

# **Gross Domestic Expenditures on Research and Development in Canada (GERD), the Provinces and Territories**



National estimates 2004 to 2014  
Provincial and Territorial  
estimates 2008 to 2012



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Statistics Canada  
Investment, Science and Technology Division

# Gross Domestic Expenditures on Research and Development in Canada (GERD), the Provinces and Territories

National estimates 2004 to 2014

Provincial and Territorial estimates 2008 to 2012

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## 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
- 0s 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
- \* significantly different from reference category ( $p < 0.05$ )

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## Highlights

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Canada's gross domestic expenditures on research and development (R&D) are expected to total \$30.6 billion for 2014. This is virtually unchanged from total R&D expenditures in 2013 of \$30.7 billion.

The business enterprise sector has historically been the largest contributing sector to gross domestic expenditures in both performing and funding R&D. For 2014, business enterprises performing R&D expect to spend \$15.4 billion, down 0.9% from the previous year. For R&D funding, the business enterprise sector is expected to finance \$14.1 billion in 2014, down 1.1% from the previous year.

The higher education sector's R&D performing intentions for 2014 are \$12.4 billion and \$5.5 billion for funding intentions.

The federal government funds more R&D than it performs. This sector anticipates performing \$2.3 billion in R&D, down 6.9% from 2013. Federal government funding of R&D is expected to decline 1.9% to \$5.8 billion in 2014.

Provincial governments, similar to their federal counterpart, also fund more R&D than they perform. For 2014, provincial government performance of R&D activities is predicted to be \$304 million, while provincial governments expect to increase R&D funding by 1.1% from 2013 to \$2.1 billion. Provincial research organizations, although often combined with provincial government data, actually perform more R&D activities than they fund. Provincial research organizations are projected to perform \$34 million in R&D activity and fund \$5 million.

The private non-profit sector anticipates a 5.0% increase in its R&D performance to \$169 million. This sector expects to increase R&D funding by 1.2%.

R&D funding also includes the foreign sector, which anticipates financing \$1.8 billion in 2014, relatively unchanged from 2013.

### Note to readers

Data for gross domestic expenditures on research and development (R&D) are available in current and constant dollars for both performing and funding sectors by science type, province, territory and region in CANSIM table 358-0001.

Gross domestic expenditures on research and development (GERD) data presented are performance based. This means funding sector data are derived from the source of funds indicated by the performing sectors. As a result, GERD funding sector values will not equal funding data collected and released by individual sectors.

National level data are released to intentions year 2014. Data by province and territory are available to year reference year 2012. Data for the provincial government performing sector is currently modelled based on responses from the 2010 Provincial Scientific Activities Survey. However, this release includes 2012 data on R&D activities performed by the provincial governments of Alberta and Quebec as they conducted their own survey and provided this information to Statistics Canada. Provincial research organization data are collected through a Statistics Canada survey.

# **Analysis**

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## **Gross domestic expenditure on research and development**

The 2014 publication release of gross domestic expenditure on research and development (GERD) in Canada represents national actual expenditure for 2012; preliminary data for 2013, intentions data for 2014; and, historical data from 2004. This publication also shows research and development (R&D) expenditure by province from 2008 to 2012.

Gross domestic expenditures on research and development (GERD) are often displayed as a matrix of performing and funding sectors. GERD is performance-based, meaning it is constructed by adding together the intramural expenditure on research and development (R&D) as reported by the performing sectors. The funding sectors are derived based on the sources of funds reported by the performing sectors. GERD in Canada has six performing sectors: business enterprise, private non-profit, higher education, federal government, provincial government and provincial research organizations. The funding sectors match the performing sectors with the addition of the foreign sector.

Canada's anticipated GERD for 2014 is \$30.6 billion, a 0.6% drop from 2013. Out of the six performing sectors, only the higher education and the private non-profit sectors are anticipating advances in GERD. Provincial research organizations expect their R&D spending to remain unchanged from the previous year, while the remaining sectors anticipate declines. GERD declined 1.8% between 2012 and 2013.

## **R&D expenditures by performing sectors**

The business enterprise sector has historically been the largest contributing sector to gross domestic expenditures on research and development (GERD). This position is maintained in 2014 where business enterprise spending on R&D is expected to account for half of GERD with \$15.4 billion in spending, down 0.9% from the previous year. In comparison, in 2004, business enterprises accounted for 57% of GERD.

The higher education sector's R&D spending intentions are \$12.4 billion and account for 40% of GERD expected spending in 2014, maintaining this sector as the second largest performing sector. In 2004, the higher education sector's spending on R&D represented 34% of GERD.

The third largest performing sector, the federal government, anticipates R&D spending at \$2.3 billion or 8% of GERD, down 6.9% from 2013. This sector's share of GERD is virtually unchanged from that recorded in 2004.

Compared to 2013, only the higher education and the private non-profit sectors expect to increase their spending on R&D in 2014. Both sectors anticipate R&D expenditures to increase by 1.0% and 5.0%, respectively. The provincial research organizations sector is expected to remain stable while all other performing sectors anticipate decreases in R&D expenditures.

## R&D expenditures by funding sector

The business enterprise sector is expected to finance 46% of GERD in 2014 with \$14.1 billion. In 2004, the business enterprise sector financed 50% of GERD at \$13.4 billion.

The next largest funding sectors are the federal government and higher education, each with about a 20% share of total anticipated 2014 GERD at \$5.8 billion and \$5.5 billion respectively. The share of funding for these sectors in 2004 was 17% and 16% respectively.

The provincial government sector (including provincial research organizations) is the fourth largest sector in terms of financing R&D with \$2.1 billion, a 7% share of GERD 2014 intentions. The foreign sector's 9% share of GERD in 2004 placed it as the fourth largest funding sector in that year.

Compared to 2013, only the federal government and business enterprise sectors anticipate decreases in funding for R&D in 2014. Both sectors expect R&D financing to drop by 1.9% and 1.1%, respectively. All other funding sectors anticipate increases in R&D expenditures.

## R&D expenditures by field of science

Canada's GERD is comprised of two fields of science: natural sciences and engineering, and social sciences and humanities. Over the last decade natural sciences and engineering has consistently accounted for over 90% of total national expenditure on R&D. It should be noted that all R&D expenditures for the business enterprise sector, the largest performing R&D sector, are undertaken in the natural sciences and engineering field. As a result, most R&D expenditures occur in natural sciences and engineering.

In 2014, R&D expenditure in natural sciences and engineering is expected to be \$27.8 billion, down 0.6% compared to 2013. This is in contrast to the record high of \$28.8 billion reported in 2011.

R&D spending in the social sciences and humanities are expected to attain a record high of \$2.8 billion in 2014, up 0.1% compared to 2013. The majority (90%) of R&D expenditure in this field of science is performed in the higher education sector.

## R&D expenditures by province and territory

Provincial and territorial expenditures are assigned to the province or territory in which the performing organization is located. Provincial and territorial funding sector expenditure represent R&D funding distributed in a province or territory. The funds do not necessarily originate from within the province. Data on the provincial distribution of GERD spending are available to 2012.

Ontario has historically the largest share of R&D expenditure. In 2012, this position was maintained with \$14.2 billion spent on R&D activity in the province, comprising 45% of the national GERD. Despite this, R&D spending in Ontario was down 1% compared to 2011.

Quebec maintained the second largest share of R&D expenditures in 2012 at 26% of GERD with \$8.1 billion in expenditures. Compared to 2011, Quebec's total share decreased by 2.7 percentage points. The province with the third largest expenditure on R&D in 2012 was Alberta with \$3.5 billion. This accounted for 11% of the GERD in 2012, up 5.3 percentage points compared to 2011.

In 2012, the business enterprise sector had the largest share of GERD in Quebec, Ontario, Alberta, British Columbia and the Territories. In Prince Edward Island the business enterprise and higher education sectors tied for the largest R&D expenditure. The largest performing sector for all other provinces was the higher education sector.

R&D spending by funding sector for 2012 shows that the business enterprise sector was the largest funder in Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia and the Territories. In all other provinces the largest funding sector was higher education with the exception of Prince Edward Island where the federal government was the largest funder.

## Canada and OECD countries

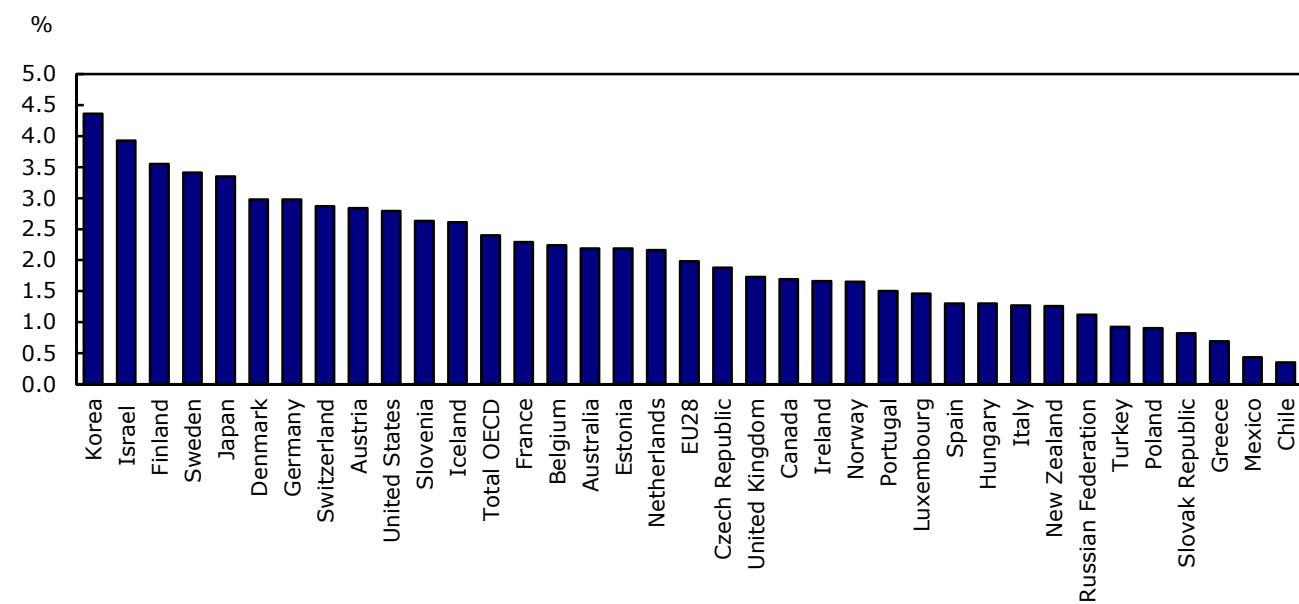
Internationally, a country's gross domestic expenditure on research and development (GERD) as a percentage of its gross domestic product (GDP) is considered an indicator of the country's degree of R&D intensity and is a commonly used summary statistic for international comparisons. This statistic is also compared with GERD and GDP per capita values as it is influenced by a nation's economic and demographic structure, as well as its propensity to perform R&D in particular sectors.

The Organisation for Economic Co-operation and Development (OECD) publishes international statistics on R&D in its Main Science and Technology Indicators (MSTI). Their most recent publication contains comprehensive OECD country data for 2012.<sup>1</sup> In 2012, Korea had the largest ratio of GERD to GDP at 4.36, followed by Israel at 3.93 and Finland at 3.55.

In comparison, Canada's investments in R&D as a percentage of GDP in 2012 was 1.71,<sup>2</sup> ranking lower than the United States' reported 2.79 and the OECD average of 2.4. Among the G8 countries, Canada ranked sixth, as the United Kingdom reported its GERD to GDP ratio at 1.73 for 2012.

At 1.62, Canada's 2013 GERD to GDP ratio was the lowest level attained over the past decade.. The lower value indicates that R&D investments in Canada diminished as a percentage of gross domestic product. From 2004 to 2013, GERD increased 15.2% whereas Canada's GDP increased 42.9%.

**Chart 1**  
**Gross Domestic Expenditures on R&D as a percentage of GDP 2012**



**Note:** Or latest year.

**Source:** Organisation for Economic Co-operation and Development (OECD) Main Science and Technology Indicators, Volume 2014/1.

1. Source: Main Science and Technology Indicators (MSTI), Organization for Economic Co-operation and Development (OECD), Volume 2014/1  
2. This value has been revised with the information of this release. The 2014/1 MSTI reported 1.69 as Canada's ratio for 2012.

## Related products

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### Selected publications from Statistics Canada

88-001-X	Science Statistics
88-202-X	Industrial Research and Development Intentions
88-204-X	Federal Scientific Activities
88F0006X	Business Special Surveys and Technology Statistics Division Working Papers

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### 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
358-0142	Federal expenditures on science and technology and its components in current dollars and 2002 constant dollars, annual
358-0143	Federal expenditures on science and technology and its components, by type of science and performing sector, annual
358-0144	Federal expenditures on science and technology and its components, by activity and performing sector, annual
358-0145	Federal intramural expenditures on science and technology and its components, by type of science for the National Capital Region, annual
358-0146	Federal personnel engaged in science and technology activities, by type of science and personnel category, annual
358-0147	Federal personnel engaged in science and technology and its components, by type of science and personnel category, annual
358-0148	Federal personnel engaged in science and technology and its components, by type of science, personnel category, Canada, provinces and territories, annual
358-0149	Federal expenditures on science and technology and its components, by type of science, performing sector, Canada, provinces and territories, annual

358-0150	Federal extramural expenditures on science and technology and its components, by type of science, performing sector, type of payment, Canada, provinces and territories, annual
358-0151	Federal expenditures on science and technology and its components, by socio-economic objectives, annual
358-0163	Federal expenditures on science and technology, by major departments and agencies
358-0164	Federal extramural expenditures on science and technology, by performing sector and major departments and agencies
358-0165	Federal personnel engaged in science and technological activities, by occupational category and major departments and agencies
358-0166	Federal personnel engaged in science and technological activities, by major departments and agencies

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## **Selected surveys from Statistics Canada**

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

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

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

## **Statistical tables**

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**Table 1-1**

**Gross domestic expenditures on research and development — In current dollars, in 2007 constant dollars and as a percentage of gross domestic product**

	Current dollars		Gross domestic expenditure on research and development as a percentage of Gross domestic product	Gross domestic product implicit price index <sup>2</sup>	2007 constant dollars, Gross domestic expenditure on research and development <sup>3</sup>
	Gross domestic expenditure on research and development	Gross domestic product <sup>1</sup>			
	millions of dollars	percent	index=2007	millions of dollars	
2004	26,680	1,324,940	2.01	91.4	29,190
2005	28,022	1,410,710	1.99	94.3	29,716
2006	29,079	1,486,918	1.96	96.9	30,009
2007 r	30,038	1,565,900	1.92	100.0	30,038
2008 r	30,751	1,645,974	1.87	103.9	29,597
2009 r	30,129	1,567,007	1.92	101.7	29,625
2010 r	30,555	1,662,757	1.84	104.4	29,267
2011 r	31,486	1,770,014	1.78	107.9	29,235
2012 r	31,307	1,831,228	1.71	109.5	28,591
2013 P	30,748	1,893,759	1.62	111.0	27,701
2014 P	30,572	..	..	..	..

1. CANSIM, table 380-0064

2. CANSIM, table 380-0102

3. Gross domestic expenditure on research and development data are deflated by the gross domestic product implicit price index.

