

Catalogue no. 88-001-X

# Science Statistics

Estimates of Research and  
Development Expenditures  
in the Higher Education  
Sector, 2007/2008



September 2009 Edition



Statistics  
Canada

Statistique  
Canada

Canada

## How to obtain more information

For information about this product or the wide range of services and data available from Statistics Canada, visit our website at [www.statcan.gc.ca](http://www.statcan.gc.ca), e-mail us at [infostats@statcan.gc.ca](mailto:infostats@statcan.gc.ca), or telephone us, Monday to Friday from 8:30 a.m. to 4:30 p.m., at the following numbers:

### Statistics Canada's National Contact Centre

Toll-free telephone (Canada and the United States):

|   |                |
|---|----------------|
| Inquiries line  | 1-800-263-1136 |
| National telecommunications device for the hearing impaired | 1-800-363-7629 |
| Fax line  | 1-877-287-4369 |

Local or international calls:

|                |                |
|----------------|----------------|
| Inquiries line | 1-613-951-8116 |
| Fax line       | 1-613-951-0581 |

### Depository Services Program

|                |                |
|----------------|----------------|
| Inquiries line | 1-800-635-7943 |
| Fax line       | 1-800-565-7757 |

## To access this product

This product, Catalogue no. 88-001-X, is available free in electronic format. To obtain a single issue, visit our website at [www.statcan.gc.ca](http://www.statcan.gc.ca) and select "Publications."

## Standards of service to the public

Statistics Canada is committed to serving its clients in a prompt, reliable and courteous manner. To this end, Statistics Canada has developed *standards of service* that its employees observe. To obtain a copy of these service standards, please contact Statistics Canada toll-free at 1-800-263-1136. The service standards are also published on [www.statcan.gc.ca](http://www.statcan.gc.ca) under "About us" > "Providing services to Canadians."

# Science Statistics

## Estimates of Research and Development Expenditures in the Higher Education Sector, 2007/2008

September 2009 Edition

Published by authority of the Minister responsible for Statistics Canada

© Minister of Industry, 2009

All rights reserved. The content of this electronic publication may be reproduced, in whole or in part, and by any means, without further permission from Statistics Canada, subject to the following conditions: that it be done solely for the purposes of private study, research, criticism, review or newspaper summary, and/or for non-commercial purposes; and that Statistics Canada be fully acknowledged as follows: Source (or "Adapted from", if appropriate): Statistics Canada, year of publication, name of product, catalogue number, volume and issue numbers, reference period and page(s). Otherwise, no part of this publication may be reproduced, stored in a retrieval system or transmitted in any form, by any means—electronic, mechanical or photocopy—or for any purposes without prior written permission of Licensing Services, Client Services Division, Statistics Canada, Ottawa, Ontario, Canada K1A 0T6.

September 2009

Catalogue no. 88-001-X, vol. 33, no. 5

ISSN 1209-1278

Frequency: Irregular

Ottawa

Cette publication est également disponible en français.

---

### **Note of appreciation**

*Canada owes the success of its statistical system to a long standing partnership between Statistics Canada, the citizens of Canada, its businesses, governments and other institutions. Accurate and timely statistical information could not be produced without their continued cooperation and goodwill.*

# User information

---

## Symbols

The following standard symbols are used in Statistics Canada publications:

- . not available for any reference period
- .. not available for a specific reference period
- ... not applicable
- 0 true zero or a value rounded to zero
- 0<sup>s</sup> value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
- p preliminary
- r revised
- x suppressed to meet the confidentiality requirements of the *Statistics Act*
- E use with caution
- F too unreliable to be published

# Table of contents

---

|  |          |
|--|----------|
| <b>Highlights</b>  | <b>4</b> |
| <b>Analysis</b>  | <b>5</b> |
| Estimates of Research and Development Expenditures in the Higher Education Sector, 2007/2008 | 5        |
| <b>Related products</b>  | <b>6</b> |
| <b>Statistical tables</b>  |          |
| 1 Source of funds  | 9        |
| 2 Source of funds and by major field of science, 2007/2008                                   | 9        |
| 3 Source of funds and by province, 2007/2008   | 10       |
| 4 Province   | 11       |
| 5 Social sciences and humanities   | 12       |
| 6 Health sciences  | 13       |
| 7 Other natural sciences and engineering   | 14       |
| <b>Data quality, concepts and methodology</b>  |          |
| Data quality, concepts and methodology   | 15       |

# Highlights

---

## Spending on research and development in the higher education sector 2007/2008

- Spending on research and development (R&D) by higher education institutions such as universities and affiliated research hospitals, experimental stations and clinics, amounted to \$10.2 billion in current dollars in 2007/2008 (table 1).
- In 2002 constant dollars, this was \$8.8 billion, up 2.7% from the previous year and 85% above the level in 1998/1999 (table 1).
- Of six funding sectors, higher education institutions themselves continued as the largest contributors to R&D done by this sector (45% of total funding in 2007/2008). They spent \$4.6 billion in current dollars, up 3.1% from the previous year. The second largest contributor was the federal government, which provided \$2.7 billion or 27% of total funding (table 1).
- The higher education sector spent \$2.1 billion in current dollars in the social sciences and humanities field in 2007/2008, up 7.9% from 2006/2007. Spending on natural sciences and engineering (including health sciences) stood at \$8.1 billion, up 5.3% (table 2, 5, 6, 7) .
- Ontario and Quebec combined provided 68% of total R&D spending of the higher education sector (table 3).

# Analysis

---

## Estimates of Research and Development Expenditures in the Higher Education Sector, 2007/2008

Spending on research and development performed by higher education institutions which includes universities, all affiliated research hospitals, experimental stations and clinics was \$10.2 billion (current dollars) in 2007/2008, a 5.8% increase over 2006/2007. In 2002 constant dollars this amounted to \$8.8 billion, a 2.7% increase over the previous year and an 85% rise from 1998/1999 (table 1).

There are six sectors funding research and development expenditures in the higher education sector: the federal government; the provincial government; the business enterprise; the higher education; private non-profit organizations and foreign.

The higher education institutions themselves continued as the largest contributors to research and development done by this sector, spending \$4.6 billion (current dollars), a 3.1% increase over 2006/2007. The higher education sector's presence at 45% of 2007/2008 total expenditures, has fallen from 1994/1995 when its share was 52% (table 1).

