institutions in Canada. Implemented in 2000, PSIS replaced the following three surveys: the University Student Information System (USIS), the Community College Student Information System (CCSIS) and the Trade and Vocational Student Survey (TVOC).

PSIS is a census with a cross-sectional design and a longitudinal follow-up. Data are collected for all units of the target population; no sampling is done. Up to and including 2007, the target population was Canadian public and private not-for-profit postsecondary institutions (universities, community colleges and trade and vocational training centres). As of 2008, the target population is postsecondary institutions that are publicly funded by provincial ministries of education or their equivalent. Each postsecondary institution (the “collection unit”) provides Statistics Canada with data pertaining to its programs and students.

- The college data presented here exclude students enrolled in programs related to pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation programs.

## Limitations

- From year to year, more institutions are reporting data using the Postsecondary Student Information System (PSIS) format. The institutions that report data using the PSIS format are asked to include students enrolled in non-programs, including non-credit activities, as well as undergraduate- and graduate-level enrolments. In general, this has resulted in institutions reporting a larger number of student enrolments. Starting in 2000/2001, enrolments from private non-subsidized institutions that were part of the PSIS survey were no longer included.
- These figures on college enrolment should not be compared with those published before PSIS was introduced in 2000. All PSIS data are subject to revision.

- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. Since the total and subtotals are independently rounded, the total values may not match the sum of the individual values. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.
- The college enrolment figures for both sexes include enrolments for which sex was not reported; therefore, these figures may not match the totals obtained when the enrolments for males and females are added together.
- The denominator used to calculate the **percentage of females relative to total full-time college enrolment** excludes enrolments for which sex was not reported.

### Data source

- Postsecondary Student Information System (PSIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 5017, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&cSDDS=5017&lang=en&db=imdb&adm=8&dis=2>



# Postsecondary enrolment

## Universities

### Tables D.1.5 and D.1.6

Overall, Indicator D1 portrays postsecondary enrolment. This sub-indicator provides information on student enrolment in universities, by sex, registration status and program type (Table D.1.5). These counts are presented for full- and part-time students. The percentage of female enrolment relative to total full-time university enrolment, by program type, is also examined (Table D.1.6). Data are presented for Canada and the provinces (there are no universities in the territories).

### Concepts and definitions

- The information presented reflects **university enrolment**.<sup>1</sup> Counts represent the number of students who were enrolled in an educational activity on December 1st (November 1st in Ontario) and thus present a snapshot of enrolments on that day.

**Universities** are created under the authority of a province's *University Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily for the purposes of offering degree programs and to conduct research. They generally have complete authority to set their own academic standards and priorities. Within the institution, the supreme authority on all academic policy is generally a body on which faculty predominate.

- **Registration status** captures enrolment for full- and part-time students on the day of the snapshot. Since there is no commonly accepted definition for the registration status of full- and part-time students, it is defined by the reporting postsecondary institutions.

1. For information on **college enrolment**, please see the Handbook section "[Postsecondary enrolments, colleges.](#)"

- Information is presented for the following **program types** offered at universities:
  - **Total enrolment, all programs**, for both full-time and part-time students, includes the following categories not presented in the tables: “trade/vocational and preparatory training certificate or diploma,” “community college certificate or diploma or other community college level” and “other program levels.” “Other program levels” includes “program levels not applicable” or “non-programs” (taking non-credit courses or taking courses without seeking a credential).
  - **Undergraduate** enrolment captures those programs leading to a bachelor’s degree, a first professional degree, an applied degree, university preliminary year or pre-bachelor, undergraduate level certificate or diploma, license undergraduate and licentiate or testamur.
  - **Graduate** reflects enrolment in programs leading to a master’s degree, an earned doctorate, post-doctoral program, master’s qualifying year, university graduate level certificate or diploma, PhD qualifying year or probationary, internship (postgraduate medical education known as post-MD) and residency (medical, dental, veterinary).

## Methodology

- The data on university enrolments were extracted from the **Postsecondary Student Information System (PSIS)**, a national survey that enables Statistics Canada to publish information on enrolments in and graduates of postsecondary education institutions in Canada. Implemented in 2000, PSIS replaced the following three surveys: the University Student Information System (USIS), the Community College Student Information System (CCSIS) and the Trade and Vocational Student Survey (TVOC).

PSIS is a census with a cross-sectional design and a longitudinal follow-up. Data are collected for all units of the target population; no sampling is done. Up to and including 2007, the target population was Canadian public and private not-for-profit postsecondary institutions (universities, community colleges and trade and vocational training centres). As of 2008, the target population is postsecondary institutions that are publicly funded by provincial ministries of education or their equivalent. Each postsecondary institution (the “collection unit”) provides Statistics Canada with data pertaining to its programs and students.

## Limitations

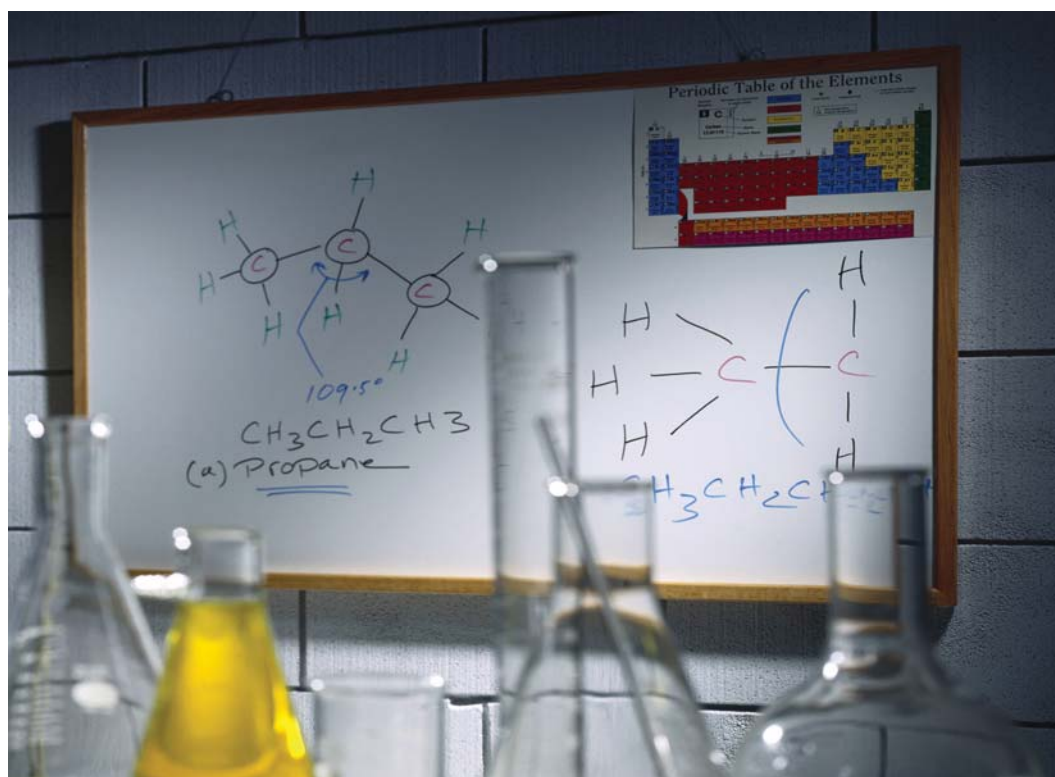
- From year to year, more institutions are reporting data using the Postsecondary Student Information System (PSIS) format. The institutions that report data using the PSIS format are asked to include students enrolled in non-programs. In general, this has resulted in institutions reporting a larger number of student enrolments.
- These figures on university enrolment should not be compared with those published before PSIS was introduced in 2000. Enrolments counts for 2004/2005 through 2007/2008 have been revised, and all PSIS data are subject to revision.



- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. Since the total and subtotals are independently rounded, the total values may not match the sum of the individual values. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.
- The university enrolment figures for both sexes include enrolments for which sex was not reported; therefore, these figures may not match the totals obtained when the enrolments for males and females are added together.
- The denominator used to calculate the **percentage of females relative to total full-time university enrolment** excludes enrolments for which sex was not reported.
- Since 2005/2006, enrolments for University of Regina have not been available.
- The following institutions, previously colleges, now have the status of universities and are included in the 2008/2009 counts for British Columbia: Capilano University, Vancouver Island University, Emily Carr University of Art and Design, Kwantlen Polytechnic University and University of the Fraser Valley. The increase in enrolment for Canada in 2008/2009 was mainly due to the attribution of university status to these five colleges. Part of this increase in university enrolment was in “Trade/vocational and preparatory training certificate or diploma” and “Community college certificate or diploma or other community college level” programs.

## Data source

- Postsecondary Student Information System (PSIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 5017, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5017&lang=en&db=imdb&adm=8&dis=2>



# Postsecondary completions and graduation rates

## Registered apprenticeship completions

### Tables D.2.1 and D.2.2

Overall, Indicator D2 examines trends in postsecondary completions. This sub-indicator presents information on the number of individuals completing registered apprenticeship programs in Canada, and in its provinces and territories ([Table D.2.1](#)), including breakdowns by sex and major trade group ([Table D.2.2](#)).

### Concepts and definitions

- The information on **registered apprenticeship completions** is based on data provided by apprenticeship branches in the provinces and territories and includes registered apprentices who have completed their program and received either an interprovincial or provincial certificate, as well as trade qualifiers (challengers)<sup>1</sup> who have received a Certificate of Qualification. This information is collected through the Registered Apprenticeship Information System (RAIS), which gathers information on individuals who receive training and those who obtain certification in a trade for which apprenticeship training is being offered; specifically, the number of registered apprentices taking in-class and on-the-job training in trades that have either Red Seal or non-Red Seal endorsement, and for which apprenticeship training is either compulsory or voluntary. The RAIS survey also compiles data on the number of registered apprentices, which includes those still registered from the previous year (apprentices who have not yet completed and have not withdrawn from training) plus apprentices newly registered during the current year.
- The numbers of registered apprenticeship completions are presented for the following 22 **major trade groups**, by sex: automotive service; carpenters; early childhood educators and assistants; electricians<sup>2</sup>; electronics and instrumentation; exterior finishing; food service; hairstylists and estheticians; heavy duty equipment mechanics; heavy equipment and crane operators<sup>2</sup>; interior finishing; landscape

1. “Trade qualifiers (challengers)” refers to individuals who receive a Certificate of Qualification in a trade for which apprenticeship is voluntary. This means that they did not register for or complete apprenticeship training, but they did succeed in obtaining certification within that trade.

2. Changes to the Emploi-Québec reporting decreased the number of registered apprentices in 2008, especially in the “Industrial electrician” and “Heavy equipment and crane operator” trades.

and horticulture technicians and specialists; machinists; metal workers (other); millwrights; oil and gas well drillers, servicers, testers and related workers; plumbers, pipefitters and steamfitters; refrigeration and air conditioning mechanics; sheet metal workers; user support technicians; welders; and other<sup>3</sup>. These 22 major trade groups comprise a special grouping that was created using the National Occupation Classification (NOC).

## Methodology

- The **Registered Apprenticeship Information System (RAIS)** survey is an annual census. Data are collected for all registered apprentices and trade qualifiers (challengers); no sampling is done. Response is mandatory and data are collected directly from respondents and extracted from administrative files. The information is requested in individual record format and each record represents a registered apprentice or trade qualifier (challenger). The reference period is the calendar year, and the collection period is February through September of the reference year.

The RAIS collected aggregate data by trade programs from 1980 to 1990. It included information on the number of new registrations, total registrations, leavers, completions and certificates granted. In 1991, in response to requests for more information on individual apprentices, the survey began collecting additional information on sex and age and requested information in individual record format. In 2008, the RAIS underwent a major survey redesign, and a number of new data elements were added and requested from the jurisdictions. Some of the new data elements being requested relate to the number of technical and on-the-job hours completed by apprentices during their training.

In 2008, the RAIS underwent a major survey redesign, and a number of new data elements were added and requested from the jurisdictions. Some of the new data elements being requested relate to the number of technical and on-the-job hours completed by apprentices during their training.

- Beginning with the 2008 data, the RAIS used the National Occupation Classification (NOC) to create a special grouping of 22 major trade groups. All RAIS historical data have been revised to reflect these 22 groups.

## Limitations

- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. As a result, when the data are summed or grouped, the total value may not match the sum of the individual values, since the total and subtotals are independently rounded. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.

## Data source

- Registered Apprenticeship Information System (RAIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3154 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3154&lang=en&db=imdb&adm=8&dis=2>).

3. “Other” consists of miscellaneous trades and occupations not classified elsewhere.

# Postsecondary completions and graduation rates

## Colleges

### Tables D.2.5 and D.2.9

Overall, Indicator D2 examines trends in postsecondary completions. This sub-indicator provides information on the number of certificates, diplomas and degrees granted by colleges, by sex of graduate and program type (Table D.2.5) and by sex of graduate and field of study (Table D.2.9). Data are presented for Canada, and for the provinces and territories, by academic year.

### Concepts and definitions

- The information presented examines trends in postsecondary completions for colleges; that is, the **number of certificates, diplomas and degrees granted by colleges**.<sup>1</sup> All counts reflect the academic year as defined by the college, which generally begins on the first day after the end of the winter semester.

**Colleges** are created under the authority of either a province's *Colleges Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily to offer certificate, diploma, and transfer or continuing education and professional development programs requiring less than three years of full-time study. They are often circumscribed by government and often need to seek government approval to introduce new programs, especially degree programs. High school completion is generally required for admission.

**College** refers to community colleges, CEGEPs (collège d'enseignement général et professionnel or college of general and vocational education in Quebec), technical institutes, hospital and regional schools of nursing, radiography, medical technology and health records, as well as establishments providing technological training in specialized fields. Programs related to pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation programs are not included in these college completion counts.