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 1-2**  
**Gross domestic expenditures on research and development — By performing sector and funding sector**

	Federal government	Provincial governments <sup>1</sup>	Business enterprise	Higher education	Private non-profit organizations	Foreign	Total
millions of dollars							
<b>Performing sector</b>							
2004	2,084	290	15,144	9,058	104	...	26,680
2005	2,414	303	15,638	9,518	149	...	28,022
2006	2,496	332	16,474	9,625	152	...	29,079
2007 r	2,532	392	16,756	10,187	171	...	30,038
2008 r	2,599	402	16,644	10,927	179	...	30,751
2009 r	2,762	385	16,038	10,818	125	...	30,129
2010 r	3,007	360	15,803	11,249	135	...	30,555
2011 r	2,649	332	16,545	11,832	127	...	31,486
2012 r	2,555	348	16,153	12,099	151	...	31,307
2013 p	2,475	339	15,535	12,237	161	...	30,748
2014 p	2,305	338	15,401	12,360	169	...	30,572
<b>Funding sector</b>							
2004	4,635	1,372	13,402	4,147	735	2,389	26,680
2005	5,242	1,359	13,836	4,341	784	2,460	28,022
2006	5,214	1,468	14,884	4,435	827	2,252	29,079
2007 r	5,482	1,472	14,778	4,574	953	2,780	30,038
2008 r	5,709	1,552	15,210	5,055	1,015	2,211	30,751
2009 r	5,951	1,662	14,618	4,824	944	2,131	30,129
2010 r	6,467	1,702	14,347	4,970	1,068	2,001	30,555
2011 r	6,216	1,794	15,246	5,193	1,153	1,885	31,486
2012 r	5,979	2,033	14,833	5,417	1,185	1,859	31,307
2013 p	5,920	2,043	14,282	5,478	1,193	1,831	30,748
2014 p	5,806	2,066	14,119	5,533	1,207	1,842	30,572

1. Includes provincial research councils and foundations.

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Source(s):** CANSIM, table 358-0001

**Table 2-1**  
**Provincial distribution of gross domestic expenditures on research and development — By performing sector, 2012**

	Canada <sup>1</sup>	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
millions of dollars											
All sectors	<b>31,307</b>	<b>363</b>	<b>63</b>	<b>503</b>	<b>262</b>	<b>8,123</b>	<b>14,205</b>	<b>658</b>	<b>578</b>	<b>3,450</b>	<b>2,941</b>
Federal government	2,555	17	12	48	34	273	1,768	111	94	103	93
Provincial governments <sup>2</sup>	348	0	2	0	3	94	55	7	22	139	22
Business enterprise	16,153	95	24	81	69	4,692	7,268	215	188	1,951	1,563
Higher education	12,099	251	24	374	156	3,064	5,114	324	273	1,256	1,263
Private non-profit organizations	151	..	..	..	..	..	..	..	..	..	..
percent											
<b>Canada total as a percentage</b>											
All sectors	<b>100.0</b>	<b>1.2</b>	<b>0.2</b>	<b>1.6</b>	<b>0.8</b>	<b>25.9</b>	<b>45.4</b>	<b>2.1</b>	<b>1.8</b>	<b>11.0</b>	<b>9.4</b>
Federal government	100.0	0.7	0.5	1.9	1.3	10.7	69.2	4.3	3.7	4.0	3.6
Provincial governments <sup>2</sup>	100.0	0.0	0.6	0.0	0.9	27.0	15.8	2.0	6.3	39.9	6.3
Business enterprise	100.0	0.6	0.1	0.5	0.4	29.0	45.0	1.3	1.2	12.1	9.7
Higher education	100.0	2.1	0.2	3.1	1.3	25.3	42.3	2.7	2.3	10.4	10.4
Private non-profit organizations	100.0	..	..	..	..	..	..	..	..	..	..
<b>Provincial total as a percentage</b>											
All sectors	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Federal government	8.2	4.7	19.0	9.5	13.0	3.4	12.4	16.9	16.3	3.0	3.2
Provincial governments <sup>2</sup>	1.1	0.0	3.2	0.0	1.1	1.2	0.4	1.1	3.8	4.0	0.7
Business enterprise	51.6	26.2	38.1	16.1	26.3	57.8	51.2	32.7	32.5	56.6	53.1
Higher education	38.6	69.1	38.1	74.4	59.5	37.7	36.0	49.2	47.2	36.4	42.9
Private non-profit organizations	0.5	..	..	..	..	..	..	..	..	..	..

1. Canada includes the Yukon, Northwest Territories and Nunavut, therefore the sum of the provinces will not equal the Canada total.

2. Includes provincial research councils and foundations.

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Source(s):** CANSIM, table 358-0001.

**Table 2-2**  
**Provincial distribution of gross domestic expenditures on research and development — By funding sector, 2012**

	Canada <sup>1</sup>	Newfoundland and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia
millions of dollars											
All sectors	<b>31,307</b>	<b>363</b>	<b>63</b>	<b>503</b>	<b>262</b>	<b>8,123</b>	<b>14,205</b>	<b>658</b>	<b>578</b>	<b>3,450</b>	<b>2,941</b>
Federal government	5,979	65	27	157	77	1,217	3,017	196	177	424	585
Provincial governments <sup>2</sup>	2,033	40	4	16	7	643	688	31	41	342	151
Business enterprise	14,833	111	22	109	65	4,201	6,570	198	199	1,997	1,347
Higher education	5,417	125	8	200	101	1,319	2,301	170	147	519	527
Private non-profit organizations	1,185	3	1	12	9	270	557	29	10	125	135
Foreign	1,859	19	0 <sup>s</sup>	10	2	473	1,072	34	3	44	196
percent											
<b>Canada total as a percentage</b>											
All sectors	<b>100.0</b>	<b>1.2</b>	<b>0.2</b>	<b>1.6</b>	<b>0.8</b>	<b>25.9</b>	<b>45.4</b>	<b>2.1</b>	<b>1.8</b>	<b>11.0</b>	<b>9.4</b>
Federal government	100.0	1.1	0.5	2.6	1.3	20.4	50.5	3.3	3.0	7.1	9.8
Provincial governments <sup>2</sup>	100.0	2.0	0.2	0.8	0.3	31.6	33.8	1.5	2.0	16.8	7.4
Business enterprise	100.0	0.7	0.1	0.7	0.4	28.3	44.3	1.3	1.3	13.5	9.1
Higher education	100.0	2.3	0.1	3.7	1.9	24.3	42.5	3.1	2.7	9.6	9.7
Private non-profit organizations	100.0	0.3	0.1	1.0	0.8	22.8	47.0	2.4	0.8	10.5	11.4
Foreign	100.0	1.0	0 <sup>s</sup>	0.5	0.1	25.4	57.7	1.8	0.2	2.4	10.5
<b>Provincial total as a percentage</b>											
All sectors	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
Federal government	19.1	17.9	42.9	31.2	29.4	15.0	21.2	29.8	30.6	12.3	19.9
Provincial governments <sup>2</sup>	6.5	11.0	6.3	3.2	2.7	7.9	4.8	4.7	7.1	9.9	5.1
Business enterprise	47.4	30.6	34.9	21.7	24.8	51.7	46.3	30.1	34.4	57.9	45.8
Higher education	17.3	34.4	12.7	39.8	38.5	16.2	16.2	25.8	25.4	15.0	17.9
Private non-profit organizations	3.8	0.8	1.6	2.4	3.4	3.3	3.9	4.4	1.7	3.6	4.6
Foreign	5.9	5.2	0 <sup>s</sup>	2.0	0.8	5.8	7.5	5.2	0.5	1.3	6.7

1. Canada includes the Yukon, Northwest Territories and Nunavut, therefore the sum of the provinces will not equal the Canada total.

2. Includes provincial research councils and foundations.

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Source(s):** CANSIM, table 358-0001.

**Table 3**

**Gross domestic expenditures on research and development, in the total sciences, Canada**

Funding sector	Performing sector						<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations		
millions of dollars								
<b>2014 p Total sciences</b>								
<b>Total</b>	<b>2,305</b>	<b>304</b>	<b>34</b>	<b>15,401</b>	<b>12,360</b>	<b>169</b>	<b>30,572</b>	
Federal government	2,249	..	1	356	3,160	40	5,806	
Provincial governments	5	304	12	294	1,371	75	2,061	
Provincial research organizations	.	.	5	.	.	.	5	
Business enterprise	51	..	14	13,047	999	9	14,119	
Higher education	.	.	.	.	5,533	.	5,533	
Private non-profit organizations	.	.	1	.	1,168	39	1,207	
Foreign	.	..	2	1,704	130	6	1,842	
<b>2013 p Total sciences</b>								
<b>Total</b>	<b>2,475</b>	<b>305</b>	<b>34</b>	<b>15,535</b>	<b>12,237</b>	<b>161</b>	<b>30,748</b>	
Federal government	2,417	..	1	335	3,128	38	5,920	
Provincial governments	6	305	12	286	1,357	72	2,038	
Provincial research organizations	.	.	5	.	.	.	5	
Business enterprise	52	..	14	13,219	989	8	14,282	
Higher education	.	.	.	.	5,478	.	5,478	
Private non-profit organizations	.	.	1	.	1,156	37	1,193	
Foreign	.	..	2	1,694	129	6	1,831	
<b>2012 r Total sciences</b>								
<b>Total</b>	<b>2,555</b>	<b>312</b>	<b>36</b>	<b>16,153</b>	<b>12,099</b>	<b>151</b>	<b>31,307</b>	
Federal government	2,505	..	1	352	3,086	36	5,979	
Provincial governments	4	312	13	292	1,341	67	2,028	
Provincial research organizations	.	.	5	.	.	.	5	
Business enterprise	46	..	15	13,784	980	8	14,833	
Higher education	.	.	.	.	5,417	.	5,417	
Private non-profit organizations	.	.	1	.	1,149	35	1,185	
Foreign	.	..	2	1,725	127	6	1,859	
<b>2011 r Total sciences</b>								
<b>Total</b>	<b>2,649</b>	<b>300</b>	<b>32</b>	<b>16,545</b>	<b>11,832</b>	<b>127</b>	<b>31,486</b>	
Federal government	2,572	..	1	448	3,165	30	6,216	
Provincial governments	4	300	16	157	1,255	57	1,790	
Provincial research organizations	.	.	4	.	.	.	4	
Business enterprise	74	..	10	14,188	966	7	15,246	
Higher education	.	.	.	.	5,193	.	5,193	
Private non-profit organizations	.	.	0 s	.	1,127	26	1,153	
Foreign	.	..	1	1,752	126	7	1,885	
<b>2010 r Total sciences</b>								
<b>Total</b>	<b>3,007</b>	<b>325</b>	<b>35</b>	<b>15,803</b>	<b>11,249</b>	<b>135</b>	<b>30,555</b>	
Federal government	2,932	6	3	427	3,074	26	6,467	
Provincial governments	5	266	13	163	1,193	57	1,697	
Provincial research organizations	.	.	5	.	.	.	5	
Business enterprise	70	53	13	13,361	842	8	14,347	
Higher education	.	.	.	.	4,970	.	4,970	
Private non-profit organizations	.	.	0 s	.	1,029	38	1,068	
Foreign	.	..	1	1,853	141	7	2,001	
<b>2009 r Total sciences</b>								
<b>Total</b>	<b>2,762</b>	<b>352</b>	<b>33</b>	<b>16,038</b>	<b>10,818</b>	<b>125</b>	<b>30,129</b>	
Federal government	2,684	1	2	305	2,932	27	5,951	
Provincial governments	5	304	12	148	1,144	44	1,657	
Provincial research organizations	.	.	5	.	.	.	5	
Business enterprise	73	47	14	13,583	896	5	14,618	
Higher education	.	.	.	.	4,824	.	4,824	
Private non-profit organizations	.	.	0 s	.	901	42	944	
Foreign	.	..	0 s	2,003	120	8	2,131	

**Table 3 – continued**

**Gross domestic expenditures on research and development, in the total sciences, Canada**

Funding sector	Performing sector						<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	
millions of dollars							
<b>2008 Total sciences</b>							
<b>Total</b>	<b>2,599</b>	<b>364</b>	<b>38</b>	<b>16,644</b>	<b>10,927</b>	<b>179</b>	<b>30,751</b>
Federal government	2,523	2	3	319	2,811	51	<b>5,709</b>
Provincial governments	9	321	11	71	1,105	35	<b>1,552</b>
Provincial research organizations							
Business enterprise	68	40	22	14,173	892	14	<b>15,210</b>
Higher education	.	.	.	.	5,055	.	<b>5,055</b>
Private non-profit organizations	.	.	1	.	949	65	<b>1,015</b>
Foreign	.	.	1	2,082	114	14	<b>2,211</b>
<b>2007 Total sciences</b>							
<b>Total</b>	<b>2,532</b>	<b>335</b>	<b>57</b>	<b>16,756</b>	<b>10,187</b>	<b>171</b>	<b>30,038</b>
Federal government	2,456	2	2	253	2,720	48	<b>5,482</b>
Provincial governments	9	295	10	97	1,034	28	<b>1,472</b>
Provincial research organizations							
Business enterprise	67	38	44	13,744	870	14	<b>14,778</b>
Higher education	.	.	.	.	4,574	.	<b>4,574</b>
Private non-profit organizations	.	.	.	.	890	63	<b>953</b>
Foreign	.	.	1	2,663	99	17	<b>2,780</b>
<b>2006 Total sciences</b>							
<b>Total</b>	<b>2,496</b>	<b>310</b>	<b>22</b>	<b>16,474</b>	<b>9,625</b>	<b>152</b>	<b>29,079</b>
Federal government	2,423	4	1	260	2,488	39	<b>5,214</b>
Provincial governments	8	274	10	155	993	29	<b>1,468</b>
Provincial research organizations							
Business enterprise	65	33	10	13,947	808	21	<b>14,884</b>
Higher education	.	.	.	.	4,435	.	<b>4,435</b>
Private non-profit organizations	.	.	.	.	776	51	<b>827</b>
Foreign	.	.	0 s	2,113	126	13	<b>2,252</b>
<b>2005 Total sciences</b>							
<b>Total</b>	<b>2,414</b>	<b>280</b>	<b>23</b>	<b>15,638</b>	<b>9,518</b>	<b>149</b>	<b>28,022</b>
Federal government	2,331	4	1	323	2,542	41	<b>5,242</b>
Provincial governments	9	246	12	90	973	28	<b>1,359</b>
Provincial research organizations			0 s				0 s
Business enterprise	73	30	10	12,899	803	21	<b>13,836</b>
Higher education	.	.	.	.	4,341	.	<b>4,341</b>
Private non-profit organizations	.	.	.	.	742	42	<b>784</b>
Foreign	.	.	0 s	2,327	116	17	<b>2,460</b>
<b>2004 Total sciences</b>							
<b>Total</b>	<b>2,084</b>	<b>265</b>	<b>25</b>	<b>15,144</b>	<b>9,058</b>	<b>104</b>	<b>26,680</b>
Federal government	2,012	2	1	271	2,337	12	<b>4,635</b>
Provincial governments	9	236	14	59	1,039	15	<b>1,372</b>
Provincial research organizations			0 s				0 s
Business enterprise	63	26	10	12,535	755	13	<b>13,402</b>
Higher education	.	.	.	.	4,147	.	<b>4,147</b>
Private non-profit organizations	.	.	.	.	685	50	<b>735</b>
Foreign	.	.	0 s	2,280	96	13	<b>2,389</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-1**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Newfoundland and Labrador**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>17</b>	..	..	<b>95</b>	<b>251</b>	<b>363</b>
Federal government	16	..	..	8	39	65
Provincial governments	0 s	..	..	1	39	40
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	69	41	111
Higher education	..	..	..	..	125	125
Private non-profit organizations	..	..	..	..	3	3
Foreign	..	..	..	17	2	19
<b>2011 Total sciences</b>						
<b>Total</b>	<b>19</b>	..	..	<b>75</b>	<b>211</b>	<b>306</b>
Federal government	19	..	..	9	47	75
Provincial governments	0 s	..	..	1	26	27
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	49	17	66
Higher education	..	..	..	..	111	111
Private non-profit organizations	..	..	..	..	11	11
Foreign	..	..	..	15	..	15
<b>2010 Total sciences</b>						
<b>Total</b>	<b>22</b>	..	..	<b>66</b>	<b>165</b>	<b>253</b>
Federal government	22	..	..	11	35	67
Provincial governments	0 s	..	..	1	3	3
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	48	25	73
Higher education	..	..	..	..	97	97
Private non-profit organizations	..	..	..	..	5	5
Foreign	..	..	..	7	..	7
<b>2009 Total sciences</b>						
<b>Total</b>	<b>25</b>	..	..	<b>87</b>	<b>152</b>	<b>264</b>
Federal government	24	..	..	8	34	67
Provincial governments	0 s	..	..	1	4	6
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	69	23	93
Higher education	..	..	..	..	85	85
Private non-profit organizations	..	..	..	..	5	5
Foreign	..	..	..	8	1	9
<b>2008 Total sciences</b>						
<b>Total</b>	<b>19</b>	<b>5</b>	..	<b>90</b>	<b>146</b>	<b>259</b>
Federal government	19	..	..	4	36	59
Provincial governments	0 s	5	..	0 s	8	13
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	73	17	91
Higher education	..	..	..	..	77	77
Private non-profit organizations	..	..	..	..	6	6
Foreign	..	..	..	12	1	13