In 2007/2008, the second largest funding sector for higher education expenditures on research and development remained the federal government at \$2.7 billion, up 9.4% from the previous year. The federal government contributed 27% of total funding in 2007/2008, an increase from a decade earlier when federal funding comprised one-fifth of total spending on R&D in the higher education sector (table 1).

The provincial government sector contributed \$1.0 billion towards spending on higher education research and development in 2007/2008 an increase of 4.2% over the previous year. The provincial government's share increased from 8.5% of total higher education R&D expenditures in 1998/1999 to 10% in 2007/2008 (table 1).

Funding from the business enterprise and the private non-profit sectors rose, with both contributing near 9% of total higher education expenditures on R&D. Foreign sector funding remained at 1%. The business enterprise and private non-profit sector's share of total R&D funding to the higher education sector was basically unchanged from 1998/1999 (table 1).

Estimates of R&D expenditures in the higher education sector are allocated by three science types: social sciences and humanities; health sciences; and natural sciences and engineering excluding health sciences (or other natural sciences).

In 2007/2008 spending on research and development by the higher education sector in the social sciences and humanities amounted to \$2.1 billion, a 7.9% increase from 2006/2007. Health sciences stood at \$4.0 billion, up 6.2% from the previous year. Other natural sciences and engineering increased 4.5% to \$4.1 billion in 2007/2008 (tables 2, 5, 6, 7)

Just over two thirds of total R&D spending in the higher education sector occurred in Ontario (42%) and Quebec (26%) in 2007/2008. Comparatively, about one-quarter of total R&D expenditures in the higher education sector was performed in the Prairies (15%) and British Columbia (11%), with the remainder in the Atlantic Provinces (6%) (table 3).

## Related products

---

### Selected publications from Statistics Canada

---

|          |  |
|----------|--|
| 88-202-X | Industrial Research and Development: Intentions  |
| 88-204-X | Federal Scientific Activities  |
| 88-221-X | Gross Domestic Expenditures on Research and Development in Canada and the Provinces      |
| 88-522-X | Science and Technology Activities and Impacts: A Framework for a Statistical Information |
| 88F0006X | Science, Innovation and Electronic Information Division Working Papers                   |
| 88F0017M | Science, Innovation and Electronic Information Division Research Papers                  |

---

### Selected CANSIM tables from Statistics Canada

---

|          |   |
|----------|---|
| 358-0001 | Gross domestic expenditures on research and development, by science type and by funder and performer sector, annual   |
| 358-0024 | Business enterprise research and development (BERD) characteristics, by industry group based on the North American Industry Classification System (NAICS), annual |
| 358-0026 | Intellectual property management, by federal departments and agencies indicators, annual  |

---

### Selected surveys from Statistics Canada

---

|      |  |
|------|--|
| 4201 | Research and Development in Canadian Industry  |
| 4204 | Research and Development of Canadian Private Non-Profit Organizations                              |
| 4208 | Provincial Research Organizations (PRO)  |
| 4209 | Provincial Government Activities in the Natural Sciences   |
| 4210 | Provincial Government Activities in the Social Sciences  |
| 4212 | Federal Science Expenditures and Personnel, Activities in the Social Sciences and Natural Sciences |
| 5109 | Higher Education Research and Development Estimates  |

---



## **Selected summary tables from Statistics Canada**

---

- *Research and development performed by the business enterprise sector*
- *Domestic spending on research and development (GERD), funding sector, by province*
- *Domestic spending on research and development (GERD), performing sector, by province*
- *Domestic spending on research and development (GERD)*

