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

National estimates 2000 to 2010

Provincial estimates 2004 to 2008

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Statistics Canada
Science, Innovation and Electronic Information Division

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User information

Symbols

The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
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

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Data quality, concepts and methodology

Appendix

Highlights

Gross domestic expenditures on research and development (GERD), 2000-2008 Historical, 2009, 2010 Intentions

- Total research and development (R&D) spending intentions in Canada of 29.2 billion in 2010 are down 0.6% from preliminary R&D expenditures for 2009. (Table 1-1)
- Gross domestic expenditures on R&D (GERD) in constant dollars increased from 2000 until 2006, in 2007 expenditures fell 0.4% before dropping 4.0% in 2008. Preliminary data released today indicate an increase of 0.5% for 2009. (Table 1-1)
- The business enterprise sector remains the major performer and funder of R&D activities. In 2010 business enterprises intend to perform $14.8 billion, half (51%) of total R&D performance. This represents a 2.6% decrease from 2009. Business enterprises intend to fund $13.7 billion in 2010. (Table 1-2)
- The higher education sector is the second largest R&D performer, with intended expenditures of $11.2 billion in 2010, or 38% of total R&D performance. This is a 1% increase in R&D spending over 2009. Higher education is the third largest source of funding for R&D, with 2010 intentions of $5.2 billion. (Table 1-2)
- Federal government R&D performance places third, with 2010 spending intentions increasing 4.5% over 2009 to $2.7 billion. The federal government is the second largest funding sector after the business enterprise sector, with 2010 funding intentions increasing 2.5% to $5.8 billion. (Table 1-2)
- Provincial governments (which include provincial research organizations) R&D performance intentions show a 2.3% decrease to $377 million in 2010. The provincial government funding of R&D is also anticipated to decline 0.3% in 2010 to $1.5 billion. (Table 1-2)
- The private non-profit sector continues to be the smallest R&D performer and funder. While this sector's share of R&D performance has remained below 1% since 2000, it has increased its share of R&D funding from 2.2% in 2000 to an intended 3.5% in 2010. (Table 1-2)
- The foreign sector's intentions indicate decreasing R&D funding in 2010 by 2.4% to $2.0 billion. (Table 1-2)
- In 2008 Ontario, which includes the national capital region (NCR) of Ontario, accounted for 46% of Canada's gross domestic expenditures on research and development (GERD) at $13.9 billion. Quebec, which includes the NCR of Quebec, comprised $7.9 billion, or 26% of national expenditures. Alberta and British Columbia represented 10% ($2.9 billion) and 9% ($2.8 billion) of gross domestic expenditures on R&D respectively. The remaining Prairie provinces and the Territories made up 3.7% or $1.1 billion of national GERD with the Atlantic provinces representing 3.9% or $1.2 billion. (Table 2)
- Quebec, Ontario, Alberta and British Columbia continued to lead R&D performance in 2008, with the business enterprise sector as the largest performer. In the remaining six provinces, the higher education sector was the most significant R&D performer in 2008. (Table 4-1)
- The business enterprise sector is the largest funding sector for most provinces. There are four exceptions. In Prince Edward Island and Manitoba the federal government is the leading funding sector. In Nova Scotia the higher education sector leads. In Saskatchewan, both the business enterprise sector and federal government are the largest, and equal, funders. (Table 4-2)

Analysis

Gross domestic expenditure on research and development

The 2010 release of gross domestic expenditure on research and development (GERD) in Canada represents national expenditure intentions for 2009 and 2010 and historical data from 2000. Provincial research and development (R&D) expenditures measure preliminary 2008 data and historical data from 2004.

The GERD performing sectors include government (federal, provincial and provincial research organisations), business enterprise, private non-profit, and higher education. The sectors for sources of funding data are the same as performing with the addition of the foreign sector, since payments made to R&D performed abroad are not measured.

Canada's GERD is separated into two fields of science: natural sciences and engineering, and social sciences and humanities. 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, natural sciences and engineering comprise over 90% of all R&D expenditures. In 2010, total R&D expenditures in natural sciences and engineering is anticipated to decrease 0.8% to $26.7 billion while R&D expenditures in the social sciences and humanities is anticipated to increase 1.3% to $2.5 billion.

International comparisons

The ratio of gross domestic expenditure on research and development (GERD) to gross domestic product (GDP) denotes the degree of R&D intensity of a country and is a commonly used summary statistic for international comparisons. However, this statistic should also be compared with GERD and GDP per capita values as it is influenced by a nation's economic and demographic structure, as well as the propensity to perform R&D in particular sectors.

Canada's GERD/GDP ratio for 2009 is 1.92, down from the ten year high of 2.09 attained in 2001. A lower GERD/GDP ratio indicates that R&D investments in Canada are diminishing as a percentage of total gross domestic product. (Table 1-1)

The Organisation for Economic Co-operation and Development's (OECD) publishes international statistics on R&D in its Main Science and Technology Indicators. The most recent edition (volume 2010/1, p. 25) displays comprehensive data for 2008. In that year Sweden held the highest GERD/GDP ratio among OECD member countries at 3.75, followed by Finland at 3.73. Canada's investments in R&D as a percentage of GDP in 2008 at 1.84 ranked lower than the United States at 2.77 and the OECD average of 2.33, but was higher than the 1.81 ratio for the twenty-seven countries in the European Union (EU-27).

Regional data

Regional and national GERD definitions are similar. However, R&D expenditures by province can be easily misinterpreted. The expenditures data are associated with the region of location of the R&D activities, however, caution should be used in assuming that all R&D expenditures actually occur in this location. For example, supplies and equipment may be purchased from other locations, and cross-provincial border labour mobility can occur.

Regional performing sector expenditures are assigned to the province or territory in which the performing establishment is located. Similarly, regional funding sector expenditures represents R&D funding distributed in a province or territory; it does not require the funds to be raised within the province. For instance, when the federal government is shown as funding R&D in a province, the funds are recorded in one of the performing sectors. Intramural federal funding expenditures represent federal performance conducted in the province. For example, in 2008 the federal government funded $74 million of R&D in New Brunswick (Table 6-4). Of the total $74 million in R&D funding, $36 million was performed intramurally (by federal organization(s) located in New Brunswick), $37 million was performed in New Brunswick's higher education sector and $1 million in New Brunswick's business enterprise sector.

The private non profit (PNP) sector funding and performing data for R&D appear in the GERD national data. As of reference year 2000, R&D performance data are not distributed by province or territory. However, R&D funding data for the PNP sector are distributed by province and territory. In 2008 the highest value of PNP funding, $425 million, occurred in Ontario. However, when compared to all other funding sources available for each province, PNP's share was highest in Manitoba at 9.3% (Table 4-2).

Data on the provincial distribution of R&D spending are available up to 2008. Expenditures for R&D performed by the federal government in the national capital region (NCR) are included with the provincial totals. However NCR data for Ontario and Quebec are reported separately by field of science in Appendix I. In 2008, NCR R&D expenditures in Ontario were $1.0 billion and NCR R&D expenditures in Quebec were $105 million, for a NCR R&D total of $1.1 billion (current dollars). (Appendix I)

The ratio of provincial GERD to provincial GDP in 2008 remained the highest in Quebec at 2.61 followed by a ratio of 2.37 in Ontario. However, the GERD per capita for 2008 is slightly higher in Ontario at $1,080 versus Quebec at $1,023. This reinforces the need to review more than one statistic when evaluating R&D intensity. The lowest provincial GERD to provincial GDP ratio was reported in Saskatchewan (0.81) with a GERD per capita value of $524. Comparatively, Prince Edward Island reported a higher GERD to GDP ratio at 1.38, but a lower GERD per capital value of $462. Many varying factors such as economic structure and population impact these GERD ratios differently. Correspondingly, while Alberta's GERD to GDP ratio ranks 8th among the 10 provinces at 0.99, its GERD per capita value ranks third highest at $812. (Table 2)

R&D expenditures in the social sciences and humanities rose 8% at the national level from 2007 to 2008. Ontario accounted for over half (56%) of the total increase in the social sciences and humanities field, followed by Saskatchewan (11%) and Alberta (10%). Quebec furnished 8% of the rise in this field, with the provinces of British Columbia, Manitoba, New Brunswick, Nova Scotia and Prince Edward Island making up the remainder. (Tables 10-1 to 10-11)

Related products

Selected publications from Statistics Canada

88-001-X	Science Statistics
88-202-X	Industrial Research and Development Intentions
88-204-X	Federal Scientific Activities
88-0006-F	Business Special Surveys and Technology Statistics Division Working Papers

Selected CANSIM tables from Statistics Canada

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

Selected surveys from Statistics Canada

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

Selected summary tables from Statistics Canada

- *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

Table 1-1

Gross domestic expenditures on research and development — In current dollars, in 2002 constant dollars and as a percentage of gross domestic product

	Current dollars		Gross domestic expenditure on research and development over Gross domestic product	Gross domestic product implicit price index [2]	2002 constant dollars, Gross domestic expenditure on research and development [3]
	Gross domestic expenditure on research and development	Gross domestic product [1]			
	millions of dollars		ratio	index=2002	millions of dollars
2000	20,556	1,076,577	1.91	97.8	21,018
2001	23,133	1,108,048	2.09	98.9	23,390
2002	23,536	1,152,905	2.04	100.0	23,536
2003	24,691	1,213,175	2.04	103.3	23,902
2004 r	26,679	1,290,906	2.07	106.6	25,027
2005 r	28,023	1,373,845	2.04	110.1	25,429
2006 r	29,080	1,450,405	2.00	113.0	25,734
2007 r	29,919	1,529,589	1.96	116.7	25,638
2008	29,894	1,599,608	1.87	121.4	24,625
2009 p	29,394	1,527,258	1.92	118.8	24,743
2010 p	29,222	..	..	..	..

1. CANSIM, table 380-0017
2. CANSIM, table 384-0036
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 [1]	Business enterprise	Higher education	Private non-profit organizations	Foreign	Total
	millions of dollars						
Performing sector							
2000	2,080	230	12,395	5,793	58	...	20,556
2001	2,103	276	14,266	6,424	63	...	23,133
2002	2,190	282	13,545	7,455	63	...	23,536
2003	2,083	278	14,095	8,143	92	...	24,691
2004 r	2,084	290	15,144	9,058	103	...	26,679
2005 r	2,414	303	15,638	9,518	149	...	28,023
2006 r	2,496	333	16,474	9,625	152	...	29,080
2007 r	2,532	392	16,644	10,187	164	...	29,919
2008	2,599	402	15,792	10,932	169	...	29,894
2009 p	2,573	386	15,202	11,063	171	...	29,394
2010 p	2,690	377	14,808	11,174	174	...	29,222
Funding sector							
2000	3,560	853	9,223	2,892	445	3,582	20,556
2001	4,095	1,023	11,637	2,928	536	2,915	23,133
2002	4,251	1,152	12,117	3,462	628	1,925	23,536
2003	4,526	1,354	12,427	3,589	637	2,158	24,691
2004 r	4,651	1,370	13,388	4,147	735	2,389	26,679
2005 r	5,252	1,358	13,827	4,341	784	2,460	28,023
2006 r	5,226	1,467	14,874	4,435	827	2,252	29,080
2007 r	5,483	1,454	14,923	4,574	957	2,527	29,919
2008	5,676	1,564	14,471	5,360	1,015	2,108	29,894
2009 p	5,674	1,548	13,990	5,121	1,027	2,035	29,394
2010 p	5,814	1,544	13,670	5,172	1,037	1,987	29,222

1. 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. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

Source(s): CANSIM, table 358-0001

Table 2
Provincial statistics and their relationship to gross domestic expenditures on research and development, 2008

	Provincial gross domestic product [1]		Gross domestic expenditures on research and development		Population [2]		Gross domestic expenditures on research and development	
							Ratio	Per capita
	millions of dollars	percent	millions of dollars	percent	thousands	percent	ratio	dollars
Canada [3]	**1,599,608**	**100**	**29,894**	**100**	**33,103**	**100**	**1.87**	**903**
Newfoundland and Labrador	31,671	2	278	1	507	2	0.88	548
Prince Edward Island	4,650	0	64	0	139	0	1.38	462
Nova Scotia	34,041	2	515	2	936	3	1.51	550
New Brunswick	27,376	2	300	1	746	2	1.10	402
Quebec	302,748	19	7,895	26	7,717	23	2.61	1,023
Ontario	584,460	37	13,874	46	12,852	39	2.37	1,080
Manitoba	51,048	3	567	2	1,199	4	1.11	473
Saskatchewan	65,425	4	528	2	1,008	3	0.81	524
Alberta	291,577	18	2,877	10	3,545	11	0.99	812
British Columbia	197,728	12	2,804	9	4,346	13	1.42	645