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-2**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Prince Edward Island**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>12</b>	<b>2</b>	..	<b>24</b>	<b>24</b>	<b>63</b>
Federal government	12	2	..	3	12	27
Provincial governments	0 s	2	..	0 s	2	4
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	20	1	22
Higher education	..	..	..	..	8	8
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2011 Total sciences</b>						
<b>Total</b>	<b>13</b>	<b>2</b>	..	<b>13</b>	<b>39</b>	<b>66</b>
Federal government	12	2	..	1	12	26
Provincial governments	..	2	..	0 s	1	3
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	12	2	14
Higher education	..	..	..	..	22	22
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2010 Total sciences</b>						
<b>Total</b>	<b>12</b>	<b>3</b>	..	<b>12</b>	<b>42</b>	<b>69</b>
Federal government	12	3	..	2	14	28
Provincial governments	0 s	3	..	0 s	2	5
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	10	1	11
Higher education	..	..	..	..	23	23
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2009 Total sciences</b>						
<b>Total</b>	<b>15</b>	..	..	<b>13</b>	<b>41</b>	<b>69</b>
Federal government	15	..	..	2	13	30
Provincial governments	0 s	..	..	0 s	1	2
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	10	1	11
Higher education	..	..	..	..	24	24
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	0 s	0 s
<b>2008 Total sciences</b>						
<b>Total</b>	<b>14</b>	..	..	<b>15</b>	<b>37</b>	<b>66</b>
Federal government	13	..	..	0 s	12	25
Provincial governments	0 s	..	..	0 s	1	2
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	14	2	15
Higher education	..	..	..	..	22	22
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	1	..	1

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-3**

**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Nova Scotia**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>48</b>	..	..	<b>81</b>	<b>374</b>	<b>503</b>
Federal government	47	..	..	4	106	157
Provincial governments	0 s	..	..	2	13	16
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	66	43	109
Higher education	.	..	..	.	200	200
Private non-profit organizations	.	..	..	.	12	12
Foreign	.	..	..	9	1	10
<b>2011 Total sciences</b>						
<b>Total</b>	<b>53</b>	..	..	<b>82</b>	<b>368</b>	<b>503</b>
Federal government	51	..	..	4	102	157
Provincial governments	0 s	..	..	2	12	14
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	70	45	116
Higher education	.	..	..	.	193	193
Private non-profit organizations	.	..	..	.	17	17
Foreign	.	..	..	6	1	7
<b>2010 Total sciences</b>						
<b>Total</b>	<b>69</b>	..	..	<b>89</b>	<b>369</b>	<b>527</b>
Federal government	68	..	..	5	105	178
Provincial governments	0 s	..	..	2	10	12
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	74	40	115
Higher education	.	..	..	.	190	190
Private non-profit organizations	.	..	..	.	24	24
Foreign	.	..	..	7	1	8
<b>2009 Total sciences</b>						
<b>Total</b>	<b>67</b>	..	..	<b>110</b>	<b>343</b>	<b>520</b>
Federal government	66	..	..	7	95	168
Provincial governments	0 s	..	..	2	8	10
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	94	33	128
Higher education	.	..	..	.	185	185
Private non-profit organizations	.	..	..	.	22	22
Foreign	.	..	..	7	1	8
<b>2008 Total sciences</b>						
<b>Total</b>	<b>77</b>	..	..	<b>105</b>	<b>342</b>	<b>525</b>
Federal government	76	..	..	2	93	172
Provincial governments	0 s	..	..	1	8	9
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	85	37	123
Higher education	.	..	..	.	179	179
Private non-profit organizations	.	..	..	.	25	25
Foreign	.	..	..	18	0 s	18

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-4  
Provincial and territorial gross domestic expenditures on research and development, in the total sciences — New Brunswick**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>34</b>	..	<b>3</b>	<b>69</b>	<b>156</b>	<b>262</b>
Federal government	34	..	0 s	8	35	77
Provincial governments	0 s	..	0 s	1	6	7
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	2	57	5	65
Higher education	..	..	..	..	101	101
Private non-profit organizations	..	..	0 s	..	9	9
Foreign	..	..	0 s	2	0 s	2
<b>2011 Total sciences</b>						
<b>Total</b>	<b>35</b>	..	<b>3</b>	<b>98</b>	<b>157</b>	<b>293</b>
Federal government	34	..	0 s	8	37	79
Provincial governments	0 s	..	0 s	2	3	5
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	87	7	97
Higher education	..	..	..	..	98	98
Private non-profit organizations	..	..	0 s	..	12	12
Foreign	..	..	0 s	1	0 s	1
<b>2010 Total sciences</b>						
<b>Total</b>	<b>35</b>	..	<b>3</b>	<b>101</b>	<b>153</b>	<b>292</b>
Federal government	35	..	0 s	5	39	78
Provincial governments	0 s	..	0 s	0 s	6	6
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	95	6	103
Higher education	..	..	..	..	94	94
Private non-profit organizations	..	..	0 s	..	9	9
Foreign	..	..	0 s	1	0 s	1
<b>2009 Total sciences</b>						
<b>Total</b>	<b>37</b>	<b>11</b>	<b>2</b>	<b>127</b>	<b>158</b>	<b>335</b>
Federal government	36	..	0 s	5	44	84
Provincial governments	0 s	11	0 s	1	5	17
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	120	9	132
Higher education	..	..	..	..	96	96
Private non-profit organizations	..	..	0 s	..	2	2
Foreign	..	..	0 s	1	2	4
<b>2008 Total sciences</b>						
<b>Total</b>	<b>36</b>	<b>11</b>	<b>2</b>	<b>121</b>	<b>150</b>	<b>320</b>
Federal government	36	..	0 s	1	37	74
Provincial governments	0 s	11	0 s	0 s	5	17
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	1	117	4	124
Higher education	..	..	..	..	91	91
Private non-profit organizations	..	..	0 s	..	10	10
Foreign	..	..	0 s	1	3	5

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-5**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Quebec**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>273</b>	<b>82</b>	<b>12</b>	<b>4,692</b>	<b>3,064</b>	<b>8,123</b>
Federal government	266	.	0 s	138	812	1,217
Provincial governments	1	82	6	169	386	643
Provincial research organizations	.	.	..	.	.	..
Business enterprise	6	..	6	3,944	245	4,201
Higher education	.	.	.	.	1,319	1,319
Private non-profit organizations	.	.	..	.	270	270
Foreign	.	.	0 s	441	32	473
<b>2011 Total sciences</b>						
<b>Total</b>	<b>293</b>	<b>86</b>	<b>11</b>	<b>4,869</b>	<b>3,087</b>	<b>8,346</b>
Federal government	282	.	0 s	237	878	1,397
Provincial governments	0 s	86	8	63	414	572
Provincial research organizations	.	.	..	.	.	..
Business enterprise	10	..	3	4,118	270	4,401
Higher education	.	.	.	.	1,231	1,231
Private non-profit organizations	.	.	..	.	274	274
Foreign	.	.	0 s	451	21	472
<b>2010 Total sciences</b>						
<b>Total</b>	<b>308</b>	<b>95</b>	<b>11</b>	<b>4,764</b>	<b>2,794</b>	<b>7,971</b>
Federal government	296	.	0 s	193	798	1,286
Provincial governments	2	95	8	70	375	549
Provincial research organizations	.	.	..	.	.	..
Business enterprise	10	..	3	4,004	226	4,244
Higher education	.	.	.	.	1,137	1,137
Private non-profit organizations	.	.	..	.	238	238
Foreign	.	.	0 s	497	20	517
<b>2009 Total sciences</b>						
<b>Total</b>	<b>367</b>	<b>88</b>	<b>11</b>	<b>4,757</b>	<b>2,622</b>	<b>7,844</b>
Federal government	355	.	0 s	113	783	1,251
Provincial governments	2	88	8	82	351	531
Provincial research organizations	.	.	..	.	.	..
Business enterprise	12	..	3	4,041	220	4,275
Higher education	.	.	.	.	1,018	1,018
Private non-profit organizations	.	.	..	.	228	228
Foreign	.	.	0 s	520	22	543
<b>2008 Total sciences</b>						
<b>Total</b>	<b>413</b>	<b>87</b>	<b>8</b>	<b>4,794</b>	<b>2,784</b>	<b>8,086</b>
Federal government	399	.	0 s	178	740	1,317
Provincial governments	2	87	5	35	248	377
Provincial research organizations	.	.	..	.	.	..
Business enterprise	12	..	3	4,033	253	4,301
Higher education	.	.	0 s	.	1,282	1,282
Private non-profit organizations	.	.	0 s	.	239	239
Foreign	.	.	0 s	548	23	572

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 4-6**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Ontario**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>1,768</b>	<b>55</b>	..	<b>7,268</b>	<b>5,114</b>	<b>14,205</b>
Federal government	1,730	..	..	61	1,226	<b>3,017</b>
Provincial governments	2	55	..	92	539	<b>688</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	35	..	..	6,098	436	<b>6,570</b>
Higher education	..	..	..	..	2,301	<b>2,301</b>
Private non-profit organizations	..	..	..	..	557	<b>557</b>
Foreign	..	..	..	1,017	56	<b>1,072</b>
<b>2011 Total sciences</b>						
<b>Total</b>	<b>1,866</b>	<b>52</b>	..	<b>7,569</b>	<b>4,861</b>	<b>14,348</b>
Federal government	1,811	..	..	99	1,244	<b>3,153</b>
Provincial governments	2	52	..	59	405	<b>517</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	53	..	..	6,383	419	<b>6,856</b>
Higher education	..	..	..	..	2,194	<b>2,194</b>
Private non-profit organizations	..	..	..	..	539	<b>539</b>
Foreign	..	..	..	1,028	60	<b>1,088</b>
<b>2010 Total sciences</b>						
<b>Total</b>	<b>2,181</b>	<b>54</b>	..	<b>7,193</b>	<b>4,581</b>	<b>14,008</b>
Federal government	2,128	..	..	104	1,226	<b>3,457</b>
Provincial governments	2	54	..	54	385	<b>495</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	50	..	..	5,975	354	<b>6,379</b>
Higher education	..	..	..	..	2,088	<b>2,088</b>
Private non-profit organizations	..	..	..	..	468	<b>468</b>
Foreign	..	..	..	1,060	60	<b>1,120</b>
<b>2009 Total sciences</b>						
<b>Total</b>	<b>1,839</b>	<b>51</b>	..	<b>7,384</b>	<b>4,534</b>	<b>13,807</b>
Federal government	1,786	..	..	118	1,156	<b>3,059</b>
Provincial governments	2	51	..	31	359	<b>443</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	50	..	..	6,081	443	<b>6,575</b>
Higher education	..	..	..	..	2,109	<b>2,109</b>
Private non-profit organizations	..	..	..	..	406	<b>406</b>
Foreign	..	..	..	1,154	61	<b>1,215</b>
<b>2008 Total sciences</b>						
<b>Total</b>	<b>1,668</b>	<b>62</b>	..	<b>7,883</b>	<b>4,581</b>	<b>14,194</b>
Federal government	1,616	..	..	90	1,091	<b>2,798</b>
Provincial governments	6	62	..	9	398	<b>475</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	46	..	..	6,687	413	<b>7,146</b>
Higher education	..	..	..	..	2,200	<b>2,200</b>
Private non-profit organizations	..	..	..	..	425	<b>425</b>
Foreign	..	..	..	1,097	54	<b>1,151</b>

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 4-7**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Manitoba**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>111</b>	<b>7</b>	..	<b>215</b>	<b>324</b>	<b>658</b>
Federal government	110	.	.	2	83	<b>196</b>
Provincial governments	0 s	7	..	2	23	<b>31</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	0 s	.	..	187	11	<b>198</b>
Higher education	.	.	.	.	170	<b>170</b>
Private non-profit organizations	.	.	.	.	29	<b>29</b>
Foreign	.	.	.	24	9	<b>34</b>
<b>2011 Total sciences</b>						
<b>Total</b>	<b>103</b>	<b>10</b>	..	<b>196</b>	<b>339</b>	<b>647</b>
Federal government	102	.	.	3	79	<b>184</b>
Provincial governments	0 s	10	..	2	26	<b>37</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	182	20	<b>203</b>
Higher education	.	.	.	.	170	<b>170</b>
Private non-profit organizations	.	.	.	.	41	<b>41</b>
Foreign	.	.	.	8	4	<b>12</b>
<b>2010 Total sciences</b>						
<b>Total</b>	<b>107</b>	<b>10</b>	..	<b>224</b>	<b>339</b>	<b>680</b>
Federal government	106	.	.	4	79	<b>189</b>
Provincial governments	0 s	10	..	1	30	<b>41</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	197	29	<b>228</b>
Higher education	.	.	.	.	166	<b>166</b>
Private non-profit organizations	.	.	.	.	17	<b>17</b>
Foreign	.	.	.	22	18	<b>39</b>
<b>2009 Total sciences</b>						
<b>Total</b>	<b>112</b>	<b>8</b>	..	<b>209</b>	<b>327</b>	<b>656</b>
Federal government	111	.	.	1	82	<b>194</b>
Provincial governments	0 s	8	..	1	24	<b>33</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	201	16	<b>218</b>
Higher education	.	.	.	.	164	<b>164</b>
Private non-profit organizations	.	.	.	.	33	<b>33</b>
Foreign	.	.	.	6	9	<b>14</b>
<b>2008 Total sciences</b>						
<b>Total</b>	<b>85</b>	<b>10</b>	..	<b>182</b>	<b>312</b>	<b>588</b>
Federal government	84	.	.	5	73	<b>161</b>
Provincial governments	0 s	10	..	0 s	18	<b>28</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	163	15	<b>180</b>
Higher education	.	.	.	.	149	<b>149</b>
Private non-profit organizations	.	.	.	.	53	<b>53</b>
Foreign	.	.	.	13	4	<b>17</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-8**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Saskatchewan**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>94</b>	<b>4</b>	<b>18</b>	<b>188</b>	<b>273</b>	<b>578</b>
Federal government	93		0 s	8	75	177
Provincial governments	0 s	4	5	5	23	36
Provincial research organizations			5			5
Business enterprise	0 s		7	174	18	199
Higher education					147	147
Private non-profit organizations			0 s		10	10
Foreign			1	2	0 s	3
<b>2011 Total sciences</b>						
<b>Total</b>	<b>63</b>	<b>6</b>	<b>16</b>	<b>193</b>	<b>286</b>	<b>563</b>
Federal government	61		0 s	8	74	143
Provincial governments	0 s	6	6	3	26	42
Provincial research organizations			4			4
Business enterprise	2		5	180	19	205
Higher education					151	151
Private non-profit organizations			0 s		16	16
Foreign			0 s	2	1	3
<b>2010 Total sciences</b>						
<b>Total</b>	<b>67</b>	<b>22</b>	<b>19</b>	<b>162</b>	<b>328</b>	<b>598</b>
Federal government	65		1	3	87	157
Provincial governments	0 s	22	4	4	34	64
Provincial research organizations			5			5
Business enterprise	2		8	143	10	163
Higher education					157	157
Private non-profit organizations			0 s		38	39
Foreign			0 s	12	1	13
<b>2009 r Total sciences</b>						
<b>Total</b>	<b>72</b>	<b>31</b>	<b>18</b>	<b>155</b>	<b>310</b>	<b>586</b>
Federal government	70		1	3	102	175
Provincial governments	0 s	31	3	3	33	70
Provincial research organizations			5			5
Business enterprise	2		9	143	10	164
Higher education					150	150
Private non-profit organizations			0 s		14	14
Foreign			0 s	6	1	7
<b>2008 Total sciences</b>						
<b>Total</b>	<b>64</b>	<b>5</b>	<b>12</b>	<b>146</b>	<b>315</b>	<b>542</b>
Federal government	62		0 s	2	87	152
Provincial governments	0 s	5	4	1	45	55
Provincial research organizations			..			..
Business enterprise	2		7	139	16	164
Higher education					146	146
Private non-profit organizations			0 s		20	20
Foreign			0 s	3	1	5

