

SCIENCE AND TECHNOLOGY DATA

2003



Government
of Canada

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Canada

SCIENCE AND TECHNOLOGY DATA — 2003

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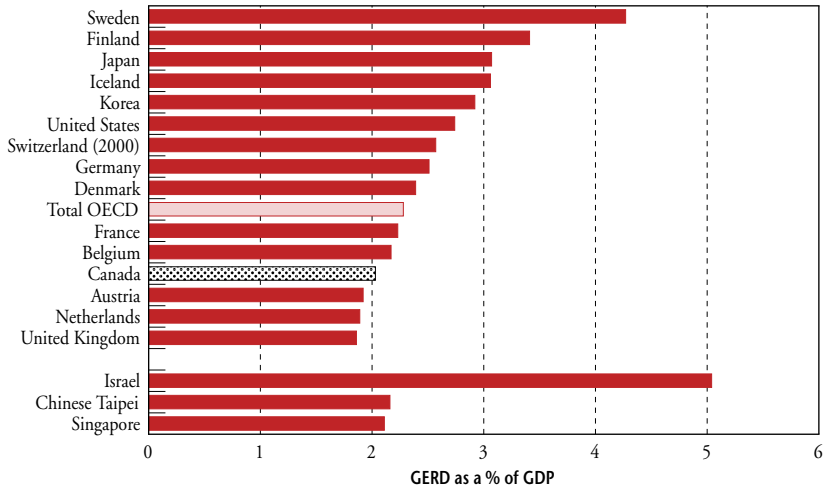
ACRONYMS AND ABBREVIATIONS

BERD	Business enterprise expenditure on research and development
GERD	Gross domestic expenditure on research and development
GDP	Gross domestic product
HE	Higher education
HERD	Higher education expenditure on research and development
ISI	Institute for Scientific Information
OECD	Organisation for Economic Co-operation and Development
PNP	Private non-profit organization
PRO	Provincial research organization
R&D	Research and development
S&T	Science and technology

DEFINITIONS

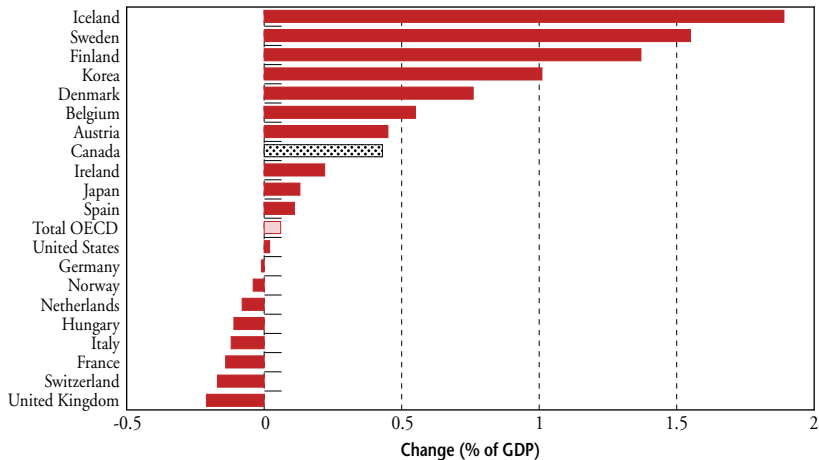
R&D	Research and development is creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of humankind, culture and society, and the use of this stock of knowledge to devise new applications.
S&T	Research and development plus related scientific activities such as scientific data collection, information services, and operation and policy studies.
Sponsored research	Research that is directly funded by sources external to the higher education sector.

GERD as a Percentage of GDP, Top OECD and Non-OECD Countries, 2001



Source: OECD, *Main Science and Technology Indicators*, 2004/1, July 2004.

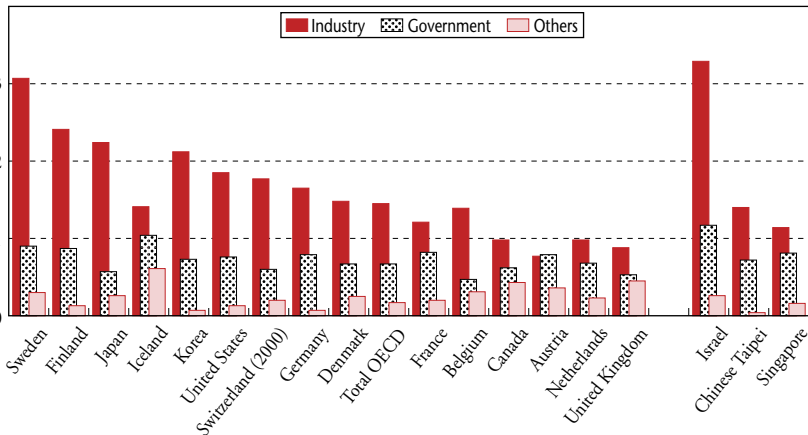
Change in GERD to GDP Ratio Between 1991 and 2001, Selected OECD Countries



Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

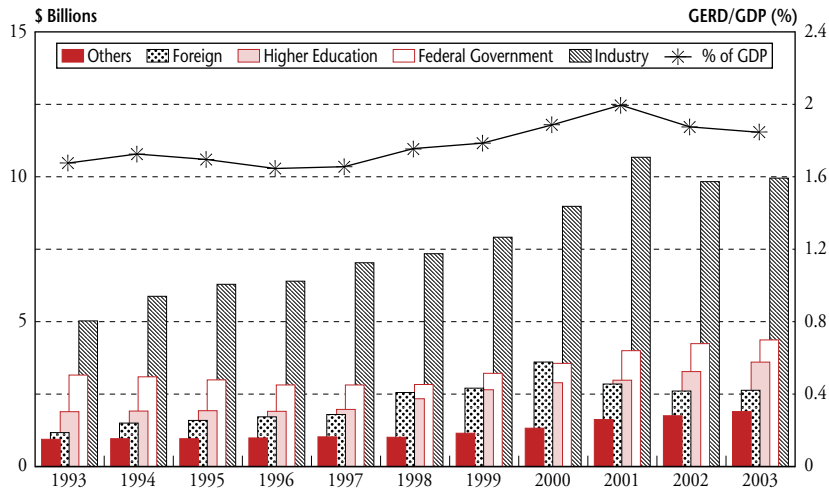
GERD by Major Source of Funds, Selected OECD and Non-OECD Countries, 2001

% of GDP



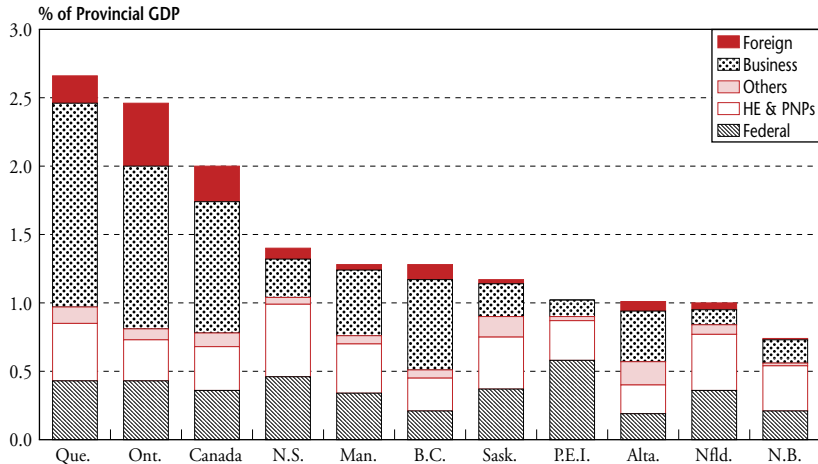
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Canada's GERD by Major Source of Funds, 1993 to 2003



Source: Statistics Canada, *Science Statistics Service Bulletin*, Vol. 28, No. 2, Cat No. 88-001-XIE, January 2004.

GERD (by Province) as a Percentage of Provincial GDP by Source of Funds, 2001



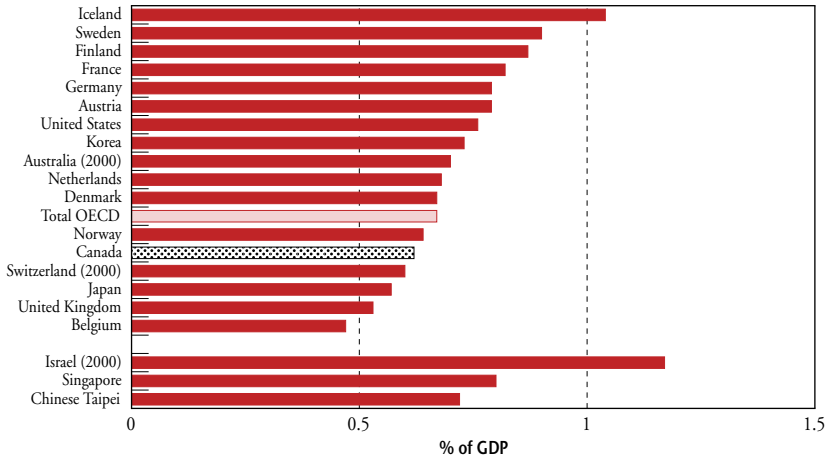
Source: Statistics Canada, *Science Statistics Service Bulletin*, Vol. 28, No. 2, Cat No. 88-001- XIE, January 2004.

