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# Statistical Tabulations

# Totalisations statistiques

Canada

FEDERAL GOVERNMENT EXPENDITURES

ON R & D

1973-74 TO 1982-83

Science Centre  
Statistics de la statistique  
Centre des sciences

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FEDERAL GOVERNMENT EXPENDITURES

ON R & D

1973-74 TO 1982-83

Science Statistics Centre  
SS 82-2

July 1982

## Introduction

This document presents historical tables displaying Federal Government Expenditures on Research and Development from 1973-74 to 1982-83. The statistics for 1974-75 were obtained from the Statistics Canada Federal Government activities historical series and from the Main Estimates "science addendum" for later years.

Expenditures shown by performing sectors other than the Federal Government (extramural expenditures) may differ from those shown in other documents for these sectors. For various reasons, a performer may not identify the same amount as the funder. Hence the funding of R & D by the Federal Government, as reported by performers in sectors such as Canadian Industry, may differ from the amounts shown in this report.

The term human sciences is to be regarded as synonymous with social sciences and humanities and thus embraces all disciplines involving the study of human actions and conditions and the social, economic and institutional mechanisms affecting humans. Included are such disciplines as anthropology, business administration and commerce, communications, criminology, demography, economics, geography, history, languages, literature and linguistics, law, library science, philosophy, political science, psychology, religious studies, social work, sociology, and urban and regional studies.

The natural sciences consists of disciplines concerned with understanding, exploring, developing or utilizing the natural world. Included are the engineering, mathematical, life and physical sciences.

### Performing Sectors:

Intramural - includes Federal Government departments and agencies such as AECL and NRC, but excludes more commercially-oriented enterprises such as the CNR or Air Canada which would be included in the Canadian Industry sector.

Canadian Industry - business and government enterprises including public utilities and government-owned firms. Industrial research institutes located at Canadian universities are considered to be in the university sector.

Canadian universities - including affiliated institutes owned, administered or staffed by universities.

Canadian non-profit institutions - charitable foundations, voluntary health organizations, scientific and professional societies, and other organizations not established to earn profits. Non-profit institutions primarily serving or controlled by another sector should be included in the controlling sector (e.g., the Pulp and Paper Research Institute is in Canadian Industry).

Canadian provincial and municipal governments - departments and agencies of these governments. Government enterprises, such as provincial utilities, are included in the Canadian industry sector, and hospitals in the Canadian non-profit institutions sector.

Foreign performers - all foreign government agencies, foreign companies (including foreign subsidiaries of Canadian firms), international organizations, non-resident foreign nationals and Canadians studying or teaching abroad.

Other performers - include provincial research councils, and individuals or organizations in Canada not belonging to any of the above sectors.

Please forward any comments or questions regarding these tables to:

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## **PUBLICATIONS ON SCIENCE STATISTICS**

1. Available from Statistics Canada:

(a) **Annual Review of Science Statistics**, Catalogue 13-212 (released in May);

(b) **Science Statistics**, Catalogue 13-003 (a service bulletin with 8 to 12 issues every year).

### Issues of catalogue 13-003 published in 1982

"The Investment Tax Credit for R & D, 1977 to 1979"

"The Special Research Allowance, 1978 and 1979"

"Federal Government Activities in the Natural Sciences, by Region, 1980-81"

"Industrial Research and Development Expenditures, 1972 to 1982"

"Total R & D Expenditures: Estimates to 1982"

"Federal Government Activities in the Natural Sciences, 1982-83"

"Federal Government Activities in the Social Sciences, 1982-83"

### To Come

"R & D in the Petroleum Industry, 1977-1983"

Contact: Publications Sales and Services  
Statistics Canada  
Ottawa, Ontario.

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Telephone: (613) 992-3151

2. Available from the Ministry of State for Science and Technology:

- (a) Federal Science Activities, 1982-83
- (b) Federal Science Expenditures and Manpower, 1982-1983
- (c) Directory of Scientific and Technological Capabilities in Canadian Industry (1977)
- (d) Addendum to the Directory of Scientific and Technological Capabilities in Canadian Industry (1979)

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#### **TABULATIONS AVAILABLE ON SCIENCE STATISTICS**

1. Listing of Federal Scientific Establishments, 1980-81. SS 82-1
2. Standard Industrial R & D Tables, 1963-1982. SS 82-3
3. Federal Government Expenditures on Activities in the Natural Sciences, by Department and Activity, 1963-1964 to 1982-1983. SS 82-4 (43 pages).
4. R & D Expenditures in Canada 1963-1982. SS 82-5
5. Federal Government Expenditures on Activities in the Social Sciences and Humanities, 1970-71 to 1982-83. SS 82-6
6. Federal Government Personnel Engaged in Scientific Activities, by Department and Category, 1975-76 to 1982-83. SS 82-7

These tabulations are available from:

Science Statistics Centre,  
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Federal Government Expenditures on R & D, 1973-74 to 1982-83

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Symbols

- .. figures not available
- ... figures not appropriate or not applicable
- nil or zero
- amount too small to be expressed

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a)

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Agriculture</u>										
<b>Total</b>	<b>75.6</b>	<b>89.1</b>	<b>110.4</b>	<b>111.3</b>	<b>119.3</b>	<b>130.6</b>	<b>149.6</b>	<b>162.1</b>	<b>180.3</b>	<b>211.7</b>
Intramural	74.8	87.9	108.1	107.4	114.6	126.1	142.8	153.2	170.7	199.8
Cdn industry	-	-	0.2	0.5	0.7	1.1	2.1	3.1	3.8	5.1
Cdn universities	0.8	1.1	1.7	3.0	3.4	2.7	3.5	3.8	4.4	5.6
Cdn non-profit	-	-	-	-	0.4	0.3	0.4	0.4	0.5	0.7
Prov & mun govts	-	-	...	...	0.1	0.1	-	1.7	0.3	-
Other Canadian	-	-	0.4	0.5	-	0.1	0.7	-	-	-
Foreign	-	-	-	-	-	-	-	-	0.7	0.6
<u>Agric: Canadian Grain Commission</u>										
Intramural	0.9	0.9	1.1	1.1	1.5	1.5	1.5	1.5	1.8	2.1
<u>Agric: Health of Animals</u>										
Intramural	2.5	3.3	4.6	3.9	4.5	...	...	...	...	...
<u>Agric: Production and Marketing</u>										
<b>Total</b>	<b>0.2</b>	<b>0.2</b>	<b>0.7</b>	<b>1.0</b>	<b>1.2</b>	...	...	...	...	...
Intramural	0.2	0.2	0.2	0.2	0.2	...	...	...	...	...
Cdn industry	-	-	-	0.1	0.1	...	...	...	...	...
Cdn universities	-	-	0.3	0.4	0.5	...	...	...	...	...
Cdn non-profit	-	-	-	-	0.3	...	...	...	...	...
Other Canadian	-	-	0.2	0.3	-	...	...	...	...	...
<u>Agric: Food Regulation and Inspection</u>										
Intramural	...	...	...	...	...	5.5	5.3	5.2	5.8	8.8