1. For information on the **number of degrees, diplomas and certificates granted by universities**, please see the Handbook section "[Postsecondary completions, universities.](#)"

- Information is presented for the following **program types** offered at colleges:
  - **College certificate or diploma and other credential at the college level** includes: college postsecondary programs; college post-diploma programs; collaborative degree programs; university transfer programs from a college or CEGEP (includes associate degree); and college preliminary year courses.
  - **Undergraduate** refers to programs leading to a bachelor's degree, an applied degree, a university preliminary year or pre-bachelor, or to an undergraduate-level certificate or diploma.
  - **Graduate** portrays programs leading to a master's degree or other university graduate-level certificates or diplomas.
- The **field of study** data are presented according to the Classification of Instructional Programs (CIP), the official classification used at Statistics Canada. The number of certificates, diplomas and degrees granted by colleges are presented for the following fields of study: agriculture, natural resources and conservation; architecture, engineering and related technologies; business, management and public administration; education; health, parks, recreation and fitness; humanities; mathematics, computer and information sciences; other; personal, protective and transportation services; personal improvement and leisure; physical and life sciences, and technologies; social and behavioural sciences and law; and visual and performing arts, and communications technologies.

## Methodology

- The data on the number of certificates, diplomas and degrees granted by colleges were extracted from the **Postsecondary Student Information System (PSIS)**, a national survey that enables Statistics Canada to publish information on enrolments in and graduates of postsecondary education institutions in Canada. Implemented in 2000, PSIS replaced the following three surveys: the University Student Information System (USIS), the Community College Student Information System (CCSIS) and the Trade and Vocational Student Survey (TVOC).

PSIS is a census with a cross-sectional design and a longitudinal follow-up. Data are collected for all units of the target population; no sampling is done. Up to and including 2007, the target population was Canadian public and private not-for-profit postsecondary institutions (universities, community colleges and trade and vocational training centres). As of 2008, the target population is postsecondary institutions that are publicly funded by provincial ministries of education or their equivalent. Each postsecondary institution (the "collection unit") provides Statistics Canada with data pertaining to its programs and students.

- The college data presented here exclude completions from programs related to pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation.

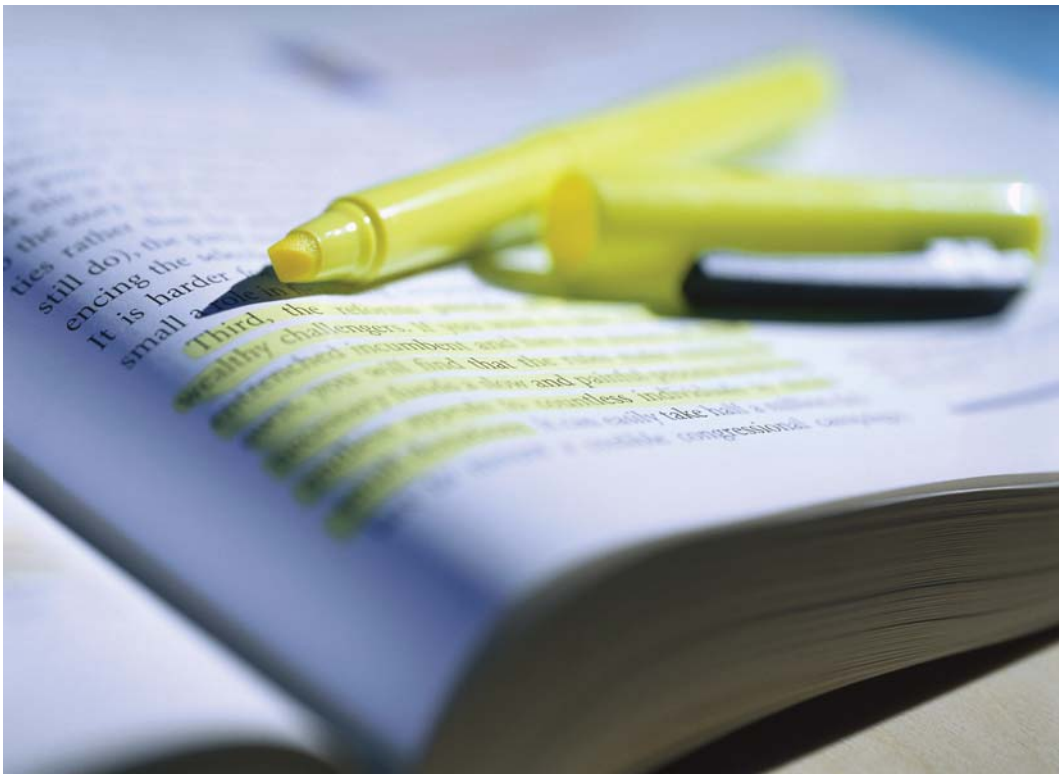
## Limitations

- From year to year, more institutions are reporting data using the Postsecondary Student Information System (PSIS) format. The institutions that report data using the PSIS format are asked to include undergraduate and graduate completions from colleges. In general, this has resulted in institutions reporting a larger number of completions. Starting in 1999/2000, completions from private non-subsidized institutions that were part of the survey were no longer included.

- These figures on college completions should not be compared with those published before PSIS was introduced in 2000. All PSIS data are subject to revision.
- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. Since the total and subtotals are independently rounded, the total values may not match the sum of the individual values. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.
- The college completion figures for both sexes include individuals for whom sex was not reported; therefore, these figures may not match the totals obtained when the completions for males and females are added together.

### Data source

- Postsecondary Student Information System (PSIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 5017, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&cSDDS=5017&lang=en&db=imdb&adm=8&dis=2>





# Postsecondary completions and graduation rates

## Universities

### Tables D.2.3 and D.2.8

Overall, Indicator D2 examines trends in postsecondary completions. This sub-indicator provides information on the number of degrees, diplomas and certificates granted by universities, by sex of graduate and program type (Table D.2.3) and by sex of graduate and field of study (Table D.2.8). Data are presented for Canada and the provinces (there are no universities in the territories), and by calendar year.

### Concepts and definitions

- The information presented examines trends in postsecondary completions for **universities**; that is, the **number of degrees, diplomas and certificates granted by universities**.<sup>1</sup> All counts reflect the number of graduates in the calendar year.

**Universities** are created under the authority of a province's *University Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily for the purposes of offering degree programs and to conduct research. They generally have complete authority to set their own academic standards and priorities. Within the institution, the supreme authority on all academic policy is generally a body on which faculty predominate.

- Information is presented for the following **program types** offered at universities:
- **Undergraduate** refers to completions from programs leading to a bachelor's degree, a first professional degree, an applied degree, university preliminary year or pre-bachelor, undergraduate level certificate or diploma, license undergraduate and licentiate or testamur. It also captures "other undergraduate" programs; that is, university preliminary year or pre-bachelor, undergraduate certificate or diploma, license undergraduate and licentiate or testamur.

1. For information on the **number of certificates, diplomas and degrees granted by colleges**, please see the Handbook section, "Postsecondary completions, colleges."

- **Graduate** portrays programs leading to a master's degree or an earned doctorate, as well as "other graduate," which includes master's qualifying year, university graduate certificate or diploma, PhD qualifying year or probationary, internship (postgraduate medical education known as post-MD) and residency (medical, dental, veterinary).
- The information for **college** programs outlines completion with a college certificate or diploma, or from other college-level programs (college post-diploma programs and collaborative degree programs) granted by universities.
- **Trade/Vocational** covers trade/vocational and preparatory training certificates or diplomas granted by universities.
- The **field of study** data are presented according to the Classification of Instructional Programs (CIP), the official classification used at Statistics Canada. The number of certificates, diplomas and degrees granted by colleges are presented for the following fields of study: agriculture, natural resources and conservation; architecture, engineering and related technologies; business, management and public administration; education; health, parks, recreation and fitness; humanities; mathematics, computer and information sciences; other; personal, protective and transportation services; personal improvement and leisure; physical and life sciences, and technologies; social and behavioural sciences and law; and visual and performing arts, and communications technologies.

## Methodology

- The data on the number of degrees, diplomas and certificates granted by universities were extracted from the **Postsecondary Student Information System (PSIS)**, a national survey that enables Statistics Canada to publish information on enrolments in and graduates of postsecondary education institutions in Canada. Implemented in 2000, PSIS replaced the following three surveys: the University Student Information System (USIS), the Community College Student Information System (CCSIS) and the Trade and Vocational Student Survey (TVOC).

PSIS is a census with a cross-sectional design and a longitudinal follow-up. Data are collected for all units of the target population; no sampling is done. Up to and including 2007, the target population was Canadian public and private not-for-profit postsecondary institutions (universities, community colleges and trade and vocational training centres). As of 2008, the target population is postsecondary institutions that are publicly funded by provincial ministries of education or their equivalent. Each postsecondary institution (the "collection unit") provides Statistics Canada with data pertaining to its programs and students.

## Limitations

- These figures on university completions should not be compared with those published before PSIS was introduced in 2000. All PSIS data are subject to revision.
- To ensure the confidentiality of responses, all counts are randomly rounded to a multiple of 3. Since the total and subtotals are independently rounded, the total values may not match the sum of the individual values. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.

- The university completion figures for both sexes include individuals for whom sex was not reported; therefore, these figures may not match the totals obtained when the completions for males and females are added together.
- Since 2005, degrees, diplomas and certificates granted by the University of Regina have not been available.
- For Quebec institutions, degrees, diplomas and certificates granted do not include micro programs and attestations.
- The following institutions, previously colleges, now have the status of universities and are included in the 2008 completion counts for British Columbia: Capilano University, Vancouver Island University, Emily Carr University of Art and Design, Kwantlen Polytechnic University and University of the Fraser Valley. The increase in credentials awarded in 2008 in Canada is entirely due to the attribution of university status to these five colleges. Also, the majority of college and trade/vocational certificates and diplomas were awarded by these five former colleges.
- Due to the revision of the institutions included in the PSIS survey, the following were not included in the 2008 data: in Ontario, Institut de pastorale des Dominicains, Tyndale University College and Seminary, Redeemer University College, Royal Military College of Canada; in Alberta, Newman Theological College; in British Columbia, Vancouver School of Theology, Trinity Western University, and Seminary of Christ the King.

## Data source

- Postsecondary Student Information System (PSIS), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 5017, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=5017&lang=en&db=imdb&adm=8&dis=2>



## University educators

### Tables D.3.1 through D.3.4

Indicator D3 presents information on university educators in Canada and the provinces. It outlines the number of full-time university educators, providing breakdowns by academic rank and by sex (Table D.3.1). The male–female distribution of educators, by age, is also examined (Table D.3.2), as well as the age distribution of educators compared with that of the overall labour force (Table D.3.3). Average salaries, by academic rank and by sex, are also presented (Table D.3.4).

### Concepts and definitions

- **Full-time university educators** refers to all full-time teaching staff employed in universities in Canada.

**Full-time** includes:

staff appointed on a full-time basis whose term of appointment is not less than 12 months (including any staff member on leave);

new appointees hired on a full-time basis (i.e., whose term of contract is greater than 12 months) and who are at the institution for less than 12 months in the first year; and

staff who were appointed to teach 12 months or more and at a later date entered into a formal agreement with the institution to work on a reduced load basis. This situation usually arises with staff members who are approaching retirement.

**Teaching staff** refers to:

all teachers within faculties, whether or not they hold an academic rank;

academic staff in teaching hospitals;

visiting academic staff in faculties; and

research staff who have an academic rank and a salary scale similar to teaching staff.

In Table D.3.4, the definition of full-time university staff is similar to that used in Tables D.3.1, D.3.2 and D.3.3, but excludes staff who are on unpaid leave, all religious and military personnel or similar staff paid according to salary scales lower than those applying to regular/lay staff, and staff having a salary of zero or unreported.

- The following **academic ranks** are used:
  - full professors**, referring to the most senior rank;
  - associate professors**, the mid-level rank (requirements vary considerably between institutions and departments);
  - assistant professors**, the entry-level rank; and
  - other**, which refers to lecturers, instructors, and other teaching staff.
- **Gender gap** is defined as the average salary of female university educators as a percentage of the average of males.

## Methodology

- The information on full-time university educators is from the **University and College Academic Staff System (UCASS)**, which conducts an annual survey that collects national comparable information on the number and socio-economic characteristics of full-time teaching staff at Canadian degree granting institutions (universities and colleges). The information is collected for each individual staff member employed by the institution as of October 1st of the academic year, presenting a snapshot as of that date.
- The percentage distribution of university educators by age and median age is based on educators for whom age is known.
- Salaries and salary scales of full-time teaching staff at Canadian universities are based on the annual rate of salary plus stipends. The data are in current dollars. The Consumer Price Index should be used to convert the data to constant dollar amounts for comparison over time. For the index and further details on converting, please see [Table F.1.3](#) in the “Reference statistics” section.
- The Labour Force Survey data used to compare the age distribution of the overall full-time employed labour force with that of full-time university teaching staff are based on a monthly average from September to April.

## Limitations

- To ensure the confidentiality of responses, a random rounding process is applied to the data. As a result, when these data are summed or grouped, the total values may not match the sum of the individual values, since the total and subtotals are independently rounded. Similarly, percentage distributions, which are calculated on rounded data, may not necessarily add up to 100%.

## Data sources

- University and College Academic Staff Survey, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada website, survey 3101, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3101&lang=en&db=imdb&adm=8&dis=2>
- Labour Force Survey, Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada website, survey 3701, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>

## Research and development

### Tables D.4.1 through D.4.5

Indicator D4 presents information on research and development (R&D), focusing on the R&D performed by the higher education sector. The context for R&D activities carried out in the higher education sector is provided by examining total domestic expenditures on R&D as a percentage of GDP from an international and national perspective (Table D.4.1 and Table D.4.2). Expenditures on R&D by performing sector are outlined (Table D.4.3 and Table D.4.4), as are sources of funding for R&D expenditures in the higher education sector (Table D.4.5).