1. CANSIM, table 384-0002.
2. CANSIM, table 051-0005.
3. Includes the Yukon, Northwest Territories and Nunavut.

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 3
Provincial distribution of the gross domestic expenditures on research and development

	Canada [1]	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saska-tchewan	Alberta	British Columbia
	millions of dollars										
Research and development											
2000	20,556	138	37	362	158	5,717	10,383	393	376	1,319	1,606
2001	23,133	142	37	376	162	6,416	11,733	457	396	1,588	1,760
2002	23,536	153	31	400	211	6,745	11,376	454	435	1,715	1,949
2003	24,691	173	43	409	215	6,965	11,983	455	398	1,901	2,050
2004 r	26,679	173	41	447	227	7,244	12,956	518	425	2,262	2,263
2005 r	28,023	267	66	466	258	7,262	13,664	582	454	2,422	2,414
2006 r	29,080	264	69	502	273	7,912	13,817	562	473	2,599	2,432
2007 r	29,919	268	60	505	317	8,051	13,918	597	499	2,686	2,800
2008	29,894	278	64	515	300	7,895	13,874	567	528	2,877	2,804
2009 p	29,394	..	..	..	..	..	..	..	..	..	..
2010 p	29,222	..	..	..	..	..	..	..	..	..	..
Gross domestic product											
2000	1,076,577	13,922	3,366	24,658	20,085	224,928	440,759	34,057	33,828	144,789	131,333
2001	1,108,048	14,179	3,431	25,909	20,684	231,624	453,701	35,157	33,127	151,274	133,514
2002	1,152,905	16,457	3,701	27,082	21,169	241,448	477,763	36,559	34,343	150,594	138,193
2003	1,213,175	18,119	3,798	28,851	22,366	250,752	493,081	37,451	36,653	170,113	145,642
2004 r	1,290,906	19,407	3,983	29,853	23,672	262,761	516,106	39,748	40,796	189,743	157,675
2005 r	1,373,845	21,960	4,096	31,199	24,716	272,049	537,383	41,681	43,996	219,810	169,664
2006 r	1,450,405	26,064	4,315	31,644	25,847	282,505	560,576	45,173	45,604	238,886	182,251
2007 r	1,529,589	29,249	4,543	33,031	27,044	295,928	583,946	48,920	50,863	255,787	192,117
2008	1,599,608	31,671	4,650	34,041	27,376	302,748	584,460	51,048	65,425	291,577	197,728
2009 p	1,527,258	24,970	4,750	34,283	27,497	303,747	578,183	50,973	56,553	247,184	191,006
2010 p	..	..	..	..	..	..	..	..	..	..	..
	percent										
Canada total											
2000	100.0	0.7	0.2	1.8	0.8	27.8	50.5	1.9	1.8	6.4	7.8
2001	100.0	0.6	0.2	1.6	0.7	27.7	50.7	2.0	1.7	6.9	7.6
2002	100.0	0.7	0.1	1.7	0.9	28.7	48.3	1.9	1.8	7.3	8.3
2003	100.0	0.7	0.2	1.7	0.9	28.2	48.5	1.8	1.6	7.7	8.3
2004 r	100.0	0.6	0.2	1.7	0.9	27.2	48.6	1.9	1.6	8.5	8.5
2005 r	100.0	1.0	0.2	1.7	0.9	25.9	48.8	2.1	1.6	8.6	8.6
2006 r	100.0	0.9	0.2	1.7	0.9	27.2	47.5	1.9	1.6	8.9	8.4
2007 r	100.0	0.9	0.2	1.7	1.1	26.9	46.5	2.0	1.7	9.0	9.4
2008	100.0	0.9	0.2	1.7	1.0	26.4	46.4	1.9	1.8	9.6	9.4
2009 p	100.0	..	..	..	..	..	..	..	..	..	..
2010 p	100.0	..	..	..	..	..	..	..	..	..	..
Gross domestic product											
2000	1.9	1.0	1.1	1.5	0.8	2.5	2.4	1.2	1.1	0.9	1.2
2001	2.1	1.0	1.1	1.5	0.8	2.8	2.6	1.3	1.2	1.0	1.3
2002	2.0	0.9	0.8	1.5	1.0	2.8	2.4	1.2	1.3	1.1	1.4
2003	2.0	1.0	1.1	1.4	1.0	2.8	2.4	1.2	1.1	1.1	1.4
2004 r	2.1	0.9	1.0	1.5	1.0	2.8	2.5	1.3	1.0	1.2	1.4
2005 r	2.0	1.2	1.6	1.5	1.0	2.7	2.5	1.4	1.0	1.1	1.4
2006 r	2.0	1.0	1.6	1.6	1.1	2.8	2.5	1.2	1.0	1.1	1.3
2007 r	2.0	0.9	1.3	1.5	1.2	2.7	2.4	1.2	1.0	1.1	1.5
2008	1.9	0.9	1.4	1.5	1.1	2.6	2.4	1.1	0.8	1.0	1.4
2009 p	1.9	..	..	..	..	..	..	..	..	..	..
2010 p	..	..	..	..	..	..	..	..	..	..	..

1. Includes the Yukon, Northwest Territories and Nunavut.

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 4-1
Provincial distribution of gross domestic expenditures on research and development — By performing sector, 2008

	Canada [1]	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saska-tchewan	Alberta	British Columbia
	millions of dollars										
All sectors	**29,894**	**278**	**64**	**515**	**300**	**7,895**	**13,874**	**567**	**528**	**2,877**	**2,804**
Federal government	2,599	19	14	77	36	413	1,668	85	64	126	93
Provincial governments [2]	402	5	0	0	13	95	62	10	17	151	33
Business enterprise	15,792	108	13	94	101	4,595	7,564	160	132	1,479	1,541
Higher education	10,932	146	37	343	150	2,792	4,580	312	314	1,122	1,136
Private non-profit organizations	169	..	..	..	..	..	..	..	..	..	..
	percent										
Canada total as a percentage											
All sectors	**100.0**	**0.9**	**0.2**	**1.7**	**1.0**	**26.4**	**46.4**	**1.9**	**1.8**	**9.6**	**9.4**
Federal government	100.0	0.7	0.5	3.0	1.4	15.9	64.2	3.3	2.5	4.8	3.6
Provincial governments [2]	100.0	1.2	0.0	0.0	3.2	23.6	15.4	2.5	4.2	37.6	8.2
Business enterprise	100.0	0.7	0.1	0.6	0.6	29.1	47.9	1.0	0.8	9.4	9.8
Higher education	100.0	1.3	0.3	3.1	1.4	25.5	41.9	2.9	2.9	10.3	10.4
Private non-profit organizations	100.0	..	..	..	..	..	..	..	..	..	..
Provincial total as a percentage											
All sectors	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Federal government	8.7	6.8	21.9	15.0	12.0	5.2	12.0	15.0	12.1	4.4	3.3
Provincial governments [2]	1.3	1.8	0.0	0.0	4.3	1.2	0.4	1.8	3.2	5.2	1.2
Business enterprise	52.8	38.8	20.3	18.3	33.7	58.2	54.5	28.2	25.0	51.4	55.0
Higher education	36.6	52.5	57.8	66.6	50.0	35.4	33.0	55.0	59.5	39.0	40.5
Private non-profit organizations	0.6	..	..	..	..	..	..	..	..	..	..

1. Includes the Yukon, Northwest Territories and Nunavut.
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. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

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

Table 4-2
Provincial distribution of gross domestic expenditures on research and development — By funding sector, 2008

	Canada [1]	Newfound-land and Labrador	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saska-tchewan	Alberta	British Columbia
	millions of dollars										
All sectors	**29,894**	**278**	**64**	**515**	**300**	**7,895**	**13,874**	**567**	**528**	**2,877**	**2,804**
Federal government	5,676	56	25	172	74	1,303	2,797	161	151	397	489
Provincial governments [2]	1,564	13	2	9	17	396	475	28	55	367	170
Business enterprise	14,471	116	14	110	104	4,152	6,814	160	151	1,539	1,283
Higher education	5,360	77	22	179	91	1,289	2,199	149	146	447	461
Private non-profit organizations	1,015	6	1	25	10	239	425	53	20	76	94
Foreign	2,108	10	1	20	5	516	1,168	15	5	51	307
	percent										
Canada total as a percentage											
All sectors	**100.0**	**0.9**	**0.2**	**1.7**	**1.0**	**26.4**	**46.4**	**1.9**	**1.8**	**9.6**	**9.4**
Federal government	100.0	1.0	0.4	3.0	1.3	23.0	49.3	2.8	2.7	7.0	8.6
Provincial governments [2]	100.0	0.8	0.1	0.6	1.1	25.3	30.4	1.8	3.5	23.5	10.9
Business enterprise	100.0	0.8	0.1	0.8	0.7	28.7	47.1	1.1	1.0	10.6	8.9
Higher education	100.0	1.4	0.4	3.3	1.7	24.0	41.0	2.8	2.7	8.3	8.6
Private non-profit organizations	100.0	0.6	0.1	2.5	1.0	23.5	41.9	5.2	2.0	7.5	9.3
Foreign	100.0	0.5	0.0	0.9	0.2	24.5	55.4	0.7	0.2	2.4	14.6
Provincial total as a percentage											
All sectors	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Federal government	19.0	20.1	39.1	33.4	24.7	16.5	20.2	28.4	28.6	13.8	17.4
Provincial governments [2]	5.2	4.7	3.1	1.7	5.7	5.0	3.4	4.9	10.4	12.8	6.1
Business enterprise	48.4	41.7	21.9	21.4	34.7	52.6	49.1	28.2	28.6	53.5	45.8
Higher education	17.9	27.7	34.4	34.8	30.3	16.3	15.8	26.3	27.7	15.5	16.4
Private non-profit organizations	3.4	2.2	1.6	4.9	3.3	3.0	3.1	9.3	3.8	2.6	3.4
Foreign	7.1	3.6	1.6	3.9	1.7	6.5	8.4	2.6	0.9	1.8	10.9

1. Includes the Yukon, Northwest Territories and Nunavut.
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. Data for the National Capital Region (NCR) are now available in Appendix 1 at the end of this publication.

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

Table 5

National Gross Domestic Expenditures on Research and Development, in the total sciences, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2010 p Total sciences							
Total	**2,690**	**348**	**29**	**14,808**	**11,174**	**174**	**29,222**
Federal government	2,611	3	3	274	2,874	49	**5,814**
Provincial governments	10	282	8	80	1,130	34	**1,544**
Provincial research organizations	.	.	..	.	.	.	**..**
Business enterprise	69	63	17	12,594	912	15	**13,670**
Higher education	.	.	.	.	5,172	.	**5,172**
Private non-profit organizations	.	.	.	.	970	66	**1,037**
Foreign	.	..	..	1,859	117	10	**1,987**
2009 p Total sciences							
Total	**2,573**	**357**	**29**	**15,202**	**11,063**	**171**	**29,394**
Federal government	2,494	3	3	281	2,845	48	**5,674**
Provincial governments	10	296	8	82	1,118	33	**1,548**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	69	58	17	12,929	903	14	**13,990**
Higher education	.	.	.	.	5,121	.	**5,121**
Private non-profit organizations	.	.	.	.	960	66	**1,027**
Foreign	.	..	0	1,909	116	10	**2,035**
2008 Total sciences							
Total	**2,599**	**364**	**38**	**15,792**	**10,932**	**169**	**29,894**
Federal government	2,519	2	3	292	2,811	48	**5,676**
Provincial governments	10	321	11	85	1,105	32	**1,564**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	71	40	22	13,432	892	14	**14,471**
Higher education	.	.	.	.	5,360	.	**5,360**
Private non-profit organizations	.	.	.	.	949	65	**1,015**
Foreign	.	0	1	1,983	114	10	**2,108**
2007 r Total sciences							
Total	**2,532**	**335**	**57**	**16,644**	**10,187**	**164**	**29,919**
Federal government	2,459	2	2	256	2,720	44	**5,483**
Provincial governments	9	294	10	84	1,034	24	**1,454**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	64	38	44	13,893	870	13	**14,923**
Higher education	.	.	.	.	4,574	.	**4,574**
Private non-profit organizations	.	.	.	.	890	67	**957**
Foreign	.	0	1	2,411	99	16	**2,527**
2006 r Total sciences							
Total	**2,496**	**311**	**22**	**16,474**	**9,625**	**152**	**29,080**
Federal government	2,434	4	1	260	2,488	39	**5,226**
Provincial governments	7	274	10	155	993	29	**1,467**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	55	33	10	13,947	808	21	**14,874**
Higher education	.	.	.	.	4,435	.	**4,435**
Private non-profit organizations	.	.	.	.	776	51	**827**
Foreign	.	0	0 s	2,113	126	13	**2,252**
2005 r Total sciences							
Total	**2,414**	**280**	**23**	**15,638**	**9,518**	**149**	**28,023**
Federal government	2,341	4	1	323	2,542	41	**5,252**
Provincial governments	9	247	12	90	973	28	**1,358**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	64	30	10	12,899	803	21	**13,827**
Higher education	.	.	.	.	4,341	.	**4,341**
Private non-profit organizations	.	.	.	.	742	42	**784**
Foreign	.	0	0 s	2,327	116	17	**2,460**