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Agric: Food Development</u>										
<b>Total</b>	<b>72.0</b>	<b>84.5</b>	<b>104.0</b>	<b>105.3</b>	<b>112.1</b>	<b>123.4</b>	<b>142.8</b>	<b>155.4</b>	<b>172.7</b>	<b>200.8</b>
Intramural	71.2	83.3	102.2	102.1	108.4	119.1	136.1	146.5	163.1	188.9
Cdn industry	-	—	0.2	0.4	0.6	1.1	2.1	3.1	3.8	5.1
Cdn universities	0.8	1.1	1.4	2.6	2.9	2.7	3.5	3.8	4.4	5.6
Cdn non-profit	-	-	-	—	0.1	0.3	0.4	0.4	0.5	0.7
Prov & mun govts	-	0.1	...	...	0.1	0.1	—	1.7	0.3	-
Other Canadian	—	—	0.2	0.2	—	0.1	0.7	-	-	-
Foreign	-	-	-	-	-	—	—	—	0.7	0.6
<u>Atomic Energy of Canada Ltd.</u>										
<b>Total</b>	<b>73.3</b>	<b>85.3</b>	<b>63.3</b>	<b>66.0</b>	<b>61.8</b>	<b>77.0</b>	<b>75.4</b>	<b>78.8</b>	<b>96.2</b>	<b>110.5</b>
Intramural	67.2	78.6	58.1	60.0	57.3	67.8	63.9	68.8	82.4	95.4
Cdn industry	5.1	5.5	4.2	5.1	3.5	7.1	9.8	7.7	11.2	12.2
Cdn universities	0.6	0.8	0.6	0.5	0.5	0.8	1.3	1.8	1.9	2.1
Cdn non-profit	-	—	-	-	-	0.3	-	-	-	-
Other Canadian	0.4	0.4	0.4	0.4	0.5	0.9	0.3	0.3	0.1	0.1
Foreign	—	—	—	—	—	0.1	0.1	0.2	0.6	0.6
<u>Communications</u>										
<b>Total</b>	<b>28.5</b>	<b>33.7</b>	<b>30.0</b>	<b>18.9</b>	<b>30.8</b>	<b>56.4</b>	<b>54.6</b>	<b>61.8</b>	<b>77.5</b>	<b>63.1</b>
Intramural	12.2	18.0	19.1	14.9	26.6	49.2	39.8	43.0	51.1	53.7
Cdn industry	14.8	13.3	9.4	3.3	3.5	6.1	12.5	16.2	22.1	8.4
Cdn universities	0.6	0.8	0.7	0.6	0.7	0.8	0.8	1.0	1.0	1.0
Foreign	0.9	1.6	0.8	0.1	-	0.3	1.4	1.6	3.3	-
<u>Energy, Mines &amp; Resources</u>										
<b>Total</b>	<b>40.3</b>	<b>40.4</b>	<b>47.5</b>	<b>61.8</b>	<b>79.7</b>	<b>90.2</b>	<b>107.3</b>	<b>137.2</b>	<b>185.4</b>	<b>225.6</b>
Intramural	34.9	37.2	42.1	47.8	55.2	65.9	63.8	74.2	91.0	103.0

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Energy, Mines &amp; Resources -</u>										
<u>Continued</u>										
Cdn industry	3.9	1.6	2.3	5.0	7.8	8.1	9.9	21.2	27.1	26.1
Cdn universities	1.2	1.2	1.3	1.3	2.4	2.5	1.4	2.9	4.2	4.6
Cdn non-profit	-	-	0.4	0.9	1.1	1.8	1.4	0.8	1.9	2.4
Prov & mun govts	-	-	...	...	11.0	11.4	29.1	28.3	44.3	54.3
Other Canadian	0.3	0.3	1.4	6.7	2.0	0.4	0.7	1.0	1.9	2.3
Foreign	0.1	0.1	-	-	0.2	0.1	1.0	1.4	1.2	2.9
<u>EMR: Minerals and</u>										
<u>Earth Science Services(b)</u>										
<b>Total</b>	<b>11.5</b>	<b>12.0</b>	<b>14.5</b>	<b>33.0</b>	<b>37.1</b>	<b>42.9</b>	<b>72.6</b>	<b>91.2</b>	<b>119.4</b>	<b>150.3</b>
Intramural	10.9	10.7	11.8	27.0	29.9	37.5	62.9	81.1	103.5	129.7
Cdn industry	0.1	0.8	1.8	4.5	5.6	3.9	6.5	4.6	8.5	10.6
Cdn universities	0.3	0.4	0.4	0.8	0.8	1.0	1.4	2.6	4.1	4.4
Cdn non-profit	-	-	-	-	-	-	0.2	0.7	0.2	0.3
Prov & mun govts	-	-	...	...	0.2	0.2	-	-	-	-
Other Canadian	0.2	0.1	0.6	0.6	0.5	0.3	0.7	1.1	1.9	2.3
Foreign	-	-	-	-	0.1	-	0.9	1.1	1.2	2.9
<u>EMR: Mineral &amp; Energy</u>										
<u>Resources</u>										
<b>Total</b>	<b>28.8</b>	<b>28.4</b>	<b>33.0</b>	...	...	...	...	...	...	...
Intramural	23.9	26.5	30.3	...	...	...	...	...	...	...
Cdn industry	3.8	0.8	0.4	...	...	...	...	...	...	...
Cdn universities	0.9	0.8	0.9	...	...	...	...	...	...	...
Cdn non-profit	-	-	0.4	...	...	...	...	...	...	...
Other Canadian	0.1	0.2	0.9	...	...	...	...	...	...	...
Foreign	0.1	0.1	-	...	...	...	...	...	...	...

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) Minerals are included only after 1978-79.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>EMR: Energy</u>										
<b>Total</b>	...	...	...	<b>16.3</b>	<b>27.7</b>	<b>33.6</b>	<b>34.7</b>	<b>45.7</b>	<b>65.7</b>	<b>74.8</b>
Intramural	...	...	...	8.8	11.4	15.2	0.9	0.5	1.2	3.3
Cdn industry	...	...	...	0.3	1.7	4.0	3.4	16.6	18.6	15.5
Cdn universities	...	...	...	0.1	1.2	1.3	—	0.2	0.1	0.1
Cdn non-profit	...	...	...	0.9	1.1	1.7	1.3	—	1.7	2.1
Prov & mun govts	...	...	...	...	10.7	11.2	29.0	28.3	44.3	54.3
Other Canadian	...	...	...	5.9	1.5	0.1	—	—	—	—
Foreign	...	...	...	—	0.1	0.1	0.1	0.3	—	—
<u>EMR: Minerals(b)</u>										
<b>Total</b>	...	...	...	<b>12.5</b>	<b>14.9</b>	<b>13.8</b>	...	...	...	...
Intramural	...	...	...	12.0	13.9	13.2	...	...	...	...
Cdn industry	...	...	...	0.1	0.5	0.2	...	...	...	...
Cdn universities	...	...	...	0.1	0.3	0.2	...	...	...	...
Cdn non-profit	—	—	—	—	—	0.1	...	...	...	...
Prov & mun govts	...	...	...	...	0.1	—	...	...	...	...
Other Canadian	...	...	...	0.2	0.1	0.1	...	...	...	...
<u>Environment</u>										
<b>Total</b>	<b>89.6</b>	<b>104.6</b>	<b>113.8</b>	<b>117.2</b>	<b>120.1</b>	<b>69.6</b>	<b>76.4</b>	<b>96.7</b>	<b>110.4</b>	<b>130.6</b>
Intramural	80.0	91.5	102.5	106.1	106.0	59.7	60.3	76.7	88.1	107.9
Cdn industry	4.7	4.1	5.2	5.6	6.9	3.8	10.3	13.2	14.1	12.2
Cdn universities	3.2	3.7	3.8	2.7	3.6	2.6	2.2	3.2	3.3	3.5
Cdn non-profit	0.3	0.9	1.0	1.7	1.5	1.7	2.7	2.7	3.7	5.6
Prov & mun govts	0.7	3.3	...	...	—	0.8	0.2	0.3	0.3	0.3
Other Canadian	0.7	1.1	1.1	0.9	1.7	0.8	0.5	0.4	0.6	0.7
Foreign	—	0.1	0.2	—	0.3	0.1	0.2	0.2	0.2	0.2