### Concepts and definitions

- The R&D data presented in this indicator are assembled based on guidelines presented in the Organisation for Economic Co-operation and Development's (OECD's) *Frascati Manual*.<sup>1</sup> These guidelines indicate that **research and development (R&D)** is considered to be any creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge and to use this knowledge in new applications. The central characteristic of R&D is an appreciable element of novelty and of uncertainty. New knowledge, products or processes are sought. The work is normally performed by, or under the supervision of, persons with postgraduate degrees in the natural sciences or engineering. An R&D project generally has three characteristics: a substantial element of uncertainty, novelty and innovation; a well-defined project design; and a report on the procedures and results of the projects.
- **Total domestic expenditures on R&D** (Tables D.4.1 through D.4.3) represent the total value of domestic expenditures on R&D of all organizations in the performing sectors (categorized as government, business enterprise, higher education, and private non-profit organizations). It includes R&D performed within a country and funded from abroad, but excludes payments for R&D performed abroad.

The definition of total domestic expenditures on R&D in a provincial/territorial context is similar to that provided above. The expenditures are assigned to the province or territory in which the performing establishment is located. Personnel may live in an adjoining province or territory (e.g., the National Capital Region) and materials and equipment may come from another province or territory or

1. The *Frascati Manual* is a document that lays out the methodology for collecting and using statistics about research and development in countries that are members of the OECD. For more information, see [www.oecd.org](http://www.oecd.org).



country; these factors must be taken into consideration when using this statistic as a provincial/territorial indicator of R&D activity.

- **R&D performing sectors** are categorized as follows:

**Federal government**, which includes departments and agencies of this government.

**Provincial governments**, which include departments and agencies of provincial and municipal governments in Canada, as well as provincial research organizations.

**Business enterprise** is composed of business and government enterprises, including public utilities and government-owned firms (e.g., Canadian National Railways and Ontario Hydro).

**Higher education**, in reference to the pan-Canadian R&D statistics, covers universities and affiliated institutions such as research hospitals, research institutes, experimental stations, and clinics. Although OECD guidelines request that R&D in the entire postsecondary sector be reported, data for Canada are limited to R&D activities in universities and affiliated institutions as data on R&D in colleges and similar institutions are not currently collected at Statistics Canada.

**Private non-profit** comprises charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits.

- **Sources of funds for R&D in the higher education sector** are categorized as follows:

**Federal government**, through the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation, Canada Research Chairs, and federal departments and agencies.

**Provincial governments**, including municipal governments.

**Business enterprises**, including donations, bequests and contracts from individuals and businesses;

**Private non-profit organizations**, including donations, bequests, and contracts from foundations and not-for-profit organizations.

**Foreign sources**, which are funding entities located abroad.

**Higher education sector**, which funds its own R&D using two revenue streams:

*General funds:* These represent government transfers (or block grants) to higher education institutions that are used to support R&D activity. Although these funds essentially represent indirect government spending on R&D, for the purposes of pan-Canadian statistics, they are allocated to higher education funding due to the difficulty of categorizing these funds as provincial or federal.

*Own revenue sources:* This refers to self-generated revenue of higher education institutions from sources such as tuition fees, investment income, revenue from sales of services and products by the institution, and license and patent incomes.

## Methodology

- Total domestic expenditures on R&D in Canada are estimated annually by the Business Special Surveys and Technology Statistics Division (BSSTSD) at Statistics Canada, by type of sector, source of funds, and science type using a



series of surveys supplemented by modeling.<sup>2</sup> Beginning in 2007, expenditures for R&D performed by the federal government in the National Capital Region were included with the respective Ontario and Quebec totals. This revision has been made historically to 1988. Previously, federal government R&D expenditures in the National Capital Region were only included in the Canada total.

- The expenditures for R&D performed by the higher education sector (Table D.4.4) are derived from an estimation model, which uses the following components:
  - a) direct sponsored research;
  - b) direct non-sponsored research (the time spent on R&D when it is undertaken as part of the teaching function, taking into account the portion of faculty time spent on this type of R&D and faculty salaries);
  - c) indirect costs of sponsored and non-sponsored research;
  - d) direct and indirect cost of R&D performed by affiliated hospitals not included elsewhere in the main data source.

The main source of data for the above estimation model is the annual *Financial Information of Universities and Colleges* survey, conducted in conjunction with the Canadian Association of University Business Officers (CAUBO)<sup>3</sup>;

Sources of funds for expenditures on research and development in the higher education sector are derived from an estimation model. The data used in the model are obtained from the *Financial Information of Universities and Colleges* survey. These data on sources of funds for R&D conducted require two main refinements before they can be used: reconciliation of sector definitions and discrepancies between expenditure and income data.

- The data on R&D in the higher education sector are based on a revised estimation procedure first used for the 1998/1999 estimates. Since then, some improvements to the inputs to this estimation procedure have been made and have been reflected in historical revisions to the data.
- During the 2001/2002 estimation procedure, the one-time grant to universities awarded by the federal government to assist in indirect costs associated with research activities taking place at universities was included in the expenditures on R&D by the university sector. The estimation system had to be modified to ensure those costs were sourced to the federal government and not double-counted. In 2003/2004, the indirect costs grant for R&D in universities became an annual payment. The estimation system ensures these payments are not counted twice.
- Table D.4.1 compares Canada with other OECD member countries. To facilitate the international discussion, subsequent comparisons make use of the G-7 and the top four OECD countries in terms of the level of resources devoted to R&D relative to gross domestic product, as they thereby serve as useful reference points.
- R&D expenditures and source of funds data are shown in current dollars. To convert these current dollar data to constant dollar amounts for comparison over time, it is recommended that the Gross Domestic Product (GDP) Implicit Price Index be used for national and provincial conversions. A GDP deflator is the

2. For more information, see *Gross Domestic Expenditures on Research and Development in Canada (GERD), and the Provinces*, Volume 3, number 1 (December 2010), Statistics Canada Catalogue no. 88-221-X.

3. For more detail, see *Science Statistics*, vol. 34, no. 5 (September 2010 edition), Statistics Canada Catalogue no. 88-001-X.

appropriate deflator for economy-wide statistics because it accounts for the cost of goods for households, for government and for industry. For the index and further details on converting, see [Table F.1.2](#).

- The OECD totals shown in Tables D.4.1, D.4.2 and D.4.3 reflect the OECD countries as a single entity as each total represents the sum of all values provided by each country. For example, in Table D.4.1, the OECD total for total domestic expenditures on R&D as a percentage of GDP was obtained by dividing the total domestic expenditures in all OECD countries by the total GDP across OECD countries.

## Limitations

- One of the most important issues relating to R&D concerns its definition. There remains some ambiguity in defining precisely what constitutes R&D; for example, in a continuing project, determining the precise point at which the project passes the boundary of R&D and becomes exploitation of a process or product for which it may be said that the R&D stage has been completed. This ambiguity is perhaps less serious in internal time series, where it may be expected that the year-to-year application of the definition by the same reporting unit will be consistent.
- Estimates of total domestic expenditure on R&D, like any other social or economic statistic, can only be approximately true. Different components are of different accuracy, sector estimates probably vary from 5% to 15% in accuracy. However, estimates of total domestic expenditure are sufficiently reliable for their main use as an aggregate indicator for science policy.
- The source for internationally comparative statistics on R&D is the OECD. OECD guidelines request that R&D in the entire postsecondary sector (defined as all universities, colleges of technology, and other institutes of postsecondary education, whatever their source of finance or legal status) be reported. However, data for Canada are limited to R&D activities in universities and affiliated institutions (including research hospitals) and degree-granting university colleges as data on R&D in colleges and similar institutions are not available.

Although the OECD is working to improve the international reporting of R&D statistics, other comparability issues exist; therefore, it is important that the reader exercise caution in interpreting these statistics.

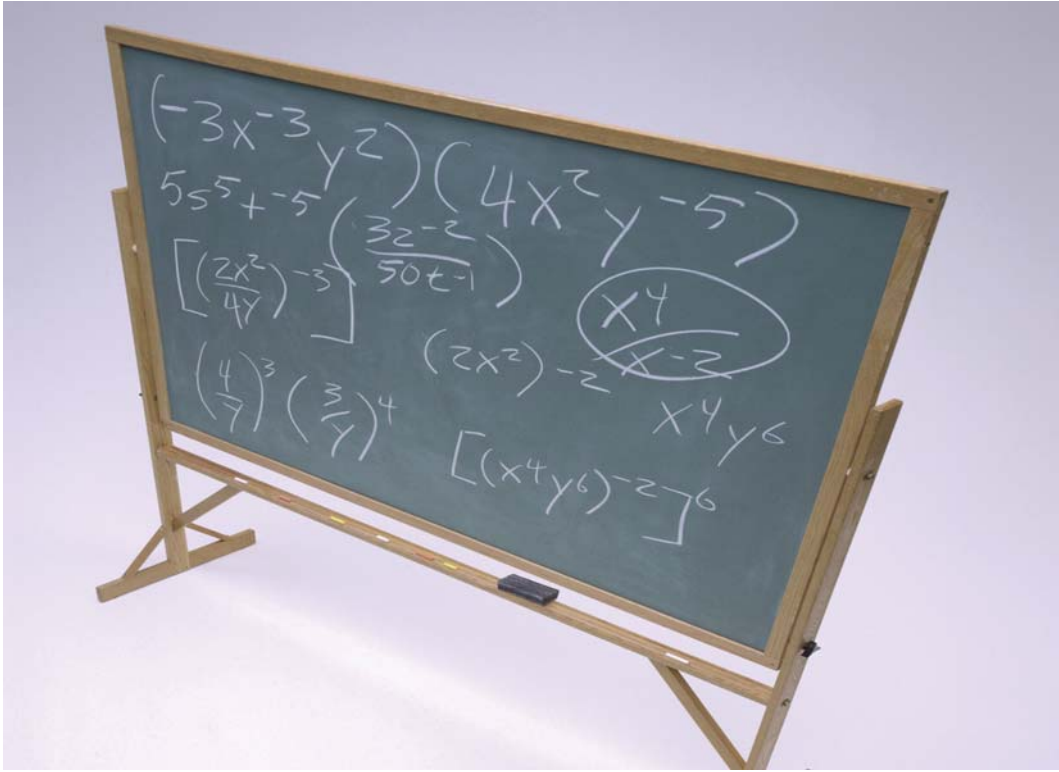
## Data sources

- *Main Science and Technology Indicators*, Vol. 2010/1, Organisation for Economic Co-operation and Development.
- *Gross Domestic Expenditures on Research and Development in Canada (GERD), and the Provinces: National Estimates 2000 to 2010 and Provincial Estimates 2004 to 2008*, vol. 3, no. 1 (December 2010), Catalogue no. 88-221-X, Statistics Canada.
- *Science Statistics: Estimates of Research and Development Expenditures in the Higher Education Sector, 2008/2009*, vol. 34, no. 5 (September 2010), Catalogue no. 88-001-XWE2010005, Special Surveys and Technology Statistics Division, Statistics Canada.
- CANSIM Table 358-0001, *Gross domestic expenditures on research and development, by science type and by funder and performer sector, annual (dollars)*, Statistics Canada.

# D5

For information on the methodology of this indicator, please consult *Education Indicators in Canada: Handbook for the Report of the Pan-Canadian Education Indicators Program 2007*.

(<http://www.statcan.gc.ca/cgi-bin/af-fdr.cgi?l=eng&loc=/pub/81-582-g/81-582-g2008001-eng.pdf>)



## Educational attainment

**Table D.6.3**

This indicator examines educational attainment among the Canadian population aged 25 to 64, often considered to be the “working-age” population. Data for the off-reserve Aboriginal population, the non-Aboriginal population, and for the total population are presented for Canada and for the provinces and territories (Table D.6.3).

### Concepts and definitions

- The **off-reserve Aboriginal population** refers to those persons who reported identifying with at least one Aboriginal group; for example, North American Indian, Métis or Inuit. This is based on the individual’s own perception of his or her Aboriginal identity.<sup>1</sup>
- **Educational attainment** refers to the highest level of education completed.<sup>2</sup> For this indicator, which is based on data from the Labour Force Survey (LFS), educational attainment is categorized as:<sup>3</sup>

**Less than high school:** No education or education below high school graduation.

**High school:** High school graduation or some postsecondary education (not completed).

**Trades:** Trades certificate or diploma from a vocational school or apprenticeship training.

**College:** non-university certificate or diploma from a community college, CEGEP, school of nursing and similar programs at this level; university certificate below bachelor’s degree.

**University:** bachelor’s degree; university degree or certificate above bachelor’s degree.

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1. See “Aboriginal identity” in “Section 3: Dictionary of concepts and definitions” in the *Guide to the Labour Force Survey* (Statistics Canada Catalogue no. 71-543-G).

2. Please see the *Education Indicators in Canada: An International Perspective* series (Statistics Canada Catalogue no. 81-604-X) for information on educational attainment in an international context. In these reports, Indicator A1, “Educational attainment of the adult population”, presents figures for Canada, the provinces and territories, along with the international averages provided by the Organisation for Economic Co-operation and Development. All of these data are categorized using the International Standard Classification of Education (ISECD).

3. For more information, see “Educational attainment” in Section 3: Dictionary of concepts and definitions” in the *Guide to the Labour Force Survey* (Statistics Canada Catalogue no. 71-543-G).

## Methodology

- Statistics Canada's monthly **Labour Force Survey (LFS)** was developed following the Second World War to satisfy a need for reliable and timely data on the labour market. LFS data are used to produce the well-known unemployment rate as well as other standard labour market indicators (the employment rate and the participation rate). The survey covers the civilian, non-institutionalized population 15 years of age and over. It is conducted nationwide, in both the provinces and the territories. The survey does not cover: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces and the institutionalized population. These groups together represent an exclusion of less than 2% of the Canadian population aged 15 and over.
- Labour Force Survey (LFS) estimates for Canada are derived using LFS results from the provinces; the territories are excluded. LFS revised the weights used for the Aboriginal population data which has resulted in the revision of several previously published estimates.
- The data presented for this indicator are based on a 12-month average from January to December.
- The percentage of the population aged 25 to 64 who had attained a specific level of education was obtained by dividing the number of people aged 25 to 64 who had completed the given level of education by the total number of people aged 25 to 64, then multiplying by 100.