Estimate of Canada's R&D Expenditures by Source of Funds and Performing Sector, 2003

Performers	Source of Funds							Percent by Performer
	Total	Federal Government	Provincial Governments	Business Enterprises	Higher Education	PNPs	Foreign	
	(\$ millions)							
Total	22 450	4368	1256	9952	3603	641	2630	100
Federal Government	2174	2114	6	54	0	0	0	10
Provincial Governments	305	0	305	0	0	0	0	1
PROs	26	1	14	10	0	0	1	0
Business Enterprises	12 060	330	53	9150	0	0	2527	54
Higher Education	7831	1919	861	730	3603	616	102	35
PNPs	54	4	17	8	0	25	0	0
Percent by Source	100	19	6	44	16	3	12	—

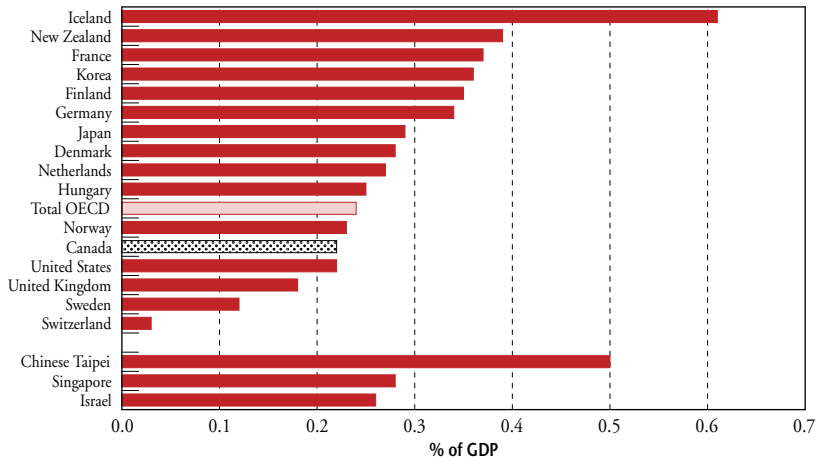
Source: Statistics Canada, *Estimates of Canadian Research and Development Expenditures (GERD), Canada, 1992 to 2003p, and by Province 1992 to 2001*, Cat. No. 88F0006XIE No. 3, January 2004.

Government-Financed R&D as a Percentage of GDP, Top OECD and Non-OECD Countries, 2001



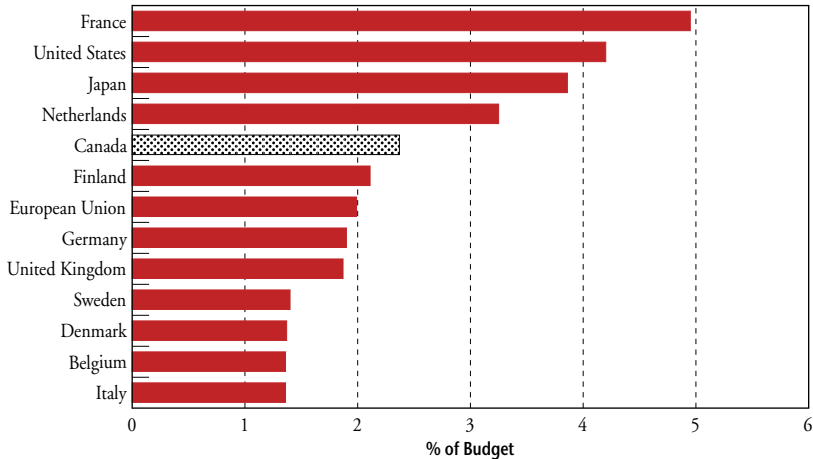
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Government-Performed R&D as a Percentage of GDP, Selected OECD and Non-OECD Countries, 2001



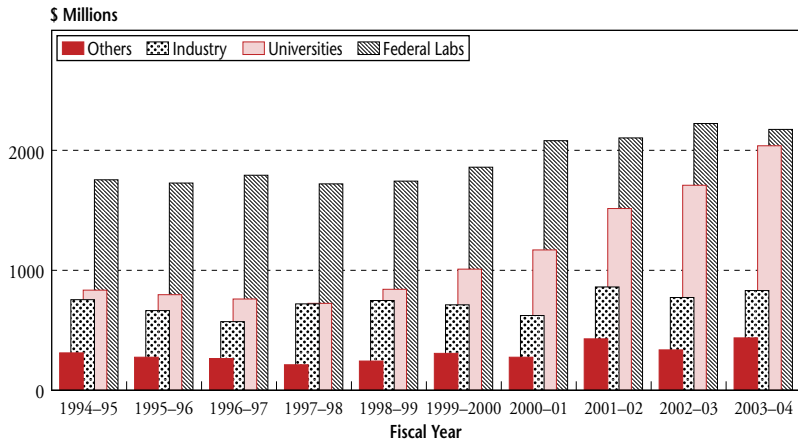
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Share of Government Budget Allocated to R&D, Selected Countries, 2000



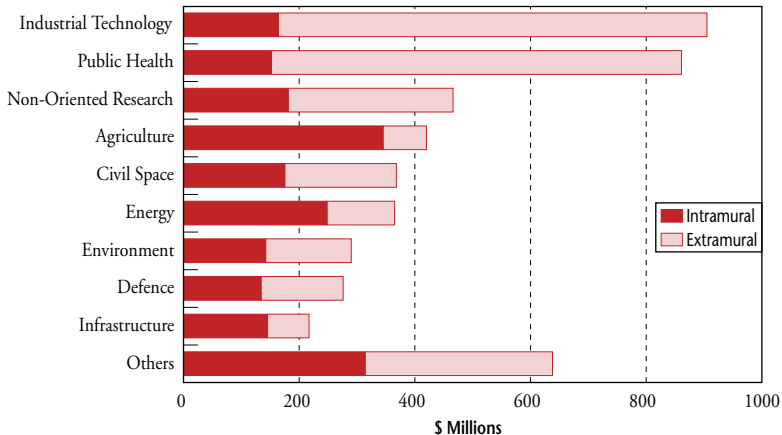
Source: European Commission, *Indicators for Benchmarking of National Research Policies*, June 2002.