Table 5 – continued

National Gross Domestic Expenditures on Research and Development, in the total sciences, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2004 [r] Total sciences							
Total	**2,084**	**265**	**25**	**15,144**	**9,058**	**103**	**26,679**
Federal government	2,028	2	1	271	2,337	12	**4,651**
Provincial governments	7	236	14	59	1,039	15	**1,370**
Provincial research organizations	.	.	0 [s]	.	.	.	**0** [s]
Business enterprise	49	26	10	12,535	755	13	**13,388**
Higher education	.	.	.	.	4,147	.	**4,147**
Private non-profit organizations	.	.	.	.	685	50	**735**
Foreign	.	0	0 [s]	2,280	96	13	**2,389**
2003 Total sciences							
Total	**2,083**	**254**	**24**	**14,095**	**8,143**	**92**	**24,691**
Federal government	2,027	2	1	299	2,182	15	**4,526**
Provincial governments	8	226	14	70	1,018	17	**1,354**
Provincial research organizations	.	.	0 [s]	.	.	.	**0** [s]
Business enterprise	48	25	9	11,652	679	14	**12,427**
Higher education	.	.	.	.	3,589	.	**3,589**
Private non-profit organizations	.	.	.	.	599	38	**637**
Foreign	.	0	0 [s]	2,073	76	8	**2,158**
2002 Total sciences							
Total	**2,190**	**256**	**26**	**13,545**	**7,455**	**63**	**23,536**
Federal government	2,124	2	1	300	1,817	6	**4,251**
Provincial governments	11	225	15	53	828	20	**1,152**
Provincial research organizations	.	.	0 [s]	.	.	.	**0** [s]
Business enterprise	55	29	9	11,370	643	12	**12,117**
Higher education	.	.	.	.	3,462	.	**3,462**
Private non-profit organizations	.	.	.	.	604	24	**628**
Foreign	.	0	1	1,822	101	1	**1,925**
2001 Total sciences							
Total	**2,103**	**253**	**23**	**14,266**	**6,424**	**63**	**23,133**
Federal government	2,044	0	1	457	1,587	6	**4,095**
Provincial governments	6	222	12	51	712	20	**1,023**
Provincial research organizations	.	.	0 [s]	.	.	.	**0** [s]
Business enterprise	53	31	9	10,930	603	10	**11,637**
Higher education	.	.	.	.	2,928	.	**2,928**
Private non-profit organizations	.	.	.	.	510	26	**536**
Foreign	.	0	1	2,828	84	1	**2,915**
2000 Total sciences							
Total	**2,080**	**164**	**66**	**12,395**	**5,793**	**58**	**20,556**
Federal government	2,023	0	2	239	1,293	3	**3,560**
Provincial governments	3	164	38	45	587	16	**853**
Provincial research organizations	.	.	1	.	.	.	**1**
Business enterprise	54	0	18	8,587	553	10	**9,223**
Higher education	.	.	.	.	2,892	.	**2,892**
Private non-profit organizations	.	.	.	.	418	27	**445**
Foreign	.	0	7	3,524	50	1	**3,582**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Newfoundland and Labrador

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008						
Total	**19**	**5**	**..**	**108**	**146**	**278**
Federal government	19	.	.	1	36	**56**
Provincial governments	..	5	.	0 s	8	**13**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	.	.	98	17	**116**
Higher education	.	.	.	.	77	**77**
Private non-profit organizations	.	.	.	.	6	**6**
Foreign	.	.	.	8	1	**10**
2007 r						
Total	**28**	**5**	**..**	**95**	**140**	**268**
Federal government	27	.	.	8	46	**81**
Provincial governments	..	5	.	0 s	6	**11**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	.	82	12	**94**
Higher education	.	.	.	.	71	**71**
Private non-profit organizations	.	.	.	.	5	**5**
Foreign	.	.	.	6	1	**6**
2006 r						
Total	**27**	**4**	**..**	**101**	**132**	**264**
Federal government	27	.	.	8	40	**75**
Provincial governments	..	4	.	0 s	2	**7**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	.	89	15	**105**
Higher education	.	.	.	.	68	**68**
Private non-profit organizations	.	.	.	.	3	**3**
Foreign	.	.	.	3	4	**7**
2005 r						
Total	**28**	**5**	**..**	**86**	**149**	**267**
Federal government	27	.	.	8	45	**80**
Provincial governments	..	5	.	1	1	**7**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	.	.	74	23	**97**
Higher education	.	.	.	.	76	**76**
Private non-profit organizations	.	.	.	.	2	**2**
Foreign	.	.	.	3	2	**5**
2004 r						
Total	**23**	**5**	**..**	**30**	**116**	**173**
Federal government	22	.	.	3	35	**61**
Provincial governments	..	5	.	1	1	**7**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	.	.	19	16	**36**
Higher education	.	.	.	.	61	**61**
Private non-profit organizations	.	.	.	.	2	**2**
Foreign	.	.	.	7	0	**7**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Prince Edward Island

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**14**	**..**	**..**	**13**	**37**	**64**
Federal government	13	..	.	0 s	12	**25**
Provincial governments	.	..	.	0 s	1	**2**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	12	2	**14**
Higher education	.	.	.	.	22	**22**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	1	.	**1**
2007 r Total sciences						
Total	**13**	**..**	**..**	**13**	**34**	**60**
Federal government	13	..	.	1	12	**26**
Provincial governments	.	..	.	0 s	2	**2**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	12	1	**14**
Higher education	.	.	.	.	19	**19**
Private non-profit organizations	.	.	.	.	0	**0**
Foreign	.	.	.	0 s	.	**0** s
2006 r Total sciences						
Total	**26**	**..**	**..**	**12**	**31**	**69**
Federal government	25	..	.	1	9	**35**
Provincial governments	.	..	.	0 s	2	**2**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	11	1	**12**
Higher education	.	.	.	.	18	**18**
Private non-profit organizations	.	.	.	.	2	**2**
Foreign	.	.	.	0 s	.	**0** s
2005 r Total sciences						
Total	**28**	**..**	**..**	**11**	**27**	**66**
Federal government	27	..	.	1	9	**37**
Provincial governments	.	..	.	0 s	0 s	**1**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	..	.	7	0 s	**8**
Higher education	.	.	.	.	16	**16**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	2	.	**2**
2004 r Total sciences						
Total	**10**	**..**	**..**	**7**	**24**	**41**
Federal government	10	..	.	1	8	**18**
Provincial governments	.	..	.	0 s	0 s	**1**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	0 s	..	.	6	1	**6**
Higher education	.	.	.	.	15	**15**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	0 s	.	**0** s

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Nova Scotia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**77**	**..**	**..**	**94**	**343**	**515**
Federal government	76	.	..	3	93	**172**
Provincial governments	.	..	..	0 s	8	**9**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	71	37	**110**
Higher education	.	.	.	.	179	**179**
Private non-profit organizations	.	.	.	.	25	**25**
Foreign	.	.	..	20	0 s	**20**
2007 r Total sciences						
Total	**77**	**..**	**..**	**102**	**327**	**505**
Federal government	76	.	..	2	81	**159**
Provincial governments	.	..	..	0 s	7	**8**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	81	39	**122**
Higher education	.	.	.	.	170	**170**
Private non-profit organizations	.	.	.	.	29	**29**
Foreign	.	.	..	18	0 s	**18**
2006 r Total sciences						
Total	**73**	**6**	**..**	**106**	**317**	**502**
Federal government	72	.	..	3	82	**158**
Provincial governments	.	6	..	1	5	**12**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	81	35	**117**
Higher education	.	.	.	.	171	**171**
Private non-profit organizations	.	.	.	.	22	**22**
Foreign	.	.	..	22	1	**22**
2005 r Total sciences						
Total	**66**	**6**	**..**	**97**	**297**	**466**
Federal government	65	.	..	5	80	**150**
Provincial governments	.	6	..	1	6	**13**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	68	31	**99**
Higher education	.	.	.	.	158	**158**
Private non-profit organizations	.	.	.	.	22	**25**
Foreign	.	.	..	23	0	**23**
2004 r Total sciences						
Total	**81**	**6**	**..**	**94**	**266**	**447**
Federal government	80	.	..	4	73	**157**
Provincial governments	.	6	..	1	8	**15**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	58	23	**82**
Higher education	.	.	.	.	141	**141**
Private non-profit organizations	.	.	.	.	22	**22**
Foreign	.	.	..	31	0	**31**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — New Brunswick

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**36**	**11**	**2**	**101**	**150**	**300**
Federal government	36	.	0 s	1	37	**74**
Provincial governments	.	11	0 s	0 s	5	**17**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	1	98	4	**104**
Higher education	.	.	.	.	91	**91**
Private non-profit organizations	.	.	.	.	10	**10**
Foreign	.	.	.	2	3	**5**
2007 r Total sciences						
Total	**46**	**10**	**2**	**115**	**144**	**317**
Federal government	45	.	0 s	4	35	**84**
Provincial governments	.	10	0 s	0 s	7	**17**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	2	109	6	**117**
Higher education	.	.	.	.	87	**87**
Private non-profit organizations	.	.	.	.	9	**9**
Foreign	.	.	.	2	0 s	**2**
2006 r Total sciences						
Total	**30**	**2**	**2**	**104**	**135**	**273**
Federal government	29	.	0 s	2	34	**65**
Provincial governments	.	2	0 s	0 s	5	**8**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	1	99	5	**105**
Higher education	.	.	.	.	84	**84**
Private non-profit organizations	.	.	.	.	7	**7**
Foreign	.	.	.	3	0 s	**4**
2005 r Total sciences						
Total	**26**	**2**	**2**	**99**	**130**	**258**
Federal government	25	.	0 s	3	35	**63**
Provincial governments	.	2	1	0 s	4	**7**
Provincial research organizations	.	.	.	.	.	**0 s**
Business enterprise	0 s	.	1	92	5	**99**
Higher education	.	.	.	.	80	**80**
Private non-profit organizations	.	.	.	.	7	**7**
Foreign	.	.	.	4	0 s	**4**
2004 r Total sciences						
Total	**26**	**2**	**2**	**82**	**114**	**227**
Federal government	26	.	0 s	1	30	**57**
Provincial governments	.	2	1	0 s	3	**7**
Provincial research organizations	.	.	.	.	.	**0 s**
Business enterprise	1	.	1	79	4	**85**
Higher education	.	.	.	.	70	**70**
Private non-profit organizations	.	.	.	.	5	**5**
Foreign	.	.	.	1	0 s	**2**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Quebec