## Limitations

- The figures presented may not add up to totals because of rounding.
- While persons living on reserves and other Aboriginal settlements are not included in the sample for the provinces, the sample for the territories includes both Aboriginal and non-Aboriginal communities.
- Caution should be exercised in interpreting the provincial ratios and differences in ratios between provinces and over time, as small estimates may present fairly high sampling variability. Estimates for small geographic areas, for small age groups or for cross-classified variables will be associated with larger variability.
- The data presented are not directly comparable with census-based data for the Aboriginal population.
- Data for Nunavut reflect the 10 largest communities.

## Data source

- Labour Force Survey, Statistics Canada. For more information, consult "Definitions, data sources and methods", Statistics Canada Web site, survey 3701, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>

# Transitions to postsecondary education

## Participation in education

### Tables E.1.1, E.1.2.1 and E.1.2.2

Indicator E1 considers youth transitions from high school to postsecondary education. This first indicator subset uses data from the Labour Force Survey (LFS) to present participation rates in education for 15- to 34-year-olds in Canada and the provinces ([Table E.1.1](#), [Table E.1.2.1](#) and [Table E.1.2.2](#)).

### Concepts and definitions

- The Labour Force Survey (LFS) asks respondents about school attendance in the week before the survey, at a “school, college or university”. For those who are students, information is collected on the type of school, and whether enrolment is full- or part-time, as designated by the educational establishment. For this indicator, the **participation rate** reflects the total enrolment in a primary/secondary, college, or university institution as a percentage of the total population in each age group.
- **Age** is collected for every household member in the survey, and the information on labour market activity is collected for all persons aged 15 and over.

### Methodology

- The Labour Force Survey (LFS) is a monthly household survey of a sample of individuals who are representative of the civilian, non-institutionalized population 15 years of age or older. It is conducted nationwide, in both the provinces and the territories. Excluded from the survey’s coverage are: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces and the institutionalized population. These groups together represent an exclusion of approximately 2% of the population aged 15 and over. Canada-level LFS estimates are derived using the results of the LFS in the provinces. Territorial LFS results are not included in the Canada-level estimates, but are published separately.

- Participation rates are presented at the Canada level (excluding the territories) for single ages from 15 through to 29 (Table E.1.1). Rates for the provinces are presented for different age groups: 15 to 19, 20 to 24 and 25 to 29 (Table E.1.2.1), as well as 18 to 24, 25 to 29 and 30 to 34 (Table E.1.2.2). The LFS participation rate in education is based on a monthly average from September to April.

## Limitations

- ‘Other’ types of institutions are excluded from the total in Tables E.1.1 and E.1.2 and are not included in the three types of schools: primary or secondary school; community college, junior college or CEGEP; and university. For the “kind of school” variable, ‘Other - specify’ is an option and includes: English as a second language or French language courses that do not qualify as high school, college or university education; police academies; computer and business skills programs other than those offered by colleges or universities; culinary, hairdressing or bartending schools; and special education that focuses on community living and life skills for students with special needs.
- It is unclear where trade certificate programs are placed in the “kind of school” variable. Trade schools could be coded to the ‘community college, junior college or CEGEP group’ or to ‘Other - specify’, depending on how the respondent answers the question and the interviewer’s interpretation of the answer.
- Caution should be exercised in interpreting the provincial ratios and differences in ratios between provinces and over time, as small estimates may present fairly high sampling variability. Estimates for small geographic areas, for small age-groups or for cross-classified variables will be associated with larger variability.
- For an explanation on estimates sampling variability and the method to evaluate this variability with standard error, please refer to the section on Data Quality in the Guide to the Labour Force Survey, <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=71-543-GWE&lang=eng>

## Data source

- Labour Force Survey, Statistics Canada. For more information consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3701, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>



# Transitions to postsecondary education

## Moving from high school to postsecondary education

### Tables E.1.4 through E.1.6

Indicator E1 considers youth transitions from high school to postsecondary education. Tables E.1.4 to E.1.6 are based on data from the Youth in Transition Survey (YITS). [Table E.1.4](#) examines the educational status of a cohort of young adults at various points in time, beginning when they were 17 years of age in Cycle 2 of YITS (in 2001) to when they were 25 years of age in Cycle 6 (in 2009). The subsequent tables focus on young adults who leave high school without having completed the requirements for high school graduation. [Table E.1.5](#) looks at YITS respondents who were high-school non-completers at the age of 19 in 2003 and reports on the proportion of these who had obtained additional education by the time they were 25 years of age 2009. [Table E.1.6](#), which is based on data from the two longitudinal cohorts of young adults surveyed by YITS (those who were 25 years of age in 2005 and those who were 25 years of age in 2009), examines if the more recent cohort of young adults was more or less likely to ever have left high school without graduating. Information is presented for Canada and the provinces.

### Concepts and definitions

- This indicator is based on data from the **Youth in Transition Survey (YITS)**, a longitudinal survey developed by Human Resources and Skills Development Canada and Statistics Canada. YITS surveyed two cohorts of youth every two years for a period of time. One cohort entered the survey when they were 15 years of age in 1999 (referred to as cohort A<sup>1</sup>); a second cohort began their participation in YITS when they were between the ages of 18 and 20 in 1999 (cohort B). YITS surveyed these two cohorts until the 2007 reference year (cohort B), and until 2009 cohort. It is important to note that in each cycle, the cohorts have aged two years. Table E.1.4 and Table E.1.5 present information for cohort A, while Table E.1.6 is based on data from both cohort A and cohort B.

1. The younger cohort also participated in the Programme for International Student Achievement (PISA) when they were 15 years of age in Cycle 1. PISA, an international assessment run by the Organisation for Economic Co-operation and Development, was designed to assess the literacy skills of youth in reading, mathematics, and science.

- **Educational status** refers to a respondent's overall educational status as of the survey reference date. Education categories are mutually exclusive.

**High school status** captures the following three groups:

**high school non-completers**—respondents who had not completed the high school graduation requirements, and who were not attending high school as of the reference date;

**high school continuers**—respondents who were continuing their studies at the high school level and who had not yet graduated as of the reference date; and

**high school graduates**—respondents who have completed the minimum requirements for a high school graduation certificate, diploma or equivalent and have no postsecondary education.

**Postsecondary education** is any education beyond high school, towards a diploma, certificate or degree that would take someone three months or more to complete. Trade programs offered through apprenticeship, vocational schools or private trade schools do not always require high school graduation. Such education is considered postsecondary.

**Postsecondary education status** captures the following groups:

**postsecondary non-completers**—respondents who had undertaken a postsecondary education but were no longer pursuing it and had never graduated from a postsecondary education institution;

**postsecondary continuers**—respondents who were attending a postsecondary education institution but had not yet graduated;

**postsecondary graduate non-continuers**—respondents who have graduated from a postsecondary institution (respondents who had completed the graduation requirements towards a diploma, certificate or degree) and were not pursuing additional education in a postsecondary institution; and

**postsecondary graduate continuers**—respondents who have already graduated from a postsecondary institution and were attending an additional postsecondary program.

- **Additional education** (Table E.1.5) includes one or more of the following: eventual high school completion or its equivalent; some postsecondary education (those who had ever attended some form of postsecondary education without obtaining a certificate/diploma/degree; or postsecondary graduation.
- Respondents **who ever left high school** (Table E.1.6) are those who left elementary or high school at some point without having obtained the requirements for high school graduation, whether or not they later returned to education, either high school or postsecondary. As YITS asks respondents whether they ever left elementary or secondary school, it is not possible to differentiate between those who left elementary school and those who left secondary school. Further analysis, based on the age at which respondents last attended school, indicates that the numbers who left elementary school are very small.

## Methodology

- The target population for cohort A comprises individuals who were born in 1984 and in the 1999/2000 school year were attending any form of schooling in the provinces of Canada. These individuals were 15 years of age in 1999 (in Cycle 1) and 25 years of age in 2009, the reference year for Cycle 6. The sample for this cohort was school-based, with schools selected in the first stage of sampling, and students selected from these schools in the second stage of sampling. Schools in the territories and on Indian reserves were excluded. Some school- and student-level exclusions were made in the sampling. However, exclusions of all types represented, in total, less than 5% of the national desired target population.
- The target population for the older YITS cohort (cohort B) comprises residents of the 10 provinces of Canada who were born between 1979 and 1981. These individuals were aged 18 to 20 in 1999, the reference year for Cycle 1, and were between the ages of 24 and 26 in 2005, the reference year for Cycle 4. The sample design of cohort B was determined to a large degree by the sample design of the Labour Force Survey (LFS). As is the case with the LFS, this cohort excludes residents of Yukon, Nunavut, and the Northwest Territories, persons living on Indian reserves, full-time members of the Canadian Forces and inmates of institutions. These groups together represent an exclusion of approximately 2% of the population aged 15 and over, in the LFS.
- YITS is strictly a longitudinal survey. The initial samples of 15-year-olds and 18- to 20-year-olds selected at Cycle 1 were surveyed every two years for a number of cycles. As part of the YITS methodology, no attempts are made to top-up the samples from cycle to cycle to ensure a cross-sectional representation of these populations. Furthermore, YITS loses some of its existing sample with each survey cycle because non-respondents at a specific survey are not followed up for subsequent cycles of the survey. It is important to note that, for this reason, only those respondents who were 15 years of age in 1999 (Cycle 1) and who remained in the survey in Cycle 6 were used to calculate the statistics for each reference year in Table E.1.4 and Table E.1.5.
- The implication of these factors along with changes in the population of Canada over time—primarily due to immigration and emigration—is that although the original sample for cohort A is representative of Canadians who were 15 years of age as of Cycle 1 of YITS (December 1999) and the original sample for cohort B is representative of Canadian who were 18 to 20 years of age in Cycle 1, these samples do not continue to be representative of a cross-section of the age cohorts in each subsequent YITS cycle. For example, in Table E.1.4, the sample is not representative of a cross-section of the overall population aged 17 (in December 2001), 21 (in December 2005), and 25 (December 2009).

## Limitations

- Because cohort A and cohort B were sampled differently and because YITS loses some of its sample after Cycle 1, a direct comparison of the educational profile of these two samples at age 25 (Table E.1.6) should be viewed with caution.
- Although the initial sample selected for cohort A is representative of Canadians who were 15 years of age as of Cycle 1 of YITS (December 1999) and the initial sample selected for cohort B is representative of Canadian who were 18 to 20 years of age in Cycle 1, these samples do not continue to be representative of a cross-section of the age cohorts in each subsequent YITS cycle.

- Canada totals include those respondents who last attended high school in the territories, but data for the territories are not shown separately as there are only a few cases.

### Data source

- Youth in Transition Survey, Cycles 2 through 6 (for cohort A) and Cycle 4 (for cohort B), Statistics Canada. For more information, consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 4435, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=4435&lang=en&db=imdb&adm=8&dis=2>.

# Transitions to the labour market

## Students and work

### Tables E.2.1 through E.2.3

Indicator E2, which covers the transition from postsecondary education to the labour market, has four subsets. This first indicator subset uses Labour Force Survey (LFS) data to look at the extent to which students aged 15 to 29 combine school and work ([Table E.2.1](#) and [Table E.2.2](#)), and at the distribution of this population group by type of institution attended, labour force status and age group(s) ([Table E.2.3](#)).

### Concepts and definitions

- The Labour Force Survey (LFS) asks respondents about school attendance in the week before the survey, at a “school, college or university,” in addition to labour force participation information. Persons who are supplying services in the reference period, regardless of the quantity supplied, are classified as **employed**, while those who provide evidence that they are offering their labour services to the market (again regardless of quantity) are classified as **unemployed**. Those in the remainder of the population who are neither currently supplying nor offering their labour services are referred to as persons **not in the labour force**.
- **Employed** persons are those who: during the reference week, did any work at all at a job or business; that is, paid work in the context of an employer-employee relationship, or self-employment. It also includes unpaid family work, which is defined as unpaid work contributing directly to the operation of a farm, business or professional practice owned and operated by a related member of the same household; or had a job but were not at work due to factors such as own illness or disability, personal or family responsibilities, vacation, labour dispute or other reasons (excluding persons on layoff, between casual jobs, and those with a job to start at a future date).
- Given the concept of **unemployment** as the unutilized supply of labour, the operational definition of unemployment is based primarily on the activity of job search and the availability to take a job. In addition to being conceptually appropriate, job search activities can, in a household survey, be objectively and consistently measured over time. The definition of unemployed persons is therefore those who, during the reference week:

- a) were on temporary layoff during the reference week with an expectation of recall and were available for work, or
- b) were without work, had actively looked for work in the past four weeks, and were available for work, or
- c) had a new job to start within four weeks from reference week, and were available for work.

Persons are regarded as available if they reported that they could have worked in the reference week if a suitable job had been offered (or recalled if on temporary layoff), or if the reason they could not take a job was of a temporary nature such as: own illness or disability, personal or family responsibilities; they already had a job to start in the near future; or they were on vacation (prior to 1997, those on vacation were not considered available). Full-time students currently attending school and looking for full-time work are not considered to be available for work during the reference week. They are assumed to be looking for a summer or co-op job or permanent job to start sometime in the future, and are therefore not part of the current labour supply.

- **Age** is collected for every household member in the survey, and the information on labour market activity is collected for all persons aged 15 and over. For this indicator, those aged 15 to 29 are examined.
- **Labour force status** designates the status of the respondent vis-à-vis the labour market: a member of the non-institutional population 15 years of age and over is either employed, unemployed, or not in the labour force.

## Methodology

- Proportion of students working and distribution of the population by type of institution attended and labour force status data are presented at the Canada level for single ages from 15 through to 29, as well as a total 15 to 29 in Tables E.2.1 and E.2.3. Comparable data for the provinces are presented for three age groups: 15 to 19, 20 to 24, and 25 to 29, with a total 15 to 29 in Table E.2.3. The LFS participation rate in education is based on a monthly average from September to April.
- In Table E.2.3, type of institution attended and labour force status are categorized as: non-student not in the labour force, non-student unemployed, non-student employed, university employed, university not in the labour force, college employed, college not in the labour force, primary/secondary employed, primary/secondary not in the labour force and “other”.

The “other” category includes unemployed students attending university, college, primary or secondary schools and students attending other kinds of schools.