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-9**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Alberta**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>103</b>	<b>139</b>	..	<b>1,951</b>	<b>1,256</b>	<b>3,450</b>
Federal government	102	..	..	28	294	424
Provincial governments	0 s	139	..	8	194	342
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	1,877	119	1,997
Higher education	..	..	..	..	519	519
Private non-profit organizations	..	..	..	..	125	125
Foreign	..	..	..	38	6	44
<b>2011 Total sciences</b>						
<b>Total</b>	<b>101</b>	<b>128</b>	..	<b>1,809</b>	<b>1,236</b>	<b>3,275</b>
Federal government	100	..	..	26	290	416
Provincial governments	0 s	128	..	10	235	374
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	..	..	1,733	95	1,830
Higher education	..	..	..	..	510	510
Private non-profit organizations	..	..	..	..	96	96
Foreign	..	..	..	40	10	49
<b>2010 Total sciences</b>						
<b>Total</b>	<b>106</b>	<b>124</b>	..	<b>1,530</b>	<b>1,221</b>	<b>2,981</b>
Federal government	104	6	..	17	287	415
Provincial governments	0 s	64	..	11	236	311
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	53	..	1,466	85	1,606
Higher education	..	..	..	..	504	504
Private non-profit organizations	..	..	..	..	99	99
Foreign	..	..	..	36	10	45
<b>2009 Total sciences</b>						
<b>Total</b>	<b>108</b>	<b>138</b>	..	<b>1,571</b>	<b>1,180</b>	<b>2,997</b>
Federal government	106	1	..	9	259	376
Provincial governments	0 s	89	..	10	246	345
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	47	..	1,478	83	1,610
Higher education	..	..	..	..	502	502
Private non-profit organizations	..	..	..	..	86	86
Foreign	..	..	..	74	4	78
<b>2008 Total sciences</b>						
<b>Total</b>	<b>126</b>	<b>152</b>	..	<b>1,618</b>	<b>1,123</b>	<b>3,019</b>
Federal government	124	2	..	4	267	398
Provincial governments	0 s	108	..	18	241	367
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	41	..	1,522	84	1,649
Higher education	..	..	..	..	449	449
Private non-profit organizations	..	..	..	..	76	76
Foreign	..	..	..	74	6	80

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-10  
Provincial and territorial gross domestic expenditures on research and development, in the total sciences — British Columbia**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>93</b>	<b>22</b>	..	<b>1,563</b>	<b>1,263</b>	<b>2,941</b>
Federal government	91			92	402	<b>585</b>
Provincial governments	0 s	22	..	11	118	<b>151</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	2	..	..	1,285	61	<b>1,347</b>
Higher education	.	.	.	.	527	<b>527</b>
Private non-profit organizations	.	.	.	.	135	<b>135</b>
Foreign	.	.	.	175	21	<b>196</b>
<b>2011 Total sciences</b>						
<b>Total</b>	<b>102</b>	<b>16</b>	..	<b>1,639</b>	<b>1,248</b>	<b>3,005</b>
Federal government	98			53	402	<b>553</b>
Provincial governments	0 s	16	..	15	108	<b>140</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,370	75	<b>1,448</b>
Higher education	.	.	.	.	514	<b>514</b>
Private non-profit organizations	.	.	.	.	119	<b>119</b>
Foreign	.	.	.	200	30	<b>230</b>
<b>2010 Total sciences</b>						
<b>Total</b>	<b>93</b>	<b>19</b>	..	<b>1,658</b>	<b>1,256</b>	<b>3,026</b>
Federal government	90			84	404	<b>578</b>
Provincial governments	0 s	19	..	20	112	<b>151</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,344	65	<b>1,412</b>
Higher education	.	.	.	.	513	<b>513</b>
Private non-profit organizations	.	.	.	.	129	<b>129</b>
Foreign	.	.	.	210	32	<b>243</b>
<b>2009 Total sciences</b>						
<b>Total</b>	<b>115</b>	<b>25</b>	..	<b>1,620</b>	<b>1,151</b>	<b>2,911</b>
Federal government	111			38	365	<b>514</b>
Provincial governments	0 s	25	..	17	113	<b>155</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,340	57	<b>1,400</b>
Higher education	.	.	.	.	492	<b>492</b>
Private non-profit organizations	.	.	.	.	105	<b>105</b>
Foreign	.	.	.	226	19	<b>245</b>
<b>2008 Total sciences</b>						
<b>Total</b>	<b>93</b>	<b>33</b>	..	<b>1,685</b>	<b>1,136</b>	<b>2,947</b>
Federal government	90			32	375	<b>497</b>
Provincial governments	0 s	33	..	6	133	<b>173</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,334	51	<b>1,388</b>
Higher education	.	.	.	.	461	<b>461</b>
Private non-profit organizations	.	.	.	.	94	<b>94</b>
Foreign	.	.	.	313	23	<b>336</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 4-11**  
**Provincial and territorial gross domestic expenditures on research and development, in the total sciences — Yukon, Northwest Territories and Nunavut**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Total sciences</b>						
<b>Total</b>	<b>2</b>	.	<b>3</b>	<b>7</b>	..	<b>11</b>
Federal government	2	.	0 s	..	..	<b>2</b>
Provincial governments	0 s	.	2	1	..	<b>2</b>
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	6	..	<b>6</b>
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	0 s	..	..	0 s
Foreign	.	.	..	..	..	..
<b>2011 Total sciences</b>						
<b>Total</b>	<b>2</b>	.	<b>3</b>	<b>4</b>	..	<b>9</b>
Federal government	2	.	0 s	..	..	<b>3</b>
Provincial governments	0 s	.	2	0 s	..	<b>2</b>
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	4	..	<b>4</b>
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	0 s	..	..	0 s
Foreign	.	.	..	0 s	..	0 s
<b>2010 Total sciences</b>						
<b>Total</b>	<b>6</b>	.	<b>2</b>	<b>5</b>	..	<b>14</b>
Federal government	6	.	1	..	..	<b>7</b>
Provincial governments	0 s	.	2	0 s	..	<b>2</b>
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	5	..	<b>5</b>
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	..	..	..	..
Foreign	.	.	0 s	0 s	..	0 s
<b>2009 Total sciences</b>						
<b>Total</b>	<b>5</b>	.	<b>1</b>	<b>6</b>	..	<b>12</b>
Federal government	5	.	1	..	..	<b>6</b>
Provincial governments	0 s	.	0 s	0 s	..	0 s
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	5	..	<b>6</b>
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	..	..	..	..
Foreign	.	.	..	0 s	..	0 s
<b>2008 Total sciences</b>						
<b>Total</b>	<b>4</b>	.	<b>16</b>	<b>6</b>	..	<b>26</b>
Federal government	3	.	3	..	..	<b>6</b>
Provincial governments	0 s	.	1	..	..	<b>1</b>
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	11	6	..	<b>17</b>
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	1	..	..	<b>1</b>
Foreign	.	.	0 s	1	..	<b>1</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 5**

**Gross domestic expenditures on research and development, in the natural sciences and engineering, Canada**

Funding sector	Performing sector						<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	
millions of dollars							
<b>2014 Natural sciences</b>							
<b>Total</b>	<b>2,065</b>	<b>276</b>	<b>34</b>	<b>15,401</b>	<b>9,859</b>	<b>160</b>	<b>27,794</b>
Federal government	2,009	..	1	356	2,632	39	5,037
Provincial governments	5	276	12	294	1,097	74	1,758
Provincial research organizations	..	..	5	..	..	..	5
Business enterprise	51	..	14	13,047	953	9	14,073
Higher education	..	..	..	..	4,078	..	4,078
Private non-profit organizations	..	..	1	..	969	32	1,002
Foreign	..	..	2	1,704	130	5	1,841
<b>2013 p Natural sciences</b>							
<b>Total</b>	<b>2,213</b>	<b>275</b>	<b>34</b>	<b>15,535</b>	<b>9,762</b>	<b>153</b>	<b>27,972</b>
Federal government	2,156	..	1	335	2,606	38	5,135
Provincial governments	6	275	12	286	1,086	71	1,736
Provincial research organizations	..	..	5	..	..	..	5
Business enterprise	52	..	14	13,219	944	8	14,237
Higher education	..	..	..	..	4,038	..	4,038
Private non-profit organizations	..	..	1	..	960	31	991
Foreign	..	..	2	1,694	129	5	1,830
<b>2012 p Natural sciences</b>							
<b>Total</b>	<b>2,316</b>	<b>277</b>	<b>36</b>	<b>16,153</b>	<b>9,654</b>	<b>141</b>	<b>28,577</b>
Federal government	2,265	..	1	352	2,571	35	5,223
Provincial governments	4	277	13	292	1,072	66	1,725
Provincial research organizations	..	..	5	..	..	..	5
Business enterprise	46	..	15	13,784	936	8	14,788
Higher education	..	..	..	..	3,993	..	3,993
Private non-profit organizations	..	..	1	..	955	28	984
Foreign	..	..	2	1,725	127	5	1,858
<b>2011 Natural sciences</b>							
<b>Total</b>	<b>2,420</b>	<b>260</b>	<b>32</b>	<b>16,545</b>	<b>9,447</b>	<b>122</b>	<b>28,827</b>
Federal government	2,343	..	1	448	2,646	30	5,467
Provincial governments	4	260	16	157	1,004	57	1,498
Provincial research organizations	..	..	4	..	..	..	4
Business enterprise	74	..	10	14,188	917	7	15,197
Higher education	..	..	..	..	3,831	..	3,831
Private non-profit organizations	..	..	0 s	..	923	24	947
Foreign	..	..	1	1,752	126	6	1,884
<b>2010 r Natural sciences</b>							
<b>Total</b>	<b>2,726</b>	<b>283</b>	<b>35</b>	<b>15,803</b>	<b>8,950</b>	<b>127</b>	<b>27,925</b>
Federal government	2,651	6	3	427	2,556	24	5,668
Provincial governments	5	224	13	163	955	54	1,414
Provincial research organizations	..	..	5	..	..	..	5
Business enterprise	70	53	13	13,361	803	8	14,307
Higher education	..	..	..	..	3,649	..	3,649
Private non-profit organizations	..	..	0 s	..	846	36	883
Foreign	..	..	1	1,853	141	5	1,999
<b>2009 r Natural sciences</b>							
<b>Total</b>	<b>2,546</b>	<b>314</b>	<b>33</b>	<b>16,038</b>	<b>8,641</b>	<b>117</b>	<b>27,690</b>
Federal government	2,468	1	2	305	2,452	25	5,253
Provincial governments	5	266	12	148	915	43	1,389
Provincial research organizations	..	..	5	..	..	..	5
Business enterprise	73	47	14	13,583	854	5	14,576
Higher education	..	..	..	..	3,567	..	3,567
Private non-profit organizations	..	..	0 s	..	732	38	771
Foreign	..	..	0 s	2,003	120	6	2,129

**Table 5 – continued**

**Gross domestic expenditures on research and development, in the natural sciences and engineering, Canada**

Funding sector	Performing sector						<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	
millions of dollars							
<b>2008 r Natural sciences</b>							
<b>Total</b>	<b>2,388</b>	<b>327</b>	<b>38</b>	<b>16,644</b>	<b>8,715</b>	<b>169</b>	<b>28,281</b>
Federal government	2,312	2	3	319	2,342	49	5,028
Provincial governments	9	284	11	71	884	34	1,293
Provincial research organizations	.	.	.	.	.	.	.
Business enterprise	68	40	22	14,173	856	14	15,173
Higher education	.	.	.	.	3,743	.	3,743
Private non-profit organizations	.	.	1	.	775	58	833
Foreign	.	.	1	2,082	114	14	2,211
<b>2007 r Natural sciences</b>							
<b>Total</b>	<b>2,360</b>	<b>301</b>	<b>57</b>	<b>16,756</b>	<b>8,125</b>	<b>156</b>	<b>27,756</b>
Federal government	2,284	2	2	253	2,272	47	4,861
Provincial governments	9	261	10	97	827	26	1,229
Provincial research organizations	.	.	.	.	.	.	.
Business enterprise	67	38	44	13,744	834	14	14,741
Higher education	.	.	.	.	3,368	.	3,368
Private non-profit organizations	.	.	.	.	725	53	777
Foreign	.	.	1	2,663	99	17	2,779
<b>2006 Natural sciences</b>							
<b>Total</b>	<b>2,340</b>	<b>280</b>	<b>22</b>	<b>16,474</b>	<b>7,714</b>	<b>137</b>	<b>26,967</b>
Federal government	2,266	4	1	260	2,086	37	4,655
Provincial governments	8	243	10	155	794	26	1,236
Provincial research organizations	.	.	.	.	.	.	.
Business enterprise	65	33	10	13,947	775	21	14,851
Higher education	.	.	.	.	3,302	.	3,302
Private non-profit organizations	.	.	.	.	631	40	671
Foreign	.	.	0 s	2,113	126	13	2,252
<b>2005 Natural sciences</b>							
<b>Total</b>	<b>2,289</b>	<b>252</b>	<b>23</b>	<b>15,638</b>	<b>7,627</b>	<b>139</b>	<b>25,968</b>
Federal government	2,207	4	1	323	2,126	40	4,700
Provincial governments	9	219	12	90	779	26	1,135
Provincial research organizations	.	.	0 s	.	.	.	0 s
Business enterprise	73	30	10	12,899	774	21	13,807
Higher education	.	.	.	.	3,229	.	3,229
Private non-profit organizations	.	.	.	.	603	35	638
Foreign	.	.	0 s	2,327	116	17	2,460
<b>2004 Natural sciences</b>							
<b>Total</b>	<b>1,965</b>	<b>241</b>	<b>25</b>	<b>15,144</b>	<b>7,280</b>	<b>99</b>	<b>24,753</b>
Federal government	1,893	2	1	271	1,960	11	4,138
Provincial governments	9	212	14	59	831	14	1,139
Provincial research organizations	.	.	0 s	.	.	.	0 s
Business enterprise	63	26	10	12,535	728	12	13,374
Higher education	.	.	.	.	3,110	.	3,110
Private non-profit organizations	.	.	.	.	556	48	604
Foreign	.	.	0 s	2,280	96	13	2,388