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) As of 1979-80, Minerals are combined with Earth Sciences.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Envir: Administration</u>										
Intramural	-	-	-	-	-	0.5	0.6	0.5	0.5	0.5
<u>Envir: Environmental Services</u>										
<u>Program:</u>										
<u>Atmospheric Environment</u>										
<b>Total</b>	<b>7.0</b>	<b>7.9</b>	<b>8.6</b>	<b>10.8</b>	<b>11.8</b>	<b>12.8</b>	<b>12.7</b>	<b>20.9</b>	<b>24.8</b>	<b>29.2</b>
Intramural	6.3	6.8	7.1	9.6	10.0	12.2	12.2	20.2	24.0	28.3
Cdn industry	0.2	0.3	0.4	0.5	1.2	-	-	-	-	-
Cdn universities	0.5	0.7	1.0	0.5	0.5	0.4	0.4	0.6	0.7	0.8
Cdn non-profit	-	-	-	-	-	0.1	0.1	-	-	-
Other Canadian	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1
Foreign	-	--	0.1	--	--	-	-	--	-	-
<u>Environmental Conservation(b)</u>										
<b>Total</b>	<b>47.9</b>	<b>54.1</b>	<b>53.8</b>	<b>54.1</b>	<b>46.7</b>	<b>19.5</b>	<b>18.4</b>	<b>18.7</b>	<b>20.2</b>	<b>23.1</b>
Intramural	40.5	44.9	47.2	49.4	42.5	17.1	17.2	17.5	18.8	21.6
Cdn industry	3.7	2.4	2.8	1.1	0.4	0.3	0.5	0.2	0.2	0.2
Cdn universities	2.2	2.3	2.3	1.5	1.9	1.3	0.5	0.8	0.8	0.9
Cdn non-profit	0.2	0.7	0.5	1.5	1.2	0.1	--	-	-	-
Prov & mun govts	0.7	3.3	...	...	--	0.7	0.1	0.1	0.1	0.1
Other Canadian	0.6	0.6	0.8	0.5	0.5	-	0.2	0.2	0.2	0.2
Foreign	--	--	--	--	0.2	--	--	--	--	--
<u>Environmental Protection</u>										
<b>Total</b>	<b>2.3</b>	<b>3.1</b>	<b>4.9</b>	<b>5.0</b>	<b>6.5</b>	<b>6.9</b>	<b>4.6</b>	<b>5.8</b>	<b>5.8</b>	<b>7.7</b>
Intramural	2.2	2.6	3.1	2.7	2.9	2.8	2.3	2.7	2.9	3.5
Cdn industry	--	0.5	1.7	2.2	2.8	3.1	1.8	2.1	2.2	3.4
Cdn universities	--	--	--	--	0.2	0.4	0.3	0.5	0.3	0.3
Cdn non-profit	-	-	-	-	-	0.1	0.1	0.2	0.1	0.1
Prov & mun govts	-	-	...	...	-	0.1	0.1	0.1	0.1	0.1
Other Canadian	--	--	0.1	--	0.6	0.4	0.2	0.1	0.3	0.3
Foreign	-	-	-	-	-	--	--	0.1	--	--

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) Before 1978-79, called Environmental Management Services, and included Forestry.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Envir: Environmental Services</u>										
<u>Program</u>										
<u>Forestry(c)</u>										
<b>Total</b>	...	...	...	...	...	<b>29.8</b>	<b>39.7</b>	<b>50.4</b>	<b>58.6</b>	<b>69.7</b>
Intramural	...	...	...	...	...	27.0	28.0	35.7	41.8	53.9
Cdn industry	...	...	...	...	...	0.4	8.0	10.8	11.6	8.4
Cdn universities	...	...	...	...	...	0.4	1.0	1.2	1.4	1.5
Cdn non-profit	...	...	...	...	...	1.5	2.5	2.5	3.6	5.5
Prov & mun govts	...	...	...	...	...	—	0.1	0.1	0.1	0.1
Other Canadian	...	...	...	...	...	0.4	—	—	—	0.1
Foreign	...	...	...	...	...	0.1	0.1	0.1	0.2	0.2
<u>Fisheries and Marine(b)</u>										
<b>Total</b>	<b>32.4</b>	<b>39.5</b>	<b>46.5</b>	<b>47.3</b>	<b>55.1</b>	...	...	...	...	...
Intramural	31.0	37.2	45.1	44.4	50.6	...	...	...	...	...
Cdn industry	0.7	0.9	0.3	1.8	2.5	...	...	...	...	...
Cdn universities	0.5	0.7	0.6	0.7	1.0	...	...	...	...	...
Cdn non-profit	0.1	0.1	0.2	0.2	0.3	...	...	...	...	...
Other Canadian	0.1	0.4	0.3	0.2	0.5	...	...	...	...	...
Foreign	—	—	—	—	0.1	...	...	...	...	...
<u>Fisheries and Oceans</u>										
<b>Total</b>	...	...	...	...	...	<b>65.9</b>	<b>56.3</b>	<b>58.4</b>	<b>65.1</b>	<b>65.9</b>
Intramural	...	...	...	...	...	57.3	50.0	51.9	56.9	55.0
Cdn industry	...	...	...	...	...	5.0	3.3	3.4	5.2	7.1
Cdn universities	...	...	...	...	...	0.8	1.2	1.2	1.2	1.6
Cdn non-profit	...	...	...	...	...	1.5	1.4	1.5	1.5	1.7
Prov & mun govts	...	...	...	...	...	0.9	—	—	—	—
Other Canadian	...	...	...	...	...	0.4	0.3	0.3	0.3	0.4
Foreign	...	...	...	...	...	0.1	0.1	0.1	—	0.1

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) Transferred to Fisheries & Oceans 1978-79.

(c) Included with Environmental Management Services before 1978-79.



Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Industry, Trade &amp; Commerce</u>										
<b>Total</b>	<b>106.7</b>	<b>97.6</b>	<b>97.0</b>	<b>113.3</b>	<b>91.8</b>	<b>60.0</b>	<b>82.7</b>	<b>93.9</b>	<b>137.8</b>	<b>167.1</b>
Intramural	3.4	3.1	3.0	3.2	3.6	4.2	7.5	6.9	7.8	9.3
Cdn industry	101.1	92.6	91.9	105.6	85.3	54.3	74.0	84.2	128.1	155.9
Cdn universities	0.9	0.9	0.3	0.6	0.5	0.6	0.8	1.0	1.4	1.4
Cdn non-profit	0.3	0.3	0.9	3.5	2.0	0.4	0.4	0.4	0.4	0.4
Prov & mun govts	-	-	-	-	-	-	-	1.1	-	-
Other Canadian	1.0	0.7	0.8	0.4	0.4	0.4	0.1	0.3	0.1	0.1
<u>IT &amp; C: Grains &amp; Oilseeds</u>										
<b>Total</b>	<b>0.6</b>	<b>0.5</b>	<b>1.3</b>	<b>3.8</b>	<b>2.8</b>	<b>2.0</b>	<b>1.8</b>	<b>1.3</b>	<b>1.2</b>	<b>1.1</b>
Intramural	-	-	-	-	-	0.1	0.1	0.1	0.1	0.1
Cdn industry	0.2	0.1	0.4	0.3	0.8	1.4	1.3	0.8	0.7	0.6
Cdn universities	0.1	0.1	--	--	--	0.1	0.1	--	--	-
Cdn non-profit	0.3	0.3	0.9	3.5	2.0	0.4	0.4	0.4	0.4	0.4
<u>IT &amp; C: Trade Industrial</u>										
<b>Total</b>	<b>106.1</b>	<b>97.1</b>	<b>95.7</b>	<b>109.5</b>	<b>89.0</b>	<b>58.1</b>	<b>80.9</b>	<b>92.6</b>	<b>136.6</b>	<b>166.0</b>
Intramural	3.4	3.1	3.0	3.2	3.6	4.2	7.4	6.8	7.8	9.2
Cdn industry	100.9	92.5	91.5	105.3	84.5	52.9	72.7	83.4	127.4	155.3
Cdn universities	0.8	0.8	0.3	0.6	0.5	0.6	0.7	0.9	1.3	1.4
Prov & mun govts	-	-	-	-	-	-	-	1.2	-	-
Other Canadian	1.0	0.7	0.8	0.4	0.4	0.4	0.1	0.3	0.1	0.1
<u>Medical Research Council</u>										
<b>Total</b>	<b>39.6</b>	<b>42.2</b>	<b>46.9</b>	<b>50.6</b>	<b>56.2</b>	<b>62.4</b>	<b>68.0</b>	<b>79.6</b>	<b>97.0</b>	<b>109.3</b>
Intramural	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.6	1.8	2.0
Cdn universities	36.8	39.0	43.5	47.3	53.0	59.1	64.0	75.2	92.0	103.7
Cdn non-profit	--	--	--	-	-	-	-	-	-	-
Foreign	2.0	2.3	2.3	2.2	2.0	2.0	2.6	2.8	3.2	3.6