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**413**	**87**	**8**	**4,595**	**2,792**	**7,895**
Federal government	399	.	0 s	164	740	**1,303**
Provincial governments	2	87	5	54	248	**396**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	12	0	3	3,885	253	**4,152**
Higher education	.	.	.	.	1,289	**1,289**
Private non-profit organizations	.	.	.	.	239	**239**
Foreign	.	.	0 s	493	23	**516**
2007 r Total sciences						
Total	**410**	**81**	**9**	**4,941**	**2,610**	**8,051**
Federal government	399	.	0 s	105	772	**1,275**
Provincial governments	1	81	4	40	255	**382**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	10	0	4	4,116	224	**4,354**
Higher education	.	.	.	.	1,155	**1,155**
Private non-profit organizations	.	.	.	.	185	**185**
Foreign	.	.	0 s	679	19	**699**
2006 r Total sciences						
Total	**457**	**77**	**8**	**4,830**	**2,541**	**7,912**
Federal government	449	.	0 s	98	678	**1,225**
Provincial governments	1	77	5	88	229	**401**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	8	0	2	4,149	227	**4,386**
Higher education	.	.	.	.	1,200	**1,200**
Private non-profit organizations	.	.	.	.	179	**179**
Foreign	.	.	0 s	494	28	**521**
2005 r Total sciences						
Total	**451**	**75**	**10**	**4,170**	**2,556**	**7,262**
Federal government	441	.	0 s	100	703	**1,244**
Provincial governments	1	75	7	45	260	**388**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	9	0	3	3,540	227	**3,780**
Higher education	.	.	.	.	1,180	**1,180**
Private non-profit organizations	.	.	.	.	158	**158**
Foreign	.	.	0 s	484	28	**512**
2004 r Total sciences						
Total	**368**	**68**	**14**	**4,326**	**2,467**	**7,244**
Federal government	360	.	0 s	101	650	**1,111**
Provincial governments	1	68	10	34	318	**430**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	7	0	4	3,722	192	**3,925**
Higher education	.	.	.	.	1,129	**1,129**
Private non-profit organizations	.	.	.	.	160	**160**
Foreign	.	.	0 s	469	19	**488**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Ontario

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**1,668**	**62**	**..**	**7,564**	**4,580**	**13,874**
Federal government	1,616	0	..	89	1,091	**2,797**
Provincial governments	7	62	..	8	398	**475**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	49	0	..	6,352	413	**6,814**
Higher education	.	.	.	.	2,199	**2,199**
Private non-profit organizations	.	.	.	.	425	**425**
Foreign	.	.	..	1,114	54	**1,168**
2007 r Total sciences						
Total	**1,582**	**57**	**..**	**7,965**	**4,314**	**13,918**
Federal government	1,531	0	..	88	1,093	**2,712**
Provincial governments	6	57	..	18	351	**431**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	45	0	..	6,611	432	**7,088**
Higher education	.	.	.	.	1,983	**1,983**
Private non-profit organizations	.	.	.	.	399	**399**
Foreign	.	.	..	1,248	56	**1,304**
2006 r Total sciences						
Total	**1,506**	**70**	**..**	**8,153**	**4,088**	**13,817**
Federal government	1,462	0	..	97	1,003	**2,563**
Provincial governments	5	70	..	48	421	**544**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	39	0	..	6,856	373	**7,269**
Higher education	.	.	.	.	1,864	**1,864**
Private non-profit organizations	.	.	.	.	357	**357**
Foreign	.	.	..	1,152	69	**1,221**
2005 r Total sciences						
Total	**1,435**	**44**	**..**	**8,204**	**3,980**	**13,664**
Federal government	1,383	0	..	141	997	**2,521**
Provincial governments	7	44	..	26	402	**479**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	46	0	..	6,722	378	**7,145**
Higher education	.	.	.	.	1,794	**1,794**
Private non-profit organizations	.	.	.	.	342	**342**
Foreign	.	.	..	1,316	67	**1,382**
2004 r Total sciences						
Total	**1,241**	**46**	**..**	**7,833**	**3,835**	**12,956**
Federal government	1,203	0	..	106	914	**2,223**
Provincial governments	5	46	..	6	391	**448**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	33	0	..	6,390	394	**6,817**
Higher education	.	.	.	.	1,791	**1,791**
Private non-profit organizations	.	.	.	.	283	**283**
Foreign	.	.	..	1,332	62	**1,394**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Manitoba

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**85**	**10**	**..**	**160**	**312**	**567**
Federal government	84	.	.	5	73	**161**
Provincial governments	0	10	..	0	18	**28**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	144	15	**160**
Higher education	.	.	.	.	149	**149**
Private non-profit organizations	.	.	.	.	53	**53**
Foreign	.	.	.	12	4	**15**
2007 r Total sciences						
Total	**85**	**6**	**..**	**205**	**302**	**597**
Federal government	84	.	.	2	77	**163**
Provincial governments	0 s	6	..	1	19	**26**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	182	20	**203**
Higher education	.	.	.	.	142	**142**
Private non-profit organizations	.	.	.	.	37	**37**
Foreign	.	.	.	20	7	**27**
2006 r Total sciences						
Total	**81**	**6**	**..**	**188**	**287**	**562**
Federal government	80	.	.	1	70	**150**
Provincial governments	0 s	6	..	1	19	**26**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	173	21	**194**
Higher education	.	.	.	.	136	**136**
Private non-profit organizations	.	.	.	.	38	**38**
Foreign	.	.	.	14	4	**18**
2005 r Total sciences						
Total	**83**	**4**	**..**	**200**	**294**	**582**
Federal government	81	.	.	4	72	**157**
Provincial governments	0 s	4	..	1	15	**21**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	.	..	179	19	**200**
Higher education	.	.	.	.	149	**149**
Private non-profit organizations	.	.	.	.	38	**38**
Foreign	.	.	.	17	2	**18**
2004 r Total sciences						
Total	**73**	**4**	**..**	**182**	**260**	**518**
Federal government	71	.	.	4	72	**146**
Provincial governments	0 s	4	..	1	19	**24**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	164	16	**181**
Higher education	.	.	.	.	123	**123**
Private non-profit organizations	.	.	.	.	29	**29**
Foreign	.	.	.	13	2	**15**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Saskatchewan

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**64**	**5**	**12**	**132**	**314**	**528**
Federal government	62	.	0 s	1	87	**151**
Provincial governments	0 s	5	4	1	45	**55**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	.	7	126	16	**151**
Higher education	.	.	.	.	146	**146**
Private non-profit organizations	.	.	.	.	20	**20**
Foreign	.	.	0 s	3	1	**5**
2007 r Total sciences						
Total	**63**	**5**	**11**	**190**	**230**	**499**
Federal government	62	.	0 s	6	68	**135**
Provincial governments	0 s	5	4	2	22	**33**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	7	163	10	**181**
Higher education	.	.	.	.	117	**117**
Private non-profit organizations	.	.	.	.	13	**13**
Foreign	.	.	0 s	19	1	**20**
2006 r Total sciences						
Total	**67**	**4**	**12**	**174**	**216**	**473**
Federal government	66	.	1	4	53	**123**
Provincial governments	0 s	4	4	1	29	**38**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	6	154	8	**170**
Higher education	.	.	.	.	114	**114**
Private non-profit organizations	.	.	.	.	12	**12**
Foreign	.	.	0 s	15	1	**16**
2005 r Total sciences						
Total	**68**	**4**	**11**	**153**	**218**	**454**
Federal government	67	.	1	4	54	**126**
Provincial governments	0 s	4	4	2	20	**30**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	1	.	6	134	13	**155**
Higher education	.	.	.	.	116	**116**
Private non-profit organizations	.	.	.	.	14	**14**
Foreign	.	.	0 s	13	0 s	**13**
2004 r Total sciences						
Total	**54**	**4**	**9**	**113**	**245**	**425**
Federal government	53	.	1	5	65	**123**
Provincial governments	0 s	4	3	2	27	**36**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	1	.	5	99	18	**123**
Higher education	.	.	.	.	122	**122**
Private non-profit organizations	.	.	.	.	12	**12**
Foreign	.	.	0 s	7	0 s	**7**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Alberta

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**126**	**151**	**..**	**1,479**	**1,122**	**2,877**
Federal government	124	2	..	4	267	**397**
Provincial governments	0 [s]	108	..	17	241	**367**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	41	..	1,412	84	**1,539**
Higher education	.	.	.	.	447	**447**
Private non-profit organizations	.	.	.	.	76	**76**
Foreign	.	..	..	46	6	**51**
2007 [r] Total sciences						
Total	**116**	**141**	**..**	**1,425**	**1,004**	**2,686**
Federal government	114	2	..	7	224	**348**
Provincial governments	0 [s]	101	..	5	231	**337**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	38	..	1,341	81	**1,461**
Higher education	.	.	.	.	400	**400**
Private non-profit organizations	.	.	.	.	63	**63**
Foreign	.	..	..	72	4	**76**
2006 [r] Total sciences						
Total	**133**	**125**	**..**	**1,422**	**919**	**2,599**
Federal government	132	4	..	12	223	**370**
Provincial governments	0 [s]	88	..	3	173	**264**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	33	..	1,329	77	**1,440**
Higher education	.	.	.	.	383	**383**
Private non-profit organizations	.	.	.	.	57	**57**
Foreign	.	..	..	78	6	**84**
2005 [r] Total sciences						
Total	**130**	**122**	**..**	**1,208**	**962**	**2,422**
Federal government	128	4	..	21	252	**405**
Provincial governments	0 [s]	89	..	4	183	**275**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	30	..	1,097	63	**1,193**
Higher education	.	.	.	.	396	**396**
Private non-profit organizations	.	.	.	.	61	**61**
Foreign	.	..	..	86	7	**93**
2004 [r] Total sciences						
Total	**110**	**114**	**..**	**1,139**	**899**	**2,262**
Federal government	109	2	..	10	206	**328**
Provincial governments	0 [s]	85	..	4	232	**321**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	26	..	1,035	60	**1,122**
Higher education	.	.	.	.	347	**347**
Private non-profit organizations	.	.	.	.	49	**49**
Foreign	.	..	..	90	5	**95**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — British Columbia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**93**	**33**	**..**	**1,541**	**1,136**	**2,804**
Federal government	90	.	..	24	375	**489**
Provincial governments	0 [s]	33	..	4	133	**170**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	3	0	..	1,229	51	**1,283**
Higher education	.	.	.	.	461	**461**
Private non-profit organizations	.	.	.	.	94	**94**
Foreign	.	.	.	285	23	**307**
2007 [r] Total sciences						
Total	**108**	**30**	**..**	**1,579**	**1,083**	**2,800**
Federal government	105	.	..	34	313	**452**
Provincial governments	0 [s]	30	..	18	134	**183**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	3	0	..	1,185	46	**1,234**
Higher education	.	.	.	.	431	**431**
Private non-profit organizations	.	.	.	.	148	**148**
Foreign	.	.	.	342	11	**353**
2006 [r] Total sciences						
Total	**91**	**18**	**..**	**1,364**	**959**	**2,432**
Federal government	89	.	..	34	296	**419**
Provincial governments	0 [s]	18	..	12	107	**137**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	0	..	991	47	**1,040**
Higher education	.	.	.	.	398	**398**
Private non-profit organizations	.	.	.	.	99	**99**
Foreign	.	.	.	326	13	**339**
2005 [r] Total sciences						
Total	**91**	**18**	**..**	**1,402**	**904**	**2,414**
Federal government	88	.	..	36	294	**418**
Provincial governments	0 [s]	18	..	11	81	**110**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	0	..	976	44	**1,021**
Higher education	.	.	.	.	377	**377**
Private non-profit organizations	.	.	.	.	98	**98**
Foreign	.	.	.	380	10	**390**
2004 [r] Total sciences						
Total	**91**	**16**	**..**	**1,324**	**832**	**2,263**
Federal government	88	.	..	36	284	**409**
Provincial governments	0 [s]	16	..	10	39	**64**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	3	0	..	950	32	**985**
Higher education	.	.	.	.	348	**348**
Private non-profit organizations	.	.	.	.	121	**121**
Foreign	.	.	.	328	8	**336**

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 Gross Domestic Expenditures on Research and Development, in the total sciences — Yukon, Northwest Territories and Nunavut

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Total sciences						
Total	**3**	**.**	**16**	**4**	**.**	**24**
Federal government	3	.	3	1	.	**6**
Provincial governments	.	.	1	0	.	**1**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	11	4	.	**15**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s
2007 r Total sciences						
Total	**4**	**.**	**34**	**15**	**.**	**54**
Federal government	4	.	1	0 s	.	**5**
Provincial governments	.	.	1	0 s	.	**1**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	32	10	.	**42**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	5	.	**5**
2006 r Total sciences						
Total	**5**	**.**	**..**	**20**	**.**	**25**
Federal government	4	.	..	0 s	.	**4**
Provincial governments	.	.	..	0 s	.	**0** s
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	14	.	**15**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	6	.	**6**
2005 r Total sciences						
Total	**9**	**.**	**..**	**10**	**.**	**19**
Federal government	9	.	..	0 s	.	**9**
Provincial governments	.	.	..	0 s	.	**0** s
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	10	.	**10**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s
2004 r Total sciences						
Total	**6**	**.**	**..**	**13**	**.**	**19**
Federal government	5	.	..	0 s	.	**5**
Provincial governments	.	.	..	0	.	**0**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	13	.	**13**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s