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-1**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Newfoundland and Labrador**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>17</b>	..	..	<b>95</b>	<b>199</b>	<b>311</b>
Federal government	16	..	..	8	30	<b>54</b>
Provincial governments	0 s	..	..	1	31	<b>32</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	69	41	<b>111</b>
Higher education	..	..	..	..	94	<b>94</b>
Private non-profit organizations	..	..	..	..	1	<b>1</b>
Foreign	..	..	..	17	2	<b>19</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>19</b>	..	..	<b>75</b>	<b>155</b>	<b>250</b>
Federal government	19	..	..	9	36	<b>64</b>
Provincial governments	0 s	..	..	1	21	<b>22</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	49	17	<b>66</b>
Higher education	..	..	..	..	79	<b>79</b>
Private non-profit organizations	..	..	..	..	4	<b>4</b>
Foreign	..	..	..	15	..	<b>15</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>22</b>	..	..	<b>66</b>	<b>124</b>	<b>213</b>
Federal government	22	..	..	11	26	<b>58</b>
Provincial governments	0 s	..	..	1	2	<b>3</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	48	25	<b>73</b>
Higher education	..	..	..	..	70	<b>70</b>
Private non-profit organizations	..	..	..	..	1	<b>1</b>
Foreign	..	..	..	7	..	<b>7</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>25</b>	..	..	<b>87</b>	<b>116</b>	<b>228</b>
Federal government	24	..	..	8	27	<b>59</b>
Provincial governments	0 s	..	..	1	3	<b>5</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	69	23	<b>93</b>
Higher education	..	..	..	..	60	<b>60</b>
Private non-profit organizations	..	..	..	..	1	<b>1</b>
Foreign	..	..	..	8	1	<b>9</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>19</b>	<b>5</b>	..	<b>90</b>	<b>109</b>	<b>222</b>
Federal government	19	..	..	4	28	<b>51</b>
Provincial governments	0 s	5	..	0 s	6	<b>11</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	73	17	<b>91</b>
Higher education	..	..	..	..	54	<b>54</b>
Private non-profit organizations	..	..	..	..	2	<b>2</b>
Foreign	..	..	..	12	1	<b>13</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-2**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Prince Edward Island**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>12</b>	<b>2</b>	..	<b>24</b>	<b>17</b>	<b>55</b>
Federal government	12	2	..	3	8	23
Provincial governments	0 s	2	..	0 s	1	4
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	20	1	22
Higher education	..	..	..	..	6	6
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>13</b>	<b>2</b>	..	<b>13</b>	<b>26</b>	<b>53</b>
Federal government	12	2	..	1	8	21
Provincial governments	..	2	..	0 s	1	3
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	12	2	14
Higher education	..	..	..	..	15	15
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>12</b>	<b>2</b>	..	<b>12</b>	<b>30</b>	<b>57</b>
Federal government	12	2	..	2	10	24
Provincial governments	0 s	2	..	0 s	2	4
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	10	1	11
Higher education	..	..	..	..	16	16
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	..	0 s
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>15</b>	..	..	<b>13</b>	<b>29</b>	<b>57</b>
Federal government	15	..	..	2	9	26
Provincial governments	0 s	..	..	0 s	1	1
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	10	1	11
Higher education	..	..	..	..	17	17
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	0 s	0 s	0 s
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>14</b>	..	..	<b>15</b>	<b>25</b>	<b>54</b>
Federal government	13	..	..	0 s	8	21
Provincial governments	0 s	..	..	0 s	1	2
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	..	14	2	15
Higher education	..	..	..	..	14	14
Private non-profit organizations	..	..	..	..	0 s	0 s
Foreign	..	..	..	1	..	1

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-3**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Nova Scotia**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>48</b>	..	..	<b>81</b>	<b>281</b>	<b>410</b>
Federal government	47	..	..	4	83	135
Provincial governments	0 s	..	..	2	11	13
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	66	42	108
Higher education	.	..	..	.	134	134
Private non-profit organizations	.	..	..	.	11	11
Foreign	.	..	..	9	1	10
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>52</b>	..	..	<b>82</b>	<b>285</b>	<b>419</b>
Federal government	51	..	..	4	84	139
Provincial governments	0 s	..	..	2	10	11
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	70	44	115
Higher education	.	..	..	.	131	131
Private non-profit organizations	.	..	..	.	16	16
Foreign	.	..	..	6	1	7
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>67</b>	..	..	<b>89</b>	<b>286</b>	<b>442</b>
Federal government	65	..	..	5	86	157
Provincial governments	0 s	..	..	2	8	10
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	74	39	114
Higher education	.	..	..	.	130	130
Private non-profit organizations	.	..	..	.	22	22
Foreign	.	..	..	7	1	8
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>67</b>	..	..	<b>110</b>	<b>258</b>	<b>435</b>
Federal government	66	..	..	7	76	149
Provincial governments	0 s	..	..	2	7	8
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	94	32	127
Higher education	.	..	..	.	122	122
Private non-profit organizations	.	..	..	.	21	21
Foreign	.	..	..	7	1	8
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>77</b>	..	..	<b>105</b>	<b>262</b>	<b>444</b>
Federal government	76	..	..	2	74	152
Provincial governments	0 s	..	..	1	6	7
Provincial research organizations	.	..	..	.	.	..
Business enterprise	1	..	..	85	37	123
Higher education	.	..	..	.	120	120
Private non-profit organizations	.	..	..	.	23	23
Foreign	.	..	..	18	0 s	18

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-4**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — New Brunswick**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>34</b>	..	<b>3</b>	<b>69</b>	<b>106</b>	<b>211</b>
Federal government	34	..	0 s	8	27	<b>69</b>
Provincial governments	0 s	..	0 s	1	4	<b>6</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	0 s	..	2	57	5	<b>65</b>
Higher education	..	..	..	..	61	<b>61</b>
Private non-profit organizations	..	..	0 s	..	9	<b>9</b>
Foreign	..	..	0 s	2	0 s	<b>2</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>35</b>	..	<b>3</b>	<b>98</b>	<b>110</b>	<b>246</b>
Federal government	34	..	0 s	8	29	<b>71</b>
Provincial governments	0 s	..	0 s	2	3	<b>5</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	87	7	<b>97</b>
Higher education	..	..	..	..	60	<b>60</b>
Private non-profit organizations	..	..	0 s	..	12	<b>12</b>
Foreign	..	..	0 s	1	0 s	<b>1</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>33</b>	..	<b>3</b>	<b>101</b>	<b>105</b>	<b>242</b>
Federal government	32	..	0 s	5	30	<b>67</b>
Provincial governments	0 s	..	0 s	0 s	5	<b>5</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	95	6	<b>103</b>
Higher education	..	..	..	..	56	<b>56</b>
Private non-profit organizations	..	..	0 s	..	9	<b>9</b>
Foreign	..	..	0 s	1	0 s	<b>1</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>36</b>	<b>7</b>	<b>2</b>	<b>127</b>	<b>108</b>	<b>280</b>
Federal government	35	..	0 s	5	33	<b>73</b>
Provincial governments	0 s	7	0 s	1	4	<b>12</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	2	120	9	<b>132</b>
Higher education	..	..	..	..	57	<b>57</b>
Private non-profit organizations	..	..	0 s	..	2	<b>2</b>
Foreign	..	..	0 s	1	2	<b>4</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>36</b>	<b>9</b>	<b>2</b>	<b>121</b>	<b>103</b>	<b>269</b>
Federal government	35	..	0 s	1	28	<b>64</b>
Provincial governments	0 s	9	0 s	0 s	4	<b>13</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	1	117	4	<b>124</b>
Higher education	..	..	..	..	54	<b>54</b>
Private non-profit organizations	..	..	0 s	..	9	<b>9</b>
Foreign	..	..	0 s	1	3	<b>5</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-5**  
**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Quebec**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>258</b>	<b>57</b>	<b>12</b>	<b>4,692</b>	<b>2,461</b>	<b>7,480</b>
Federal government	251	.	0 s	138	688	1,076
Provincial governments	1	57	6	169	309	541
Provincial research organizations	.	.	..	.	.	..
Business enterprise	6	..	6	3,944	225	4,181
Higher education	.	.	.	.	998	998
Private non-profit organizations	.	.	..	.	210	210
Foreign	.	.	0 s	441	32	473
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>280</b>	<b>60</b>	<b>11</b>	<b>4,869</b>	<b>2,488</b>	<b>7,707</b>
Federal government	269	.	0 s	237	746	1,251
Provincial governments	0 s	60	8	63	331	463
Provincial research organizations	.	.	..	.	.	..
Business enterprise	10	..	3	4,118	243	4,374
Higher education	.	.	.	.	935	935
Private non-profit organizations	.	.	..	.	212	212
Foreign	.	.	0 s	451	21	472
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>288</b>	<b>66</b>	<b>11</b>	<b>4,764</b>	<b>2,236</b>	<b>7,364</b>
Federal government	276	.	0 s	193	669	1,137
Provincial governments	2	66	8	70	300	445
Provincial research organizations	.	.	..	.	.	..
Business enterprise	10	..	3	4,004	208	4,226
Higher education	.	.	.	.	854	854
Private non-profit organizations	.	.	..	.	185	185
Foreign	.	.	0 s	497	20	517
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>351</b>	<b>66</b>	<b>11</b>	<b>4,757</b>	<b>2,140</b>	<b>7,325</b>
Federal government	338	.	0 s	113	665	1,117
Provincial governments	2	66	8	82	281	439
Provincial research organizations	.	.	..	.	.	..
Business enterprise	12	..	3	4,041	200	4,255
Higher education	.	.	.	.	793	793
Private non-profit organizations	.	.	..	.	180	180
Foreign	.	.	0 s	520	22	543
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>399</b>	<b>66</b>	<b>8</b>	<b>4,794</b>	<b>2,256</b>	<b>7,524</b>
Federal government	385	.	0 s	178	625	1,188
Provincial governments	2	66	5	35	198	307
Provincial research organizations	.	.	..	.	.	..
Business enterprise	12	..	3	4,033	239	4,287
Higher education	.	.	.	.	982	982
Private non-profit organizations	.	.	0 s	.	189	189
Foreign	.	.	0 s	548	23	572

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 6-6**  
**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Ontario**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>1,547</b>	<b>50</b>	..	<b>7,268</b>	<b>4,099</b>	<b>12,964</b>
Federal government	1,510	..	..	61	1,018	<b>2,588</b>
Provincial governments	2	50	..	92	431	<b>575</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	35	..	..	6,098	418	<b>6,551</b>
Higher education	..	..	..	..	1,688	<b>1,688</b>
Private non-profit organizations	..	..	..	..	489	<b>489</b>
Foreign	..	..	..	1,017	56	<b>1,072</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>1,655</b>	<b>47</b>	..	<b>7,569</b>	<b>3,896</b>	<b>13,166</b>
Federal government	1,600	..	..	99	1,039	<b>2,737</b>
Provincial governments	2	47	..	59	324	<b>431</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	53	..	..	6,383	402	<b>6,838</b>
Higher education	..	..	..	..	1,609	<b>1,609</b>
Private non-profit organizations	..	..	..	..	463	<b>463</b>
Foreign	..	..	..	1,028	60	<b>1,088</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>1,933</b>	<b>49</b>	..	<b>7,193</b>	<b>3,630</b>	<b>12,805</b>
Federal government	1,881	..	..	104	1,012	<b>2,996</b>
Provincial governments	2	49	..	54	308	<b>413</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	50	..	..	5,975	339	<b>6,364</b>
Higher education	..	..	..	..	1,513	<b>1,513</b>
Private non-profit organizations	..	..	..	..	398	<b>398</b>
Foreign	..	..	..	1,060	60	<b>1,120</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>1,640</b>	<b>46</b>	..	<b>7,384</b>	<b>3,626</b>	<b>12,696</b>
Federal government	1,587	..	..	118	970	<b>2,674</b>
Provincial governments	2	46	..	31	287	<b>366</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	50	..	..	6,081	426	<b>6,557</b>
Higher education	..	..	..	..	1,543	<b>1,543</b>
Private non-profit organizations	..	..	..	..	339	<b>339</b>
Foreign	..	..	..	1,154	61	<b>1,215</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>1,473</b>	<b>56</b>	..	<b>7,883</b>	<b>3,667</b>	<b>13,080</b>
Federal government	1,421	..	..	90	916	<b>2,427</b>
Provincial governments	6	56	..	9	318	<b>390</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	46	..	..	6,687	395	<b>7,128</b>
Higher education	..	..	..	..	1,628	<b>1,628</b>
Private non-profit organizations	..	..	..	..	355	<b>355</b>
Foreign	..	..	..	1,097	54	<b>1,151</b>