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>National Defence</u>										
<b>Total</b>	<b>58.7</b>	<b>62.1</b>	<b>62.3</b>	<b>69.6</b>	<b>77.5</b>	<b>81.8</b>	<b>85.7</b>	<b>100.7</b>	<b>109.9</b>	<b>137.3</b>
Intramural	45.3	46.7	45.0	54.1	62.2	61.2	58.9	71.9	73.8	82.3
Cdn industry	9.6	10.8	13.1	12.7	12.6	17.6	23.3	23.0	29.7	47.1
Cdn universities	3.2	3.1	2.8	1.3	1.7	1.8	2.0	2.8	4.2	5.0
Prov & mun govts	-	-	-	-	-	-	--	0.1	0.1	0.2
Other Canadian	-	-	-	-	-	-	-	0.1	0.1	0.1
Foreign	0.5	1.4	1.4	1.4	0.9	1.2	1.2	2.8	2.0	2.6
<u>National Health &amp; Welfare</u>										
<b>Total</b>	<b>23.8</b>	<b>20.6</b>	<b>16.1</b>	<b>16.9</b>	<b>23.6</b>	<b>22.4</b>	<b>15.1</b>	<b>21.7</b>	<b>25.5</b>	<b>26.5</b>
Intramural	9.1	9.2	9.6	9.5	12.1	12.0	10.0	14.5	16.5	18.6
Cdn industry	--	0.1	--	0.1	0.1	0.2	0.1	0.1	0.2	0.3
Cdn universities	13.1	9.8	5.3	6.1	10.0	8.5	4.0	5.2	5.5	5.2
Cdn non-profit	1.3	1.2	0.9	1.2	1.2	1.5	0.9	0.9	0.8	0.9
Prov & mun govts	0.2	0.3	...	...	--	--	--	0.1	0.1	0.1
Other Canadian	--	--	0.3	0.1	0.1	0.2	0.1	0.3	0.4	0.6
Foreign	-	-	-	-	-	0.1	--	0.5	1.9	0.8
<u>NHW: Health Care</u>										
<b>Total</b>	<b>14.1</b>	<b>10.2</b>	<b>5.7</b>	<b>6.7</b>	...	...	...	...	...	...
Intramural	0.5	0.2	0.4	0.3	...	...	...	...	...	...
Cdn universities	12.3	8.6	4.3	5.3	...	...	...	...	...	...
Cdn non-profit	1.1	1.1	0.7	1.1	...	...	...	...	...	...
Prov & mun govts	0.2	0.3	...	...	...	...	...	...	...	...
Other Canadian	-	-	0.3	0.1	...	...	...	...	...	...

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>NHW: Health &amp; Social Services</u>										
<b>Total</b>	...	...	...	...	12.0	10.4	5.2	6.3	6.7	5.8
Intramural	...	...	...	...	0.8	0.6	0.5	0.4	0.5	0.5
Cdn industry	...	...	...	...	0.1	0.1	—	0.1	0.1	0.2
Cdn universities	...	...	...	...	10.0	8.4	3.9	4.8	5.3	4.3
Cdn non-profit	...	...	...	...	1.2	1.2	0.7	0.8	0.7	0.7
Prov & mun govts	...	...	...	...	—	—	—	0.1	0.1	0.1
Foreign	...	...	...	...	-	0.1	—	—	—	-
<u>NHW: Health Protection</u>										
<b>Total</b>	9.6	10.3	10.3	9.8	11.2	11.9	9.7	13.1	14.6	18.3
Intramural	8.5	8.9	9.1	8.8	10.9	11.2	9.4	12.2	12.9	15.7
Cdn industry	—	0.1	—	0.1	—	0.1	—	—	0.1	0.1
Cdn universities	0.8	1.3	1.0	0.8	0.1	0.1	—	0.4	0.2	0.9
Cdn non-profit	0.2	0.1	0.2	—	—	0.3	0.1	0.1	0.1	0.2
Other Canadian	—	—	—	-	0.1	0.2	—	0.3	0.4	0.6
Foreign	-	-	-	-	-	-	-	0.1	0.9	0.8
<u>NHW: Medical Services</u>										
<b>Total</b>	0.1	0.1	0.1	0.4	0.4	0.1	0.1	2.2	4.1	2.4
Intramural	0.1	0.1	0.1	0.4	0.4	0.1	0.1	1.9	3.1	2.4
Foreign	-	-	-	-	-	-	-	0.3	1.0	-
<u>National Research Council(b)</u>										
<b>Total</b>	127.3	138.7	168.3	210.4	149.9	171.6	173.8	193.2	259.0	317.2
Intramural	52.9	58.2	69.6	81.4	89.2	102.5	112.2	129.4	157.3	199.6
Cdn industry	13.4	16.3	23.1	40.3	49.7	58.2	48.4	46.0	74.1	85.8
Cdn universities	59.0	59.5	67.8	81.3	7.8	9.6	10.8	15.0	20.2	23.8
Cdn non-profit	1.0	0.9	0.8	0.9	—	—	0.2	0.1	1.1	1.0
Prov & mun govts	-	-	...	...	0.5	0.2	0.3	0.1	0.7	0.8
Other Canadian	0.1	0.1	-	0.5	0.7	0.3	0.8	0.6	3.4	3.5
Foreign	0.9	3.8	6.9	6.0	2.1	0.7	1.0	2.0	2.2	2.7

(a) Includes expenditures for capital and for the administration of the extramural programs.

(b) Part of program moved to form the Natural Science and Engineering Research Council (NSERC) in 1977-78.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>NRC: Scientific &amp; Industrial Research</u>										
<b>Total</b>	<b>65.1</b>	<b>76.0</b>	<b>97.0</b>	<b>125.8</b>	<b>149.9</b>	<b>171.6</b>	<b>173.8</b>	<b>193.2</b>	<b>259.0</b>	<b>317.2</b>
Intramural	52.2	57.4	68.6	80.3	89.2	102.5	112.2	129.4	157.3	199.6
Cdn industry	12.7	15.5	22.3	39.5	49.7	58.2	48.4	46.0	74.1	85.8
Cdn universities	0.2	0.2	0.2	0.5	7.8	9.6	10.8	15.0	20.2	23.8
Cdn non-profit	-	-	-	0.1	-	-	0.2	0.1	1.1	1.0
Prov & mun govts	-	-	...	...	0.5	0.2	0.3	0.1	0.7	0.8
Other Canadian	0.1	0.1	-	0.5	0.7	0.3	0.8	0.6	3.4	3.5
Foreign	-	2.8	6.0	5.0	2.1	0.7	1.0	2.0	2.2	2.7
<u>NRC: Scholarships &amp; Grants</u>										
<b>Total</b>	<b>62.2</b>	<b>62.7</b>	<b>71.3</b>	<b>84.6</b>	...	...	...	...	...	...
Intramural	0.7	0.8	1.0	1.1	...	...	...	...	...	...
Cdn industry	0.7	0.8	0.8	0.9	...	...	...	...	...	...
Cdn universities	58.8	59.3	67.6	80.8	...	...	...	...	...	...
Cdn non-profit	1.0	0.9	1.0	1.0	...	...	...	...	...	...
Foreign	0.9	0.9	1.0	1.0	...	...	...	...	...	...