Federal R&D Expenditures by Performing Sector, 1994-95 to 2003-04



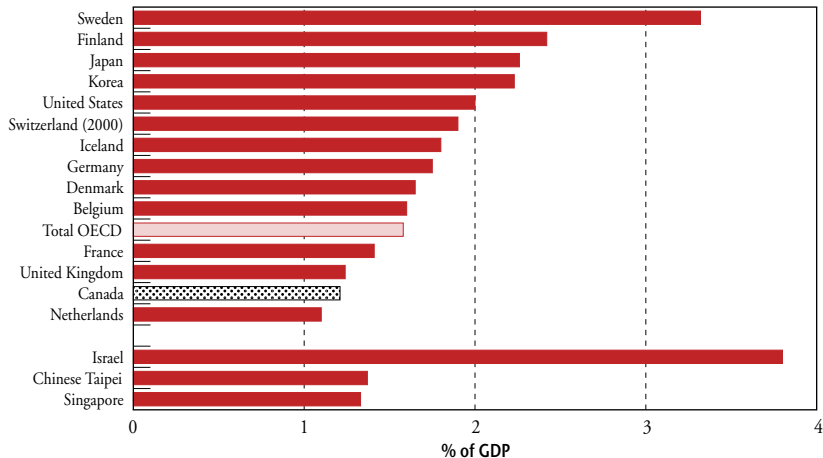
Source: Statistics Canada, *Science Statistics Service Bulletin*, Vol. 27, No. 8, Cat. No. 88-001-XIE, December 2003.

Federal R&D Expenditures by Socio-Economic Objective, 2001-02



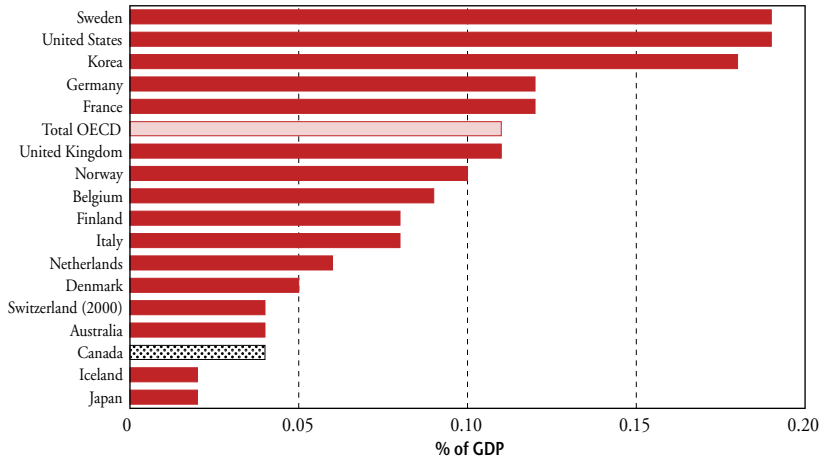
Source: Statistics Canada, *Science Statistics Service Bulletin*, Vol. 27, No. 8, Cat. No. 88-001-XIE, December 2003.

BERD as a Percentage of GDP, Top OECD and Non-OECD Countries, 2001



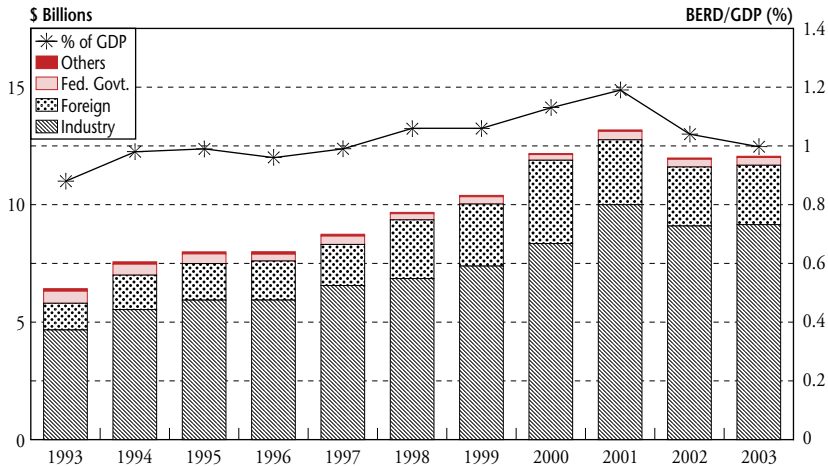
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Government-Financed BERD as a Percentage of GDP, Selected OECD Countries, 2001