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

National Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2010 p Natural sciences							
Total	**2,472**	**307**	**29**	**14,808**	**8,909**	**162**	**26,687**
Federal government	2,393	3	3	274	2,394	47	**5,114**
Provincial governments	10	242	8	80	904	33	**1,276**
Provincial research organizations	.	.	..	.	.	.	**..**
Business enterprise	69	63	17	12,594	875	15	**13,633**
Higher education	.	.	.	.	3,828	.	**3,828**
Private non-profit organizations	.	.	.	.	792	57	**849**
Foreign	.	..	..	1,859	117	10	**1,987**
2009 p Natural sciences							
Total	**2,364**	**318**	**29**	**15,202**	**8,821**	**159**	**26,892**
Federal government	2,285	0	0	281	2,370	46	**4,983**
Provincial governments	10	318	0	82	895	32	**1,337**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	69	0	0	12,929	866	14	**13,878**
Higher education	.	.	.	.	3,790	.	**3,790**
Private non-profit organizations	.	.	.	.	784	57	**841**
Foreign	.	..	0	1,909	116	10	**2,034**
2008 Natural sciences							
Total	**2,388**	**327**	**38**	**15,792**	**8,716**	**158**	**27,421**
Federal government	2,308	2	3	292	2,342	46	**4,994**
Provincial governments	10	284	11	85	884	31	**1,306**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	71	40	22	13,432	856	13	**14,435**
Higher education	.	.	.	.	3,745	.	**3,745**
Private non-profit organizations	.	.	.	.	775	57	**833**
Foreign	.	..	1	1,983	114	10	**2,108**
2007 r Natural sciences							
Total	**2,360**	**301**	**57**	**16,644**	**8,125**	**151**	**27,638**
Federal government	2,287	2	2	256	2,272	43	**4,863**
Provincial governments	9	261	10	84	827	22	**1,212**
Provincial research organizations	.	.	0	.	.	.	**0**
Business enterprise	64	38	44	13,893	834	13	**14,886**
Higher education	.	.	.	.	3,368	.	**3,368**
Private non-profit organizations	.	.	.	.	725	57	**782**
Foreign	.	..	1	2,411	99	16	**2,527**
2006 r Natural sciences							
Total	**2,340**	**280**	**22**	**16,474**	**7,714**	**137**	**26,967**
Federal government	2,278	4	1	260	2,086	37	**4,667**
Provincial governments	7	243	10	155	794	26	**1,235**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	55	33	10	13,947	775	21	**14,841**
Higher education	.	.	.	.	3,302	.	**3,302**
Private non-profit organizations	.	.	.	.	631	40	**671**
Foreign	.	..	0 s	2,113	126	13	**2,252**
2005 r Natural sciences							
Total	**2,289**	**252**	**23**	**15,638**	**7,627**	**139**	**25,969**
Federal government	2,217	4	1	323	2,126	40	**4,710**
Provincial governments	9	219	12	90	779	26	**1,134**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	64	30	10	12,899	774	21	**13,797**
Higher education	.	.	.	.	3,229	.	**3,229**
Private non-profit organizations	.	.	.	.	603	35	**638**
Foreign	.	..	0 s	2,327	116	17	**2,460**

Table 7 – continued

National Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2004 r Natural sciences							
Total	**1,965**	**241**	**25**	**15,144**	**7,280**	**98**	**24,753**
Federal government	1,909	2	1	271	1,960	11	**4,154**
Provincial governments	7	212	14	59	831	14	**1,137**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	49	26	10	12,535	728	12	**13,360**
Higher education	.	.	.	.	3,110	.	**3,110**
Private non-profit organizations	.	.	.	.	556	48	**604**
Foreign	.	..	0 s	2,280	96	13	**2,388**
2003 Natural sciences							
Total	**1,963**	**229**	**24**	**14,095**	**6,544**	**87**	**22,942**
Federal government	1,907	2	1	299	1,846	14	**4,070**
Provincial governments	8	202	14	70	814	15	**1,124**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	48	25	9	11,652	654	13	**12,402**
Higher education	.	.	.	.	2,669	.	**2,669**
Private non-profit organizations	.	.	.	.	485	37	**523**
Foreign	.	..	0 s	2,073	76	8	**2,158**
2002 Natural sciences							
Total	**2,073**	**236**	**26**	**13,545**	**6,041**	**59**	**21,979**
Federal government	2,007	2	1	300	1,588	5	**3,904**
Provincial governments	11	205	15	53	663	19	**966**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	55	29	9	11,370	619	11	**12,093**
Higher education	.	.	.	.	2,577	.	**2,577**
Private non-profit organizations	.	.	.	.	493	23	**516**
Foreign	.	..	1	1,822	101	1	**1,924**
2001 Natural sciences							
Total	**2,010**	**234**	**23**	**14,266**	**5,150**	**59**	**21,742**
Federal government	1,951	0	1	457	1,356	6	**3,771**
Provincial governments	6	203	12	51	570	18	**860**
Provincial research organizations	.	.	0 s	.	.	.	**0** s
Business enterprise	53	31	9	10,930	578	9	**11,617**
Higher education	.	.	.	.	2,150	.	**2,150**
Private non-profit organizations	.	.	.	.	412	25	**436**
Foreign	.	..	1	2,828	84	1	**2,915**
2000 Natural sciences							
Total	**1,995**	**146**	**66**	**12,395**	**4,591**	**55**	**19,248**
Federal government	1,938	0	2	239	1,106	3	**3,288**
Provincial governments	3	146	38	45	470	15	**717**
Provincial research organizations	.	.	1	.	.	.	**1**
Business enterprise	54	0	18	8,587	531	10	**9,200**
Higher education	.	.	.	.	2,092	.	**2,092**
Private non-profit organizations	.	.	.	.	342	26	**367**
Foreign	.	..	7	3,524	50	1	**3,582**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Newfoundland and Labrador

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**19**	**5**	**..**	**108**	**109**	**240**
Federal government	19	.	.	1	28	**48**
Provincial governments	0 s	5	.	0 s	6	**11**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	.	.	98	17	**116**
Higher education	.	.	.	.	54	**54**
Private non-profit organizations	.	.	.	.	2	**2**
Foreign	.	.	.	8	1	**10**
2007 r Natural sciences						
Total	**28**	**4**	**..**	**95**	**104**	**231**
Federal government	27	.	.	8	35	**70**
Provincial governments	0 s	4	.	0 s	5	**9**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	.	82	12	**94**
Higher education	.	.	.	.	50	**50**
Private non-profit organizations	.	.	.	.	2	**2**
Foreign	.	.	.	6	1	**6**
2006 r Natural sciences						
Total	**27**	**4**	**..**	**101**	**101**	**233**
Federal government	27	.	.	8	31	**65**
Provincial governments	0 s	4	.	0 s	2	**6**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	.	89	15	**105**
Higher education	.	.	.	.	49	**49**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	3	4	**7**
2005 r Natural sciences						
Total	**28**	**5**	**..**	**86**	**117**	**235**
Federal government	27	.	.	8	35	**71**
Provincial governments	0 s	5	.	1	1	**7**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	.	.	74	23	**97**
Higher education	.	.	.	.	55	**55**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	3	2	**5**
2004 r Natural sciences						
Total	**23**	**5**	**..**	**30**	**89**	**147**
Federal government	22	.	.	3	28	**53**
Provincial governments	0 s	5	.	1	1	**7**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	.	.	19	16	**36**
Higher education	.	.	.	.	43	**43**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	7	0	**7**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Prince Edward Island

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**14**	**..**	**..**	**13**	**25**	**52**
Federal government	13	..	.	0 s	8	**21**
Provincial governments	.	..	.	0 s	1	**2**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	12	2	**14**
Higher education	.	.	.	.	14	**14**
Private non-profit organizations	.	.	.	.	0 s	**0** s
Foreign	.	.	.	1	.	**1**
2007 r Natural sciences						
Total	**13**	**..**	**..**	**13**	**25**	**51**
Federal government	13	..	.	1	9	**23**
Provincial governments	.	..	.	0 s	1	**1**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	12	1	**14**
Higher education	.	.	.	.	13	**13**
Private non-profit organizations	.	.	.	.	0	**0**
Foreign	.	.	.	0 s	.	**0** s
2006 r Natural sciences						
Total	**26**	**..**	**..**	**12**	**22**	**60**
Federal government	25	..	.	1	7	**33**
Provincial governments	.	..	.	0 s	1	**1**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	0 s	..	.	11	1	**12**
Higher education	.	.	.	.	13	**13**
Private non-profit organizations	.	.	.	.	1	**1**
Foreign	.	.	.	0 s	.	**0** s
2005 r Natural sciences						
Total	**28**	**..**	**..**	**11**	**20**	**58**
Federal government	27	..	.	1	7	**36**
Provincial governments	.	..	.	0 s	0 s	**1**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	1	..	.	7	0 s	**8**
Higher education	.	.	.	.	12	**12**
Private non-profit organizations	.	.	.	.	0 s	**0** s
Foreign	.	.	.	2	.	**2**
2004 r Natural sciences						
Total	**10**	**..**	**..**	**7**	**17**	**34**
Federal government	10	..	.	1	6	**17**
Provincial governments	.	..	.	0 s	0 s	**1**
Provincial research organizations	.	.	.	.	.	**0**
Business enterprise	0 s	..	.	6	1	**6**
Higher education	.	.	.	.	10	**10**
Private non-profit organizations	.	.	.	.	0 s	**0** s
Foreign	.	.	.	0 s	.	**0** s

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Nova Scotia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**77**	**..**	**..**	**94**	**262**	**433**
Federal government	76	.	..	3	74	**153**
Provincial governments	.	..	..	0 s	6	**7**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	71	37	**109**
Higher education	.	.	.	.	120	**120**
Private non-profit organizations	.	.	.	.	23	**23**
Foreign	.	.	..	20	0 s	**20**
2007 r Natural sciences						
Total	**77**	**..**	**..**	**102**	**250**	**428**
Federal government	75	.	..	2	65	**143**
Provincial governments	.	..	..	0 s	6	**7**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	81	38	**121**
Higher education	.	.	.	.	114	**114**
Private non-profit organizations	.	.	.	.	26	**26**
Foreign	.	.	..	18	0 s	**18**
2006 r Natural sciences						
Total	**73**	**6**	**..**	**106**	**246**	**431**
Federal government	72	.	..	3	68	**144**
Provincial governments	.	6	..	1	4	**11**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	81	35	**116**
Higher education	.	.	.	.	117	**117**
Private non-profit organizations	.	.	.	.	21	**21**
Foreign	.	.	..	22	1	**22**
2005 r Natural sciences						
Total	**66**	**6**	**..**	**97**	**226**	**394**
Federal government	65	.	..	5	64	**134**
Provincial governments	.	6	..	1	5	**11**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	68	30	**99**
Higher education	.	.	.	.	105	**105**
Private non-profit organizations	.	.	.	.	21	**21**
Foreign	.	.	..	23	0 s	**23**
2004 r Natural sciences						
Total	**81**	**6**	**..**	**94**	**202**	**383**
Federal government	80	.	..	4	60	**144**
Provincial governments	.	6	..	1	6	**14**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	58	22	**81**
Higher education	.	.	.	.	93	**93**
Private non-profit organizations	.	.	.	.	21	**21**
Foreign	.	.	..	31	0	**31**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — New Brunswick