- The concepts of employment and unemployment are derived from the theory of the supply of labour as a factor of production and are based on those endorsed by the International Labour Organisation (ILO). The production referred to is in turn defined as those goods and services included in the System of National Accounts. For this reason, unpaid housework and volunteer work are not counted as work by the survey.
- For the purposes of measuring job search as part of the identification of the unemployed, the LFS uses a four-week search period although the reference period for identifying the employed is that of one week. The justification for the difference is that delays inherent in job search (for example, periods spent awaiting the results of earlier job applications) require that the active element of looking

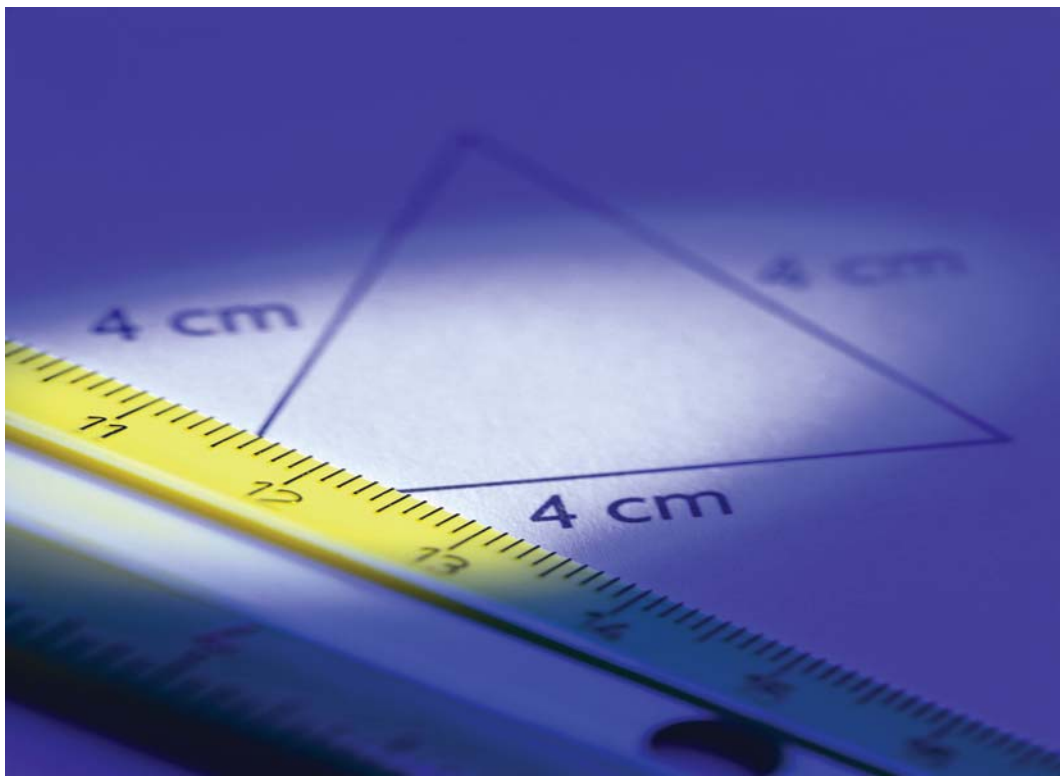
for work be measured over a period greater than one week if a comprehensive measure of job search is to be obtained.

## Limitations

- Most industrialized countries, including Canada and the United States, subscribe to guidelines established by the International Labour Office for defining and measuring labour market status, including unemployment. However, the guidelines are, by design, rather imprecise, so that individual countries can interpret them within the context of their own labour markets. As a result, unemployment rates are not strictly comparable across all countries. The LFS has investigated in detail the measurement differences between the US and Canadian unemployment rates. The results show that measurement differences account for about a fifth of the gap between the US and Canada unemployment rates.
- Caution should be exercised in interpreting the provincial ratios and differences in ratios between provinces and over time, as small estimates may present fairly high sampling variability. Estimates for small geographic areas, for small age-groups or for cross-classified variables will be associated with larger variability.
- For an explanation on estimates' sampling variability and the method to evaluate this variability with standard error, please refer to the section on Data Quality in the Guide to the Labour Force Survey, <http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=71-543-GWE&lang=eng>

## Data source

- Labour Force Survey, Statistics Canada. For more information consult "Definitions, data sources and methods", Statistics Canada Web site, survey 3701, <http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>





## Labour market outcomes

### Unemployment rates

#### Tables E.3.1 through E.3.3

Overall, the E3 indicator outlines labour market outcomes. This sub-indicator presents recent and historical Labour Force Survey (LFS) data on unemployment rates by educational attainment, providing information on trends for the population aged 15 and over at the Canada level ([Table E.3.1](#)). It also provides a comparison of trends in unemployment rates by educational attainment for 25- to 29-year-olds in Canada and the provinces ([Table E.3.2](#)). Data on unemployment rates among the off-reserve Aboriginal population aged 15 and over, by educational attainment, are presented for Canada ([Table E.3.3](#)).

#### Concepts and definitions

- According to the Labour Force Survey (LFS), the **unemployment rate** refers to the number of unemployed persons expressed as a percentage of the labour force. The unemployment rate for a particular group (educational attainment, for example) is the number unemployed in that group expressed as a percentage of the labour force for that group.

**Unemployed** people are those who, during the LFS reference week, were available for work and were either on temporary layoff, had looked for work in the past four weeks, or had a job to start within the next four weeks.

- Unemployment rates are presented for the following categories of **educational attainment**: all levels; less than high school; high school; college or trade; and university.

**Less than high school:** No education or education below high school graduation.

**High school:** High school graduation or some postsecondary education (not completed).

**College or trade:** trade certificate or diploma from a vocational school or apprenticeship training; non-university certificate or diploma from a community college, CEGEP, school of nursing and similar programs at this level; university certificate below bachelor's level.

**University:** bachelor's degree or university degree/certificate above bachelor's level.

- The **off-reserve Aboriginal population** refers to those persons who reported identifying with at least one Aboriginal group; for example, North American Indian, Métis or Inuit. This is based on the individual's own perception of his or her Aboriginal identity.<sup>1</sup>

## Methodology

- Statistics Canada's monthly **Labour Force Survey (LFS)** was developed following the Second World War to satisfy a need for reliable and timely data on the labour market. LFS data are used to produce the well-known unemployment rate as well as other standard labour market indicators (the employment rate and the participation rate). The survey covers the civilian, non-institutionalized population 15 years of age and over. It is conducted nationwide, in both the provinces and the territories. The survey does not cover: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces and the institutionalized population. These groups together represent an exclusion of less than 2% of the Canadian population aged 15 and over.
- The Aboriginal population data for 2007 through 2010 presented in Table E.3.3 are for Canada. The Labour Force Survey (LFS) estimates for Canada are derived using results from the provinces; the territories are excluded. The LFS has revised the weights used for the Aboriginal population data, which has resulted in the revision of several previously published estimates. Data for 2004, 2005 and 2006, are for Western Canada only (Manitoba, Saskatchewan, Alberta and British Columbia).
- The LFS unemployment rate is based on a monthly average from January to December. For 2004, the monthly average is from April to December (Table E.3.3)
- Starting in late 2003 in Alberta, and then in April 2004 for the rest of Western Canada, the LFS added questions to identify Aboriginal respondents living off-reserve with the goal of producing provincial labour market statistics on the Aboriginal population. The Aboriginal identity questions were also asked in the territories in 2004. As of January 2007, the question on Aboriginal identity has been extended to all provinces. Labour market data for the Aboriginal population have been available for all provinces since the fall of 2008.

## Limitations

- The Labour Force Survey (LFS) excludes: persons living on reserves and other Aboriginal settlements in the provinces; full-time members of the Canadian Forces and the institutionalized population. These groups together represent an exclusion of approximately 2% of the population aged 15 and over<sup>2</sup>. The territories are excluded from the Canada total because the Labour Force Surveys conducted in the North are extended pilot projects. Difficulties exist with respect to reaching small communities in the territories, and as a result even within the pilot projects there are areas of the territories that are excluded. As well, since the sample

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1. See "Aboriginal identity" in "Section 3: Dictionary of concepts and definitions" in the *Guide to the Labour Force Survey* (Statistics Canada Catalogue no. 71-543-G), (<http://www.statcan.gc.ca/pub/71-543-g/2010001/part-partie3-eng.htm>).

2. See "Population coverage" in "Section 4: Survey methodology" in the *Guide to the Labour Force Survey* (Statistics Canada Catalogue no. 71-543-G), (<http://www.statcan.gc.ca/pub/71-543-g/2010001/part-partie4-eng.htm>).

design, rotation pattern and reliability criteria are different from those in the ten provinces, estimates for the territories are not included with the provincial totals, but rather they are calculated and reported separately as a part of each of the extended projects.

- Indian reserves have historically been excluded from the LFS due to the serious challenges in contacting and interviewing potential respondents, with many of them living in remote locations not easily accessible to LFS interviewers given the short data collection period each month, and the large effort and cost associated with traveling to these locations.
- Caution should be exercised in interpreting the provincial ratios and differences in ratios between provinces and over time, as small estimates may present fairly high sampling variability. Estimates for small geographic areas, for small age-groups or for cross-classified variables will be associated with larger variability.
- For an explanation on estimates sampling variability and the method to evaluate this variability with standard error, please refer to the section on “Data quality” in the *Guide to the Labour Force Survey* (<http://www.statcan.gc.ca/bsolc/olc-cel/olc-cel?catno=71-543-GWE&lang=eng>)

## Data source

- Labour Force Survey, Statistics Canada. For more information consult “Definitions, data sources and methods”, Statistics Canada Web site, survey 3701 (<http://www.statcan.gc.ca/cgi-bin/imdb/p2SV.pl?Function=getSurvey&SDDS=3701&lang=en&db=imdb&adm=8&dis=2>).



## Structure of education and training in Canada

In Canada, education is the responsibility of the 10 provinces and 3 territories. While educational structures and institutions across the country are similar in many ways, they have been developed by each jurisdiction to respond to the particular circumstances, geographical situation, and historical and cultural heritage of the populations they serve. This appendix describes the various structures and organization of education and training in Canada.

### Pre-elementary programs

Pre-elementary programs—pre-Grade 1 education offered by public, private, and federal schools, as well as schools for the visually and hearing impaired—are available to young children, typically 4 or 5 years of age, in all jurisdictions.

Most jurisdictions offer one year of public pre-elementary programs, with Quebec, Ontario, Manitoba, Saskatchewan, and Alberta offering additional years (Figure 1). In most jurisdictions, pre-elementary programs in the year before Grade 1 are offered to children who turn 5 years of age by a certain date in the school year as specified in jurisdictional legislation. Attendance in these programs is optional in most jurisdictions, although it is mandatory in Nova Scotia and New Brunswick. The intensity of these programs varies; some jurisdictions offer full-day programs, some offer half-day programs, and some offer both.

In Quebec, one additional year of publicly funded pre-elementary programming is available to some 4-year-olds who have disabilities or who are from low-income families. In Ontario, the provision of an additional year of pre-elementary for 4-year-olds is dependent on the choice of the local school board, and funding is provided by the Ministry of Education. In Ontario, all school boards offer this program for their students. In Manitoba, one additional year of pre-elementary programming is offered at the discretion of each school division, and two school divisions currently provide this program, which is not funded by the Department of Education. In Saskatchewan, two additional years of pre-elementary programming are funded in schools in communities where a significant portion of pre-school children are not ready to participate fully in the learning opportunities offered to kindergarten and Grade 1 students. These programs are not mandatory and are not universal. Alberta also offers two additional fully funded years of pre-elementary programming, targeted to students with disabilities or to those who are considered talented or gifted.

In addition to publicly provided programs, in all jurisdictions, some private schools also offer one or more year(s) of pre-elementary programming. Private day-care programs or early childhood education programs, however, are not offered as part of the formal education systems and are not included in the data on pre-elementary programs.

## Elementary and secondary education

Public education is provided free to all Canadian citizens and permanent residents until the end of secondary school, which normally occurs at age 18. The ages for compulsory schooling vary from one jurisdiction to another. Generally, schooling is required from age 6 or 7 as of a certain date as specified in jurisdictional legislation (age 5 in New Brunswick and British Columbia) to age 16. In New Brunswick, Ontario, and Manitoba, schooling is compulsory to the age of 18 or until high school graduation.

In most jurisdictions, elementary-secondary education consists of 12 years of study, Grades 1 through 12 (Figure 1). The only exception is Quebec, where the elementary-secondary system has 6 years of elementary school and 5 years of secondary school. Following a major change in policy, 2002/2003 was the last year for Grade 13 in Ontario. One immediate consequence of this change was the “double cohort” of students who entered the postsecondary system in 2003/2004 (comprising the last graduating class from the old system and the first graduating class from the new system).

The elementary-secondary continuum reflects different grade combinations in different jurisdictions, thus the point of transition between elementary and secondary school varies.

The organization of grades also varies by jurisdiction and can further vary at the local level within a jurisdiction. Elementary schools cover the first four to eight years of compulsory schooling. Afterwards, children may proceed to a middle school or to a junior high or intermediate school; these usually cover Grade 6 or 7 to Grade 8 or 9, or they may go directly to a secondary education program. In many northern and rural communities, one school building may house all levels, from kindergarten to Grade 11 or 12.

Depending on the jurisdiction, a variety of programs—vocational (job-training) as well as academic—is offered at the secondary level. Some jurisdictions offer dual credit courses that simultaneously give students both high school and postsecondary credits.

Secondary school diplomas are granted to students who pass the compulsory and optional courses of their programs.

Public funding at the pre-elementary and elementary-secondary levels is provided either directly via the provincial or territorial government or through a mix of provincial/territorial transfers and local taxes collected by the local government or by school boards that have the power to impose taxes. Private school funding comes primarily from fees and endowments, except in Quebec, which also provides funds for private schools (which have discretion over admission criteria). Manitoba and Alberta provide some provincial funding to private schools that meet specified provincial requirements. The federal government pays the tuition fees for Aboriginal children and for children of its employees who live on Federal Crown lands (e.g., National Defence, Agriculture and Agri-Food Canada, and Transport Canada).