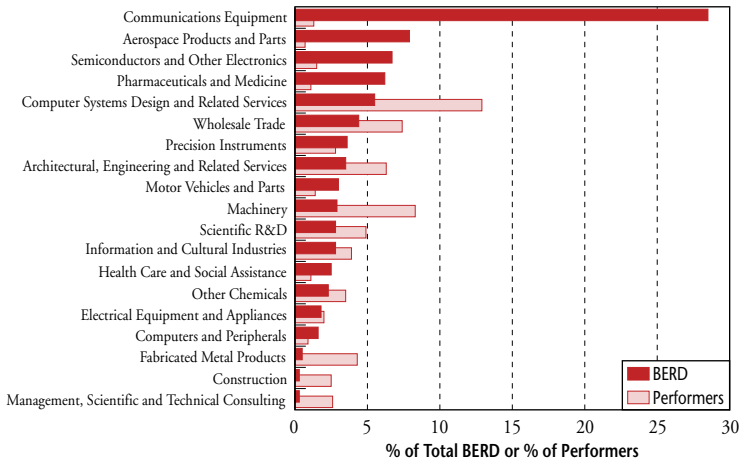
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Canada's BERD by Major Source of Funds, 1993 to 2003



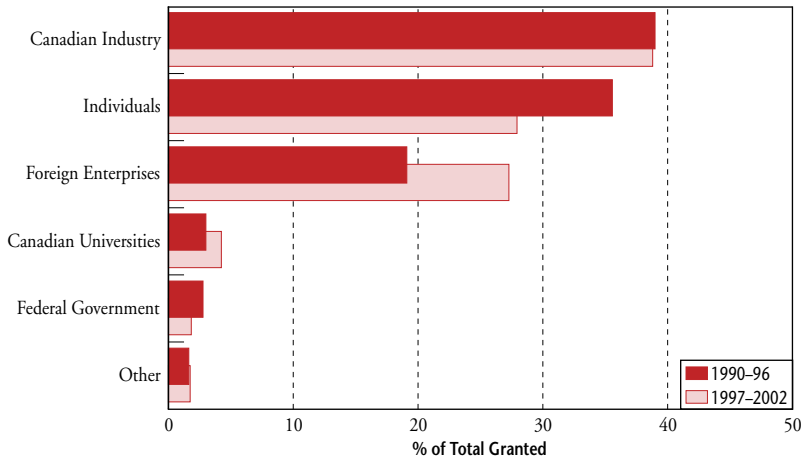
Source: Statistics Canada, *Estimates of Canadian Research and Development Expenditures, Canada, 1992 to 2003p, and by Province, 1992 to 2001*, Cat. No. 88F0006XIE No. 3, January 2004.

Distribution of Canada's BERD by Performers and Expenditures, Selected Industries, 2000



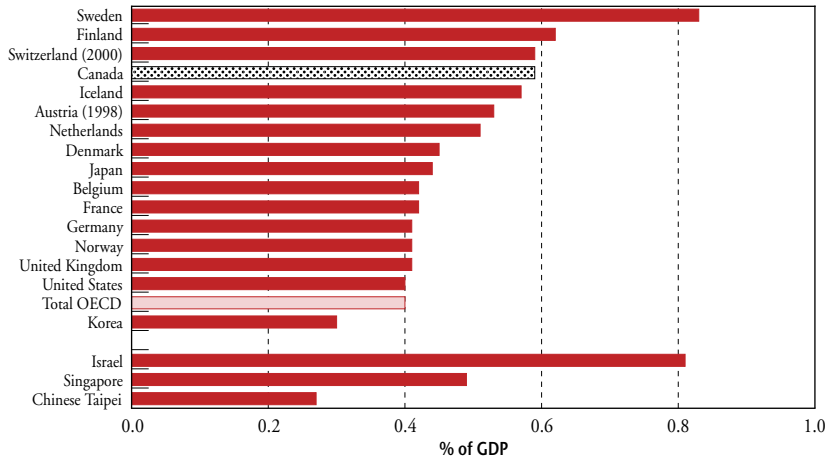
Source: Statistics Canada, *Innovation Analysis Bulletin*, Cat. No. 88-003-XIE, October 2003.