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**36**	**9**	**2**	**101**	**103**	**250**
Federal government	35	.	0 s	1	28	**64**
Provincial governments	.	9	0 s	0 s	4	**13**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	1	98	.	**104**
Higher education	.	.	.	.	54	**54**
Private non-profit organizations	.	.	.	.	9	**9**
Foreign	.	.	.	2	3	**5**
2007 r Natural sciences						
Total	**46**	**8**	**2**	**115**	**99**	**270**
Federal government	45	.	0 s	4	26	**76**
Provincial governments	.	8	0 s	0 s	6	**14**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	2	109	6	**117**
Higher education	.	.	.	.	52	**52**
Private non-profit organizations	.	.	.	.	9	**9**
Foreign	.	.	.	2	0 s	**2**
2006 r Natural sciences						
Total	**30**	**2**	**2**	**104**	**91**	**228**
Federal government	29	.	0 s	2	26	**57**
Provincial governments	.	2	0 s	0 s	4	**6**
Provincial research organizations	.	.	.	.	.	**..**
Business enterprise	1	.	1	99	5	**105**
Higher education	.	.	.	.	49	**49**
Private non-profit organizations	.	.	.	.	7	**7**
Foreign	.	.	.	3	0 s	**4**
2005 r Natural sciences						
Total	**26**	**2**	**2**	**99**	**84**	**213**
Federal government	25	.	0 s	3	24	**53**
Provincial governments	.	2	1	0 s	3	**6**
Provincial research organizations	.	.	.	.	.	**0** s
Business enterprise	0 s	.	1	92	5	**99**
Higher education	.	.	.	.	46	**46**
Private non-profit organizations	.	.	.	.	6	**6**
Foreign	.	.	.	4	0 s	**4**
2004 r Natural sciences						
Total	**26**	**..**	**2**	**82**	**74**	**186**
Federal government	26	.	0 s	1	22	**49**
Provincial governments	.	..	1	0 s	3	**6**
Provincial research organizations	.	.	.	.	.	**0** s
Business enterprise	1	.	1	79	4	**85**
Higher education	.	.	.	.	40	**40**
Private non-profit organizations	.	.	.	.	5	**5**
Foreign	.	.	.	1	0 s	**2**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Quebec

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**398**	**66**	**8**	**4,595**	**2,260**	**7,328**
Federal government	386	.	0 s	164	625	**1,175**
Provincial governments	2	66	5	54	198	**326**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	12	0	3	3,885	239	**4,138**
Higher education	.	.	.	.	985	**985**
Private non-profit organizations	.	.	.	.	189	**189**
Foreign	.	.	0 s	493	23	**516**
2007 r Natural sciences						
Total	**399**	**59**	**9**	**4,941**	**2,093**	**7,501**
Federal government	388	.	0 s	105	645	**1,139**
Provincial governments	1	59	4	40	204	**309**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	10	0	4	4,116	210	**4,340**
Higher education	.	.	.	.	872	**872**
Private non-profit organizations	.	.	.	.	143	**143**
Foreign	.	.	0 s	679	19	**699**
2006 r Natural sciences						
Total	**447**	**54**	**8**	**4,830**	**2,059**	**7,398**
Federal government	438	.	0 s	98	580	**1,117**
Provincial governments	1	54	5	88	184	**333**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	8	0	2	4,149	213	**4,373**
Higher education	.	.	.	.	917	**917**
Private non-profit organizations	.	.	.	.	138	**138**
Foreign	.	.	0 s	494	28	**521**
2005 r Natural sciences						
Total	**439**	**54**	**10**	**4,170**	**2,064**	**6,738**
Federal government	429	.	0 s	100	603	**1,133**
Provincial governments	1	54	7	45	208	**315**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	9	0	3	3,540	214	**3,766**
Higher education	.	.	.	.	890	**890**
Private non-profit organizations	.	.	.	.	121	**121**
Foreign	.	.	0 s	484	28	**512**
2004 r Natural sciences						
Total	**358**	**50**	**14**	**4,326**	**1,981**	**6,731**
Federal government	350	.	0 s	101	556	**1,007**
Provincial governments	1	50	10	34	254	**349**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	7	0	4	3,722	180	**3,913**
Higher education	.	.	.	.	850	**850**
Private non-profit organizations	.	.	.	.	122	**122**
Foreign	.	.	0 s	469	19	**488**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Ontario

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**1,473**	**56**	**..**	**7,564**	**3,667**	**12,760**
Federal government	1,421	0	..	89	916	**2,427**
Provincial governments	7	56	..	8	318	**390**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	49	0	..	6,352	395	**6,796**
Higher education	.	.	.	.	1,628	**1,628**
Private non-profit organizations	.	.	.	.	355	**355**
Foreign	.	.	..	1,114	54	**1,168**
2007 r Natural sciences						
Total	**1,422**	**52**	**..**	**7,965**	**3,473**	**12,912**
Federal government	1,371	0	..	88	923	**2,381**
Provincial governments	6	52	..	18	281	**357**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	45	0	..	6,611	414	**7,070**
Higher education	.	.	.	.	1,465	**1,465**
Private non-profit organizations	.	.	.	.	335	**335**
Foreign	.	.	..	1,248	56	**1,304**
2006 r Natural sciences						
Total	**1,360**	**66**	**..**	**8,153**	**3,289**	**12,868**
Federal government	1,316	0	..	97	834	**2,247**
Provincial governments	5	66	..	48	337	**456**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	39	0	..	6,856	358	**7,253**
Higher education	.	.	.	.	1,393	**1,393**
Private non-profit organizations	.	.	.	.	299	**299**
Foreign	.	.	..	1,152	69	**1,221**
2005 r Natural sciences						
Total	**1,322**	**41**	**..**	**8,204**	**3,219**	**12,786**
Federal government	1,270	0	..	141	831	**2,242**
Provincial governments	7	41	..	26	322	**395**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	46	0	..	6,722	365	**7,133**
Higher education	.	.	.	.	1,352	**1,352**
Private non-profit organizations	.	.	.	.	282	**282**
Foreign	.	.	..	1,316	67	**1,382**
2004 r Natural sciences						
Total	**1,132**	**42**	**..**	**7,833**	**3,139**	**12,146**
Federal government	1,095	0	..	106	766	**1,967**
Provincial governments	5	42	..	6	313	**366**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	33	0	..	6,390	381	**6,804**
Higher education	.	.	.	.	1,382	**1,382**
Private non-profit organizations	.	.	.	.	235	**235**
Foreign	.	.	..	1,332	62	**1,394**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Manitoba

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**85**	**4**	**..**	**160**	**241**	**491**
Federal government	84	.	.	5	61	**149**
Provincial governments	0 s	4	..	0 s	14	**19**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	144	15	**160**
Higher education	.	.	.	.	103	**103**
Private non-profit organizations	.	.	.	.	44	**44**
Foreign	.	.	.	12	4	**15**
2007 r Natural sciences						
Total	**85**	**5**	**..**	**205**	**236**	**530**
Federal government	84	.	.	2	65	**150**
Provincial governments	0 s	5	..	1	15	**21**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	182	19	**203**
Higher education	.	.	.	.	99	**99**
Private non-profit organizations	.	.	.	.	31	**31**
Foreign	.	.	.	20	7	**27**
2006 r Natural sciences						
Total	**81**	**5**	**..**	**188**	**224**	**498**
Federal government	80	.	.	1	58	**138**
Provincial governments	0 s	5	..	1	15	**21**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	..	173	20	**194**
Higher education	.	.	.	.	95	**95**
Private non-profit organizations	.	.	.	.	32	**32**
Foreign	.	.	.	14	4	**18**
2005 r Natural sciences						
Total	**83**	**4**	**..**	**200**	**227**	**514**
Federal government	81	.	.	4	59	**144**
Provincial governments	0 s	4	..	1	12	**17**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	.	..	179	18	**199**
Higher education	.	.	.	.	105	**105**
Private non-profit organizations	.	.	.	.	32	**32**
Foreign	.	.	.	17	2	**18**
2004 r Natural sciences						
Total	**73**	**3**	**..**	**182**	**201**	**459**
Federal government	71	.	.	4	60	**134**
Provincial governments	0 s	3	..	1	15	**20**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	.	..	164	15	**180**
Higher education	.	.	.	.	85	**85**
Private non-profit organizations	.	.	.	.	24	**24**
Foreign	.	.	.	13	2	**15**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Saskatchewan

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**64**	**4**	**12**	**132**	**251**	**464**
Federal government	62	.	0 s	1	70	**134**
Provincial governments	0 s	4	4	1	36	**45**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	.	7	126	15	**151**
Higher education	.	.	.	.	110	**110**
Private non-profit organizations	.	.	.	.	20	**20**
Foreign	.	.	0 s	3	1	**5**
2007 r Natural sciences						
Total	**63**	**5**	**11**	**190**	**188**	**457**
Federal government	62	.	0 s	6	59	**127**
Provincial governments	0 s	5	4	2	18	**28**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	7	163	9	**181**
Higher education	.	.	.	.	88	**88**
Private non-profit organizations	.	.	.	.	13	**13**
Foreign	.	.	0 s	19	1	**20**
2006 r Natural sciences						
Total	**67**	**4**	**12**	**174**	**174**	**431**
Federal government	66	.	1	4	46	**116**
Provincial governments	0 s	4	4	1	23	**32**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	.	6	154	8	**169**
Higher education	.	.	.	.	85	**85**
Private non-profit organizations	.	.	.	.	11	**11**
Foreign	.	.	0 s	15	1	**16**
2005 r Natural sciences						
Total	**68**	**4**	**11**	**153**	**176**	**412**
Federal government	67	.	1	4	47	**119**
Provincial governments	0 s	4	4	2	16	**26**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	1	.	6	134	13	**155**
Higher education	.	.	.	.	86	**86**
Private non-profit organizations	.	.	.	.	14	**14**
Foreign	.	.	0 s	13	0 s	**13**
2004 r Natural sciences						
Total	**54**	**4**	**9**	**113**	**199**	**379**
Federal government	53	.	1	5	57	**116**
Provincial governments	0 s	4	3	2	22	**31**
Provincial research organizations	.	.	0	.	.	**0**
Business enterprise	1	.	5	99	18	**123**
Higher education	.	.	.	.	89	**89**
Private non-profit organizations	.	.	.	.	12	**12**
Foreign	.	.	0 s	7	0 s	**7**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Alberta

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**126**	**150**	**..**	**1,479**	**907**	**2,662**
Federal government	124	2	..	4	221	**350**
Provincial governments	0 s	108	..	17	193	**318**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	40	..	1,412	82	**1,536**
Higher education	.	.	.	.	344	**344**
Private non-profit organizations	.	.	.	.	63	**63**
Foreign	.	..	..	46	6	**51**
2007 r Natural sciences						
Total	**115**	**139**	**..**	**1,425**	**809**	**2,488**
Federal government	114	2	..	7	183	**306**
Provincial governments	0 s	99	..	5	185	**288**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	38	..	1,341	78	**1,459**
Higher education	.	.	.	.	306	**306**
Private non-profit organizations	.	.	.	.	53	**53**
Foreign	.	..	..	72	4	**76**
2006 r Natural sciences						
Total	**133**	**124**	**..**	**1,422**	**758**	**2,438**
Federal government	132	4	..	12	189	**337**
Provincial governments	0 s	87	..	3	138	**229**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	1	33	..	1,329	75	**1,438**
Higher education	.	.	.	.	302	**302**
Private non-profit organizations	.	.	.	.	48	**48**
Foreign	.	..	..	78	6	**84**
2005 r Natural sciences						
Total	**130**	**122**	**..**	**1,208**	**786**	**2,247**
Federal government	128	4	..	21	209	**362**
Provincial governments	0 s	89	..	4	146	**239**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	30	..	1,097	62	**1,192**
Higher education	.	.	.	.	311	**311**
Private non-profit organizations	.	.	.	.	51	**51**
Foreign	.	..	..	86	7	**93**
2004 r Natural sciences						
Total	**110**	**114**	**..**	**1,139**	**729**	**2,092**
Federal government	109	2	..	10	168	**290**
Provincial governments	0 s	85	..	4	186	**275**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	1	26	..	1,035	59	**1,121**
Higher education	.	.	.	.	270	**270**
Private non-profit organizations	.	.	.	.	41	**41**
Foreign	.	..	..	90	5	**95**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — British Columbia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**93**	**32**	**..**	**1,541**	**891**	**2,558**
Federal government	89	.	..	24	312	**425**
Provincial governments	0 [s]	32	..	4	107	**143**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	3	0	..	1,229	50	**1,282**
Higher education	.	.	.	.	332	**332**
Private non-profit organizations	.	.	.	.	68	**68**
Foreign	.	.	.	285	23	**307**
2007 [r] Natural sciences						
Total	**107**	**30**	**..**	**1,579**	**848**	**2,564**
Federal government	104	.	..	34	262	**400**
Provincial governments	0 [s]	30	..	18	107	**155**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	3	0	..	1,185	46	**1,233**
Higher education	.	.	.	.	310	**310**
Private non-profit organizations	.	.	.	.	113	**113**
Foreign	.	.	.	342	11	**353**
2006 [r] Natural sciences						
Total	**91**	**15**	**..**	**1,364**	**749**	**2,219**
Federal government	89	.	..	34	247	**370**
Provincial governments	0 [s]	15	..	12	85	**113**
Provincial research organizations	.	.	..	.	.	**..**
Business enterprise	2	0	..	991	46	**1,040**
Higher education	.	.	.	.	284	**284**
Private non-profit organizations	.	.	.	.	73	**73**
Foreign	.	.	.	326	13	**339**
2005 [r] Natural sciences						
Total	**91**	**15**	**..**	**1,402**	**707**	**2,215**
Federal government	88	.	..	36	245	**369**
Provincial governments	0 [s]	15	..	11	65	**92**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	2	0	..	976	43	**1,021**
Higher education	.	.	.	.	269	**269**
Private non-profit organizations	.	.	.	.	75	**75**
Foreign	.	.	.	380	10	**390**
2004 [r] Natural sciences						
Total	**91**	**15**	**..**	**1,324**	**648**	**2,078**
Federal government	88	.	..	36	237	**362**
Provincial governments	0 [s]	15	..	10	31	**56**
Provincial research organizations	.	.	..	.	.	**0**
Business enterprise	3	0	..	950	31	**984**
Higher education	.	.	.	.	247	**247**
Private non-profit organizations	.	.	.	.	94	**94**
Foreign	.	.	.	328	8	**336**