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 6-7**  
**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Manitoba**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>107</b>	<b>5</b>	..	<b>215</b>	<b>240</b>	<b>568</b>
Federal government	107			2	67	<b>176</b>
Provincial governments	0 s	5	..	2	18	<b>25</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	0 s	.	..	187	10	<b>197</b>
Higher education	.	.	.	.	113	<b>113</b>
Private non-profit organizations	.	.	.	.	23	<b>23</b>
Foreign	.	.	.	24	9	<b>34</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>99</b>	<b>6</b>	..	<b>196</b>	<b>257</b>	<b>558</b>
Federal government	97			3	66	<b>166</b>
Provincial governments	0 s	6	..	2	21	<b>28</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	182	19	<b>202</b>
Higher education	.	.	.	.	115	<b>115</b>
Private non-profit organizations	.	.	.	.	34	<b>34</b>
Foreign	.	.	.	8	4	<b>12</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>102</b>	<b>6</b>	..	<b>224</b>	<b>266</b>	<b>597</b>
Federal government	101			4	66	<b>171</b>
Provincial governments	0 s	6	..	1	24	<b>31</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	197	28	<b>227</b>
Higher education	.	.	.	.	116	<b>116</b>
Private non-profit organizations	.	.	.	.	14	<b>14</b>
Foreign	.	.	.	22	18	<b>39</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>112</b>	<b>6</b>	..	<b>209</b>	<b>250</b>	<b>576</b>
Federal government	111			1	67	<b>179</b>
Provincial governments	0 s	6	..	1	19	<b>26</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	201	16	<b>218</b>
Higher education	.	.	.	.	112	<b>112</b>
Private non-profit organizations	.	.	.	.	27	<b>27</b>
Foreign	.	.	.	6	9	<b>14</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>85</b>	<b>4</b>	..	<b>182</b>	<b>242</b>	<b>512</b>
Federal government	84			5	61	<b>149</b>
Provincial governments	0 s	4	..	0 s	14	<b>19</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	1	.	..	163	15	<b>179</b>
Higher education	.	.	.	.	103	<b>103</b>
Private non-profit organizations	.	.	.	.	44	<b>44</b>
Foreign	.	.	.	13	4	<b>17</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-8**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Saskatchewan**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>94</b>	<b>4</b>	<b>18</b>	<b>188</b>	<b>213</b>	<b>518</b>
Federal government	93	0 s	0 s	8	59	<b>161</b>
Provincial governments	0 s	4	5	5	18	<b>31</b>
Provincial research organizations	.	.	5	.	.	<b>5</b>
Business enterprise	0 s	.	7	174	18	<b>199</b>
Higher education	.	.	.	.	109	<b>109</b>
Private non-profit organizations	.	.	0 s	.	9	<b>9</b>
Foreign	.	.	1	2	0 s	<b>3</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>63</b>	<b>4</b>	<b>16</b>	<b>193</b>	<b>234</b>	<b>509</b>
Federal government	61	0 s	0 s	8	64	<b>133</b>
Provincial governments	0 s	4	6	3	21	<b>34</b>
Provincial research organizations	.	.	4	.	.	<b>4</b>
Business enterprise	2	.	5	180	18	<b>205</b>
Higher education	.	.	.	.	114	<b>114</b>
Private non-profit organizations	.	.	0 s	.	16	<b>16</b>
Foreign	.	.	0 s	2	1	<b>3</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>67</b>	<b>20</b>	<b>19</b>	<b>162</b>	<b>271</b>	<b>540</b>
Federal government	65	0 s	1	3	74	<b>144</b>
Provincial governments	0 s	20	4	4	27	<b>56</b>
Provincial research organizations	.	.	5	.	.	<b>5</b>
Business enterprise	2	.	8	143	10	<b>163</b>
Higher education	.	.	.	.	122	<b>122</b>
Private non-profit organizations	.	.	0 s	.	38	<b>38</b>
Foreign	.	.	0 s	12	1	<b>13</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>72</b>	<b>30</b>	<b>18</b>	<b>155</b>	<b>252</b>	<b>526</b>
Federal government	70	0 s	1	3	87	<b>160</b>
Provincial governments	0 s	30	3	3	26	<b>62</b>
Provincial research organizations	.	.	5	.	.	<b>5</b>
Business enterprise	2	.	9	143	10	<b>164</b>
Higher education	.	.	.	.	114	<b>114</b>
Private non-profit organizations	.	.	0 s	.	13	<b>13</b>
Foreign	.	.	0 s	6	1	<b>7</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>64</b>	<b>4</b>	<b>12</b>	<b>146</b>	<b>251</b>	<b>477</b>
Federal government	62	0 s	0 s	2	70	<b>134</b>
Provincial governments	0 s	4	4	1	36	<b>45</b>
Provincial research organizations	.	.	.	.	.	<b>..</b>
Business enterprise	2	.	7	139	15	<b>164</b>
Higher education	.	.	.	.	110	<b>110</b>
Private non-profit organizations	.	.	0 s	.	20	<b>20</b>
Foreign	.	.	0 s	3	1	<b>5</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-9**  
**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Alberta**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>103</b>	<b>138</b>	..	<b>1,951</b>	<b>1,042</b>	<b>3,235</b>
Federal government	102	..	..	28	252	382
Provincial governments	0 s	138	..	8	155	302
Provincial research organizations	..	..	..	..	..	..
Business enterprise	1	..	..	1,877	117	1,995
Higher education	..	..	..	..	409	409
Private non-profit organizations	..	..	..	..	103	103
Foreign	..	..	..	38	6	44
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>101</b>	<b>128</b>	..	<b>1,809</b>	<b>1,020</b>	<b>3,057</b>
Federal government	99	..	..	26	248	372
Provincial governments	0 s	128	..	10	188	326
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	..	..	1,733	94	1,829
Higher education	..	..	..	..	402	402
Private non-profit organizations	..	..	..	..	80	80
Foreign	..	..	..	40	10	49
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>105</b>	<b>122</b>	..	<b>1,530</b>	<b>1,002</b>	<b>2,759</b>
Federal government	103	6	..	17	247	373
Provincial governments	0 s	63	..	11	189	263
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	53	..	1,466	81	1,602
Higher education	..	..	..	..	394	394
Private non-profit organizations	..	..	..	..	82	82
Foreign	..	..	..	36	10	45
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>108</b>	<b>137</b>	..	<b>1,571</b>	<b>961</b>	<b>2,777</b>
Federal government	106	1	..	9	220	337
Provincial governments	0 s	88	..	10	197	295
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	47	..	1,478	81	1,608
Higher education	..	..	..	..	389	389
Private non-profit organizations	..	..	..	..	71	71
Foreign	..	..	..	74	4	78
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>126</b>	<b>150</b>	..	<b>1,618</b>	<b>908</b>	<b>2,803</b>
Federal government	124	2	..	4	221	351
Provincial governments	0 s	108	..	18	193	319
Provincial research organizations	..	..	..	..	..	..
Business enterprise	2	40	..	1,522	82	1,646
Higher education	..	..	..	..	345	345
Private non-profit organizations	..	..	..	..	63	63
Foreign	..	..	..	74	6	80

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-10**  
**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — British Columbia**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>93</b>	<b>21</b>	..	<b>1,563</b>	<b>996</b>	<b>2,673</b>
Federal government	91			92	339	<b>523</b>
Provincial governments	0 s	21	..	11	94	<b>126</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	2	..	..	1,285	60	<b>1,346</b>
Higher education	.	.	.	.	382	<b>382</b>
Private non-profit organizations	.	.	.	.	100	<b>100</b>
Foreign	.	.	.	175	21	<b>196</b>
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>101</b>	<b>15</b>	..	<b>1,639</b>	<b>976</b>	<b>2,731</b>
Federal government	98			53	328	<b>479</b>
Provincial governments	0 s	15	..	15	87	<b>117</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,370	74	<b>1,447</b>
Higher education	.	.	.	.	371	<b>371</b>
Private non-profit organizations	.	.	.	.	87	<b>87</b>
Foreign	.	.	.	200	30	<b>230</b>
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>92</b>	<b>17</b>	..	<b>1,658</b>	<b>999</b>	<b>2,766</b>
Federal government	89			84	336	<b>509</b>
Provincial governments	0 s	17	..	20	89	<b>127</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,344	65	<b>1,411</b>
Higher education	.	.	.	.	379	<b>379</b>
Private non-profit organizations	.	.	.	.	97	<b>97</b>
Foreign	.	.	.	210	32	<b>243</b>
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>115</b>	<b>24</b>	..	<b>1,620</b>	<b>901</b>	<b>2,659</b>
Federal government	111			38	299	<b>448</b>
Provincial governments	0 s	24	..	17	91	<b>132</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,340	56	<b>1,399</b>
Higher education	.	.	.	.	359	<b>359</b>
Private non-profit organizations	.	.	.	.	77	<b>77</b>
Foreign	.	.	.	226	19	<b>245</b>
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>93</b>	<b>32</b>	..	<b>1,685</b>	<b>891</b>	<b>2,701</b>
Federal government	89			32	312	<b>434</b>
Provincial governments	0 s	32	..	6	107	<b>145</b>
Provincial research organizations	.	.	..	.	.	..
Business enterprise	3	..	..	1,334	50	<b>1,386</b>
Higher education	.	.	.	.	332	<b>332</b>
Private non-profit organizations	.	.	.	.	68	<b>68</b>
Foreign	.	.	.	313	23	<b>336</b>

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 6-11**

**Provincial and territorial gross domestic expenditures on research and development, in the natural sciences and engineering — Yukon, Northwest Territories and Nunavut**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Natural sciences</b>						
<b>Total</b>	<b>2</b>	.	<b>3</b>	<b>7</b>	..	<b>11</b>
Federal government	2	.	0 s	..	..	2
Provincial governments	0 s	.	2	1	..	2
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	6	..	6
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	0 s	..	..	0 s
Foreign	.	.	..	..	..	..
<b>2011 Natural sciences</b>						
<b>Total</b>	<b>2</b>	.	<b>3</b>	<b>4</b>	..	<b>9</b>
Federal government	2	.	0 s	..	..	3
Provincial governments	0 s	.	2	0 s	..	2
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	4	..	4
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	0 s	..	..	0 s
Foreign	.	.	..	0 s	..	0 s
<b>2010 Natural sciences</b>						
<b>Total</b>	<b>6</b>	.	<b>2</b>	<b>5</b>	..	<b>13</b>
Federal government	6	.	1	..	..	6
Provincial governments	0 s	.	2	0 s	..	2
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	5	..	5
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	..	..	..	..
Foreign	.	.	0 s	0 s	..	0 s
<b>2009 Natural sciences</b>						
<b>Total</b>	<b>5</b>	.	<b>1</b>	<b>6</b>	..	<b>12</b>
Federal government	5	.	1	..	..	6
Provincial governments	0 s	.	0 s	0 s	..	0 s
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	0 s	5	..	6
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	..	..	..	..
Foreign	.	.	..	0 s	..	0 s
<b>2008 Natural sciences</b>						
<b>Total</b>	<b>4</b>	.	<b>16</b>	<b>6</b>	..	<b>26</b>
Federal government	3	.	3	..	..	6
Provincial governments	0 s	.	1	..	..	1
Provincial research organizations	.	.	..	..	..	..
Business enterprise	0 s	.	11	6	..	17
Higher education	.	.	..	..	..	..
Private non-profit organizations	.	.	1	..	..	1
Foreign	.	.	0 s	1	..	1

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 7**

**Gross domestic expenditures on research and development, in the social sciences and humanities, Canada**

Funding sector	Performing sector						<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations		
millions of dollars								
<b>2014 Social sciences</b>								
<b>Total</b>	<b>241</b>	<b>28</b>	..	..	<b>2,500</b>	<b>10</b>	<b>2,779</b>	
Federal government	241	..	..	..	528	1	769	
Provincial governments	..	28	..	..	274	1	303	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	45	0 s	45	
Higher education	..	..	..	..	1,455	..	1,455	
Private non-profit organizations	..	..	..	..	198	7	205	
Foreign	..	..	..	..	..	1	1	
<b>2013 P Social sciences</b>								
<b>Total</b>	<b>261</b>	<b>30</b>	..	..	<b>2,476</b>	<b>9</b>	<b>2,776</b>	
Federal government	261	..	..	..	523	1	785	
Provincial governments	..	30	..	..	271	1	302	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	45	0 s	45	
Higher education	..	..	..	..	1,441	..	1,441	
Private non-profit organizations	..	..	..	..	196	6	202	
Foreign	..	..	..	..	..	1	1	
<b>2012 P Social sciences</b>								
<b>Total</b>	<b>240</b>	<b>35</b>	..	..	<b>2,446</b>	<b>10</b>	<b>2,730</b>	
Federal government	240	..	..	..	515	1	756	
Provincial governments	..	35	..	..	268	1	304	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	45	0 s	45	
Higher education	..	..	..	..	1,424	..	1,424	
Private non-profit organizations	..	..	..	..	194	7	201	
Foreign	..	..	..	..	..	1	1	
<b>2011 Social sciences</b>								
<b>Total</b>	<b>229</b>	<b>40</b>	..	..	<b>2,385</b>	<b>5</b>	<b>2,659</b>	
Federal government	229	..	..	..	519	1	749	
Provincial governments	..	40	..	..	251	1	292	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	49	0 s	49	
Higher education	..	..	..	..	1,362	..	1,362	
Private non-profit organizations	..	..	..	..	204	2	206	
Foreign	..	..	..	..	..	1	1	
<b>2010 r Social sciences</b>								
<b>Total</b>	<b>280</b>	<b>42</b>	..	..	<b>2,299</b>	<b>9</b>	<b>2,630</b>	
Federal government	280	..	..	..	518	1	800	
Provincial governments	..	42	..	..	239	3	284	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	39	0 s	39	
Higher education	..	..	..	..	1,321	..	1,321	
Private non-profit organizations	..	..	..	..	183	3	185	
Foreign	..	..	..	..	..	2	2	
<b>2009 r Social sciences</b>								
<b>Total</b>	<b>216</b>	<b>38</b>	..	..	<b>2,177</b>	<b>8</b>	<b>2,439</b>	
Federal government	216	..	..	..	480	2	698	
Provincial governments	..	38	..	..	229	1	268	
Provincial research organizations	..	..	..	..	..	..	..	
Business enterprise	..	..	..	..	42	0 s	42	
Higher education	..	..	..	..	1,257	..	1,257	
Private non-profit organizations	..	..	..	..	169	4	173	
Foreign	..	..	..	..	..	1	1	

**Table 7 – continued**

**Gross domestic expenditures on research and development, in the social sciences and humanities, Canada**

Funding sector	Performing sector						<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	
millions of dollars							
<b>2008 r Social sciences</b>							
<b>Total</b>	<b>211</b>	<b>37</b>	..	..	<b>2,212</b>	<b>10</b>	<b>2,470</b>
Federal government	211	..	..	..	469	2	682
Provincial governments	..	37	..	..	221	1	259
Provincial research organizations	..	..	..	..	..	..	..
Business enterprise	..	..	..	..	37	0s	37
Higher education	..	..	..	..	1,311	..	1,311
Private non-profit organizations	..	..	..	..	174	8	182
Foreign	..	..	..	..	..	..	..
<b>2007 r Social sciences</b>							
<b>Total</b>	<b>172</b>	<b>34</b>	..	..	<b>2,062</b>	<b>14</b>	<b>2,282</b>
Federal government	172	..	..	..	448	1	621
Provincial governments	..	34	..	..	207	2	243
Provincial research organizations	..	..	..	..	..	..	..
Business enterprise	..	..	..	..	37	0s	37
Higher education	..	..	..	..	1,206	..	1,206
Private non-profit organizations	..	..	..	..	165	11	175
Foreign	..	..	..	..	..	0s	0s
<b>2006 Social sciences</b>							
<b>Total</b>	<b>156</b>	<b>31</b>	..	..	<b>1,911</b>	<b>15</b>	<b>2,113</b>
Federal government	156	..	..	..	401	1	559
Provincial governments	..	31	..	..	199	2	232
Provincial research organizations	..	..	..	..	..	..	..
Business enterprise	..	..	..	..	33	0s	33
Higher education	..	..	..	..	1,133	..	1,133
Private non-profit organizations	..	..	..	..	145	11	156
Foreign	..	..	..	..	..	..	..
<b>2005 Social sciences</b>							
<b>Total</b>	<b>124</b>	<b>28</b>	..	..	<b>1,891</b>	<b>10</b>	<b>2,054</b>
Federal government	124	..	..	..	416	2	543
Provincial governments	..	28	..	..	195	2	224
Provincial research organizations	..	..	..	..	..	..	..
Business enterprise	..	..	..	..	30	0s	30
Higher education	..	..	..	..	1,111	..	1,111
Private non-profit organizations	..	..	..	..	139	7	146
Foreign	..	..	..	..	..	..	..
<b>2004 Social sciences</b>							
<b>Total</b>	<b>118</b>	<b>24</b>	..	..	<b>1,778</b>	<b>5</b>	<b>1,926</b>
Federal government	118	..	..	..	377	1	497
Provincial governments	..	24	..	..	208	1	233
Provincial research organizations	..	..	..	..	..	..	..
Business enterprise	..	..	..	..	27	1	28
Higher education	..	..	..	..	1,037	..	1,037
Private non-profit organizations	..	..	..	..	129	2	131
Foreign	..	..	..	..	..	0s	0s

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-1**  
**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Newfoundland and Labrador**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	..	..	..	..	53	53	
Federal government	..	..	..	..	11	11	
Provincial governments	..	..	..	..	8	8	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	32	32	
Private non-profit organizations	..	..	..	..	2	2	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	..	..	..	..	56	56	
Federal government	..	..	..	..	11	11	
Provincial governments	..	..	..	..	5	5	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	32	32	
Private non-profit organizations	..	..	..	..	8	8	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	..	..	..	..	40	40	
Federal government	..	..	..	..	9	9	
Provincial governments	..	..	..	..	1	1	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	28	28	
Private non-profit organizations	..	..	..	..	3	3	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	..	..	..	..	36	36	
Federal government	..	..	..	..	8	8	
Provincial governments	..	..	..	..	1	1	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	24	24	
Private non-profit organizations	..	..	..	..	3	3	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	..	0 \$	..	..	37	37	
Federal government	..	..	..	..	8	8	
Provincial governments	..	0 \$	..	..	2	2	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	23	23	
Private non-profit organizations	..	..	..	..	4	4	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-2**

**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Prince Edward Island**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Social sciences</b>						
<b>Total</b>	..	0 s	..	..	8	8
Federal government	..	..	..	..	4	4
Provincial governments	..	0 s	..	..	0 s	1
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	3	3
Private non-profit organizations	..	..	..	..	0 s	0 s
Foreign	..	..	..	..	..	..
<b>2011 Social sciences</b>						
<b>Total</b>	..	0 s	..	..	13	13
Federal government	..	..	..	..	4	4
Provincial governments	..	0 s	..	..	0 s	0 s
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	8	8
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	..	..	..
<b>2010 Social sciences</b>						
<b>Total</b>	0 s	0 s	..	..	12	12
Federal government	0 s	..	..	..	4	4
Provincial governments	..	0 s	..	..	0 s	1
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	7	7
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	..	..	..
<b>2009 Social sciences</b>						
<b>Total</b>	..	..	..	..	12	12
Federal government	..	..	..	..	4	4
Provincial governments	..	..	..	..	0 s	0 s
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	8	8
Private non-profit organizations	..	..	..	..	1	1
Foreign	..	..	..	..	..	..
<b>2008 Social sciences</b>						
<b>Total</b>	..	..	..	..	12	12
Federal government	..	..	..	..	4	4
Provincial governments	..	..	..	..	0 s	0 s
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	7	7
Private non-profit organizations	..	..	..	..	0 s	0 s
Foreign	..	..	..	..	..	..