# Statistical tables

---

---

**Table 1**  
**Source of funds**

|  | Federal government | Provincial government | Business enterprise | Higher education | Private non-profit organizations | Foreign | Total           |
|--|--------------------|-----------------------|---------------------|------------------|----------------------------------|---------|-----------------|
| millions of current dollars                    |                    |                       |                     |                  |                                  |         |                 |
| 1994/1995                                      | 869.8              | 314.7                 | 296.1               | 1,913.80         | 259.2                            | 21.3    | <b>3,674.9</b>  |
| 1995/1996                                      | 854.8              | 323.2                 | 296.7               | 1,926.60         | 265.7                            | 24.2    | <b>3,691.2</b>  |
| 1996/1997                                      | 809                | 297.6                 | 335.6               | 1,905.50         | 312.7                            | 36.4    | <b>3,696.8</b>  |
| 1997/1998                                      | 792.7              | 369.9                 | 381                 | 1,971.50         | 324.5                            | 39.5    | <b>3,879.1</b>  |
| 1998/1999                                      | 862.9              | 371.6                 | 411                 | 2,339.40         | 335.1                            | 49.5    | <b>4,369.5</b>  |
| 1999/2000                                      | 1,084.60           | 482.2                 | 460.3               | 2,648.80         | 349.2                            | 56.6    | <b>5,081.7</b>  |
| 2000/2001                                      | 1,292.80           | 587.2                 | 553.4               | 2,892.10         | 418.2                            | 49.6    | <b>5,793.3</b>  |
| 2001/2002                                      | 1,586.80           | 712                   | 603.3               | 2,928.90         | 509.1                            | 84.1    | <b>6,424.2</b>  |
| 2002/2003                                      | 1,816.70           | 828.6                 | 643.2               | 3,461.80         | 604.5                            | 100.5   | <b>7,455.3</b>  |
| 2003/2004                                      | 2,181.70           | 1,018.10              | 679.1               | 3,589.30         | 599.4                            | 75.8    | <b>8,143.3</b>  |
| 2004/2005                                      | 2,336.90           | 1,039.00              | 754.7               | 4,146.70         | 684.9                            | 95.7    | <b>9,057.9</b>  |
| 2005/2006                                      | 2,542.4            | 973.3                 | 803.3               | 4,340.9          | 742.0                            | 116.3   | <b>9,518.2</b>  |
| 2006/2007 <sup>1</sup>                         | 2,487.5            | 992.7                 | 808.2               | 4,434.9          | 775.7                            | 125.7   | <b>9,624.8</b>  |
| 2007/2008                                      | 2,720.2            | 1,034.0               | 870.1               | 4,574.1          | 889.7                            | 99.1    | <b>10,187.3</b> |
| millions of 2002 constant dollars <sup>1</sup> |                    |                       |                     |                  |                                  |         |                 |
| 1994/1995                                      | 986.2              | 356.8                 | 335.7               | 2,169.8          | 293.9                            | 24.1    | <b>4,166.6</b>  |
| 1995/1996                                      | 947.7              | 358.3                 | 328.9               | 2,135.9          | 294.6                            | 26.8    | <b>4,092.2</b>  |
| 1996/1997                                      | 883.2              | 324.9                 | 366.4               | 2,080.2          | 341.4                            | 39.7    | <b>4,035.8</b>  |
| 1997/1998                                      | 855.1              | 399.0                 | 411.0               | 2,126.8          | 350.1                            | 42.6    | <b>4,184.6</b>  |
| 1998/1999                                      | 934.9              | 402.6                 | 445.3               | 2,534.6          | 363.1                            | 53.6    | <b>4,734.0</b>  |
| 1999/2000                                      | 1,155.1            | 513.5                 | 490.2               | 2,820.9          | 371.9                            | 60.3    | <b>5,411.8</b>  |
| 2000/2001                                      | 1,321.9            | 600.4                 | 565.8               | 2,957.2          | 427.6                            | 50.7    | <b>5,923.6</b>  |
| 2001/2002                                      | 1,604.4            | 719.9                 | 610.0               | 2,961.5          | 514.8                            | 85.0    | <b>6,495.7</b>  |
| 2002/2003                                      | 1,816.7            | 828.6                 | 643.2               | 3,461.8          | 604.5                            | 100.5   | <b>7,455.3</b>  |
| 2003/2004                                      | 2,112.0            | 985.6                 | 657.4               | 3,474.6          | 580.3                            | 73.4    | <b>7,883.2</b>  |
| 2004/2005                                      | 2,192.2            | 974.7                 | 708.0               | 3,890.0          | 642.5                            | 89.8    | <b>8,497.1</b>  |
| 2005/2006                                      | 2,307.1            | 883.2                 | 728.9               | 3,939.1          | 673.3                            | 105.5   | <b>8,637.2</b>  |
| 2006/2007 <sup>1</sup>                         | 2,203.3            | 879.3                 | 715.9               | 3,928.2          | 687.1                            | 111.3   | <b>8,525.1</b>  |
| 2007/2008                                      | 2,336.9            | 888.3                 | 747.5               | 3,929.6          | 764.3                            | 85.1    | <b>8,752.0</b>  |

1. CANSIM, table 384-0036.

**Table 2**  
**Source of funds and by major field of science, 2007/2008**

|                                  | Social sciences and humanities <sup>1</sup> |                 | Health sciences <sup>2</sup>       |                 | Other natural sciences and engineering <sup>3</sup> |                 | Total                              |                 |
|----------------------------------|---|-----------------|------------------------------------|-----------------|---|-----------------|------------------------------------|-----------------|
|                                  | 2002 constant dollars <sup>4</sup>          | Current dollars | 2002 constant dollars <sup>4</sup> | Current dollars | 2002 constant <sup>4</sup> dollars                  | Current dollars | 2002 constant dollars <sup>4</sup> | Current dollars |
| millions of dollars              |   |                 |                                    |                 |   |                 |                                    |                 |
| <b>Total</b>                     | <b>1,771.6</b>                              | <b>2,062.2</b>  | <b>3,448.1</b>                     | <b>4,013.6</b>  | <b>3,532.2</b>                                      | <b>4,111.5</b>  | <b>8,752.0</b>                     | <b>10,187.3</b> |
| Federal government               | 384.8                                       | 447.9           | 871.8                              | 1,014.8         | 1,080.3   | 1,257.5         | 2,336.9                            | 2,720.2         |
| Provincial governments           | 177.7                                       | 206.8           | 266.5                              | 310.2           | 444.2   | 517.0           | 888.3                              | 1,034.0         |
| Business enterprise              | 31.4  | 36.5            | 327.7                              | 381.4           | 388.5   | 452.2           | 747.5                              | 870.1           |
| Higher education                 | 1,036.1                                     | 1,206.0         | 1,470.7                            | 1,711.9         | 1,422.9   | 1,656.2         | 3,929.6                            | 4,574.1         |
| Private non-profit organizations | 141.7                                       | 164.9           | 477.3                              | 555.6           | 145.4   | 169.2           | 764.3                              | 889.7           |
| Foreign                          | 0.0   | 0.0             | 34.0                               | 39.6            | 51.1  | 59.5            | 85.1                               | 99.1            |

1. Social sciences and humanities embrace all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political sciences, psychology, religious studies, social work, sociology, and urban and regional studies.
2. Health sciences consist of programmes directed towards the protection and improvement of human health.
3. Other natural sciences and engineering consist of disciplines, other than health sciences, concerned with understanding, exploring, developing or utilizing the natural world. Included are engineering, mathematical and physical sciences.
4. CANSIM, table 384-0036.