Ownership of Canadian Inventions Patented in the United States, 1990 to 2002



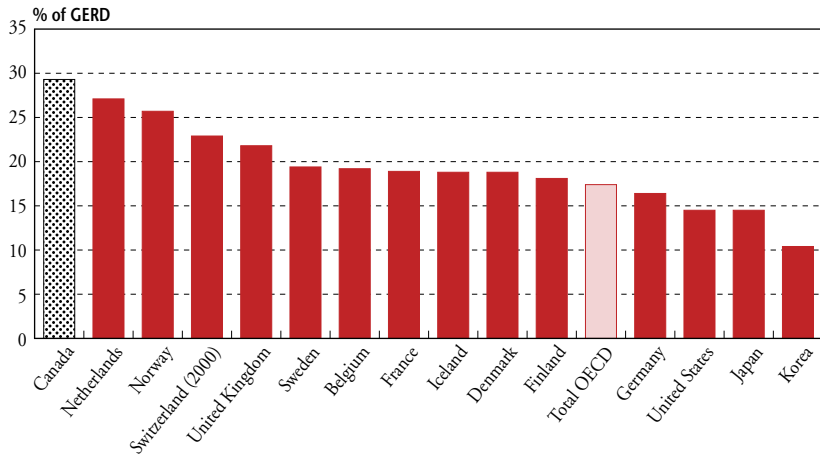
Source: Observatoire des sciences et des technologies, private communication, February 2004.

HERD as a Percentage of GDP, Top OECD and Non-OECD Countries, 2001



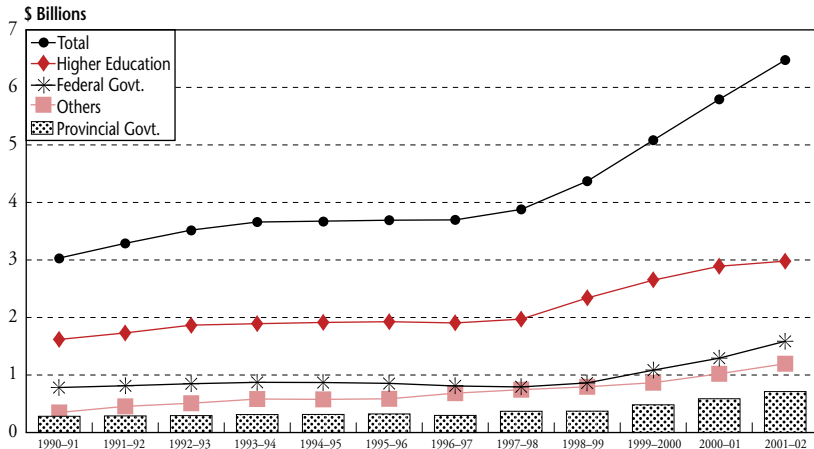
Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

HERD as a Percentage of GERD, Selected OECD Countries, 2001



Source: OECD, *Main Science and Technology Indicators 2004/1*, July 2004.

Canada's HERD by Major Source of Funds, 1990-91 to 2001-02



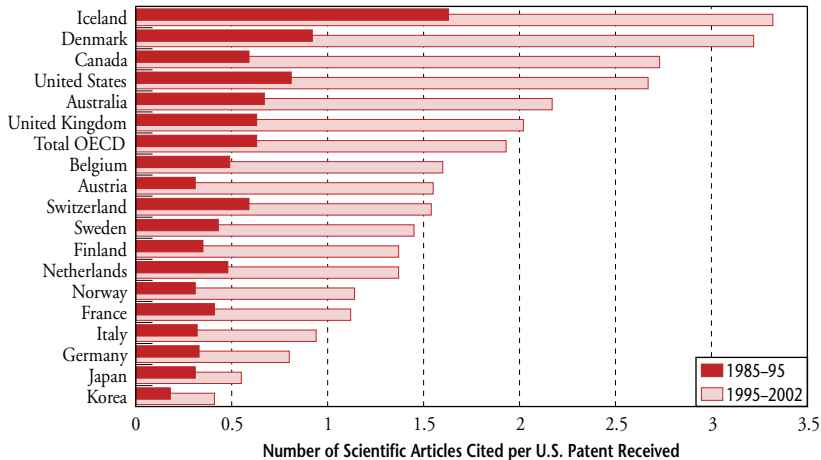
Source: Statistics Canada, *Science Statistics Service Bulletin*, Vol. 28, No. 1, Cat. No. 88-001-XIE, January 2004.

Canada's Bibliometric Ranking in Selected Fields of Science, 1992 to 2002

Field of Science	Rank		Field of Science	Rank	
	Papers	Citations per Paper		Papers	Citations per Paper
All Fields	6	17	Engineering	6	18
Environment/Ecology	2	17	Clinical Medicine	7	7
Psychiatry/Psychology	3	7	Immunology	7	8
Plant and Animal Science	4	14	Pharmacology and Toxicology	7	9
Geosciences	4	21	Agricultural Sciences	7	12
Neuroscience	5	9	Space Sciences	8	3
Biology and Biochemistry	6	5	Material Sciences	9	7
Computer Sciences	6	10	Physics	10	11
Microbiology	6	15	Chemistry	11	5
Molecular Biology and Genetics	6	15			