## Postsecondary education

Once secondary school has been successfully completed, students may apply to college or university programs. Traditionally, enrolment in trade-vocational programs, such as apprenticeship or other programs geared towards preparation for employment in an occupation or trade, did not require graduation from secondary school. However, requirements have been evolving so that more and more programs, especially in trades dealing with advanced technology or having implications for public safety, now require high school graduation.

Apprenticeship training involves a contract between an apprentice and an employer, registered with the jurisdiction, in which the employer provides the apprentice with training and experience for a trade. Programs vary in length from two to five years, depending on the trade. Registered apprenticeship combines on-the-job experience with four- to eight-week periods of in-class training each year of the program. In most jurisdictions, the in-class portion is usually taken at a postsecondary institution during the apprenticeship training. However, in Quebec, the in-class training is taken prior to beginning an apprenticeship program.

There are over 200 registered trades in Canada, each with specific standards and training requirements outlined by each jurisdiction. In some of these trades, apprenticeship training and certification is compulsory to enter into and to practice the trade. In others, apprenticeship certification is not necessary, although an individual may voluntarily obtain it to indicate a certain level of competence in the trade. Compulsory and voluntary trades vary by jurisdiction; however, there are similarities across jurisdictions in that compulsory trades commonly include those with advanced technology or that involve public safety. As of 2009, the provinces and territories had agreed on interprovincial standards for 50 of the registered trades. In these 50 trades, candidates who achieve an agreed-upon standard qualify for a Red Seal endorsement and are allowed to work anywhere in Canada without further training or examination.

In Quebec, data relating to trade-vocational programs that are administered at the secondary level are reported at that level.

Postsecondary education is available in both government-supported and private institutions, some of which award degrees. A major distinction at an institutional level across all jurisdictions is made between “degree-granting” and “non-degree-granting” institutions. Degree-granting institutions—both public and private—have authority under provincial legislation to grant degrees, and include universities, university colleges, and some community colleges.

Universities typically offer four-year undergraduate programs leading to bachelor’s degrees. Advanced degrees include master’s degrees, generally requiring two years of study after a first degree, and doctoral degrees, which require three to five years of postgraduate study and research as well as a dissertation. Not all universities offer advanced degrees, particularly at the doctoral level. In addition to universities, university colleges are recognized degree-granting institutions that offer three- to four-year bachelor’s programs. Both universities and university colleges also offer programs leading to diplomas and certificates, but the primary emphasis is on degree programs. A number of jurisdictions have also begun to give limited degree-granting authority to community colleges. These institutions, which still offer diploma and certificate programs, may also offer two-year associate degrees or three- to four-year applied degrees in an area of specialty particular to the institution.



A university or other institution may also be affiliated or federated with another university. Federated institutions are degree-granting institutions responsible for their own administration; however, under the federation agreement, the granting of degrees rests with the parent institution. Affiliated institutions have limited or no degree-granting authority, and the granting of degrees rests with the parent institution. A number of colleges have the authority to offer divinity degrees, but these colleges are not fully recognized as degree-granting institutions.

While the majority of degree-granting institutions are public, private institutions exist in a number of provinces. For many years, some private institutions have offered programs in divinity. Furthermore, private institutions that offer degree programs in liberal arts, business, and trades have become more common.

For the most part, the systems of public non-degree-granting institutions in Canada were created by provincial and territorial governments in the 1960s to provide labour market preparation programs as alternatives to the more theoretically oriented programs of universities. Depending on the province or territory, they are called colleges, regional colleges, centres, colleges of applied arts and technology, community colleges, institutes, schools, or, in Quebec, collèges d'enseignement général et professionnel (CEGEPs).

Public non-degree-granting institutions offer vocationally oriented programs in a wide range of semi-professional and technical fields, leading to diplomas and certificates and, in the case of Quebec, to diplomas and attestations. Diplomas are generally granted for successful completion of two- and three-year programs (three year programs in Quebec), while certificate programs usually take up to one year. In Quebec, attestations are awarded for the completion of shorter technical programs, and are generally viewed as the equivalent to certificates awarded in other jurisdictions.

In Quebec, students wishing to go on to university are generally required to successfully complete a two-year pre-university program offered by CEGEPs. In some circumstances, students with a technical-stream CEGEP diploma of college studies may undertake university studies.

Several college systems offer university transfer programs, typically the first two years of a university undergraduate program. These transfer programs are usually offered in conjunction with a university, where the remainder of the program would be completed.

Private non-degree-granting institutions are subject to varying degrees of government regulation and can be classified in terms of the extent of government oversight. "Recognized institutions" are those that have been given authority to grant academic credentials by provincial or territorial governments through charters or legislation that provide mechanisms to ensure institutional and program quality. "Non-recognized, but licensed, institutions" are primarily monitored by governments with a view to consumer protection rather than institutional or program quality. Finally, "non-recognized, non-licensed institutions" are private institutions that are not regulated by government.

Private non-degree-granting institutions may be called "colleges", "institutes", "schools", or "academies" depending on the jurisdiction. Credentials issued include diplomas and certificates, and these programs tend to be much shorter and more intensive than programs in public institutions. In Quebec, private subsidized institutions may also offer two-year pre-university programs and three-year technical programs.



The source of funds at the postsecondary level will depend on the nature of the institution. For universities and public non-degree granting institutions, public funding comes directly from the provincial/territorial government (mostly in the form of operating and capital grants) and from the federal government (mostly for sponsored research). Private funding for those institutions is made up of tuition and other fees, donations (including bequests), investment, and non-government grants and contracts. Private non-degree-granting institutions receive very little or no public funding, except indirectly through support to students; funding for these private institutions comes mostly from tuition fees.

For a more detailed overview of postsecondary systems in Canada, see the Web site of the Canadian Information Centre for International Credentials ([www.cicic.ca](http://www.cicic.ca)).

Figure 1

Levels within pre-elementary and elementary-secondary schools, by jurisdiction

Newfoundland and Labrador	P	1	2	3	4	5	6	7	8	9	10	11	12		
Prince Edward Island <sup>1</sup>	P	1	2	3	4	5	6	7	8	9	10	11	12		
Nova Scotia	P	1	2	3	4	5	6	7	8	9	10	11	12		
New Brunswick – English	P	1	2	3	4	5	6	7	8	9	10	11	12		
New Brunswick – French	P	1	2	3	4	5	6	7	8	9	10	11	12		
Quebec – General	P	P	1	2	3	4	5	6	7	8	9	10	11		
Quebec – Vocational											10	11	12	13	
Ontario <sup>2</sup>	P	P	1	2	3	4	5	6	7	8	9	10	11	12	
Manitoba	P	P	1	2	3	4	5	6	7	8	9	10	11	12	
Saskatchewan	P	P	P	1	2	3	4	5	6	7	8	9	10	11	12
Alberta	P	P	P	1	2	3	4	5	6	7	8	9	10	11	12
British Columbia	P	1	2	3	4	5	6	7	8	9	10	11	12		
Yukon	P	1	2	3	4	5	6	7	8	9	10	11	12		
Northwest Territories	P	1	2	3	4	5	6	7	8	9	10	11	12		
Nunavut	P	1	2	3	4	5	6	7	8	9	10	11	12		

P	Pre-elementary, not universally available
P	Pre-elementary, universally available
	Elementary/Primary
	Junior high/Middle
	Senior high
	Secondary

1. Prince Edward Island introduced its pre-elementary program in 2000/2001.

2. 2002/2003 was the last year for the Ontario Academic Course (Grade 13).

Notes: The elementary-secondary continuum reflects different grade combinations in different jurisdictions, thus the point of transition between elementary and secondary school varies. The organization of grades also varies by jurisdiction and can further vary at the local level within a jurisdiction. After elementary school, children may proceed to a middle school or to a junior high or intermediate school, or they may go directly to a secondary education program.

Updated December 13, 2010.

# Glossary

## A

### Aboriginal ancestry/origin

Refers to those persons who reported at least one Aboriginal origin (North American Indian, Métis or Inuit) in response to the Census of Population question on ethnic origin. The question asks about the ethnic or cultural group(s) to which the respondent's ancestors belong.

### Aboriginal identity

Refers to those persons who, on the Census of Population, reported identifying with at least one Aboriginal group (North American Indian, Métis or Inuit). Also included are individuals who did not report an Aboriginal identity, but did report being a Registered or Treaty Indian, and/or Band or First Nation membership (“not included elsewhere” category). Registered Indian status refers to those who reported they were registered under the *Indian Act* of Canada. Treaty Indians are persons who are registered under the *Indian Act* of Canada and can prove descent from a Band that signed a treaty. The term “treaty Indian” is more widely used in the Prairie provinces.

### Aboriginal population

The Aboriginal population in Canada is not a homogeneous group and there is no single or “correct” definition; the choice of a definition depends on the purpose for which it is to be used. The Census of Population collects information on four concepts: ethnic origin (or ancestry), Aboriginal identity, Registered Indian status, and Band membership.

### Academic rank

This refers to a classification of university teaching staff according to level of academic appointment. The following academic ranks are used:

**Full professors:** referring to the most senior rank

**Associate professors:** the mid-level rank (requirements vary considerably between institutions and departments)

**Assistant professors:** the entry-level rank

**Other:** refers to lecturers, instructors, and other teaching staff.

**B****Birth rate**

Number of births per 1,000 population.

**C****CEGEP**

A French acronym for “Collège d’enseignement général et professionnel.” These institutions are at the postsecondary level (students enter CEGEP after completing six years of elementary school and five years of secondary school) and offer two-year pre-university programs and three-year technical programs leading to a Diploma of College Studies (DCS) as well as shorter technical programs leading to an Attestation of College Studies (ACS). A DCS is required for admission to university. Pre-university programs lead to university, whereas technical programs generally lead to the labour market, but can, under certain conditions, also lead to university.

**Census metropolitan area**

A census geographical unit consisting of one or more adjacent municipalities centered on a large urban area (known as the urban core). A census metropolitan area (CMA) must have a total population of at least 100,000 of which 50,000 or more must live in the urban core. To be included in the CMA, other adjacent municipalities must have a high degree of integration with the central urban area, as measured by commuting flows derived from census place of work data. Once an area becomes a CMA, it is retained as a CMA even if its total population declines below 100,000 or the population of its urban core falls below 50,000.

**Coefficient of variation**

Coefficients of variation (CV) provide a measure of the reliability of the estimate, taking into account sampling variability. With respect to its surveys, Statistics Canada considers estimates where the CV is above 33.3% of the estimate to be too unreliable to be published and are thus suppressed (shown by F). Where the CV is from 16.6% to 33.3%, data reliability is noted with an “E” indicating that the estimate should be used with caution.

In order to estimate whether the difference between two values is statistically significant, the following formula can be applied to approximate a 95% confidence interval:

$$Y \pm 2 (CV \times Y)/100, \text{ where } Y \text{ is the estimate}$$

This approximate confidence interval gives a range within which the true value in the population is likely to fall (see entry for “**Confidence interval**”).

**Colleges**

Colleges are created under the authority of either a province’s *Colleges Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily to offer certificate, diploma, and transfer or continuing education and professional development programs requiring less than three years of full-time study. They are often circumscribed by government and often need to seek government approval to introduce new programs, especially degree programs. High school completion is generally required for admission.

The term “colleges” refers to community colleges, CEGEPs (college d’enseignement général et professionnel or college of general and vocational education in Quebec), technical institutes, hospital and regional schools of nursing, radiography, medical technology and health records, as well as establishments providing technological training in specialized fields.

### Common-law

Refers to two people of the opposite sex or of the same sex who live together as a couple, but who are not legally married to each other.

### Confidence interval

The estimates from a sample survey are subject to sampling error (the difference between the estimates obtained from the sample and the results from a complete count taken under similar conditions). When comparing sample estimates among countries, provinces or population subgroups, the degree of error in each estimate should be considered in order to determine if the estimates are different from each other. Confidence intervals may be used as one basis for performing these comparative statistical tests. A 95% confidence interval represents a range of plus or minus about two standard errors around the sample average. If two confidence intervals do not overlap, then the difference between the two estimates is statistically significant.

### Constant dollars

Constant dollars are derived by applying a price deflator to convert expenditures displayed in a time series to a price level that existed at a certain point in time (the base year). Constant dollars eliminate the changes in the purchasing power of the dollar over time. The result is a series as it would exist if the dollar had a purchasing power equal to the purchasing power in the base year.

## E

### Earnings or employment income

This definition, from the Census of Population, refers to total income received as wages and salaries, net income from a non-farm unincorporated business and/or professional practice, and/or net farm self-employment income.

### Education status

Refers to the overall education status (as of the survey reference date) of a group of young adults who were followed by the Youth in Transition Survey (YITS):

**High-school graduates:** Respondents who have completed the minimum requirements for a high school graduation certificate, diploma, or equivalent and had never attempted postsecondary education.

**High-school-continuers:** Respondents who were continuing their studies at the high school level and who had not yet graduated, and had no additional postsecondary education.

**High-school non-completers:** Respondents who had not completed the high school graduation requirements, were not attending high school, and had no additional postsecondary education.

**Postsecondary graduate continuers:** Individuals who had already graduated from a postsecondary institution and were pursuing an additional postsecondary program.

**Postsecondary graduate non-continuers:** Individuals who had graduated from a postsecondary institution and were not pursuing additional education in a postsecondary institution.

**Postsecondary continuers:** Individuals who were attending a postsecondary institution but had not yet graduated.

**Postsecondary non-completers:** Individuals who had undertaken postsecondary education but were no longer pursuing it and had never graduated from a postsecondary institution.

## Educational attainment

The highest level of schooling a person has completed at the elementary, secondary, or postsecondary level.

### Elementary schools

Schools are classified as elementary if they provide Grade 6 and under or a majority of elementary grades.