**Table 3**  
**Source of funds and by province, 2007/2008**

|  | Federal government | Provincial governments | Business enterprise | Higher education | Private non-profit organizations | Foreign     | Total           |
|--|--------------------|------------------------|---------------------|------------------|----------------------------------|-------------|-----------------|
| millions of current dollars                    |                    |                        |                     |                  |                                  |             |                 |
| <b>Canada</b>                                  | <b>2,720.2</b>     | <b>1,034.0</b>         | <b>870.1</b>        | <b>4,574.1</b>   | <b>889.7</b>                     | <b>99.1</b> | <b>10,187.3</b> |
| Newfoundland and Labrador                      | 45.8               | 5.8                    | 11.8                | 70.8             | 5.2                              | 0.5         | 139.9           |
| Prince Edward Island                           | 11.6               | 1.7                    | 1.4                 | 18.8             | 0.0                              | 0.1         | 33.7            |
| Nova Scotia                                    | 81.4               | 6.9                    | 39.3                | 170.1            | 28.8                             | 0.0         | 326.6           |
| New Brunswick                                  | 34.7               | 7.0                    | 5.6                 | 87.2             | 9.2                              | 0.1         | 143.8           |
| Quebec   | 771.7              | 255.3                  | 224.0               | 1,154.8          | 185.5                            | 19.2        | 2,610.5         |
| Ontario  | 1,093.0            | 351.0                  | 431.5               | 1,982.8          | 399.4                            | 56.4        | 4,314.0         |
| Manitoba                                       | 77.1               | 19.2                   | 19.9                | 141.6            | 37.1                             | 7.0         | 302.0           |
| Saskatchewan                                   | 67.6               | 22.4                   | 9.5                 | 116.5            | 13.1                             | 0.6         | 229.7           |
| Alberta  | 224.5              | 230.7                  | 80.9                | 400.4            | 63.3                             | 4.3         | 1,004.1         |
| British Columbia                               | 312.8              | 133.9                  | 46.2                | 431.0            | 148.1                            | 11.0        | 1,083.0         |
| millions of 2002 constant dollars <sup>1</sup> |                    |                        |                     |                  |                                  |             |                 |
| <b>Canada</b>                                  | <b>2,336.9</b>     | <b>888.3</b>           | <b>747.5</b>        | <b>3,929.6</b>   | <b>764.3</b>                     | <b>85.1</b> | <b>8,752.0</b>  |
| Newfoundland and Labrador                      | 39.3               | 5.0                    | 10.1                | 60.8             | 4.5                              | 0.0         | 120.2           |
| Prince Edward Island                           | 10.0               | 1.5                    | 1.2                 | 16.2             | 0.0                              | 0.0         | 29.0            |
| Nova Scotia                                    | 69.9               | 5.9                    | 33.8                | 146.1            | 24.7                             | 0.0         | 280.6           |
| New Brunswick                                  | 29.8               | 6.0                    | 4.8                 | 74.9             | 7.9                              | 0.0         | 123.5           |
| Quebec   | 663.0              | 219.3                  | 192.4               | 992.1            | 159.4                            | 16.5        | 2,242.7         |
| Ontario  | 939.0              | 301.5                  | 370.7               | 1,703.4          | 343.1                            | 48.5        | 3,706.2         |
| Manitoba                                       | 66.2               | 16.5                   | 17.1                | 121.6            | 31.9                             | 6.0         | 259.5           |
| Saskatchewan                                   | 58.1               | 19.2                   | 8.2                 | 100.1            | 11.3                             | 0.1         | 197.3           |
| Alberta  | 192.9              | 198.2                  | 69.5                | 344.0            | 54.4                             | 3.7         | 862.6           |
| British Columbia                               | 268.7              | 115.0                  | 39.7                | 370.3            | 127.2                            | 9.5         | 930.4           |

1. CANSIM, table 384-0036.

**Table 4  
Province**

|  | Canada          | Newfoundland<br>and<br>Labrador | Prince<br>Edward<br>Island | Nova<br>Scotia | New<br>Brunswick | Quebec   | Ontario  | Manitoba | Saskatchewan | Alberta | British<br>Columbia |
|--|-----------------|---------------------------------|----------------------------|----------------|------------------|----------|----------|----------|--------------|---------|---------------------|
| millions of current dollars                    |                 |                                 |                            |                |                  |          |          |          |              |         |                     |
| 1994/1995                                      | <b>3,674.9</b>  | 58.5                            | 3.8                        | 113.2          | 53.8             | 1,136.10 | 1,441.30 | 114.8    | 108.2        | 309     | 336.2               |
| 1995/1996                                      | <b>3,691.2</b>  | 58.4                            | 3.7                        | 117            | 56.2             | 1,111.50 | 1,432.70 | 113.5    | 113.9        | 327.8   | 356.5               |
| 1996/1997                                      | <b>3,696.8</b>  | 56.6                            | 4.2                        | 117.6          | 56.3             | 1,099.30 | 1,456.10 | 111.3    | 113.6        | 328.8   | 353                 |