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 Gross Domestic Expenditures on Research and Development, in the natural sciences and engineering — Yukon, Northwest Territories and Nunavut

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Natural sciences						
Total	**3**	**.**	**16**	**4**	**.**	**24**
Federal government	3	.	3	1	.	**6**
Provincial governments	.	.	1	0	.	**1**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	11	4	.	**15**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s
2007 r Natural sciences						
Total	**4**	**.**	**34**	**15**	**.**	**54**
Federal government	4	.	1	0 s	.	**5**
Provincial governments	.	.	1	0 s	.	**1**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	32	10	.	**42**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	5	.	**5**
2006 r Natural sciences						
Total	**5**	**.**	**..**	**20**	**.**	**25**
Federal government	4	.	..	0 s	.	**4**
Provincial governments	.	.	..	0 s	.	**0** s
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	14	.	**15**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	6	.	**6**
2005 r Natural sciences						
Total	**9**	**.**	**..**	**10**	**.**	**19**
Federal government	9	.	..	0 s	.	**9**
Provincial governments	.	.	..	0	.	**0** s
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	10	.	**10**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s
2004 r Natural sciences						
Total	**6**	**.**	**..**	**13**	**.**	**19**
Federal government	5	.	..	0 s	.	**5**
Provincial governments	.	.	..	0	.	**0**
Provincial research organizations	.	.	.	.	.	**.**
Business enterprise	.	.	..	13	.	**13**
Higher education	.	.	.	.	.	**.**
Private non-profit organizations	.	.	.	.	.	**.**
Foreign	.	.	.	0 s	.	**0** s

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 9

National Gross Domestic Expenditures on Research and Development, in the social sciences and humanities, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2010 p Social sciences							
Total	**218**	**41**	**..**	**..**	**2,265**	**12**	**2,535**
Federal government	218	..	..	..	479	2	**700**
Provincial governments	..	41	..	..	226	1	**268**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	37	..	**37**
Higher education	..	..	..	..	1,344	..	**1,344**
Private non-profit organizations	..	..	..	..	178	9	**187**
Foreign	..	..	..	..	..	..	**..**
2009 p Social sciences							
Total	**209**	**39**	**..**	**..**	**2,242**	**12**	**2,502**
Federal government	209	..	..	..	475	2	**685**
Provincial governments	0	39	..	..	224	1	**264**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	37	0	**37**
Higher education	..	..	..	..	1,330	..	**1,330**
Private non-profit organizations	..	..	..	..	176	9	**185**
Foreign	..	..	..	..	..	0	**0**
2008 Social sciences							
Total	**211**	**37**	**..**	**..**	**2,215**	**10**	**2,474**
Federal government	211	..	..	..	469	2	**682**
Provincial governments	0	37	..	..	221	1	**259**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	37	0 s	**37**
Higher education	..	..	..	..	1,615	..	**1,615**
Private non-profit organizations	..	..	..	..	174	8	**182**
Foreign	..	..	..	..	..	0	**0**
2007 r Social sciences							
Total	**172**	**34**	**..**	**..**	**2,062**	**13**	**2,281**
Federal government	172	..	..	..	448	1	**621**
Provincial governments	0	34	..	..	207	2	**242**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	37	0 s	**37**
Higher education	..	..	..	..	1,206	..	**1,206**
Private non-profit organizations	..	..	..	..	165	10	**175**
Foreign	..	..	..	..	..	0 s	**0** s
2006 r Social sciences							
Total	**156**	**31**	**..**	**..**	**1,911**	**15**	**2,113**
Federal government	156	..	..	..	401	1	**559**
Provincial governments	0	31	..	..	199	2	**232**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	33	0 s	**33**
Higher education	..	..	..	..	1,133	..	**1,133**
Private non-profit organizations	..	..	..	..	145	11	**156**
Foreign	..	..	..	..	..	1	**1**
2005 r Social sciences							
Total	**124**	**28**	**..**	**..**	**1,891**	**10**	**2,054**
Federal government	124	..	..	..	416	2	**543**
Provincial governments	0	28	..	..	195	2	**224**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	30	1	**30**
Higher education	..	..	..	..	1,111	..	**1,111**
Private non-profit organizations	..	..	..	..	139	7	**146**
Foreign	..	..	..	..	..	0 s	**0** s

Table 9 – continued

National Gross Domestic Expenditures on Research and Development, in the social sciences and humanities, Canada

Funding sector	Performing sector						
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations	Total
	millions of dollars						
2004 r Social sciences							
Total	**118**	**24**	**..**	**..**	**1,778**	**5**	**1,926**
Federal government	118	..	..	..	377	1	**497**
Provincial governments	0	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	..	..	..	..	..	0 s	**0** s
2003 Social sciences							
Total	**120**	**24**	**..**	**..**	**1,599**	**5**	**1,748**
Federal government	120	..	..	..	336	1	**457**
Provincial governments	0	24	..	..	204	2	**230**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	25	1	**26**
Higher education	..	..	..	..	920	..	**920**
Private non-profit organizations	..	..	..	..	114	1	**115**
Foreign	..	..	..	..	..	0 s	**0** s
2002 Social sciences							
Total	**117**	**21**	**..**	**..**	**1,414**	**4**	**1,556**
Federal government	117	..	..	..	229	1	**346**
Provincial governments	0	21	..	..	165	1	**187**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	24	1	**24**
Higher education	..	..	..	..	885	..	**885**
Private non-profit organizations	..	..	..	..	111	1	**112**
Foreign	..	..	..	..	..	0 s	**0** s
2001 Social sciences							
Total	**93**	**19**	**..**	**..**	**1,274**	**4**	**1,390**
Federal government	93	..	..	..	231	0 s	**324**
Provincial governments	0	19	..	..	142	2	**163**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	25	1	**26**
Higher education	..	..	..	..	778	..	**778**
Private non-profit organizations	..	..	..	..	98	1	**99**
Foreign	..	..	..	..	..	0 s	**0** s
2000 Social sciences							
Total	**85**	**17**	**..**	**..**	**1,202**	**3**	**1,307**
Federal government	85	..	..	..	187	0 s	**272**
Provincial governments	0	17	..	..	117	1	**136**
Provincial research organizations	..	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	22	0 s	**23**
Higher education	..	..	..	..	800	..	**800**
Private non-profit organizations	..	..	..	..	76	1	**77**
Foreign	..	..	..	..	..	0 s	**0** s

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 10-1
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Newfoundland and Labrador

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	**0** s	..	..	**37**	**37**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	0 s	..	..	2	**2**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	23	**23**
Private non-profit organizations	..	..	..	..	4	**4**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	..	**0** s	..	..	**36**	**37**
Federal government	..	..	..	..	10	**10**
Provincial governments	..	0 s	..	..	1	**2**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	21	**21**
Private non-profit organizations	..	..	..	..	4	**4**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	..	**0** s	..	..	**31**	**31**
Federal government	..	..	..	..	9	**9**
Provincial governments	..	0 s	..	..	0 s	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	19	**19**
Private non-profit organizations	..	..	..	..	2	**2**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	..	**0**	..	..	**32**	**32**
Federal government	..	..	..	..	10	**10**
Provincial governments	..	0	..	..	0 s	**0** s
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	21	**21**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	..	**0**	..	..	**27**	**27**
Federal government	..	..	..	..	7	**7**
Provincial governments	..	0	..	..	0 s	**0** s
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	18	**18**
Private non-profit organizations	..	..	..	..	2	**2**
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 10-2
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Prince Edward Island

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	..	..	..	**12**	**12**
Federal government	..	..	..	..	4	**4**
Provincial governments	..	..	..	..	..	**..**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	7	**7**
Private non-profit organizations	..	..	..	..	0 s	**0** s
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	..	..	..	..	**9**	**9**
Federal government	..	..	..	..	3	**3**
Provincial governments	..	..	..	..	..	**..**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	5	**5**
Private non-profit organizations	..	..	..	..	0	**0**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	..	..	..	..	**9**	**9**
Federal government	..	..	..	..	2	**2**
Provincial governments	..	..	..	..	..	**..**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	5	**5**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	..	..	..	..	**7**	**7**
Federal government	..	..	..	..	2	**2**
Provincial governments	..	..	..	..	..	**..**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	5	**5**
Private non-profit organizations	..	..	..	..	0 s	**0** s
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	..	..	..	..	**7**	**7**
Federal government	..	..	..	..	2	**2**
Provincial governments	..	..	..	..	..	**..**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	5	**5**
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 10-3
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Nova Scotia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	..	..	..	**81**	**81**
Federal government	..	..	..	..	19	**19**
Provincial governments	..	..	..	..	2	**2**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	0 s	**0** s
Higher education	..	..	..	..	59	**59**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	..	..	..	..	**77**	**77**
Federal government	..	..	..	..	16	**16**
Provincial governments	..	..	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	56	**56**
Private non-profit organizations	..	..	..	..	2	**3**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	..	..	..	..	**71**	**71**
Federal government	..	..	..	..	14	**14**
Provincial governments	..	..	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	0 s	**0** s
Higher education	..	..	..	..	54	**54**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	..	..	..	..	**71**	**71**
Federal government	..	..	..	..	16	**16**
Provincial governments	..	..	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	0 s	**0** s
Higher education	..	..	..	..	53	**53**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	..	..	..	..	**64**	**64**
Federal government	..	..	..	..	13	**13**
Provincial governments	..	..	..	..	2	**2**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	48	**48**
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 10-4
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — New Brunswick

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	**..**	**3**	**..**	**..**	**47**	**51**
Federal government	..	..	..	..	9	**10**
Provincial governments	..	3	..	..	1	**4**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	37	**37**
Private non-profit organizations	..	..	..	..	..	**..**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	**..**	**2**	**..**	**..**	**45**	**47**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	2	..	..	1	**3**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	35	**35**
Private non-profit organizations	..	..	..	..	..	**..**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	**..**	**..**	**..**	**..**	**44**	**44**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	..	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	35	**35**
Private non-profit organizations	..	..	..	..	..	**..**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	**..**	**..**	**..**	**..**	**46**	**46**
Federal government	..	..	..	..	11	**11**
Provincial governments	..	..	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	34	**34**
Private non-profit organizations	..	..	..	..	..	**..**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	**..**	**0**	**..**	**..**	**40**	**40**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	0	..	..	1	**1**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	31	**31**
Private non-profit organizations	..	..	..	..	..	**..**
Foreign	..	..	..	..	..	**..**

Note(s): CComponents 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 10-5
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Quebec

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	**14**	**21**	**..**	**..**	**532**	**566**
Federal government	14	..	..	..	114	**128**
Provincial governments	..	21	..	..	50	**70**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	14	**14**
Higher education	..	..	..	..	304	**304**
Private non-profit organizations	..	..	..	..	50	**50**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	**10**	**22**	**..**	**..**	**517**	**550**
Federal government	10	..	..	..	126	**137**
Provincial governments	..	22	..	..	51	**73**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	14	**14**
Higher education	..	..	..	..	283	**283**
Private non-profit organizations	..	..	..	..	42	**42**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	**10**	**22**	**..**	**..**	**481**	**514**
Federal government	10	..	..	..	98	**108**
Provincial governments	..	22	..	..	46	**69**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	13	**13**
Higher education	..	..	..	..	284	**284**
Private non-profit organizations	..	..	..	..	40	**40**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	**12**	**21**	**..**	**..**	**492**	**525**
Federal government	12	..	..	..	100	**112**
Provincial governments	..	21	..	..	52	**74**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	14	**14**
Higher education	..	..	..	..	290	**290**
Private non-profit organizations	..	..	..	..	37	**37**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	**10**	**18**	**..**	**..**	**486**	**514**
Federal government	10	..	..	..	94	**104**
Provincial governments	..	18	..	..	64	**82**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	11	**11**
Higher education	..	..	..	..	279	**279**
Private non-profit organizations	..	..	..	..	38	**38**
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 10-6
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Ontario