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-3**

**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Nova Scotia**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	<b>93</b>	<b>93</b>	
Federal government	0 s	..	..	..	22	<b>22</b>	
Provincial governments	..	..	..	..	3	3	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	66	<b>66</b>	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	<b>84</b>	<b>84</b>	
Federal government	0 s	..	..	..	18	<b>18</b>	
Provincial governments	..	..	..	..	2	2	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	61	<b>61</b>	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	<b>2</b>	..	..	..	<b>83</b>	<b>85</b>	
Federal government	2	..	..	..	19	<b>21</b>	
Provincial governments	..	..	..	..	2	2	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	60	<b>60</b>	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	<b>85</b>	<b>85</b>	
Federal government	0 s	..	..	..	19	<b>19</b>	
Provincial governments	..	..	..	..	2	2	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	63	<b>63</b>	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	<b>81</b>	<b>81</b>	
Federal government	0 s	..	..	..	19	<b>19</b>	
Provincial governments	..	..	..	..	2	2	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	58	<b>58</b>	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-4**  
**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — New Brunswick**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	..	..	..	..	51	51	
Federal government	..	..	..	..	9	9	
Provincial governments	..	..	..	..	1	1	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	40	40	
Private non-profit organizations	..	..	..	..	0 s	0 s	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	0 s	..	..	..	47	47	
Federal government	0 s	..	..	..	8	8	
Provincial governments	..	..	..	..	1	1	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	37	37	
Private non-profit organizations	..	..	..	..	1	1	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	3	..	..	..	48	50	
Federal government	3	..	..	..	9	11	
Provincial governments	..	..	..	..	1	1	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	38	38	
Private non-profit organizations	..	..	..	..	0 s	0 s	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	1	4	..	..	50	55	
Federal government	1	..	..	..	10	11	
Provincial governments	..	4	..	..	1	5	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	38	38	
Private non-profit organizations	..	..	..	..	0 s	0 s	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	1	3	..	..	47	51	
Federal government	1	..	..	..	9	10	
Provincial governments	..	3	..	..	1	4	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	36	36	
Private non-profit organizations	..	..	..	..	0 s	0 s	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-5  
Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Quebec**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Social sciences</b>						
<b>Total</b>	<b>15</b>	<b>25</b>	..	..	<b>603</b>	<b>642</b>
Federal government	15	..	..	..	125	139
Provincial governments	..	25	..	..	77	102
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	20	20
Higher education	..	..	..	..	321	321
Private non-profit organizations	..	..	..	..	60	60
Foreign	..	..	..	..	..	..
<b>2011 Social sciences</b>						
<b>Total</b>	<b>13</b>	<b>26</b>	..	..	<b>599</b>	<b>639</b>
Federal government	13	..	..	..	133	146
Provincial governments	..	26	..	..	83	109
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	27	27
Higher education	..	..	..	..	295	295
Private non-profit organizations	..	..	..	..	62	62
Foreign	..	..	..	..	..	..
<b>2010 Social sciences</b>						
<b>Total</b>	<b>21</b>	<b>29</b>	..	..	<b>559</b>	<b>608</b>
Federal government	21	..	..	..	129	150
Provincial governments	..	29	..	..	75	104
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	18	18
Higher education	..	..	..	..	283	283
Private non-profit organizations	..	..	..	..	54	54
Foreign	..	..	..	..	..	..
<b>2009 Social sciences</b>						
<b>Total</b>	<b>15</b>	<b>22</b>	..	..	<b>482</b>	<b>519</b>
Federal government	15	..	..	..	118	134
Provincial governments	..	22	..	..	70	92
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	20	20
Higher education	..	..	..	..	225	225
Private non-profit organizations	..	..	..	..	48	48
Foreign	..	..	..	..	..	..
<b>2008 Social sciences</b>						
<b>Total</b>	<b>14</b>	<b>21</b>	..	..	<b>528</b>	<b>562</b>
Federal government	14	..	..	..	114	128
Provincial governments	..	21	..	..	50	70
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	14	14
Higher education	..	..	..	..	300	300
Private non-profit organizations	..	..	..	..	50	50
Foreign	..	..	..	..	..	..

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 8-6**  
**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Ontario**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	<b>220</b>	<b>5</b>	..	..	<b>1,015</b>	<b>1,240</b>	
Federal government	220	..	..	..	208	428	
Provincial governments	..	5	..	..	108	113	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	18	18	
Higher education	..	..	..	..	612	612	
Private non-profit organizations	..	..	..	..	68	68	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	<b>210</b>	<b>5</b>	..	..	<b>965</b>	<b>1,180</b>	
Federal government	210	..	..	..	205	415	
Provincial governments	..	5	..	..	81	86	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	17	17	
Higher education	..	..	..	..	586	586	
Private non-profit organizations	..	..	..	..	76	76	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	<b>247</b>	<b>5</b>	..	..	<b>951</b>	<b>1,203</b>	
Federal government	247	..	..	..	214	461	
Provincial governments	..	5	..	..	77	82	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	15	15	
Higher education	..	..	..	..	576	576	
Private non-profit organizations	..	..	..	..	70	70	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	<b>199</b>	<b>6</b>	..	..	<b>908</b>	<b>1,113</b>	
Federal government	199	..	..	..	186	385	
Provincial governments	..	6	..	..	72	77	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	17	17	
Higher education	..	..	..	..	566	566	
Private non-profit organizations	..	..	..	..	67	67	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	<b>196</b>	<b>6</b>	..	..	<b>914</b>	<b>1,115</b>	
Federal government	196	..	..	..	175	371	
Provincial governments	..	6	..	..	80	85	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	18	18	
Higher education	..	..	..	..	572	572	
Private non-profit organizations	..	..	..	..	70	70	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. Quebec and Ontario figures include federal government expenditures on research and development performed in the National Capital Region. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

**Table 8-7**

**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Manitoba**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	<b>4</b>	<b>2</b>	..	..	<b>84</b>	<b>90</b>	
Federal government	4	..	..	..	16	20	
Provincial governments	..	2	..	..	5	7	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	57	57	
Private non-profit organizations	..	..	..	..	6	6	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	<b>4</b>	<b>4</b>	..	..	<b>82</b>	<b>90</b>	
Federal government	4	..	..	..	14	18	
Provincial governments	..	4	..	..	5	9	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	54	54	
Private non-profit organizations	..	..	..	..	7	7	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	<b>5</b>	<b>4</b>	..	..	<b>74</b>	<b>83</b>	
Federal government	5	..	..	..	13	18	
Provincial governments	..	4	..	..	6	10	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	1	1	
Higher education	..	..	..	..	50	50	
Private non-profit organizations	..	..	..	..	3	3	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	<b>3</b>	..	..	<b>77</b>	<b>80</b>	
Federal government	0 s	..	..	..	15	15	
Provincial governments	..	3	..	..	5	7	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	51	51	
Private non-profit organizations	..	..	..	..	5	5	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	<b>5</b>	..	..	<b>70</b>	<b>76</b>	
Federal government	0 s	..	..	..	12	12	
Provincial governments	..	5	..	..	4	9	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	0 s	0 s	
Higher education	..	..	..	..	46	46	
Private non-profit organizations	..	..	..	..	9	9	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-8**  
**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Saskatchewan**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Social sciences</b>						
<b>Total</b>	..	<b>0 s</b>	..	..	<b>60</b>	<b>60</b>
Federal government	..	..	..	..	16	<b>16</b>
Provincial governments	..	<b>0 s</b>	..	..	5	<b>5</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Higher education	..	..	..	..	39	<b>39</b>
Private non-profit organizations	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Foreign	..	..	..	..	..	..
<b>2011 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>2</b>	..	..	<b>52</b>	<b>55</b>
Federal government	<b>0 s</b>	<b>2</b>	..	..	10	<b>10</b>
Provincial governments	..	2	..	..	5	<b>7</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Higher education	..	..	..	..	37	<b>37</b>
Private non-profit organizations	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Foreign	..	..	..	..	..	..
<b>2010 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>57</b>	<b>58</b>
Federal government	<b>0 s</b>	<b>1</b>	..	..	13	<b>13</b>
Provincial governments	..	1	..	..	7	<b>8</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Higher education	..	..	..	..	36	<b>36</b>
Private non-profit organizations	..	..	..	..	1	<b>1</b>
Foreign	..	..	..	..	..	..
<b>2009 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>58</b>	<b>60</b>
Federal government	<b>0 s</b>	<b>1</b>	..	..	15	<b>15</b>
Provincial governments	..	1	..	..	7	<b>8</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Higher education	..	..	..	..	36	<b>36</b>
Private non-profit organizations	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Foreign	..	..	..	..	..	..
<b>2008 Social sciences</b>						
<b>Total</b>	..	<b>1</b>	..	..	<b>63</b>	<b>64</b>
Federal government	..	..	..	..	17	<b>17</b>
Provincial governments	..	1	..	..	9	<b>10</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	<b>0 s</b>	<b>0 s</b>
Higher education	..	..	..	..	36	<b>36</b>
Private non-profit organizations	..	..	..	..	1	<b>1</b>
Foreign	..	..	..	..	..	..

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-9**

**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Alberta**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>214</b>	<b>215</b>
Federal government	0 s	..	..	..	42	42
Provincial governments	..	1	..	..	39	40
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	2	2
Higher education	..	..	..	..	109	109
Private non-profit organizations	..	..	..	..	22	22
Foreign	..	..	..	..	..	..
<b>2011 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>216</b>	<b>217</b>
Federal government	0 s	..	..	..	43	43
Provincial governments	..	1	..	..	47	48
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	2	2
Higher education	..	..	..	..	109	109
Private non-profit organizations	..	..	..	..	16	16
Foreign	..	..	..	..	..	..
<b>2010 Social sciences</b>						
<b>Total</b>	<b>2</b>	<b>1</b>	..	..	<b>219</b>	<b>222</b>
Federal government	2	..	..	..	40	42
Provincial governments	..	1	..	..	47	48
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	4	4
Higher education	..	..	..	..	110	110
Private non-profit organizations	..	..	..	..	17	17
Foreign	..	..	..	..	..	..
<b>2009 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>218</b>	<b>220</b>
Federal government	0 s	..	..	..	39	39
Provincial governments	..	1	..	..	49	50
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	1
Higher education	..	..	..	..	113	113
Private non-profit organizations	..	..	..	..	15	15
Foreign	..	..	..	..	..	..
<b>2008 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>215</b>	<b>216</b>
Federal government	0 s	0 s	..	..	47	47
Provincial governments	..	0 s	..	..	48	49
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	0 s	..	..	2	3
Higher education	..	..	..	..	104	104
Private non-profit organizations	..	..	..	..	13	13
Foreign	..	..	..	..	..	..

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-10**  
**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — British Columbia**

Funding sector	Performing sector					<b>Total</b>
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	
millions of dollars						
<b>2012 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>267</b>	<b>268</b>
Federal government	0 s	..	..	..	62	<b>62</b>
Provincial governments	..	1	..	..	24	<b>25</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	<b>1</b>
Higher education	..	..	..	..	145	<b>145</b>
Private non-profit organizations	..	..	..	..	35	<b>35</b>
Foreign	..	..	..	..	..	..
<b>2011 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>272</b>	<b>273</b>
Federal government	0 s	..	..	..	74	<b>74</b>
Provincial governments	..	1	..	..	22	<b>23</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	<b>1</b>
Higher education	..	..	..	..	143	<b>143</b>
Private non-profit organizations	..	..	..	..	32	<b>32</b>
Foreign	..	..	..	..	..	..
<b>2010 Social sciences</b>						
<b>Total</b>	<b>1</b>	<b>1</b>	..	..	<b>258</b>	<b>260</b>
Federal government	1	..	..	..	68	<b>69</b>
Provincial governments	..	1	..	..	22	<b>24</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	<b>1</b>
Higher education	..	..	..	..	134	<b>134</b>
Private non-profit organizations	..	..	..	..	32	<b>32</b>
Foreign	..	..	..	..	..	..
<b>2009 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>250</b>	<b>252</b>
Federal government	0 s	..	..	..	66	<b>66</b>
Provincial governments	..	1	..	..	23	<b>24</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	<b>1</b>
Higher education	..	..	..	..	133	<b>133</b>
Private non-profit organizations	..	..	..	..	28	<b>28</b>
Foreign	..	..	..	..	..	..
<b>2008 Social sciences</b>						
<b>Total</b>	<b>0 s</b>	<b>1</b>	..	..	<b>245</b>	<b>246</b>
Federal government	0 s	..	..	..	63	<b>63</b>
Provincial governments	..	1	..	..	27	<b>27</b>
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	1	<b>1</b>
Higher education	..	..	..	..	129	<b>129</b>
Private non-profit organizations	..	..	..	..	26	<b>26</b>
Foreign	..	..	..	..	..	..