| 1997/1998                                      | <b>3,879.1</b>  | 61.2                            | 5.9                        | 125            | 57.4             | 1,131.60 | 1,554.20 | 108.3    | 118.9        | 357.7   | 358.9               |
| 1998/1999                                      | <b>4,369.5</b>  | 72                              | 11.4                       | 164.1          | 80.4             | 1,273.80 | 1,699.70 | 130.8    | 138.4        | 408.1   | 390.8               |
| 1999/2000                                      | <b>5,081.7</b>  | 78.6                            | 11.4                       | 199.6          | 89               | 1,532.90 | 1,908.00 | 157.6    | 176.1        | 490.9   | 437.6               |
| 2000/2001                                      | <b>5,793.3</b>  | 83.4                            | 15.7                       | 199.9          | 88.2             | 1,628.60 | 2,316.20 | 189.6    | 228.2        | 546     | 497.5               |
| 2001/2002                                      | <b>6,424.2</b>  | 89.4                            | 15.7                       | 208.6          | 88.2             | 1,778.50 | 2,575.90 | 205.9    | 235.6        | 664.9   | 561.5               |
| 2002/2003                                      | <b>7,455.3</b>  | 94.4                            | 18.7                       | 225.5          | 98.9             | 2,074.30 | 2,995.50 | 224.5    | 258.8        | 727.5   | 737.2               |
| 2003/2004                                      | <b>8,143.3</b>  | 114.1                           | 25.2                       | 259.1          | 117.5            | 2,345.00 | 3,187.40 | 238.7    | 244.8        | 826.8   | 784.6               |
| 2004/2005                                      | <b>9,057.9</b>  | 115.6                           | 24.2                       | 266            | 114.3            | 2,467.70 | 3,835.10 | 260.6    | 244.7        | 898.2   | 831.5               |
| 2005/2006                                      | <b>9,518.2</b>  | 148.5                           | 27.4                       | 297.4          | 130.1            | 2,556.4  | 3,980.3  | 294.5    | 217.7        | 962.0   | 904.0               |
| 2006/2007 <sup>1</sup>                         | <b>9,624.8</b>  | 132.2                           | 31.2                       | 316.5          | 135.0            | 2,540.7  | 4,088.1  | 287.1    | 216.1        | 918.9   | 959.1               |
| 2007/2008                                      | <b>10,187.3</b> | 139.9                           | 33.7                       | 326.6          | 143.8            | 2,610.5  | 4,314.0  | 302.0    | 229.7        | 1,004.1 | 1,083.0             |
| millions of 2002 constant dollars <sup>1</sup> |                 |                                 |                            |                |                  |          |          |          |              |         |                     |
| 1994/1995                                      | <b>4,166.6</b>  | 66.3                            | 4.3                        | 128.3          | 61.0             | 1,288.1  | 1,634.1  | 130.2    | 122.7        | 350.3   | 381.2               |
| 1995/1996                                      | <b>4,092.2</b>  | 64.7                            | 4.1                        | 129.7          | 62.3             | 1,232.3  | 1,588.4  | 125.8    | 126.3        | 363.4   | 395.2               |
| 1996/1997                                      | <b>4,035.8</b>  | 61.8                            | 4.6                        | 128.4          | 61.5             | 1,200.1  | 1,589.6  | 121.5    | 124.0        | 359.0   | 385.4               |
| 1997/1998                                      | <b>4,184.6</b>  | 66.0                            | 6.4                        | 134.8          | 61.9             | 1,220.7  | 1,676.6  | 116.8    | 128.3        | 385.9   | 387.2               |
| 1998/1999                                      | <b>4,734.0</b>  | 78.0                            | 12.4                       | 177.8          | 87.1             | 1,380.1  | 1,841.5  | 141.7    | 149.9        | 442.1   | 423.4               |
| 1999/2000                                      | <b>5,411.8</b>  | 83.7                            | 12.1                       | 212.6          | 94.8             | 1,632.5  | 2,031.9  | 167.8    | 187.5        | 522.8   | 466.0               |
| 2000/2001                                      | <b>5,923.6</b>  | 85.3                            | 16.1                       | 204.4          | 90.2             | 1,665.2  | 2,368.3  | 193.9    | 233.3        | 558.3   | 508.7               |
| 2001/2002                                      | <b>6,495.7</b>  | 90.4                            | 15.9                       | 210.9          | 89.2             | 1,798.3  | 2,604.6  | 208.2    | 238.2        | 672.3   | 567.7               |
| 2002/2003                                      | <b>7,455.3</b>  | 94.4                            | 18.7                       | 225.5          | 98.9             | 2,074.3  | 2,995.5  | 224.5    | 258.8        | 727.5   | 737.2               |
| 2003/2004                                      | <b>7,883.2</b>  | 110.5                           | 24.4                       | 250.8          | 113.7            | 2,270.1  | 3,085.6  | 231.1    | 237.0        | 800.4   | 759.5               |
| 2004/2005                                      | <b>8,497.1</b>  | 108.4                           | 22.7                       | 249.5          | 107.2            | 2,314.9  | 3,597.7  | 244.5    | 229.5        | 842.6   | 780.0               |
| 2005/2006                                      | <b>8,637.2</b>  | 134.8                           | 24.9                       | 269.9          | 118.1            | 2,319.8  | 3,611.9  | 267.2    | 197.5        | 873.0   | 820.3               |
| 2006/2007 <sup>1</sup>                         | <b>8,525.1</b>  | 117.1                           | 27.6                       | 280.3          | 119.6            | 2,250.4  | 3,621.0  | 254.3    | 191.4        | 813.9   | 849.5               |
| 2007/2008                                      | <b>8,752.0</b>  | 120.2                           | 29.0                       | 280.6          | 123.5            | 2,242.7  | 3,706.2  | 259.5    | 197.3        | 862.6   | 930.4               |