### Elementary-secondary educators

Includes all employees in the public elementary-secondary school systems (either school-based or school district-based) who are required to have teaching certification as a condition of their employment. Generally includes teaching staff, principals, vice-principals, and professional non-teaching staff that provide services to students to support their instruction program (e.g., pedagogical consultants, guidance counselors, and special education teachers). It includes all educators in regular public schools, provincial reformatory or custodial schools, and of other students recognized and funded by a province or territory (correspondence or distance programs, private schools or independent schools financed by federal departments such as the Department of National Defence and Aboriginal Affairs and Northern Development Canada are excluded). Substitute/Supply teachers, temporary replacement teachers, teachers on leave, student assistants and teaching assistants are excluded. All teachers in regular programs for youth, adult upgrading programs and vocational programs for youth and adults are also included in this definition.

**Full-time equivalent (FTE) elementary-secondary educator:** The number of full-time elementary-secondary educators on September 30th (or as close as possible thereafter) of the school year, plus the sum of part-time educators according to their percentage of a full-time employment allocation (determined by the province or territory).

### Elementary-secondary enrolment

Number of students (headcount) enrolled in public elementary-secondary schools operated by school boards or the province in September (or as close as possible thereafter) of the school year. It includes all students in publicly funded schools (graded and ungraded), provincial reformatory or custodial schools, and other students recognized and funded by a province or territory. It also includes other non-standard enrolment including students receiving educational services (if recognized by the province) and for schools and/or school districts that receive funding in a unique manner. They may be non-graduates who are taking only a few courses required to complete graduation. For example, a student who is enrolled in only 25% of a “regular” course load and for whom the school or school district receives only 25% of the usual funding. This category may not apply to some provinces or territories. It excludes

correspondence or distance education enrolments, private school students, independent school students or students in schools financed by federal departments (e.g., the Department of National Defence and Aboriginal Affairs and Northern Development Canada).

**Full-time equivalent (FTE) enrolment:** The number of full-time elementary-secondary students enrolled in September (or as close as possible thereafter) of the school year, plus the sum of part-time students according to the time fraction spent in the classroom (determined by the province or territory) and for which the students are funded.

### Elementary-secondary schools

Schools are classified as elementary if they provide Grade 6 and under or a majority of elementary grades, and secondary if they offer Grade 7 and over or a majority of secondary grades.

### Employment rate

The number of employed persons as a percentage of the population 15 years of age and older. Employed persons are those who, during the Labour Force Survey reference week, did any work for pay or profit, or had a job and were absent from work.

### Ever left high school

Refers to those who had interrupted their high school education at some point. This concept is presented in relation to a group of young adults who were followed by Youth in Transition Survey (YITS).

### Expenditures on education

**Capital expenditures:** captures the purchase of assets intended to last longer than one year. It also provides a measure of the value of capital acquired during the year in question, including debt servicing. Spending for the construction, renovation or major repair of buildings, and to replace or purchase new equipment is included.

**Operating expenditures:** items that an institution purchases and consumes within a year, and those the institution purchases on an ongoing basis. Included are costs directly attributable to instruction such as salaries, instructional aids, administrative support, teacher development, and costs for other educators such as counselors. Operating expenditures are categorized further into:

**Compensation of staff (educators and other staff):** gross salaries (before deduction of taxes, contributions for retirement or health care plans, and other contributions or premiums for social insurance or other purposes), plus expenditure on retirement (actual or imputed expenditure by employers or third parties to finance retirement benefits for current educational personnel) and other non-salary compensation (fringe benefits).

Statistics on compensation of university staff are categorized as follows:

- **academic salaries** paid to full- and part-time staff members engaged in instruction and research activities (includes: deans, professors, associate professors, assistant professors and lecturers; also include payments to staff members in the academic ranks for various types of leave such as administrative,



academic or sabbatical.)

- **other salaries and wages** include payments to other full- and part-time non-instructional (support) staff including, among others, technicians, teaching and research laboratory technicians, clerical and secretarial, professional and managerial, janitorial, trades and maintenance.
- **benefits** such as pensions, group life insurance, salary continuance insurance, medical and dental plans, and other costs of employee benefit programs. Also, includes the cost of benefits paid during early retirement periods as well as the cost of post retirement benefits.

**Other operating expenditures:** covers all non-salary related items such as spending on tuition fees and books, spending attributable to research and development, membership fees include fees paid by the institution to organizations such as the Association of Universities and Colleges of Canada (AUCC) and the Canadian Association of University Business Officers (CAUBO), utilities, school services under contract, building operations and maintenance staff and so on. Other non-salary costs include those related to the maintenance of buildings as well as supplementary costs such as lunch programs and transportation and other expenses not covered elsewhere.

**Per capita expenditure:** This measure divides the spending on education in Canada, or in a province or territory, by the total population, to show how much is spent on education per person.

**Private expenditures:** Total operating current and capital expenditures on education financed by households or other private entities (commercial and not-for-profit) consisting of:

**Fees paid to educational institutions** (e.g., for tuition, registration, laboratory, lodging, meals and for other services provided to students by the institution). Statistics Canada finance surveys are administrative surveys only and therefore do not include data on private educational expenditures paid to entities outside the institution for student lodging.

**Financial aid to students or households coming from private sources** (e.g., scholarships from business firms and religious and other non-profit organizations).

**Direct payments by private entities to educational institutions** (e.g., contributions or subsidies to vocational-technical schools, contracts let to universities for research or other services, grants to educational institutions from non-profit organizations, charitable donations [other than from households], expenditures by private employers for apprenticeship training and other school and work-based educational programs).

**Public expenditures:** Total operating current and capital expenditures on education financed by all levels of government, including:

**Direct purchases by governments of educational resources** (e.g., direct payments of teachers' salaries by a central or regional education ministry, direct payments by a municipality to building contractors for construction of school buildings, procurement of textbooks by a jurisdiction or regional authority for subsequent distribution to local authorities or schools).

**Direct payments by government agencies to educational institutions** that have the responsibility of purchasing educational resources themselves (e.g., government block grants to universities which they use to compensate personnel, a government subsidy to a private school, and government payments under contract to a private



firm undertaking educational research).

**Direct expenditures** designated for capital projects (e.g., building expansions or construction, laboratory equipment in support of research and development).

**Public to private transfers** (e.g., financial aid in the form of government scholarships and grants, special public subsidies [such as for transport, medical expenses, studies abroad], family allowances or child allowances that are contingent on student status, student loans).

**Total expenditures:** Combined public and private expenditures on education.

## F

### Federal schools

Include schools administered directly by the federal government, overseas schools operated by the Department of National Defence for dependants of Canadian Forces personnel, and schools operated by Aboriginal Affairs and Northern Development Canada or by band councils.

### Fertility rate

Refers to the number of children that a hypothetical female would have over the course of her reproductive life if she experienced the age-specific fertility rates observed in a given calendar year.

### Field of study

Defined as a discipline or area of learning or training. Field of study is the organizing principle behind the Classification of Instructional Programs (CIP). CIP is a hierarchical classification, originally created by the National Center for Education Statistics (NCES) in the United States. CIP Canada 2000 is the Statistics Canada standard for field of study classification. For more information on CIP, consult “Definitions, data sources and methods”, Statistics Canada Web site, CIP Canada 2000, <http://stds.statcan.gc.ca/cip-cpe/main-principal-eng.asp>.

## G

### G-7/G-8

A group of the leading seven industrialized countries: Canada, France, Germany, Italy, Japan, United Kingdom, and the United States. The group remained at seven until the Russian Federation, which had attended G-7 meetings as an observer throughout the 1990s, was invited to formalize this relationship in 1997 (hence the group became the G-8).

### Gender gap (salary)

The average salary of females as a percentage of the average salary of males.

### Government student loan programs

Programs under which provincial and federal governments provide loans to Canadians enrolled in full- or part-time postsecondary education, based on eligibility and need.

### Gross domestic product (GDP)

Represents the total market value of a country's (or province/territory's) goods and services produced over the year.

## H

### Home language

Refers to the language spoken most often, or on a regular basis, at home by the individual at the time of the census. PCEIP presents data for persons of school age for whom the home language is neither English nor French.

### Household

Refers to a person or a group of persons (other than foreign residents) who occupy a private dwelling and do not have a usual place of residence elsewhere in Canada.

### Human capital

The knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being (a definition developed by the Organisation for Economic Co-operation and Development).

## I

### Immigrants

Refers to people who are, or have been, landed immigrants in Canada. A landed immigrant is a person who has been granted the right to live in Canada permanently by immigration authorities. Some immigrants have resided in Canada for a number of years, while others have arrived recently. Does not include non-permanent residents who are defined as people from another country who had an employment authorization, a study authorization, or a Minister's permit, or who were refugee claimants at the time of the census and family members living here with them.

### Index

Annual cumulative percentage changes in a variable from a given base year, expressed as an index with the base year equal to 100. An index value of 140, for example, 10 years after the base year, would indicate a 40% increase in the variable over that time period.

### Inuit

Broadly refers to people who are descendants of Aboriginal people who historically inhabited the Arctic regions of Canada, Alaska, Greenland, and Russia, and who self-identify as such.

## L

### Labour force

The portion of the civilian, non-institutional population 15 years of age and over who form the pool of available workers in Canada. To be considered a member of the labour force, an individual must be working (either full-time or part-time) or unemployed but actively looking for work.

### Labour force participation rate

The participation rate represents the labour force expressed as a percentage of the population 15 years of age and over.

### Literacy, International Adult Literacy and Skills Survey

The 2003 International Adult Literacy and Skills Survey (IALSS) assessed adult literacy across four domains:

**Prose literacy** is the knowledge and skills needed to understand and use information from texts including editorials, news stories, brochures and instruction manuals.

**Document literacy** refers to the knowledge and skills required to locate and use information contained in various formats, including job applications, payroll forms, transportation schedules, maps, tables and charts.

**Numeracy** is the knowledge and skills needed to effectively manage the mathematical demands of diverse situations.

**Problem-solving** is the goal-directed thinking and action in situations for which no routine solutions exist. The problem solver has a more or less well defined goal, but it is not immediately obvious how to reach it. The understanding of the problem situation and its step-by-step transformation, based on planning and reasoning, constitute the process of problem solving.

### Literacy, Programme for International Student Assessment

The Organisation for Economic Co-operation and Development (OECD) initiated the Programme for International Student Assessment (PISA) to provide policy-oriented international indicators of the skills and knowledge of 15-year-old students. PISA assesses youth in three domains: reading literacy, mathematical literacy, and scientific literacy. These domains are defined in PISA as:

**Reading literacy** is the ability to understand, use, and reflect on written texts, in order to achieve one's goals, to develop one's knowledge and potential, and to participate in society.

**Mathematical literacy** is the capacity to identify, understand and engage in mathematics, and to make well-founded judgments about the role that mathematics plays in an individual's current and future private life, occupational life, social life with peers and relatives, and as a constructive, concerned and reflective citizen.

**Scientific literacy** is defined as the capacity to use scientific knowledge, to identify questions and to draw evidence-based conclusions in order to understand and help make decisions about the natural world and the changes made to it through human activity.

### Literacy, Pan-Canadian Assessment Program

A cyclical program of pan-Canadian assessments of the achievement of 13-year-olds in reading, mathematics, and science, coordinated by the Council of Ministers of Education, Canada. Assessment results, along with the review mechanisms of individual jurisdictions, provide ministers of education with a basis for examining their curricula as well as their policies and practices for the learning environment of their students. The Pan-Canadian Assessment Program (PCAP) is structured with a major domain (subject area) and two minor domains in order to harmonize with the Organisation for Economic Co-operation and Development's (OECD's) PISA assessment:

**Reading:** According to jurisdictional criteria, reading is a dynamic, interactive process whereby the reader constructs meaning from texts. The act of reading effectively involves the interaction of reader, text, purpose, and context before, during, and

after reading. The PCAP reading domain considers the reader's engagement with text and response to it. Three sub-domains of the integrated process of reading are assessed: comprehension, interpretation, and response to text.

**Mathematics:** This component is aligned with the jurisdictions own curricula as well as the standards of the National Council of Teachers of Mathematics. The domain of mathematics is divided into four sub-domains and three processes. The sub-domains are: numbers and operations; geometry and measurement; patterns and relationships; and data management and probability. The three processes used in all sub-domains are: problem solving, communication/representation, and reasoning/connections.

**Science:** The concept of scientific literacy is generally accepted as the overarching goal of science curricula across Canada. The PCAP Science Assessment comprises items associated with the competencies and sub-domains that provide opportunities for students to demonstrate their use of science-related attitudes, skills and knowledge. The assessed competencies are: science inquiry, problem-solving, and decision-making. The sub-domains are: nature of science; nature of technology; knowledge of science; skills; and attitudes.

### Living arrangements

Cohabitation status or household composition of the school-age population. For instance: living with parent(s), with the sub-categories of married parents, common-law parents and lone parent; as well as not living with parent(s), including the sub-categories of living as a spouse, living as a lone parent, and other living arrangements.

### Lone parent

Guardians and adults, regardless of marital status, without a partner but with children in their care.

### Low income

The income level, conveyed by Statistics Canada's low-income cutoffs (LICOs), at which a family may be in "straitened circumstances" because it has to spend significantly more of its income on the basics (food, shelter and clothing) than the average family. LICOs depend on family and community size.

### Low-income cutoffs

Represent an income threshold where a family is likely to spend 20% more of its income on food, shelter and clothing than the average family, leaving less income available for other expenses such as health, education, transportation and recreation. Low-income cutoffs (LICOs) are calculated for families and communities of different sizes.

## M

### Medium-growth scenario, Aboriginal population

Assumes that fertility and mortality will be declining, that migration trends will continue their course as observed during the second half of the 1990s, and that fertility will undergo a slow decline over the projected period.

### Medium-growth scenario, total Canadian population

The medium-growth scenario assumes a continuation in the recent trends in fertility,

mortality and immigration. It is bracketed by high- and low-growth scenarios, in which fertility, mortality and immigration levels are higher or lower as the case may be.

### Métis

Broadly refers to people who are of mixed Aboriginal and non-Aboriginal ancestry and who self-identify as Métis.

### Migration rate

The rate of out- (in-) migration before enrolling is defined as the number of graduates who left (entered) a jurisdiction to pursue their studies, as a percentage of the number of graduates that had resided in that jurisdiction one year prior to enrolment. Used as a measure of “student mobility”. The rate of out- (in-) migration after graduation is defined as the number of graduates who left (entered) a jurisdiction two years after graduation, as a percentage of the number of graduates of the jurisdiction. Used as a measure of “graduate mobility”.