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Natural Sciences and Engineering Research Council (NSERC)(b)</u>										
<b>Total</b>	...	...	...	...	<b>89.7</b>	<b>102.3</b>	<b>110.6</b>	<b>146.5</b>	<b>180.3</b>	<b>202.8</b>
Intramural	...	...	...	...	1.5	1.8	2.1	3.0	3.8	4.9
Cdn industry	...	...	...	...	1.2	1.6	1.5	1.6	2.8	3.9
Cdn universities	...	...	...	...	85.0	97.3	104.9	138.8	170.2	189.9
Cdn non-profit	...	...	...	...	0.7	0.6	1.0	1.6	1.7	2.1
Foreign	...	...	...	...	1.1	0.9	1.1	1.5	1.8	2.0
<u>Transport</u>										
<b>Total</b>	<b>13.4</b>	<b>8.6</b>	<b>9.2</b>	<b>10.4</b>	<b>13.4</b>	<b>16.2</b>	<b>14.3</b>	<b>5.3</b>	<b>9.1</b>	<b>15.8</b>
Intramural	9.1	5.5	4.6	5.3	6.2	7.6	7.8	1.7	2.9	4.5
Cdn industry	3.6	1.7	3.0	3.7	6.3	7.1	5.4	3.3	5.8	10.8
Cdn universities	0.5	1.0	1.1	1.1	0.5	1.1	1.0	0.2	0.3	0.4
Cdn non-profit	—	0.1	—	0.1	0.1	—	0.1	—	—	—
Prov & mun govts	—	0.1	—	—	0.1	0.3	—	—	—	—
Other Canadian	0.1	0.2	0.5	0.1	0.3	—	—	0.1	0.1	0.1

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) Part of the National Research Council before 1977-78.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Continued

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Transportation Development</u>										
<u>Agency</u>										
<b>Total</b>	<b>10.8</b>	...	...	...	...	...	...	...	...	...
Intramural	7.0	...	...	...	...	...	...	...	...	...
Cdn industry	3.3	...	...	...	...	...	...	...	...	...
Cdn universities	0.4	...	...	...	...	...	...	...	...	...
Cdn non-profit	-	...	...	...	...	...	...	...	...	...
Other Canadian	--	...	...	...	...	...	...	...	...	...
<u>Trans: Administration</u>										
<b>Total</b>	...	<b>4.9</b>	<b>5.5</b>	<b>6.2</b>	<b>5.9</b>	<b>6.9</b>	<b>7.0</b>	<b>3.7</b>	<b>5.7</b>	<b>6.2</b>
Intramural	...	2.5	1.9	2.2	1.5	0.6	0.7	0.8	1.3	1.3
Cdn industry	...	1.3	2.2	3.2	3.9	5.0	5.3	2.6	3.9	4.4
Cdn universities	...	0.8	0.8	0.7	0.3	1.0	1.0	0.2	0.3	0.4
Prov & mun govts	...	0.1	...	...	0.1	0.3	--	-	-	-
Other Canadian	...	0.2	0.4	0.2	0.2	-	-	0.1	0.1	0.1
<u>Trans: Air</u>										
<b>Total</b>	<b>1.9</b>	<b>2.5</b>	<b>2.4</b>	<b>3.2</b>	<b>2.3</b>	<b>3.4</b>	<b>3.7</b>	<b>0.3</b>	<b>0.6</b>	<b>1.1</b>
Intramural	1.9	2.5	2.3	2.8	1.6	3.3	3.6	0.3	0.6	1.1
Cdn industry	-	--	0.1	0.3	0.7	-	0.1	-	-	-
Cdn universities	--	-	--	0.2	--	--	--	-	-	-
Other Canadian	-	-	-	-	-	-	-	-	-	-
<u>Trans: Marine</u>										
<b>Total</b>	<b>0.4</b>	<b>0.5</b>	<b>0.4</b>	<b>0.1</b>	<b>4.4</b>	<b>5.2</b>	<b>3.5</b>	<b>1.3</b>	<b>2.8</b>	<b>8.5</b>
Intramural	0.2	0.2	0.1	0.1	2.9	3.7	3.5	0.6	0.9	2.1
Cdn industry	0.2	0.2	0.3	-	1.5	1.5	-	0.7	1.9	6.4

(a) Includes expenditures for capital and for the administration of extramural programs.

Table 1. Total Federal Government Expenditures on R & D in the Natural Sciences by Performer, by Program for Selected Departments, 1973-74 to 1982-83(a) - Concluded

Program	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
<u>Trans: Surface</u>										
<b>Total</b>	<b>0.3</b>	<b>0.7</b>	<b>0.9</b>	<b>0.9</b>	<b>0.8</b>	<b>0.7</b>	<b>0.1</b>	—	—	—
Intramural	—	0.2	0.3	0.2	0.2	—	—	-	-	-
Cdn industry	0.2	0.1	0.4	0.3	0.2	0.5	-	-	-	-
Cdn universities	0.1	0.2	0.2	0.3	0.2	0.1	-	-	-	-
Cdn non-profit	—	0.1	-	0.1	0.1	—	0.1	—	—	—
Other Canadian	-	-	-	-	-	—	-	-	-	-
<u>All other departments(b)</u>										
<b>Total</b>	<b>22.0</b>	<b>30.6</b>	<b>43.5</b>	<b>40.9</b>	<b>44.5</b>	<b>47.2</b>	<b>48.1</b>	<b>52.4</b>	<b>58.1</b>	<b>66.5</b>
Intramural	5.2	7.3	8.8	8.7	11.0	9.2	8.6	9.4	11.4	12.5
Cdn industry	0.2	1.5	6.7	9.5	10.8	11.6	12.8	14.4	13.1	14.3
Cdn universities	7.9	11.7	10.7	2.7	2.0	1.9	2.7	2.0	2.6	3.3
Cdn non-profit	0.2	-	0.7	0.4	0.2	0.1	0.4	0.2	0.3	0.4
Prov & mun govts	-	0.1	...	...	0.1	—	0.1	0.1	0.1	0.1
Other Canadian	1.6	0.4	1.1	0.8	0.7	0.7	0.5	0.7	0.8	0.7
Foreign	6.6	9.5	15.8	19.0	20.0	23.6	23.0	25.6	29.8	35.2

(a) Includes expenditures for capital and for the administration of extramural programs.

(b) Atomic Energy Control Board, Canadian International Development Agency, Canada Mortgage & Housing Corp., Indian Affairs & Northern Development, International Development Research Centre, National Film Board, National Museums of Canada, Public Works, Royal Canadian Mounted Police, Science and Technology, Supply and Services.

Table 2. Federal Government Expenditures on Intramural R &amp; D in the Natural Sciences, 1973-74 to 1982-83(a)

Type of expenditure	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
In-House R & D	337.6	380.1	396.4	428.7	468.5	512.4	510.1	574.3	665.4	748.7
R & D contracts	0.1	0.5	0.5	1.4	0.3	0.3	0.8	0.1	0.1	0.2
Supporting contracts	-	-	-	-	-	34.9	17.9	23.7	27.3	26.9
R & D grants	-	-	-	-	-	-	-	-	-	-
Research fellowships	2.3	2.3	1.5	1.0	0.8	1.1	1.2	1.3	1.7	1.9
Administration of extramural R & D	10.2	12.6	14.1	14.7	17.5	19.5	24.4	26.0	30.6	39.3
Capital R & D	44.8	48.6	59.0	53.8	59.0	57.4	74.7	88.1	104.0	161.8
<b>TOTAL</b>	<b>395.0</b>	<b>444.1</b>	<b>471.5</b>	<b>499.6</b>	<b>546.2</b>	<b>625.6</b>	<b>629.1</b>	<b>713.6</b>	<b>829.1</b>	<b>978.7</b>

(a) Includes non-program costs.

Table 3. Federal Government Current Expenditures on In-House R &amp; D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83(a)

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Agriculture	70.6	80.1	89.2	96.7	108.6	118.1	125.3	142.0	159.7	177.9
Atomic Energy of Canada Ltd	61.8	73.7	51.1	53.6	52.7	61.6	57.0	60.3	68.2	76.6
Communications	8.6	14.3	13.8	13.7	22.8	21.8	22.6	22.2	28.7	32.9
Energy, Mines & Resources	30.3	32.2	36.1	41.7	49.1	54.5	55.2	66.2	80.5	91.7
Environment	65.6	73.4	87.4	88.2	86.3	52.1	52.5	66.6	77.9	94.8
Fisheries & Oceans	-	-	-	-	-	44.5	37.8	39.2	43.3	40.5
National Defence	40.4	39.1	39.7	46.4	49.7	51.6	48.5	54.1	61.4	69.0
National Health & Welfare	8.2	8.6	8.8	8.8	10.9	10.9	8.2	12.3	14.4	15.8
National Museums	1.2	1.5	1.8	1.9	2.0	2.2	1.3	1.1	2.2	1.5
National Research Council	46.9	52.8	62.9	72.0	81.9	89.1	95.7	106.7	124.2	143.0
Transport	1.7	2.5	1.9	2.3	1.9	3.5	3.6	0.4	0.7	0.7
Others	2.3	1.9	4.5	3.4	2.6	2.5	2.4	3.2	4.2	4.1
<b>TOTAL</b>	<b>337.6</b>	<b>380.1</b>	<b>396.4</b>	<b>428.7</b>	<b>468.5</b>	<b>512.4</b>	<b>510.1</b>	<b>574.3</b>	<b>665.4</b>	<b>748.7</b>

(a) Includes non-program costs.