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	**195**	**6**	**..**	**..**	**914**	**1,114**
Federal government	195	..	..	..	175	**370**
Provincial governments	..	6	..	..	80	**85**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	18	**18**
Higher education	..	..	..	..	571	**571**
Private non-profit organizations	..	..	..	..	70	**70**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	**160**	**5**	**..**	**..**	**841**	**1,006**
Federal government	160	..	..	..	170	**330**
Provincial governments	..	5	..	..	70	**75**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	18	**18**
Higher education	..	..	..	..	518	**518**
Private non-profit organizations	..	..	..	..	64	**64**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	**146**	**4**	**..**	**..**	**799**	**949**
Federal government	146	..	..	..	170	**315**
Provincial governments	..	4	..	..	84	**88**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	16	**16**
Higher education	..	..	..	..	471	**471**
Private non-profit organizations	..	..	..	..	58	**58**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	**113**	**4**	**..**	**..**	**761**	**878**
Federal government	113	..	..	..	166	**279**
Provincial governments	..	4	..	..	80	**84**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	13	**13**
Higher education	..	..	..	..	442	**442**
Private non-profit organizations	..	..	..	..	60	**60**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	**109**	**4**	**..**	**..**	**696**	**809**
Federal government	109	..	..	..	148	**257**
Provincial governments	..	4	..	..	78	**83**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	13	**13**
Higher education	..	..	..	..	409	**409**
Private non-profit organizations	..	..	..	..	48	**48**
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 10-7
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Manitoba

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	**..**	**5**	**..**	**..**	**70**	**76**
Federal government	..	..	..	..	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	..	..	..	..	..	**..**
2007 r Social sciences						
Total	**..**	**1**	**..**	**..**	**66**	**67**
Federal government	..	..	..	..	12	**12**
Provincial governments	..	1	..	..	4	**5**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	0 s	**0** s
Higher education	..	..	..	..	43	**43**
Private non-profit organizations	..	..	..	..	6	**6**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	**..**	**1**	**..**	**..**	**63**	**65**
Federal government	..	..	..	..	12	**12**
Provincial governments	..	1	..	..	4	**5**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	41	**41**
Private non-profit organizations	..	..	..	..	6	**6**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	**..**	**1**	**..**	**..**	**67**	**68**
Federal government	..	..	..	..	13	**13**
Provincial governments	..	1	..	..	3	**4**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	44	**44**
Private non-profit organizations	..	..	..	..	6	**6**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	**..**	**1**	**..**	**..**	**60**	**60**
Federal government	..	..	..	..	12	**12**
Provincial governments	..	1	..	..	4	**4**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	38	**38**
Private non-profit organizations	..	..	..	..	5	**5**
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 10-8
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Saskatchewan

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	**1**	..	..	**63**	**63**
Federal government	..	..	..	..	17	**17**
Provincial governments	..	1	..	..	9	**10**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	36	**36**
Private non-profit organizations	..	..	..	..	1	**1**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	..	**1**	..	..	**42**	**42**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	1	..	..	4	**4**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	29	**29**
Private non-profit organizations	..	..	..	..	0 s	**0** s
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	..	..	..	..	**42**	**42**
Federal government	..	..	..	..	7	**7**
Provincial governments	..	..	..	..	6	**6**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	29	**29**
Private non-profit organizations	..	..	..	..	0 s	**0** s
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	..	**0** s	..	..	**42**	**42**
Federal government	..	..	..	..	7	**7**
Provincial governments	..	0 s	..	..	4	**4**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	30	**30**
Private non-profit organizations	..	..	..	..	0 s	**0** s
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	..	**0** s	..	..	**46**	**46**
Federal government	..	..	..	..	8	**8**
Provincial governments	..	0 s	..	..	5	**5**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	..	**..**
Higher education	..	..	..	..	32	**32**
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 10-9
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Alberta

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	**1**	..	..	**214**	**216**
Federal government	..	..	..	..	47	**47**
Provincial governments	..	0 s	..	..	48	**49**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	2	**3**
Higher education	..	..	..	..	104	**104**
Private non-profit organizations	..	..	..	..	13	**13**
Foreign	..	..	..	..	..	**..**
2007 r Social sciences						
Total	..	**2**	..	..	**195**	**197**
Federal government	..	..	..	..	42	**42**
Provincial governments	..	2	..	..	46	**48**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	3	**3**
Higher education	..	..	..	..	94	**94**
Private non-profit organizations	..	..	..	..	10	**10**
Foreign	..	..	..	..	..	**..**
2006 r Social sciences						
Total	..	**1**	..	..	**161**	**161**
Federal government	..	..	..	..	33	**33**
Provincial governments	..	1	..	..	35	**35**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	2	**2**
Higher education	..	..	..	..	82	**82**
Private non-profit organizations	..	..	..	..	9	**9**
Foreign	..	..	..	..	..	**..**
2005 r Social sciences						
Total	..	**0** s	..	..	**176**	**176**
Federal government	..	..	..	..	43	**43**
Provincial governments	..	0 s	..	..	37	**37**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	85	**85**
Private non-profit organizations	..	..	..	..	10	**10**
Foreign	..	..	..	..	..	**..**
2004 r Social sciences						
Total	..	**0**	..	..	**169**	**169**
Federal government	..	..	..	..	38	**38**
Provincial governments	..	0	..	..	46	**46**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	..	..	..	..	1	**1**
Higher education	..	..	..	..	76	**76**
Private non-profit organizations	..	..	..	..	8	**8**
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 10-10
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — British Columbia

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	**0** [s]	**1**	**..**	**..**	**245**	**246**
Federal government	0 [s]	..	..	..	63	**63**
Provincial governments	0	1	..	..	27	**27**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	0	..	..	..	1	**1**
Higher education	..	..	..	..	129	**129**
Private non-profit organizations	..	..	..	..	26	**26**
Foreign	..	..	..	..	..	**..**
2007 [r] Social sciences						
Total	**1**	**1**	**..**	**..**	**235**	**236**
Federal government	1	..	..	..	51	**52**
Provincial governments	0	1	..	..	27	**28**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	0	..	..	..	1	**1**
Higher education	..	..	..	..	121	**121**
Private non-profit organizations	..	..	..	..	35	**35**
Foreign	..	..	..	..	..	**..**
2006 [r] Social sciences						
Total	**0** [s]	**2**	**..**	**..**	**210**	**212**
Federal government	0 [s]	..	..	..	48	**48**
Provincial governments	0	2	..	..	21	**24**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	0	..	..	..	1	**1**
Higher education	..	..	..	..	113	**113**
Private non-profit organizations	..	..	..	..	26	**26**
Foreign	..	..	..	..	..	**..**
2005 [r] Social sciences						
Total	**0**	**2**	**..**	**..**	**197**	**199**
Federal government	0	..	..	..	49	**49**
Provincial governments	0	2	..	..	16	**18**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	0	..	..	..	1	**1**
Higher education	..	..	..	..	108	**108**
Private non-profit organizations	..	..	..	..	23	**23**
Foreign	..	..	..	..	..	**..**
2004 [r] Social sciences						
Total	**0**	**1**	**..**	**..**	**183**	**184**
Federal government	0	..	..	..	47	**47**
Provincial governments	0	1	..	..	8	**9**
Provincial research organizations	..	..	..	..	..	**..**
Business enterprise	0	..	..	..	0 [s]	**0** [s]
Higher education	..	..	..	..	101	**101**
Private non-profit organizations	..	..	..	..	27	**27**
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 10-11
Provincial Gross Domestic Expenditures on Research and Development, in the social sciences and humanities — Yukon, Northwest Territories and Nunavut

Funding sector	Performing sector					
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Total
	millions of dollars					
2008 Social sciences						
Total	..	..	..	..	..	..
Federal government	..	..	..	..	..	..
Provincial governments	..	..	..	..	..	..
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	..	..
Private non-profit organizations	..	..	..	..	..	..
Foreign	..	..	..	..	..	..
2007 r Social sciences						
Total	..	..	..	..	..	..
Federal government	..	..	..	..	..	..
Provincial governments	..	..	..	..	..	..
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	..	..
Private non-profit organizations	..	..	..	..	..	..
Foreign	..	..	..	..	..	..
2006 r Social sciences						
Total	..	..	..	..	..	..
Federal government	..	..	..	..	..	..
Provincial governments	..	..	..	..	..	..
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	..	..
Private non-profit organizations	..	..	..	..	..	..
Foreign	..	..	..	..	..	..
2005 r Social sciences						
Total	..	..	..	..	..	..
Federal government	..	..	..	..	..	..
Provincial governments	..	..	..	..	..	..
Provincial research organizations	..	..	..	..	..	..
Business enterprise	..	..	..	..	..	..
Higher education	..	..	..	..	..	..
Private non-profit organizations	..	..	..	..	..	..
Foreign	..	..	..	..	..	..
2004 r Social sciences						
Total	..	..	..	..	..	..
Federal government	..	..	..	..	..	..
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 GERD matrix

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 organization 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 performance 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. The GERD data draws upon 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 Expenditure on Research and Development (GERD) is the total value of *intramural* research and development expenditures (R&D) of all organizations in *performing* sectors. The data are presented in a matrix as there are two dimensions to the reporting of R&D expenditures by performing sector and funding sector. GERD data is 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. As the GERD matrices within the publication indicate, federal departments and agencies receive funding for intramural R&D performance from provincial governments and from the business enterprise sector.

The provincial governments' intramural R&D expenditures are derived from annual provincial surveys of scientific activities. The survey is conducted on a cost-shared basis, and is collected under the authority of the provincial government which means every province can choose when to participate. Survey-based expenditures for the most recent reference year are available for the following provinces: Newfoundland and Labrador, New Brunswick, Ontario, Manitoba, Alberta and British Columbia. The provincial government of Quebec conducts a survey of its intramural R&D activities which it shares with Statistics Canada to construct the GERD matrix.

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 annual survey of Research and Development in Canadian Industry is the source of the business enterprise sector's R&D expenditure data.

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. Only natural sciences and engineering data are collected and published for the business enterprise sector and provincial research organizations.

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.

Text table 1 Gross domestic expenditure on research and development (GERD) matrix - Canada

Funding sector	Performing sector Total intramural (domestic) research and development performed by:						Total
	Federal government	Provincial governments	Provincial research organizations	Business enterprise	Higher education	Private non-profit organizations[1]	
	millions of dollars						
Total	Federal government intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	Provincial governments intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	Provincial research organizations intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	Business enterprise intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	Higher education intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	Private non-profit organizations intramural (domestic) R&D expenditures provided by this performing sector and identifying the funding sector	**GERD is total intramural (domestic) R&D expenditures provided by the performing sector**
Federal government							**Federal government**
Provincial governments							**Provincial governments**
Provincial research organizations							**Provincial research organizations**
Business enterprise							**Business enterprise**
Higher education							**Higher education**
Private non-profit organizations							**Private non-profit organizations**
Foreign[2]							**Foreign**

1.These data are not distributed provincially.

2. Foreign enterprises within same group or other foreign governments or international organizations.

Data sources and methodology

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".[1] 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 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 provincial data. For these reasons, an estimate of the provincial distribution of the Canadian GERD has been prepared.

The definition of GERD in a provincial context is similar to that provided above.

The expenditures are assigned to the province 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 or country; these factors must be taken into consideration when using GERD as a provincial indicator of S&T activity.

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; it is not R&D funding from a province. 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)".[2]

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, the Northern Research Institute (Yukon), 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.

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.

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.[3]

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.

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

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		
Total sciences			
2004	48	912	**960**
2005	83	1,040	**1,123**
2006	86	1,012	**1,098**
2007	100	1,034	**1,134**
2008	105	1,041	**1,146**
Natural sciences and engineering			
2004	38	805	**844**
2005	72	930	**1,002**
2006	83	870	**953**
2007	90	878	**968**
2008	92	851	**944**
Social sciences and humanities			
2004	9	107	**116**
2005	11	110	**121**
2006	3	142	**145**
2007	10	157	**166**
2008	12	191	**202**