## N

### North American Indian

This term is used for those persons who self-identify as North American Indian, and broadly refers to people who consider themselves part of the First Nations in Canada, whether or not they have legal Indian status according to the *Indian Act* of Canada.

### Not in the labour force

Persons not in the labour force are those who, during the Labour Force Survey reference week, were unwilling or unable to offer or supply labour services under conditions existing in their labour markets; that is, they were neither employed nor unemployed.

## O

### Organisation for Economic Co-operation and Development

A multidisciplinary international body made up of 31 member countries that offers a structure/forum for governments to consult and co-operate with each other in order to develop and refine economic and social policy. While the Organisation for Economic Co-operation and Development (OECD) does not set rules and regulations to settle disputes like other international bodies, it encourages the negotiation of agreements and the promotion of legal codes in certain sectors. Its work can lead to binding and non-binding agreements between the member countries to act in a formal way. The OECD is best known for its publications and statistics. Its member countries are: Australia, Austria, Belgium, Canada, Chile, the Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Japan, Korea, Luxembourg, Mexico, the Netherlands, New Zealand, Norway, Poland, Portugal, the Slovak Republic, Spain, Sweden, Switzerland, Turkey, the United Kingdom, and the United States.

## P

### Participation rate in education

Calculated by taking the total enrolment of a particular level of education as a percentage of a specified population group.

### Peabody Picture Vocabulary Test-Revised

The Peabody Picture Vocabulary Test-Revised (PPVT-R) is administered to 4- and 5-year-olds. This test measures children's receptive language skills or the verbal component of intelligence. It is a "normed" test; that is, participants' performances are reported and scored relative to that of an overall population. A wide range of scores represents an average level of ability, taking the age of the child into consideration. Scores below the lower threshold of this range reflect a delayed receptive vocabulary, and scores above the higher threshold demonstrate an advanced receptive vocabulary.

### Postsecondary enrolment

**College enrolment counts:** The number of students who were enrolled in an educational activity on October 31st. Includes enrolments at the following program levels: college certificate or diploma and other programs at the college level; undergraduate; graduate; and other program levels (taking non-credit courses or taking courses without seeking a credential). Excludes students enrolled in programs related to pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation programs.

**University enrolment counts:** The number of students who were enrolled in an educational activity on December 1st (November 1st in Ontario). Includes enrolments at the following program levels: undergraduate; graduate; and other program levels (taking non-credit courses or taking courses without seeking a credential).

### Postsecondary completions

**Colleges:** the number of certificates, diplomas and degrees granted by colleges. All counts reflect the academic year as defined by the college, which generally begins on the first day after the end of the winter semester. Includes completions for the following program types offered at colleges: college certificate or diploma and other credential at the college level; undergraduate; and graduate. Excludes completions from programs related to pre-employment, apprenticeship, basic training or skills upgrading, second language training, job readiness or orientation.

**Universities:** the number of degrees, diplomas and certificates granted by universities. All counts reflect the number of graduates in the calendar year. Includes completions for the following program types offered at universities: undergraduate; graduate; college (college certificate or diploma, college post-diploma, and collaborative degree programs); and trade/vocational (trade/vocational and preparatory training certificate or diploma).

### Postsecondary programs

#### College program types:

**College certificate or diploma and other programs at the college level:** college postsecondary programs; college post-diploma programs; collaborative degree programs; university transfer programs from a college or CEGEP (includes associate degrees); and college preliminary year courses.

**Undergraduate:** programs leading to a bachelor's degree, an applied degree, a university preliminary year or pre-bachelor, or to an undergraduate-level certificate or diploma.

**Graduate:** programs leading to a master's degree or other university graduate-level certificates or diplomas.

**Other program levels:** non-credit courses or courses that do not lead to a credential.

### University program types:

**Undergraduate:** programs leading to a bachelor's degree, a first professional degree, an applied degree, university preliminary year or pre-bachelor, undergraduate level certificate or diploma, license undergraduate and licentiate or testamur.

**Graduate:** programs leading to a master's degree, an earned doctorate, post-doctoral program, master's qualifying year, university graduate level certificate or diploma, PhD qualifying year or probationary, internship (postgraduate medical education known as post-MD) and residency (medical, dental, veterinary).

**Other program levels:** non-credit courses or courses that do not lead to a credential.

### Pre-elementary programs

Pre-Grade 1 education offered by public, private and federal schools, as well as schools for the visually and hearing impaired, available to young children, typically 4 or 5 years of age. Junior and senior kindergarten programs in the formal education system are included, but private day care programs or early childhood education programs outside the formal education system are not included.

### Private business colleges

Private schools, licensed or not by a jurisdiction, providing professional and vocational training for profit.

### Private schools

Operated and administered by individuals or groups. They may be either denominational or non-denominational.

### Public schools

Established and operated by local school authorities pursuant to the public schools legislation of the province or territory. Also included in this category are Protestant and Roman Catholic separate schools and schools operated in Canada by the Department of National Defence within the framework of the public schools system.

## R

### Receptive vocabulary

Receptive vocabulary refers to the understood vocabulary of the child; that is, the number of words a child understands when he or she hears them spoken. A child's (or adult's) understood vocabulary level is measured relative to other individuals of the same age. In the National Longitudinal Survey of Children and Youth (NLSCY),



receptive or understood vocabulary level is measured using the Peabody Picture Vocabulary Test–Revised.

### Registered apprentices

Based on data provided by provincial/territorial apprenticeship branches. Includes all individuals registered in an apprenticeship program, regardless of whether or not they had been enrolled in any formal classroom training during the year. The apprenticeship program can be either Red Seal endorsement or non-Red Seal endorsement and can be either compulsory or voluntary.

### Registered apprenticeship completions

Refers to those who received a Red Seal endorsement or provincial certificate for completing both the in-class and on-the-job training required by apprenticeship programs. The Red Seal endorsement or Interprovincial Standards Program was introduced in the late 1950s to make it easier for skilled workers to move across Canada without having to re-qualify in a trade when entering employment in a new province. By comparison, a provincial certificate is valid only for the province in which it is issued. The Red Seal endorsement is available in 50 trades at this time, in trades such as cabinet maker, machinist, motor vehicle body repair, roofer, bricklayer and welder.

### Registered apprenticeship programs

A program based on a contract registered with the province/territory, between the apprentice and the employer, in which the employer agrees to provide an opportunity to obtain the experience and skill required for a trade. Programs vary in length from two to five years, depending on the trade. Registered apprenticeship combines on-the-job experience with four- to eight-week periods of in-class training each year of the program. In most jurisdictions, the in-class portion is usually taken at a postsecondary institution during the apprenticeship training. In Quebec, however, the in-class training is taken prior to beginning the apprenticeship program.

### Registration status, postsecondary

Since there is no commonly accepted definition for the registration status of full- and part-time students, it is defined by the reporting postsecondary institutions (universities and colleges).

### Research and development

Creative work undertaken on a systematic basis in order to increase the stock of scientific and technical knowledge and to use this knowledge in new applications. The central characteristic of research and development (R&D) is an appreciable element of novelty and of uncertainty. New knowledge, products or processes are sought. The work is normally performed by, or under the supervision of, persons with postgraduate degrees. The work is normally performed by, or under the supervision of, persons with postgraduate degrees.

### R&D, sources of funds in the higher education sector:

**Federal government:** Through the Natural Sciences and Engineering Research Council (NSERC), the Social Sciences and Humanities Research Council (SSHRC), the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation, Canada Research Chairs, and federal departments and



agencies.

**Provincial governments:** Including municipal governments.

**Business enterprises:** Including donations, bequests and contracts from individuals and business enterprises.

**Private non-profit organizations:** Including donations, bequests, and contracts from foundations and not-for-profit organizations.

**Foreign sources:** Funding entities located abroad.

**Higher education:** Higher education institutions fund their own R&D using two revenue streams:

**General funds:** These represent government transfers (or block grants) to higher education institutions that are used to support R&D activity. Although in essence these funds represent indirect government spending on R&D, for the purposes of pan-Canadian statistics they are allocated to the funding by higher education institutions due to the difficulty of categorizing these funds as provincial or federal. However in international comparisons, these funds are included as indirect government funding at the overall government level.

**Own revenue sources:** This refers to self-generated revenue of higher education institutions from sources such as tuition fees, investment income, revenue from sales of services and products by the institution and license and patent incomes.

**R&D, sponsorship:** Refers to university research that is supported either in the form of a grant or by means of a contract from a source external to the institution. Funding sources include government, business enterprises, and donors.

**R&D, total domestic expenditures:** Total expenditures on research and development (R&D) performed within a country during a given year. Total research and development expenditures include R&D performed within a country and funded from all sources, including those abroad but exclude payments sent abroad for R&D performed in other countries. Total expenditures on R&D are arrived at by adding together the expenditures of the performing sectors (government, business enterprise, higher education, and private non-profit organizations). The definition of total expenditures on research and development in a provincial context is similar; expenditures are assigned to the province in which the performing establishment is located.

## S

### School-age population

Comprises all individuals between the ages of 5 and 24, whether or not they are in school. This is the age range at which most people undertake their formal education.

### Schools for the visually or hearing impaired

Provide special facilities and training for visually or hearing impaired students. Most of these institutions are under direct provincial or territorial government administration.

### Secondary schools

Include public, private and federal schools, and schools for the visually and hearing

impaired. Schools are classified as secondary if they offer either Grade 7 and over, or a majority of years at the secondary level.

### Student–computer ratio

Total number of students enrolled in a school divided by the total number of computers in the school. Data on this measure are from PISA, which, in turn, reports this ratio for schools in which 15-year-olds are enrolled.

### Student–educator ratio

A measure of the human resources available to students in public elementary and secondary schools. It is calculated by dividing the number of full-time equivalent enrolments by the number of full-time equivalent educators.

## T

### Trade-vocational programs

Trade-vocational programs such as apprenticeship or other programs geared toward preparation for employment in an occupation or trade.

### Trades

There are over 200 registered trades in Canada, each with specific standards and training requirements as set down by each province and territory. In some of these trades, apprenticeship training and certification is compulsory to enter into and to practice the trade. In others, apprenticeship certification is not necessary, although an individual may voluntarily obtain it to indicate a certain level of competence in the trade. Compulsory and voluntary trades vary by jurisdiction; however, there are similarities across jurisdictions in that compulsory trades commonly include those with advanced technology or that involve public safety.

### Tuition fees, university

Average university tuition fees (undergraduate and graduate) represent the tuition fees charged to full-time Canadian students over the academic year; that is, September to April. Foreign students are not included. Additional compulsory fees such as those for athletics, health services and student associations are not included.

## U

### Unemployment rate

Shows the unemployed as a proportion of the labour force. Unemployed individuals are those who, during the Labour Force Survey (LFS) reference week, were available for work and were either on temporary layoff, had looked for work in the past four weeks or had a job to start within the next four weeks. The LFS divides the population aged 15 and over into three mutually exclusive groups: those who are employed, those who are unemployed, and those who are not in the labour force.

### Universities

Universities are created under the authority of a province's *University Act* or equivalent, or under a *Society/Societies Act* or equivalent, with education as a primary purpose. These institutions are created primarily for the purposes of offering degree programs

and to conduct research. They generally have complete authority to set their own academic standards and priorities. Within the institution, the supreme authority on all academic policy is generally a body on which faculty predominate.

### University educators

Full-time teaching staff in degree-granting institutions who are tenured or have a contract for 12 months or more as of October 1st of the reporting year. This includes all teaching staff within faculties, academic staff in teaching hospitals, and visiting academic staff in faculties. Research staff that have an academic rank and a salary scale similar to teaching staff are included. Administrative and support staff are excluded, as are teaching and research assistants. Administrators solely responsible for university administration (i.e., present, vice-president, registrar, comptroller, etc) are also excluded.

### University revenues

**Government revenues at universities:** grants and contracts from government departments and agencies at federal, provincial, municipal and foreign level.

The **federal portion of income** is mainly from six major federal government agencies: the Social Sciences and Humanities Research Council of Canada (SSHRC), Health Canada, the Natural Sciences and Engineering Research Council of Canada (SSHRC), the Canadian Institutes of Health Research (CIHR), the Canada Foundation for Innovation (CFI), and Canadian Research Chairs. Also included are grants and contracts from all other federal government departments and agencies.

**Grants and contracts at the provincial level** include: (1) income from provincial government departments and agencies, including provincial CFI matching grants; and (2) provincial CFI matching income from the ministry responsible for the institution.

**Income from other provinces** includes grants from, and contracts with, provinces other than the province with jurisdiction.

**Grants from urban transit, communication and parking authorities** are examples of income from municipal governments.

**Income from foreign nations** includes grants from the National Endowment for Humanities, the National Institutes of Health, and the National Science Foundation.

**Private revenues at universities:** revenue obtained from any source other than government, categorized as:

**Student fees:** Payments obtained from students directly in the form of tuition and other fees.

**Non-government grants and contracts, donations and bequests:** Financial support received by colleges and universities from donors, wills from grants and contracts from sources other than government, the latter provided with specific stipulations.

**Sales:** Revenue from sales of services and products by the institution.

**Investment:** Revenue from dividends, bonds, mortgages, short-term notes and bank interest.

**Miscellaneous revenues:** Commissions, royalties and fees from the use of institution-

owned rights or properties, fees for services rendered, library and other similar fines, rentals, net gain or loss on the sale of fixed assets and any type of revenue not identified under other forms of revenue.

### University transfer programs

Programs of postsecondary non-university institutions that require secondary school completion to enter, and which provide a student with standing equivalent to the first or second year of a university degree program with which a student can apply for admission to subsequent senior years at a degree-granting institution. The “général” programs of the Quebec CEGEPs, completion of which is a prerequisite for entry into Quebec universities, are included in this classification.

### V

#### Visible minority

Refers to the visible minority group to which the respondent belongs. The *Employment Equity Act* defines visible minorities as “persons, other than Aboriginal peoples, who are non-Caucasian in race or non-white in colour”.

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