1. CANSIM, table 384-0036.

**Table 5**  
**Social sciences and humanities**

|  | Canada         | Newfoundland<br>and<br>Labrador | Prince<br>Edward<br>Island | Nova<br>Scotia | New<br>Brunswick | Quebec | Ontario | Manitoba | Saskatchewan | Alberta | British<br>Columbia |
|--|----------------|---------------------------------|----------------------------|----------------|------------------|--------|---------|----------|--------------|---------|---------------------|
| millions of current dollars                    |                |                                 |                            |                |                  |        |         |          |              |         |                     |
| 1994/1995                                      | <b>725.5</b>   | 15.6                            | 0.9                        | 23.5           | 13.9             | 217.5  | 278.9   | 24.2     | 21.9         | 58.7    | 70.4                |
| 1995/1996                                      | <b>724.7</b>   | 15.4                            | 0.9                        | 23             | 13.8             | 213.5  | 269.1   | 24.7     | 23.8         | 64.5    | 76                  |
| 1996/1997                                      | <b>705.2</b>   | 15.2                            | 1.1                        | 21.3           | 13.2             | 204.9  | 259.6   | 24.5     | 23.9         | 61.1    | 80.4                |
| 1997/1998                                      | <b>731.7</b>   | 14.7                            | 1.5                        | 21.9           | 12.8             | 203.6  | 285.6   | 23.8     | 26.9         | 62.2    | 78.7                |
| 1998/1999                                      | <b>903.8</b>   | 16.5                            | 3.5                        | 40.9           | 25.4             | 243.9  | 341.9   | 33.6     | 32.6         | 71.6    | 93.9                |
| 1999/2000                                      | <b>1,062.5</b> | 20.5                            | 3.7                        | 48.1           | 27.8             | 296.4  | 401     | 40.4     | 36.8         | 86.2    | 101.6               |
| 2000/2001                                      | <b>1,202.4</b> | 19.2                            | 4.5                        | 51.9           | 29.8             | 323.6  | 473.5   | 43.1     | 47.6         | 95.5    | 113.7               |
| 2001/2002                                      | <b>1,274.5</b> | 23.8                            | 4.3                        | 48.9           | 29.7             | 331.4  | 515     | 44.7     | 48.5         | 107.3   | 120.9               |
| 2002/2003                                      | <b>1,414.1</b> | 21.7                            | 5.6                        | 51.3           | 32.2             | 396.3  | 535.1   | 48.7     | 51.5         | 120.7   | 151                 |
| 2003/2004                                      | <b>1,598.8</b> | 29.3                            | 6.7                        | 58             | 38               | 453.8  | 603.2   | 54       | 48           | 143.2   | 164.6               |
| 2004/2005                                      | <b>1,778.3</b> | 27                              | 6.8                        | 63.7           | 40.2             | 486.2  | 696.4   | 59.8     | 46.1         | 168.9   | 183.2               |
| 2005/2006                                      | <b>1,891.4</b> | 31.7                            | 7.3                        | 71.5           | 45.8             | 492.2  | 761.1   | 67.1     | 42.0         | 176.1   | 196.8               |
| 2006/2007 <sup>1</sup>                         | <b>1,910.7</b> | 30.9                            | 8.9                        | 70.6           | 44.4             | 481.3  | 798.8   | 63.3     | 42.2         | 160.5   | 209.8               |
| 2007/2008                                      | <b>2,062.2</b> | 36.4                            | 8.8                        | 77.0           | 44.8             | 517.1  | 840.9   | 65.8     | 41.9         | 194.7   | 234.8               |
| millions of 2002 constant dollars <sup>1</sup> |                |                                 |                            |                |                  |        |         |          |              |         |                     |
| 1994/1995                                      | <b>822.6</b>   | 17.7                            | 1.0                        | 26.6           | 15.8             | 246.6  | 316.2   | 27.4     | 24.8         | 66.6    | 79.8                |
| 1995/1996                                      | <b>803.4</b>   | 17.1                            | 1.0                        | 25.5           | 15.3             | 236.7  | 298.3   | 27.4     | 26.4         | 71.5    | 84.3                |
| 1996/1997                                      | <b>769.9</b>   | 16.6                            | 1.2                        | 23.3           | 14.4             | 223.7  | 283.4   | 26.7     | 26.1         | 66.7    | 87.8                |
| 1997/1998                                      | <b>789.3</b>   | 15.9                            | 1.6                        | 23.6           | 13.8             | 219.6  | 308.1   | 25.7     | 29.0         | 67.1    | 84.9                |
| 1998/1999                                      | <b>979.2</b>   | 17.9                            | 3.8                        | 44.3           | 27.5             | 264.2  | 370.4   | 36.4     | 35.3         | 77.6    | 101.7               |
| 1999/2000                                      | <b>1,131.5</b> | 21.8                            | 3.9                        | 51.2           | 29.6             | 315.7  | 427.1   | 43.0     | 39.2         | 91.8    | 108.2               |
| 2000/2001                                      | <b>1,229.4</b> | 19.6                            | 4.6                        | 53.1           | 30.5             | 330.9  | 484.2   | 44.1     | 48.7         | 97.6    | 116.3               |
| 2001/2002                                      | <b>1,288.7</b> | 24.1                            | 4.3                        | 49.4           | 30.0             | 335.1  | 520.7   | 45.2     | 49.0         | 108.5   | 122.2               |
| 2002/2003                                      | <b>1,414.1</b> | 21.7                            | 5.6                        | 51.3           | 32.2             | 396.3  | 535.1   | 48.7     | 51.5         | 120.7   | 151.0               |
| 2003/2004                                      | <b>1,547.7</b> | 28.4                            | 6.5                        | 56.1           | 36.8             | 439.3  | 583.9   | 52.3     | 46.5         | 138.6   | 159.3               |
| 2004/2005                                      | <b>1,668.2</b> | 25.3                            | 6.4                        | 59.8           | 37.7             | 456.1  | 653.3   | 56.1     | 43.2         | 158.4   | 171.9               |
| 2005/2006                                      | <b>1,716.3</b> | 28.8                            | 6.6                        | 64.9           | 41.6             | 446.6  | 690.7   | 60.9     | 38.1         | 159.8   | 178.6               |
| 2006/2007 <sup>1</sup>                         | <b>1,692.4</b> | 27.4                            | 7.9                        | 62.5           | 39.3             | 426.3  | 707.5   | 56.1     | 37.4         | 142.2   | 185.8               |
| 2007/2008                                      | <b>1,771.6</b> | 31.3                            | 7.6                        | 66.2           | 38.5             | 444.2  | 722.4   | 56.5     | 36.0         | 167.3   | 201.7               |