Table 4. Federal Government Natural Science Expenditures for R &amp; D Contracts, by Performer, 1973-74 to 1982-83

Performer	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Federal government(a)	0.1	0.5	0.5	1.4	0.3	35.2	18.8	23.8	27.4	27.1
Canadian industry	34.6	35.4	50.3	69.2	85.9	101.0	99.1	100.2	139.3	167.6
Canadian universities	4.6	5.8	6.7	7.5	9.3	9.6	12.6	16.1	21.6	24.9
Canadian non-profit	0.3	0.3	1.0	1.0	0.5	3.0	3.7	4.8	5.5	7.1
Prov & mun govts	-	0.2	-	-	0.9	1.4	0.6	0.5	1.2	1.3
Other Canadian	1.4	2.1	4.3	4.1	5.6	3.2	3.1	3.7	4.8	5.8
Foreign	2.9	3.3	2.4	1.6	1.5	1.7	1.9	4.3	4.4	4.2
<b>TOTAL</b>	<b>43.9</b>	<b>47.6</b>	<b>65.2</b>	<b>84.8</b>	<b>104.0</b>	<b>155.1</b>	<b>139.8</b>	<b>153.3</b>	<b>204.2</b>	<b>238.0</b>

(a) Includes non-program costs and supporting contracts from 1978-79.

Table 5. Federal Government Natural Science Expenditures for R &amp; D Grants, by Performer, 1973-74 to 1982-83

Performer	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Federal government	-	-	-	-	-	-	-	-	-	-
Canadian industry	121.5	111.4	108.0	121.3	101.2	79.3	112.8	135.4	195.2	217.8
Canadian universities	120.3	123.8	128.9	137.8	159.0	177.6	184.4	232.9	281.7	314.4
Canadian non-profit	2.9	3.1	3.7	7.7	6.7	5.3	5.2	3.8	6.3	8.2
Prov & mun govts	0.9	3.6	-	-	11.0	12.3	53.2	31.3	44.8	54.4
Other Canadian	2.9	1.2	2.6	6.4	0.6	0.8	1.1	0.4	3.0	2.8
Foreign	5.5	12.6	21.8	24.0	22.1	24.5	26.0	29.9	37.4	41.4
<b>TOTAL</b>	<b>254.0</b>	<b>255.7</b>	<b>265.0</b>	<b>297.2</b>	<b>300.6</b>	<b>299.8</b>	<b>382.6</b>	<b>433.7</b>	<b>568.5</b>	<b>638.8</b>

Table 6. Federal Government Natural Science Expenditures for Research Fellowships, by Performer, 1973-74 to 1982-83

Performer	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Federal government(a)	2.3	2.3	1.5	1.0	0.8	1.1	1.2	1.3	1.7	1.9
Canadian industry	0.7	0.8	0.8	0.9	1.2	1.5	1.5	1.6	2.8	3.9
Canadian universities	3.0	3.2	4.0	3.2	2.8	3.1	3.5	5.1	9.3	11.9
Canadian non-profit	-	-	-	0.1	-	-	-	-	-	-
Prov & mun govts	-	-	-	-	-	-	-	-	-	-
Other Canadian	-	-	-	-	0.2	0.3	0.1	0.1	-	0.1
Foreign	2.6	3.0	3.2	3.0	3.1	3.1	3.9	4.6	5.1	5.8
<b>TOTAL</b>	<b>8.5</b>	<b>9.3</b>	<b>9.5</b>	<b>8.1</b>	<b>8.2</b>	<b>9.2</b>	<b>10.2</b>	<b>12.9</b>	<b>19.1</b>	<b>23.6</b>

(a) Includes non-program costs.

Table 7. Federal Government Payments to Canadian Industry, for R &amp; D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	34.6	35.4	50.3	69.2	85.9	101.0	99.1	100.2	139.3	167.6
R & D grants	121.5	111.4	108.0	121.3	101.2	79.3	112.8	135.4	195.2	217.8
Research fellowships	0.7	0.8	0.8	0.9	1.2	1.5	1.5	1.6	2.8	3.9
<b>TOTAL</b>	<b>156.8</b>	<b>147.6</b>	<b>159.1</b>	<b>191.4</b>	<b>188.3</b>	<b>181.8</b>	<b>213.4</b>	<b>237.2</b>	<b>337.3</b>	<b>389.4</b>

Table 8. Federal Government Contracts to Canadian Industry, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
Atomic Energy of Canada Limited	5.1	5.5	4.2	5.1	3.5	7.1	9.8	7.7	11.2	12.2
Communications	14.8	13.3	9.4	3.3	3.5	3.9	4.5	7.0	10.4	6.2
Energy, Mines & Resources	0.5	1.3	2.3	4.9	7.3	6.1	7.0	4.9	10.8	14.4
Environment	4.1	4.1	5.2	5.6	6.9	3.8	8.0	9.6	10.5	9.9
Fisheries & Oceans	-	-	-	-	-	5.0	3.3	3.4	5.2	7.1
National Defence	5.1	6.4	11.3	12.7	12.6	17.6	23.2	23.0	29.7	47.1
National Research Council	0.8	1.7	8.2	24.9	34.3	37.6	22.8	23.9	38.6	40.1
Supply & Services	-	1.1	5.4	6.0	6.9	10.1	10.0	10.6	10.7	10.7
Transport	3.6	1.7	3.0	3.7	6.3	7.0	5.4	3.2	5.8	10.8
Others	0.6	0.3	1.3	3.0	4.6	2.9	5.1	6.7	6.0	9.0
<b>TOTAL</b>	<b>34.6</b>	<b>35.4</b>	<b>50.3</b>	<b>69.2</b>	<b>85.9</b>	<b>101.0</b>	<b>99.1</b>	<b>100.2</b>	<b>139.3</b>	<b>167.6</b>

Table 9. Federal Government Grants to Canadian Industry, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Communications	-	-	-	-	-	2.2	8.0	9.2	11.7	2.3
Energy, Mines & Resources	3.3	0.3	-	-	0.5	2.0	2.9	16.3	16.3	11.6
Environment	-	-	-	-	-	-	2.3	3.6	3.6	2.3
Industry, Trade & Commerce	101.1	92.6	91.9	105.6	85.3	54.3	74.0	84.2	128.1	155.9
National Defence	4.5	4.5	1.7	-	-	-	-	-	-	-
National Research Council	11.9	13.8	14.1	14.5	15.4	20.6	25.6	22.1	35.5	45.7
Others	0.7	0.2	0.3	1.2	-	0.2	-	-	-	-
<b>Total</b>	<b>121.5</b>	<b>111.4</b>	<b>108.0</b>	<b>121.3</b>	<b>101.2</b>	<b>79.3</b>	<b>112.8</b>	<b>135.4</b>	<b>195.2</b>	<b>217.8</b>

Table 10. Federal Government Natural Science Research Fellowships to Canadian Industry, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
National Research Council	0.7	0.8	0.8	0.9	-	-	-	-	-	-
Natural Sciences and Engineering Research Council	-	-	-	-	1.2	1.5	1.5	1.6	2.8	3.9
<b>TOTAL</b>	<b>0.7</b>	<b>0.8</b>	<b>0.8</b>	<b>0.9</b>	<b>1.2</b>	<b>1.5</b>	<b>1.5</b>	<b>1.6</b>	<b>2.8</b>	<b>3.9</b>

Table 11. Federal Government Payments to Canadian Universities for R & D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	4.6	5.8	6.7	7.5	9.3	9.6	12.6	16.1	21.6	24.9
R & D grants	120.3	123.8	128.9	137.8	159.0	177.6	184.4	232.9	281.7	314.4
Research fellowships	3.0	3.2	4.0	3.2	2.8	3.1	3.5	5.1	9.3	11.9
<b>TOTAL</b>	<b>127.9</b>	<b>132.8</b>	<b>139.6</b>	<b>148.5</b>	<b>171.1</b>	<b>190.3</b>	<b>200.5</b>	<b>254.1</b>	<b>312.6</b>	<b>351.2</b>