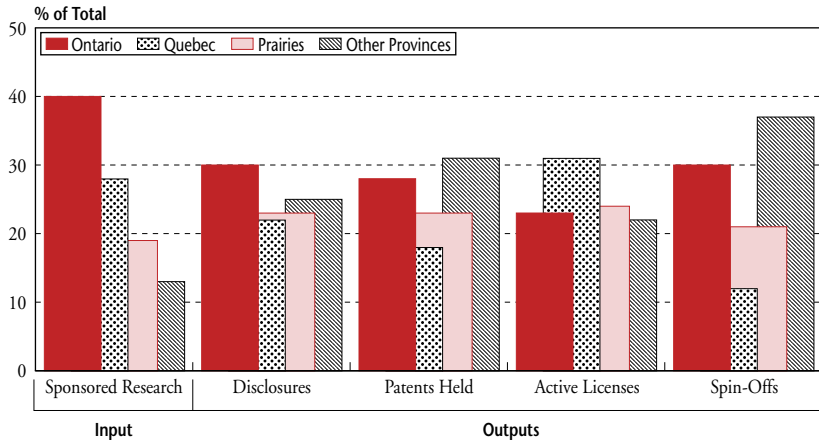
Source: ISI Essential Science Indicators (www.in-cites.com/countries/canada.html).

Industry–Science Relations: Science Linkages in OECD Countries, Averages for 1985–95 and 1995–2002



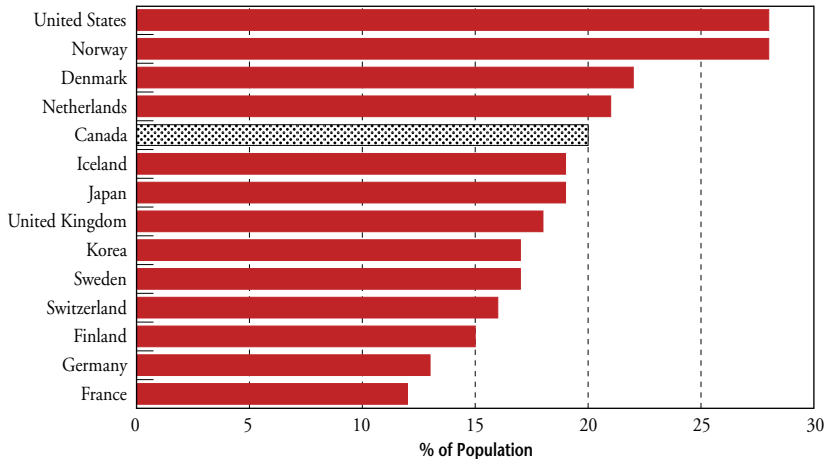
Source: CHI Research, November 2003.

Indicators of the Input and Some Commercialization Outputs of University Research by Province or Region, 2001



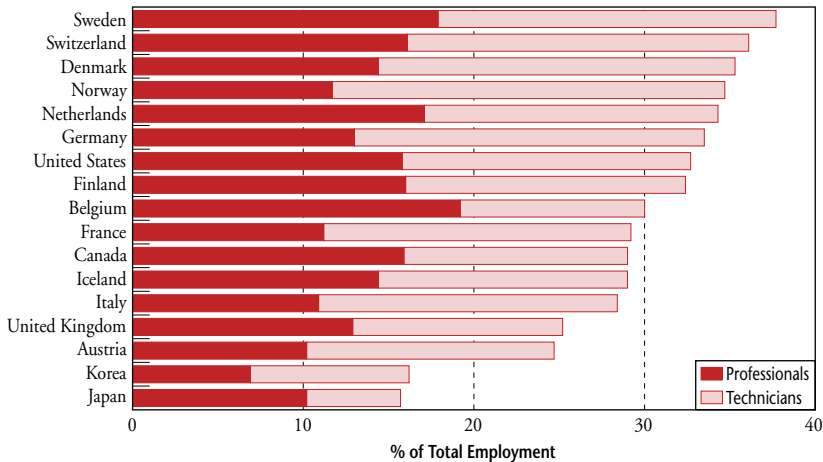
Source: Statistics Canada, *Intellectual Property Commercialization in the Higher Education Sector*, Cat. No. 88F0006XIE200312, October 2003.

Percentage of the Population Aged 25 to 64 with a University Degree, Selected OECD Countries, 2001



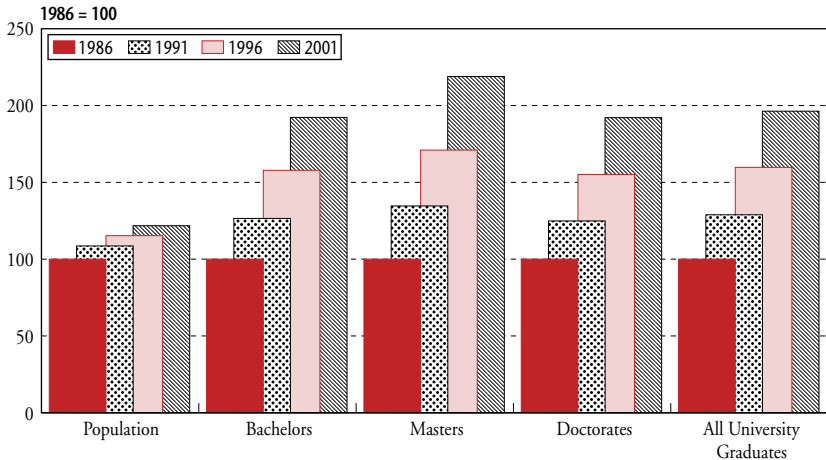
Source: OECD, *Education at a Glance 2003*, September 2003.