1. CANSIM, table 384-0036.

**Table 6**  
**Health sciences**

|  | Canada  | Newfoundland<br>and<br>Labrador | Prince<br>Edward<br>Island | Nova<br>Scotia | New<br>Brunswick | Quebec  | Ontario  | Manitoba | Saskatchewan | Alberta | British<br>Columbia |
|--|---------|---------------------------------|----------------------------|----------------|------------------|---------|----------|----------|--------------|---------|---------------------|
| millions of current dollars                    |         |                                 |                            |                |                  |         |          |          |              |         |                     |
| 1994/1995                                      | 1,382.1 | 15.6                            | 0.3                        | 38.8           | 3.6              | 458.6   | 571.4    | 44.9     | 27.8         | 123.7   | 97.4                |
| 1995/1996                                      | 1,428.4 | 15.3                            | 0.3                        | 45.7           | 4.7              | 452.5   | 606.1    | 43.8     | 30.4         | 126.8   | 102.8               |
| 1996/1997                                      | 1,430.4 | 15                              | 0.3                        | 46.3           | 4.6              | 449     | 614.1    | 42.7     | 27.3         | 130     | 101.1               |
| 1997/1998                                      | 1,516.1 | 17.3                            | 0.6                        | 52.8           | 4.8              | 457.4   | 661.6    | 40.8     | 31.1         | 147.3   | 102.4               |
| 1998/1999                                      | 1,627.8 | 21.6                            | 0.6                        | 62.2           | 6.8              | 507.8   | 671.1    | 45.6     | 36.1         | 166.5   | 109.5               |
| 1999/2000                                      | 1,822.5 | 20.1                            | 0.6                        | 71.8           | 7.1              | 597.5   | 706.1    | 53.8     | 43.5         | 199.5   | 122.5               |
| 2000/2001                                      | 2,103.9 | 23.9                            | 1.4                        | 72.6           | 7.5              | 633.9   | 875.6    | 62       | 57.9         | 225     | 144.1               |
| 2001/2002                                      | 2,382.6 | 25.4                            | 1.3                        | 83.4           | 7.7              | 700.2   | 977.1    | 74.1     | 67.6         | 274.5   | 171.3               |
| 2002/2003                                      | 2,955.6 | 29.7                            | 2.1                        | 88.1           | 9.2              | 813.5   | 1,296.60 | 81.2     | 76.4         | 306.1   | 252.7               |
| 2003/2004                                      | 3,086.8 | 35.9                            | 3.6                        | 107.3          | 10.5             | 877.1   | 1,314.80 | 83.1     | 65.3         | 330     | 259.2               |
| 2004/2005                                      | 3,584.6 | 39                              | 3.7                        | 102.9          | 9.6              | 921.2   | 1,692.00 | 91.6     | 64.8         | 351.1   | 308.8               |
| 2005/2006                                      | 3,767.1 | 54.7                            | 4.8                        | 112.0          | 10.9             | 969.0   | 1,740.4  | 105.9    | 63.2         | 387.1   | 319.2               |
| 2006/2007 <sup>r</sup>                         | 3,780.9 | 45.1                            | 4.8                        | 126.4          | 13.1             | 986.2   | 1,736.6  | 103.4    | 60.6         | 376.4   | 328.3               |
| 2007/2008                                      | 4,013.6 | 42.6                            | 3.6                        | 123.7          | 14.7             | 1,004.9 | 1,887.9  | 106.4    | 62.4         | 381.7   | 385.7               |
| millions of 2002 constant dollars <sup>1</sup> |         |                                 |                            |                |                  |         |          |          |              |         |                     |
| 1994/1995                                      | 1,567.0 | 17.7                            | 0.3                        | 44.0           | 4.1              | 520.0   | 647.8    | 50.9     | 31.5         | 140.2   | 110.4               |
| 1995/1996                                      | 1,583.6 | 17.0                            | 0.3                        | 50.7           | 5.2              | 501.7   | 672.0    | 48.6     | 33.7         | 140.6   | 114.0               |
| 1996/1997                                      | 1,561.6 | 16.4                            | 0.3                        | 50.5           | 5.0              | 490.2   | 670.4    | 46.6     | 29.8         | 141.9   | 110.4               |
| 1997/1998                                      | 1,635.5 | 18.7                            | 0.6                        | 57.0           | 5.2              | 493.4   | 713.7    | 44.0     | 33.5         | 158.9   | 110.5               |
| 1998/1999                                      | 1,763.6 | 23.4                            | 0.7                        | 67.4           | 7.4              | 550.2   | 727.1    | 49.4     | 39.1         | 180.4   | 118.6               |
| 1999/2000                                      | 1,940.9 | 21.4                            | 0.6                        | 76.5           | 7.6              | 636.3   | 752.0    | 57.3     | 46.3         | 212.5   | 130.5               |
| 2000/2001                                      | 2,151.2 | 24.4                            | 1.4                        | 74.2           | 7.7              | 648.2   | 895.3    | 63.4     | 59.2         | 230.1   | 147.3               |
| 2001/2002                                      | 2,409.1 | 25.7                            | 1.3                        | 84.3           | 7.8              | 708.0   | 988.0    | 74.9     | 68.4         | 277.6   | 173.2               |
| 2002/2003                                      | 2,955.6 | 29.7                            | 2.1                        | 88.1           | 9.2              | 813.5   | 1,296.6  | 81.2     | 76.4         | 306.1   | 252.7               |
| 2003/2004                                      | 2,988.2 | 34.8                            | 3.5                        | 103.9          | 10.2             | 849.1   | 1,272.8  | 80.4     | 63.2         | 319.5   | 250.9               |
| 2004/2005                                      | 3,362.7 | 36.6                            | 3.5                        | 96.5           | 9.0              | 864.2   | 1,587.2  | 85.9     | 60.8         | 329.4   | 289.7               |
| 2005/2006                                      | 3,418.4 | 49.6                            | 4.4                        | 101.6          | 9.9              | 879.3   | 1,579.3  | 96.1     | 57.4         | 351.3   | 289.7               |
| 2006/2007 <sup>r</sup>                         | 3,348.9 | 40.0                            | 4.3                        | 112.0          | 11.6             | 873.5   | 1,538.2  | 91.6     | 53.7         | 333.4   | 290.8               |
| 2007/2008                                      | 3,448.1 | 36.6                            | 3.1                        | 106.3          | 12.6             | 863.3   | 1,621.9  | 91.4     | 53.6         | 327.9   | 331.4               |