Table 12. Federal Government Contracts to Canadian Universities, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Agriculture	-	0.2	0.5	1.2	1.6	1.4	2.2	2.4	3.0	4.2
Atomic Energy of Canada Limited	0.6	0.8	0.6	0.5	0.5	0.8	1.3	1.8	1.9	2.1
Communications	0.6	0.8	0.7	0.6	0.7	0.8	0.8	0.9	1.0	0.9
Energy, Mines & Resources	0.4	0.5	0.3	0.3	1.1	0.8	0.9	1.4	2.7	2.8
Environment	1.5	2.0	1.8	0.9	2.0	1.0	1.4	2.4	2.6	2.8
National Defence	0.3	0.3	0.4	0.7	1.1	1.8	2.0	2.8	4.2	5.0
National Research Council	0.2	0.2	0.2	0.5	0.8	1.0	1.3	1.5	3.1	2.6
Supply & Services	-	0.1	0.9	0.8	0.6	0.6	1.4	1.0	1.0	1.0
Others	1.0	0.9	1.3	2.0	0.9	1.4	1.3	1.9	2.1	3.3
<b>TOTAL</b>	<b>4.6</b>	<b>5.8</b>	<b>6.7</b>	<b>7.5</b>	<b>9.3</b>	<b>9.6</b>	<b>12.6</b>	<b>16.1</b>	<b>21.6</b>	<b>24.9</b>

Table 13. Federal Government Grants to Canadian Universities, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
Agriculture	0.8	0.8	1.1	1.7	1.8	1.3	1.3	1.3	1.3	1.3
Atomic Energy Control Board	7.2	10.4	8.8	-	-	-	-	-	-	-
Energy, Mines & Resources	0.7	0.8	0.9	1.0	1.3	1.6	0.4	1.5	1.5	1.8
Environment	1.7	1.7	2.0	1.8	1.8	1.5	0.8	0.8	0.8	0.8
Industry, Trade & Commerce	0.9	0.9	0.3	0.6	0.5	0.6	0.8	1.0	1.4	1.4
Medical Research Council	35.0	37.4	41.4	45.5	51.0	57.1	61.6	72.2	88.1	99.3
National Defence	2.9	2.8	2.3	0.6	0.7	-	-	-	-	-
National Health & Welfare	12.9	9.8	5.2	6.0	9.9	8.3	3.9	4.8	5.3	4.3
National Research Council	57.6	57.9	65.9	79.5	7.1	8.7	9.5	13.5	17.1	21.2
Natural Sciences and Engineering Research Council	-	-	-	-	84.2	96.6	104.1	136.8	164.8	182.5
Others	0.6	1.3	1.0	1.1	0.7	1.9	2.0	1.0	1.4	1.8
<b>TOTAL</b>	<b>120.3</b>	<b>123.8</b>	<b>128.9</b>	<b>137.8</b>	<b>159.0</b>	<b>177.6</b>	<b>184.4</b>	<b>232.9</b>	<b>281.7</b>	<b>314.4</b>

Table 14. Federal Government Natural Science Research Fellowships to Canadian Universities, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
Medical Research Council	1.7	1.7	2.1	1.8	2.0	2.0	2.4	3.0	4.0	4.5
National Research Council	1.2	1.4	1.7	1.3	-	-	-	-	-	-
Natural Sciences and Engineering Research Council	-	-	-	-	0.8	0.8	0.8	2.1	5.4	7.4
Others	0.1	0.1	0.2	0.1	-	0.3	0.3	-	-	-
<b>TOTAL</b>	<b>3.0</b>	<b>3.2</b>	<b>4.0</b>	<b>3.2</b>	<b>2.8</b>	<b>3.1</b>	<b>3.5</b>	<b>5.1</b>	<b>9.3</b>	<b>11.9</b>

Table 15. Federal Government Payments to Canadian Non-Profit Institutions, for R & D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
R & D contracts	0.3	0.3	1.0	1.0	0.5	3.0	3.7	4.8	5.5	7.1
R & D grants	2.9	3.1	3.7	7.7	6.7	5.3	5.2	3.8	6.3	8.2
Research fellowships	-	-	-	0.1	-	-	-	-	-	-
<b>TOTAL</b>	<b>3.2</b>	<b>3.4</b>	<b>4.7</b>	<b>8.8</b>	<b>7.2</b>	<b>8.3</b>	<b>8.8</b>	<b>8.6</b>	<b>11.8</b>	<b>15.3</b>

Table 16. Federal Government Contracts to Canadian Non-Profit Institutions, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Environment	0.2	0.2	0.4	0.4	0.2	0.3	1.3	2.6	3.2	4.2
Fisheries & Oceans	-	-	-	-	-	1.3	1.4	1.4	1.5	1.7
Others	0.1	0.1	0.6	0.5	0.3	1.4	1.0	0.7	0.8	1.2
<b>Total</b>	<b>0.3</b>	<b>0.3</b>	<b>1.0</b>	<b>0.9</b>	<b>0.5</b>	<b>3.0</b>	<b>3.7</b>	<b>4.8</b>	<b>5.5</b>	<b>7.1</b>

Table 17. Federal Government Grants to Canadian Non-Profit Institutions, for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Agriculture	-	-	-	-	0.4	0.1	-	-	-	-
Energy, Mines & Resources	-	-	0.4	0.9	1.1	1.4	1.3	0.5	1.7	2.2
Environment	0.1	0.6	0.5	1.3	1.3	1.4	1.4	-	0.5	1.5
Industry, Trade & Commerce	0.3	0.3	0.9	3.5	2.0	0.3	0.3	0.4	0.4	0.4
National Health & Welfare	1.3	1.2	0.9	1.2	1.2	1.2	0.8	0.9	0.7	0.7
National Research Council	1.0	0.9	0.8	0.8	-	-	0.1	0.1	1.1	1.0
Natural Sciences and Engineering Research Council	-	-	-	-	0.7	0.6	0.9	1.6	1.7	2.1
Others	0.2	0.1	0.2	-	-	0.3	0.3	0.3	0.2	0.3
<b>Total</b>	<b>2.9</b>	<b>3.1</b>	<b>3.7</b>	<b>7.7</b>	<b>6.7</b>	<b>5.3</b>	<b>5.2</b>	<b>3.8</b>	<b>6.3</b>	<b>8.2</b>



Table 18. Federal Government Payments to Provincial & Municipal Governments, for R & D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
R & D contracts	-	0.2	-	-	0.9	1.4	0.6	0.5	1.2	1.3
R & D grants	0.9	3.6	-	-	11.0	12.3	53.2	31.3	44.7	54.4
Research fellowships	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>0.9</b>	<b>3.8</b>	<b>-</b>	<b>-</b>	<b>11.9</b>	<b>13.7</b>	<b>53.8</b>	<b>31.8</b>	<b>45.9</b>	<b>55.7</b>

Table 19. Federal Government Payments to Other Canadian Performers, for R & D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
R & D contracts	1.4	2.1	4.3	4.1	5.6	3.2	3.1	3.7	4.8	5.8
R & D grants	2.9	1.2	2.6	6.4	0.6	0.8	1.1	0.4	3.0	2.8
Research fellowships	-	-	-	-	0.2	0.3	0.1	0.1	-	0.1
<b>Total</b>	<b>4.3</b>	<b>3.3</b>	<b>6.9</b>	<b>10.5</b>	<b>6.4</b>	<b>4.3</b>	<b>4.3</b>	<b>4.3</b>	<b>8.0</b>	<b>8.7</b>

Table 20. Federal Government Payments Abroad, for R & D in the Natural Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	2.9	3.3	2.4	1.6	1.5	1.7	1.9	4.3	4.4	4.2
R & D grants	5.5	12.6	21.8	24.0	22.1	24.5	26.0	29.9	37.4	41.4
Research fellowships	2.6	3.0	3.2	3.0	3.1	3.1	3.9	4.6	5.1	5.8
<b>Total</b>	<b>11.0</b>	<b>18.9</b>	<b>27.4</b>	<b>28.6</b>	<b>26.7</b>	<b>29.3</b>	<b>31.8</b>	<b>38.8</b>	<b>47.0</b>	<b>51.3</b>