Science and Engineering Occupations as a Percentage of Total Employment in OECD Countries, 2002



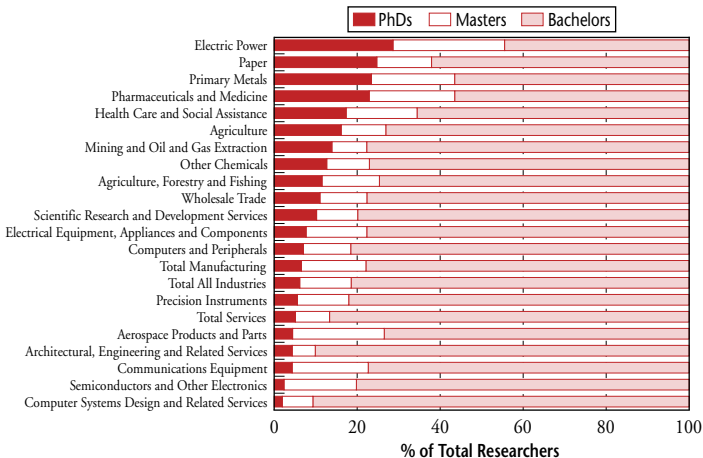
Source: OECD, *Science, Technology and Industry Scoreboard 2003*, September 2003.

Relative Growth in Population and University Graduates Aged 15 and Over, 1986 to 2001



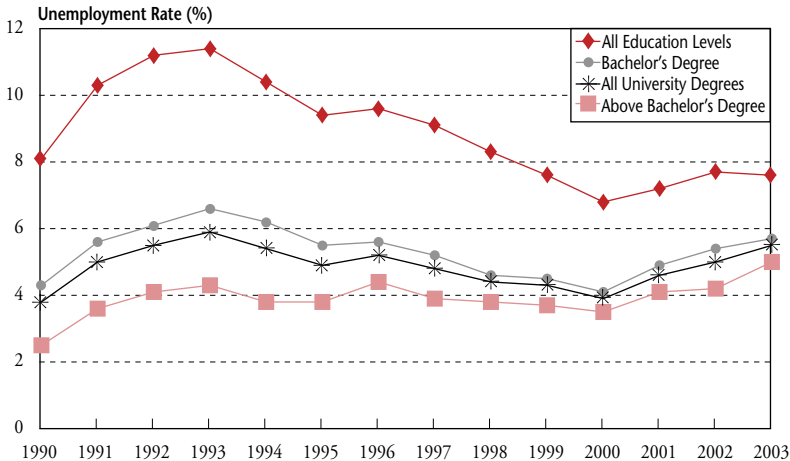
Source: Statistics Canada, *Census of Canada 2001*, Cat. No. 97F0017XCB01006.

Research Scientists and Engineers in Selected Industries by Degree Level, 2001



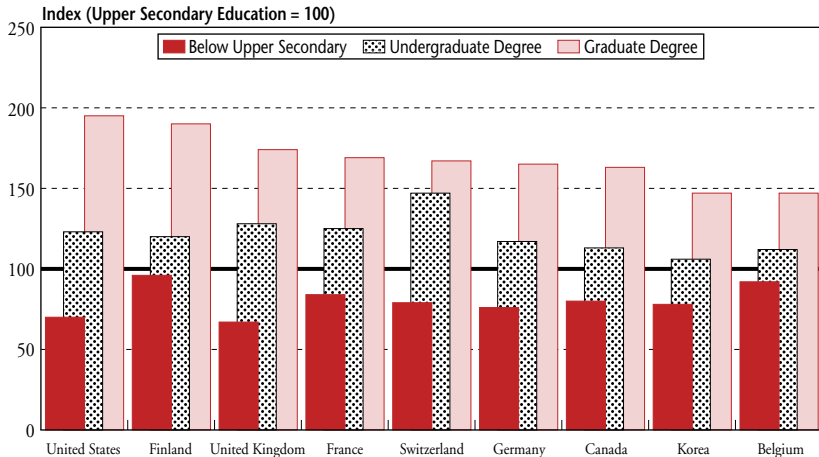
Source: Statistics Canada, *Industrial Research and Development — 2003 Intentions*, Cat. No. 88-202-XIE, December 2003.

Unemployment Rate for the Labour Force Aged 15 and Over, by Degree Level, 1990 to 2003



Source: Statistics Canada, *Labour Force Historical Review 2003*, Cat. No. 71F0004XCB, February 2004.

Relative Earnings of the Population Aged 25 to 64, by Educational Achievement, 1999



Source: OECD, *Education at a Glance 2003*, September 2003.

NOTES