1. CANSIM, table 384-0036.

**Table 7**  
**Other natural sciences and engineering**

|  | Canada  | Newfoundland<br>and<br>Labrador | Prince<br>Edward<br>Island | Nova<br>Scotia | New<br>Brunswick | Quebec   | Ontario  | Manitoba | Saskatchewan | Alberta | British<br>Columbia |
|--|---------|---------------------------------|----------------------------|----------------|------------------|----------|----------|----------|--------------|---------|---------------------|
| millions of current dollars                    |         |                                 |                            |                |                  |          |          |          |              |         |                     |
| 1994/1995                                      | 1,567.2 | 27.3                            | 2.7                        | 50.9           | 36.2             | 460      | 591.1    | 45.6     | 58.5         | 126.6   | 168.3               |
| 1995/1996                                      | 1,538.1 | 27.7                            | 2.5                        | 48.3           | 37.6             | 445.5    | 557.6    | 45       | 59.7         | 136.5   | 177.7               |
| 1996/1997                                      | 1,561.2 | 26.4                            | 2.8                        | 50             | 38.4             | 445.4    | 582.5    | 44.1     | 62.4         | 137.7   | 171.5               |
| 1997/1998                                      | 1,631.4 | 29.2                            | 3.7                        | 50.3           | 39.7             | 470.7    | 607      | 43.7     | 61           | 148.2   | 177.8               |
| 1998/1999                                      | 1,837.9 | 33.9                            | 7.3                        | 61             | 48.2             | 522      | 686.7    | 51.6     | 69.8         | 170     | 187.4               |
| 1999/2000                                      | 2,196.8 | 38                              | 7.2                        | 79.6           | 54.2             | 639      | 800.9    | 63.4     | 95.8         | 205.1   | 213.6               |
| 2000/2001                                      | 2,487.0 | 40.2                            | 9.8                        | 75.5           | 50.9             | 671.2    | 967.1    | 84.5     | 122.7        | 225.5   | 239.6               |
| 2001/2002                                      | 2,767.1 | 40.2                            | 10.1                       | 76.2           | 50.8             | 746.7    | 1,083.80 | 87       | 119.5        | 283.2   | 269.6               |
| 2002/2003                                      | 3,085.6 | 43                              | 11                         | 86.1           | 57.5             | 864.5    | 1,163.80 | 94.6     | 130.9        | 300.7   | 333.5               |
| 2003/2004                                      | 3,457.7 | 48.9                            | 14.9                       | 93.9           | 69               | 1,014.20 | 1,269.40 | 101.5    | 131.5        | 353.6   | 360.8               |
| 2004/2005                                      | 3,695.1 | 49.6                            | 13.7                       | 99.4           | 64.5             | 1,060.30 | 1,446.80 | 109.2    | 133.8        | 378.1   | 339.6               |
| 2005/2006                                      | 3,859.7 | 62.1                            | 15.3                       | 113.9          | 73.5             | 1,095.2  | 1,478.8  | 121.5    | 112.5        | 398.8   | 388.1               |
| 2006/2007 <sup>1</sup>                         | 3,933.3 | 56.2                            | 17.5                       | 119.5          | 77.5             | 1,073.2  | 1,552.7  | 120.4    | 113.2        | 382.0   | 421.0               |
| 2007/2008                                      | 4,111.5 | 60.9                            | 21.2                       | 125.9          | 84.3             | 1,088.4  | 1,585.3  | 129.8    | 125.4        | 427.8   | 462.5               |
| millions of 2002 constant dollars <sup>1</sup> |         |                                 |                            |                |                  |          |          |          |              |         |                     |
| 1994/1995                                      | 1,776.9 | 31.0                            | 3.1                        | 57.7           | 41.0             | 521.5    | 670.2    | 51.7     | 66.3         | 143.5   | 190.8               |
| 1995/1996                                      | 1,705.2 | 30.7                            | 2.8                        | 53.5           | 41.7             | 493.9    | 618.2    | 49.9     | 66.2         | 151.3   | 197.0               |
| 1996/1997                                      | 1,704.4 | 28.8                            | 3.1                        | 54.6           | 41.9             | 486.2    | 635.9    | 48.1     | 68.1         | 150.3   | 187.2               |
| 1997/1998                                      | 1,759.9 | 31.5                            | 4.0                        | 54.3           | 42.8             | 507.8    | 654.8    | 47.1     | 65.8         | 159.9   | 191.8               |
| 1998/1999                                      | 1,991.2 | 36.7                            | 7.9                        | 66.1           | 52.2             | 565.5    | 744.0    | 55.9     | 75.6         | 184.2   | 203.0               |
| 1999/2000                                      | 2,339.5 | 40.5                            | 7.7                        | 84.8           | 57.7             | 680.5    | 852.9    | 67.5     | 102.0        | 218.4   | 227.5               |
| 2000/2001                                      | 2,542.9 | 41.1                            | 10.0                       | 77.2           | 52.0             | 686.3    | 988.9    | 86.4     | 125.5        | 230.6   | 245.0               |
| 2001/2002                                      | 2,797.9 | 40.6                            | 10.2                       | 77.0           | 51.4             | 755.0    | 1,095.9  | 88.0     | 120.8        | 286.3   | 272.6               |
| 2002/2003                                      | 3,085.6 | 43.0                            | 11.0                       | 86.1           | 57.5             | 864.5    | 1,163.8  | 94.6     | 130.9        | 300.7   | 333.5               |
| 2003/2004                                      | 3,347.2 | 47.3                            | 14.4                       | 90.9           | 66.8             | 951.8    | 1,228.8  | 98.3     | 127.3        | 342.3   | 349.3               |
| 2004/2005                                      | 3,466.3 | 46.5                            | 12.9                       | 93.2           | 60.5             | 994.7    | 1,357.2  | 102.4    | 125.5        | 354.7   | 318.6               |
| 2005/2006                                      | 3,502.5 | 56.4                            | 13.9                       | 103.4          | 66.7             | 993.8    | 1,341.9  | 110.3    | 102.1        | 361.9   | 352.2               |
| 2006/2007 <sup>1</sup>                         | 3,483.9 | 49.8                            | 15.6                       | 105.8          | 68.6             | 950.6    | 1,375.3  | 106.6    | 100.3        | 338.4   | 372.9               |
| 2007/2008                                      | 3,532.2 | 52.3                            | 18.2                       | 108.2          | 72.4             | 935.1    | 1,361.9  | 111.5    | 107.7        | 367.5   | 397.3               |

1. CANSIM, table 384-0036.



# Data quality, concepts and methodology

---

## Estimation of research and development expenditures in the higher education sector, 2007/2008

### Definitions

#### Natural sciences and engineering

The natural sciences and engineering (NSE) field embraces the disciplines of study concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, life and physical sciences.

#### Social sciences and humanities

The social sciences and humanities (SSH) field embraces all disciplines involved in studying human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology, and urban and regional studies.

#### Scientific research and experimental development (R&D)

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;
- a report on the procedures and results of the projects.

#### Canadian business enterprises

This sector is composed of business and government enterprises, including public utilities and government owned firms and frequently referred to as the industry sector. Incorporated consultants providing scientific and engineering services are also included. Industrial research institutes located at Canadian universities are considered to be in the university sector.

#### Higher education

The higher education sector is composed of all universities, colleges of technology and other institute of post-secondary education, whatever their source of finance or legal status. It also includes all research institutes, experimental stations and clinics operating under the direct control of, or administered by, or associated with, the higher education establishments.

### **Canadian private non-profit institutions**

Charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits comprise this sector. Private non-profit institutions primarily serving or controlled by another sector should be included in that sector (e.g., the Pulp and Paper Research Institute is in Canadian business enterprises).

### **Canadian provincial and municipal governments**

Departments and agencies of these governments form this sector. Government enterprises, such as provincial utilities are included in the Canadian business enterprises sector, and hospitals in the Canadian non-profit institutions or university sector.

### **Other Canadian performers**

This sector includes all individuals or organizations not belonging to any of the above sectors. In particular, it includes provincial research councils and foundations.

### **Foreign performers**

All foreign governments, foreign companies (including foreign subsidiaries of Canadian firms), international organizations, non resident foreign nationals and Canadians studying or teaching abroad, are included in this sector.