Table 21. Federal Government Grants Abroad for R & D in the Natural Sciences, by Department or Agency, 1973-74 to 1982-83

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
Canadian International Development Agency	2.7	4.0	5.7	5.0	5.6	7.8	8.4	8.4	9.5	10.9
International Development Research Centre	2.4	5.4	9.8	13.7	13.9	15.5	14.2	15.3	18.4	22.0
National Research Council	0.2	3.1	6.2	5.3	2.1	0.6	1.0	1.9	2.2	2.7
Others	0.3	0.1	0.1	-	0.5	0.6	2.4	4.3	7.3	5.8
<b>Total</b>	<b>5.5</b>	<b>12.6</b>	<b>21.8</b>	<b>24.0</b>	<b>22.1</b>	<b>24.5</b>	<b>26.0</b>	<b>29.9</b>	<b>37.4</b>	<b>41.4</b>

Table 22. Federal Government Intramural Expenditures on R & D in the Social Sciences, by Type of Expenditure, 1973-74 to 1982-83(a)

Type of expenditure	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
In-House R & D	30.2	34.2	38.3	48.0	41.7	36.5	28.8	31.7	38.2	44.3
R & D contracts	0.8	0.7	1.0	0.6	1.1	1.6	1.5	1.9	1.5	2.0
Support contracts	-	-	-	-	-	0.7	1.5	1.0	1.4	1.7
R & D grants	-	-	-	-	-	-	-	-	-	-
Research fellowships	-	-	-	-	-	-	-	-	-	-
Administration of extramural R & D	3.8	5.6	8.4	7.6	9.2	7.9	8.1	8.8	10.1	12.7
Capital R & D	0.3	0.3	0.2	0.3	0.3	0.4	0.1	0.1	0.1	0.2
<b>Total</b>	<b>35.1</b>	<b>40.8</b>	<b>47.9</b>	<b>56.5</b>	<b>52.3</b>	<b>47.1</b>	<b>40.1</b>	<b>43.4</b>	<b>51.3</b>	<b>60.9</b>

(a) Includes non-program costs.

Table 23. Federal Government Current Expenditures on In-House R & D in the Social Sciences, by Department or Agency, 1973-74 to 1982-83(a)

Department or agency	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	millions of dollars									
Agriculture	1.4	1.6	1.9	2.3	3.3	3.5	—	—	—	—
Canadian Transport Commission	0.5	0.7	1.0	1.1	1.2	1.1	0.8	1.3	1.2	1.5
Canadian Mortgage and Housing Commission	0.3	0.2	0.2	1.5	1.0	0.6	0.8	1.4	1.4	1.5
Consumer & Corporate Affairs	1.4	1.6	2.0	2.0	1.8	1.3	1.2	2.2	2.8	3.8
Economic Council	2.8	3.8	4.1	4.5	4.4	6.2	5.5	5.9	5.9	6.2
Employment & Immigration	1.6	2.1	1.6	3.4	2.5	1.1	1.0	1.2	1.2	1.3
Environment	1.4	1.8	1.6	1.1	1.3	1.0	0.7	0.7	0.7	0.9
Justice	2.0	2.6	1.8	0.9	1.4	0.5	0.6	0.4	0.5	0.6
National Health & Welfare	1.2	1.5	4.0	4.8	1.9	2.3	1.7	1.0	1.3	1.6
National Museums	2.8	0.6	2.0	2.1	2.1	2.8	1.6	1.8	3.7	5.6
National Revenue	—	—	0.1	0.1	2.0	1.9	1.7	0.9	0.9	0.9
Public Service Commission	4.3	2.7	4.0	6.0	2.0	0.1	0.2	—	—	—
Secretary of State	—	—	—	1.3	1.7	3.2	3.0	3.0	3.8	3.6
Statistics Canada	4.7	6.1	7.1	9.1	8.5	4.7	3.6	6.4	8.4	10.0
Others	5.8	8.9	6.9	7.8	6.6	6.2	6.4	5.5	6.4	5.3
<b>Total</b>	<b>30.2</b>	<b>34.2</b>	<b>38.3</b>	<b>48.0</b>	<b>41.7</b>	<b>36.5</b>	<b>28.8</b>	<b>31.7</b>	<b>38.2</b>	<b>44.3</b>

(a) Includes non-program costs.

Table 24. Federal Government Payments to Canadian Industry, for R & D in the Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	3.5	4.4	5.3	6.2	4.3	2.5	3.1	2.7	3.7	4.3
R & D grants	-	0.1	0.1	0.4	1.4	2.3	1.6	0.5	0.9	0.8
Research fellowships	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>3.5</b>	<b>4.5</b>	<b>5.4</b>	<b>6.6</b>	<b>5.7</b>	<b>4.8</b>	<b>4.7</b>	<b>3.2</b>	<b>4.6</b>	<b>5.0</b>

Table 25. Federal Government Payments to Canadian Universities, for R & D in Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	1.5	1.9	1.7	2.0	1.8	2.0	2.0	1.7	1.8	2.2
R & D grants	9.6	11.8	13.3	14.7	14.4	19.2	19.1	22.8	26.3	32.9
Research fellowships	3.9	4.3	4.6	4.7	5.4	4.7	5.8	6.0	6.6	7.3
<b>Total</b>	<b>15.0</b>	<b>18.0</b>	<b>19.6</b>	<b>21.4</b>	<b>21.6</b>	<b>25.9</b>	<b>26.9</b>	<b>30.5</b>	<b>34.6</b>	<b>42.4</b>

Table 26. Federal Government Payments to Canadian Non-Profit Institutions, for R & D in the Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	0.3	0.3	0.5	0.8	1.1	1.5	0.6	0.1	0.2	0.2
R & D grants	4.0	4.9	5.3	5.8	6.5	9.8	7.5	5.9	5.9	6.0
Research fellowships	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>4.4</b>	<b>5.2</b>	<b>5.8</b>	<b>6.6</b>	<b>7.7</b>	<b>11.3</b>	<b>8.1</b>	<b>6.0</b>	<b>6.1</b>	<b>6.2</b>

Table 27. Federal Government Payments to Provincial & Municipal Governments, for R & D in the Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	0.3	-	-	-	0.1	-	-	0.2	0.5	2.7
R & D grants	1.2	2.9	-	-	5.4	3.8	2.2	2.0	1.9	1.6
Research fellowships	-	-	-	-	-	-	-	-	-	-
<b>Total</b>	<b>1.5</b>	<b>2.9</b>	<b>-</b>	<b>-</b>	<b>5.5</b>	<b>3.8</b>	<b>2.2</b>	<b>2.1</b>	<b>2.5</b>	<b>4.3</b>

Table 28. Federal Government Payments to Other Canadian Performers, for R & D in the Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	1.4	1.7	2.5	1.9	2.1	1.5	1.8	2.3	3.3	3.9
R & D grants	1.0	0.8	6.1	5.1	1.0	0.1	0.3	0.6	0.6	0.6
Research fellowships	-	0.4	0.1	0.3	0.1	0.1	0.2	0.2	0.2	0.2
<b>Total</b>	<b>2.5</b>	<b>2.9</b>	<b>8.7</b>	<b>7.3</b>	<b>3.2</b>	<b>1.7</b>	<b>2.3</b>	<b>3.1</b>	<b>4.1</b>	<b>4.7</b>

Table 29. Federal Government Payments Abroad, for R & D in the Social Sciences, by Type of Payment, 1973-74 to 1982-83

Type of payment	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
millions of dollars										
R & D contracts	0.1	0.1	-	0.1	0.1	0.2	0.2	0.1	0.1	0.1
R & D grants	4.8	5.6	7.0	7.4	8.4	9.0	9.2	9.5	9.6	11.6
Research fellowships	0.1	0.8	0.6	0.8	1.1	1.2	0.6	0.7	0.6	0.8
<b>Total</b>	<b>4.9</b>	<b>6.5</b>	<b>7.6</b>	<b>8.3</b>	<b>9.7</b>	<b>10.4</b>	<b>10.0</b>	<b>10.3</b>	<b>10.4</b>	<b>12.5</b>

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