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

**Table 8-11**

**Provincial and territorial gross domestic expenditures on research and development, in the social sciences and humanities — Yukon, Northwest Territories and Nunavut**

Funding sector	Performing sector					<b>Total</b>	
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education		
millions of dollars							
<b>2012 Social sciences</b>							
<b>Total</b>	..	..	..	..	..	..	
Federal government	..	..	..	..	..	..	
Provincial governments	..	..	..	..	..	..	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	..	..	
Private non-profit organizations	..	..	..	..	..	..	
Foreign	..	..	..	..	..	..	
<b>2011 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	..	<b>0 s</b>	
Federal government	0 s	..	..	..	..	0 s	
Provincial governments	..	..	..	..	..	..	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	..	..	
Private non-profit organizations	..	..	..	..	..	..	
Foreign	..	..	..	..	..	..	
<b>2010 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	..	<b>0 s</b>	
Federal government	0 s	..	..	..	..	0 s	
Provincial governments	..	..	..	..	..	..	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	..	..	
Private non-profit organizations	..	..	..	..	..	..	
Foreign	..	..	..	..	..	..	
<b>2009 Social sciences</b>							
<b>Total</b>	..	..	..	..	..	..	
Federal government	..	..	..	..	..	..	
Provincial governments	..	..	..	..	..	..	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	..	..	
Private non-profit organizations	..	..	..	..	..	..	
Foreign	..	..	..	..	..	..	
<b>2008 Social sciences</b>							
<b>Total</b>	<b>0 s</b>	..	..	..	..	<b>0 s</b>	
Federal government	0 s	..	..	..	..	0 s	
Provincial governments	..	..	..	..	..	..	
Provincial research organizations	..	..	..	..	..	..	
Business enterprise	..	..	..	..	..	..	
Higher education	..	..	..	..	..	..	
Private non-profit organizations	..	..	..	..	..	..	
Foreign	..	..	..	..	..	..	

**Note(s):** Components may not add to totals due to rounding. The private non-profit (PNP) sector appears in both the performing and funding sector for the gross domestic expenditure on research and development (GERD) for Canada. Commencing with reference year 2000 the data for the private non-profit sector performing research and development are not distributed by provinces or territories. The national totals of research and development by performing sector include the PNP sector. The data for the private non-profit sector funding research and development continue to be distributed by provinces and territories. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D.

# How to read the gross domestic expenditures on research and development (GERD) matrix

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**Introduction to GERD terminology** - Research and development expenditures in Canada are estimated annually by type of sector, by sources of funds and by science type using a series of surveys supplemented by modelling:

- Type of sector – Research and development (R&D) expenditures can be spent by organizations within six sectors in Canada: federal government organizations; provincial government organizations; provincial research organizations; business enterprises; higher education organizations (including universities and affiliated teaching hospitals); and private non-profit organizations.
- Sources of funds – Intramural research and development (R&D) expenditures are spent within organizations performing the R&D. The organizations can fund their own R&D or undertake R&D on behalf of other organizations. The R&D performing organizations indicate the source of funds, by sector, for their intramural R&D expenditures. In the GERD matrix, the source of funds data are shown by funding sector.
- Science type – Research and development (R&D) expenditures are spent by organizations performing in either the natural sciences and engineering or the social sciences and humanities. Only intramural R&D expenditures in the natural sciences and engineering for the provincial research organisations and business enterprises are included in the GERD.

Organizations of any type can perform and/or fund R&D at any time. GERD data include intramural R&D expenditures only. Therefore, the payments of organisations for R&D performed by other organisations, or extramural R&D expenditures, are not included.

**Definition of GERD** - Gross domestic expenditures on Research and Development (GERD) is the total value of *intramural* research and development expenditures (R&D) of all organizations in *performing* sectors. As there are two dimensions to the reporting of R&D expenditures (by performing sector and by funding sector) the data are presented in a matrix. GERD data are based on the source of funds provided by the performing sector.

**Tabular results** - The table below contains total R&D expenditures for each of the performing sectors' columns (federal government, provincial governments, provincial research organizations, business enterprises, higher education and private non-profit organizations).

Each of the performing sectors indicates the funding sectors for their intramural R&D expenditures. This is an important distinction because it explains the financial sources of performers' R&D activities. The funding sectors include all of the performing sectors and foreign sources of funds.

**Data sources used to populate the tabular results** - Federal government intramural R&D expenditures are estimated by the annual Federal Science Expenditure and Personnel survey. Intramural R&D expenditures represent spending on R&D performed by federal departments and agencies.

Prior to 1974, estimates of provincial government S&T expenditures were made using provincial estimates and Public Accounts. In 1974, Ontario, Alberta and Nova Scotia sought survey assistance from Statistics Canada with the collection of S&T spending data from their respective governments. Since then, participation by provincial governments in the collection of S&T survey data has been inconsistent. The program was cancelled after the 1977/1978 reference year. The program was reinstated in 1984 under a new business model with participating provinces funding part of the program costs. In 2010/2011 the Provincial Scientific Activities Survey participants included: Prince Edward Island, Ontario, Manitoba, Saskatchewan, Alberta and British Columbia. The program was cancelled after this release. Currently research and development expenditures of the provincial government are modelled.

The annual survey of the Research and Development Activities of Provincial Research Organizations is the source of expenditure data displayed in the column for provincial research organizations.

The business enterprise sector's R&D expenditure data is comprised of two sources of data: questionnaire data and administrative data from Canada Revenue Agency (CRA). There are two annual questionnaires: The Survey of Research and Development in Canadian Industry (RDCI); and a survey supplement, The Energy Research and Development Expenditures by Area of Technology.

An estimation model is used to populate R&D intramural expenditures for the higher education sector.

The annual survey of Research and Development in Private Non-Profit Organizations provides national R&D expenditure data for this sector.

**Reference documents** - Users interested in total R&D spending for a sector such as the federal government are referred to the intramural and extramural R&D spending published in Science Statistics (88-001-X), and Federal Scientific Activities (88-204-X).

**Tabulation notes** - Funding sector R&D expenditures shown in the GERD matrix do not equal extramural R&D spending of individual funding sectors for a number of reasons including: differences in financial years of the organisations funding the R&D and the organisations performing the R&D; the time it takes to perform the R&D; organisations sub-contracting parts of the R&D work to organisations in other sectors; payments for work that is related to the R&D but not part of the contracted R&D; differences in the costs of performing the R&D and the payments for the R&D work; and R&D performing organisations not indicating accurately their sources of funds by funding sector.

GERD data are presented separately for total sciences, for natural sciences and engineering, and for social sciences and humanities. Total sciences is the sum of natural sciences and engineering and social sciences and humanities.

GERD data presented in these matrix tables are used to compare Canada's R&D performance internationally. They are assembled based on guidelines presented in the Organisation for Economic Co-operation and Development's *Frascati Manual* (2002). For a graphical representation similar to the one shown below, see page 122 of the manual.

This table is for reference purposes only.

# Data sources and methodology

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## Definitions

Gross domestic expenditure on research and development (GERD) is a statistical series, constructed by adding together the intramural expenditures on research and development (R&D) as reported by the performing sectors. As a term used by OECD Member countries, it is defined as "total intramural expenditure on R&D performed on the national territory during a given period. GERD includes R&D performed within a country and funded from abroad but excludes payments for R&D performed abroad".<sup>1</sup> GERD is constructed by adding together the intramural expenditures of the performing sectors.

GERD is often displayed as a matrix of performing and funding sectors. The GERD and GERD matrix are fundamental to the national and international examination of R&D expenditures.

The matrix illustrates three aspects of a country's R&D effort:

- it shows how much R&D each sector performed over a 12-month period;
- it shows the amount of R&D each sector financed over a 12-month period (as indicated by the R&D performing sector); and
- it indicates the flow of funds between sectors.

The GERD is an indicator of science and technology (S&T) activities; it is appropriately used as a summary of R&D activities and the basic flow of funds. General guidelines to follow when using a summary statistical series such as the GERD, include:

- Such series provide only a summary of very complex patterns of activities. The series should, therefore, be used in conjunction with other relevant information;
- Users generally refer to R&D data with a question in mind: "Is our national university research effort declining?" "Does my firm spend a higher proportion of its funds on R&D than the average for my industry?" etc. It is, therefore, necessary to identify the basic data relevant to each question in order to know which R&D indicator is best suited to answering the question. The user should keep in mind that the data used for the R&D indicator may be accurate enough to answer one question but not another.

## Provincial and Territorial estimates of GERD

In a country as large as Canada it is useful to have a general idea of where R&D activities are located to indicate the level of scientific and technical endeavour in a particular area and to use the statistics in association with other regional data. For these reasons, an estimate of the provincial and territorial distribution of the Canadian GERD has been prepared.

The definition of GERD in a provincial and 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 (e.g., the National Capital Region) and materials and equipment will often come from another province/territory or country; these factors must be taken into consideration when using GERD as a regional indicator of S&T activity.

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1. The Measurement of Scientific and Technological Activities - Proposed Standard Practice for Surveys of Research and Experimental Development, Frascati Manual 2002. OECD, Paris, 2002, p. 121.

The funding shown is of R&D carried out in a province or territory; it is not R&D funding from a province or territory. For example, when the federal government is shown as the funder for R&D in a province, the funds are received from the central government and are to be spent on R&D in an establishment in that province. The federal government, of course, raises funds from many sources, outside of that province. Similarly, when R&D is shown as being funded by the business enterprise sector, the funds are not necessarily raised from activities within the province. Most provincial governments provide minimal funding towards federal government performance, so statistical zeros are applied.

The provincial and territorial R&D expenditures for the business enterprise sector are collected on the Research and Development in Canadian Industry Survey. This survey does not collect sources of funds by province or territory. The provincial and territorial distribution by sources of funds of the business enterprise sector R&D expenditures is derived through a modeling system, which prorates values based on reported business enterprise provincial and territorial R&D. The provincial and territorial distribution of total R&D is proportionally distributed to the reported national sources of funds.

## **Limitations of GERD**

The GERD, 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, the GERD estimates are sufficiently reliable for their main use as an aggregate indicator for science policy.

One of the most important problems relating to GERD concerns its definition. There remains some ambiguity in defining precisely what constitutes R&D or, 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 on 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 definitions by the same reporting units are at least consistent.

A second difficulty arises with regards to survey design. The people best qualified to apply the R&D definitions and classifications - scientific and technical personnel engaged in the direct management of S&T activity - rarely participate in the statistical agency's data collection process. Because the data collected are concerned not with scientific and technical content, but financial and labour inputs to achieving this content, the questionnaires tend to be addressed to and completed by financial and management staff. This is a fundamental problem of all surveys addressed to large organizations, whether they are public or private.

These two problems account for the limited amount of geographic and scientific detail in the published GERD. The amount of detail presented, for example, in the Canadian GERD as published by Statistics Canada is limited by the nature of the surveys, and the other data collection and analysis instruments. Nor is it possible to increase the amount of detail because this would require switching to new kinds of data collection instruments in a vastly expanded survey operation.

Another reason for the limited detail about sectors stems from the fact that R&D is often a secretive endeavour. Private sector companies usually want to surprise competitors with a new product. Thus the money spent on the R&D may be reported, but details about R&D projects would not. Similarly, a government department such as National Defence might report R&D expenditures but not the nature and detail of the respective R&D projects.

To summarize, the GERD serves as a general indicator of R&D activity and not as a detailed inventory of R&D projects within an organization, sector, or province. It is an estimate and as such can show trends in R&D expenditures by sector and sub-sector, by province and country, from year-to-year. In this capacity, the GERD estimates are sufficiently reliable for their main use as an aggregate indicator for science policy.

## R&D performers and funders categorized

### Sectoring

Considering that the GERD is the aggregate of the total R&D expenditures of the performing sectors, it is useful now to look at these sectors individually. Sectors are reviewed in terms of an international (OECD) framework for measuring R&D expenditures. There are four major sectors of R&D performance and five for funding:

- Government;
- Business enterprises;
- Higher education;
- Private non-profit organizations;
- Foreign (funding only).

The sectors for the GERD, as chosen and defined by the OECD, are based largely on existing United Nations classifications and in particular, the System for National Accounts (SNA). Under the general heading of "Institutional classifications", the OECD approach focuses on the characteristic properties of the performing and funding institutions. Each statistical unit is classified according to its principal economic activity and, consequently, the whole of the R&D resources of the unit classified are allocated to one sector or sub-sector.

### Government

The OECD definition of this sector is: "All departments, offices and other bodies which furnish, but normally do not sell to the community, those common services, other than higher education, which cannot otherwise be conveniently and economically provided, as well as those that administer the state and the economic and social policy of the community. (Public enterprises are included in the business enterprise sector)".<sup>2</sup>

Public enterprises such as Petro-Canada and Ontario Hydro are excluded from this sector and included in the business enterprise sector. Many non-profit organizations and bodies, however, are included in this sector if they either serve or are controlled by government, or both.

In Canada the distribution of GERD amongst the government sub-sectors is published. The sub-sectors are the federal government, the provincial governments and the provincial research organizations (PRO's). Currently Canada has seven PRO's. They are the New Brunswick Research and Productivity Council, the "Centre de recherche industrielle du Québec (CRIQ)", the Industrial Technology Centre (Manitoba), the Saskatchewan Research Council, Yukon Research Centre, the Nunavut Research Institute and the Aurora Research Institute (Northwest Territory).

### Business enterprise

This sector is composed of all firms, organizations and institutions whose primary activity is the production of goods or services for sale to the general public at a price intended approximately to cover at least the cost of production as well as non-profit institutes serving such firms. Included are government-owned enterprises such as Ontario Hydro and Canadian National Railways.

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2. Ibid., p. 62.

## Higher education

This sector is composed of all universities, colleges of technology and other institutes 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** higher education establishments.

A major source of data for the HERD estimation model is the Canadian Association of University Business Officers (CAUBO) Financial Information on Universities and Colleges (FIUC) survey. Of particular importance is sponsored research.

## Private non-profit organizations

This sector comprises private or semi-private organizations which are not established primarily with the aim of making a profit.

It consists of voluntary associations (scientific and professional societies, health-oriented groups), philanthropic foundations and research institutes supported by the associations and foundations. These kinds of institutions are usually maintained by fees, dues and donations from members and sponsors and by grants from governments and enterprises. They may also obtain revenue from the sale of their products such as publications or special studies.

Non-profit institutes and organizations excluded from this sector are those which are controlled by enterprises, government, or higher education. Such non-profit institutes and organizations are included with the respective sectors whose interests they mainly serve.

The PNP sector appears in both the performing and funding sector for the GERD for Canada. Commencing with reference year 2000, the data for the PNP sector performing research and development are not distributed by provinces, territories or the NCR. However, the national totals of research and development by performing sector include the PNP sector. The PNP sector continues to be distributed for the funding sector.

## Foreign

This sector consists of: "All institutions and individuals located outside the political borders of a country, except vehicles, ships, aircraft and space satellites operated by domestic entities and testing grounds acquired by such entities.<sup>3</sup>

This sector also includes all international organizations (except business enterprises), including facilities and operations within the country's borders. Foreign-owned subsidiaries are not included in this sector (e.g., Ford Canada is, for the purposes for measuring R&D expenditures, a domestic organization in the Canadian business enterprise sector, even though its parent company is the Ford Motor Company of the United States).

The foreign sector is included in the GERD only as a funding sector (see matrix), since by definition the GERD includes R&D performed within a country and **funded from abroad** but excludes payments made abroad for R&D. Thus, funding from the foreign sector is implicitly included in the intramural expenditures of the four performing sectors.

## Science type

### Definition of natural sciences and engineering

The natural sciences and engineering 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.

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3. Op cit., p.72.

### **Definition of social sciences and humanities**

The social sciences and humanities 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.

# Appendix I

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## National Capital Region table

**Text table A**

**Gross domestic expenditures on research and development - National Capital Region (NCR) Quebec/Ontario**

	National Capital Region		
	Quebec	Ontario	Total
	millions of dollars		
<b>Total sciences</b>			
2008	105	1,041	1,146
2009	108	1,118	1,227
2010	64	1,270	1,334
2011	75	1,179	1,254
2012	54	1,138	1,193
<b>Natural sciences and engineering</b>			
2008	93	851	944
2009	96	925	1,021
2010	53	1,033	1,085
2011	64	970	1,034
2012	45	920	965
<b>Social sciences and humanities</b>			
2008	12	191	202
2009	12	194	206
2010	12	237	249
2011	11	208	219
2012	9	218	228