

Science and technology > Research and development (I), 2005*

38

	Gross domestic expenditure on R&D (GERD)				Business enterprise expenditure on R&D (BERD)				Government budget appropriations for R&D, 2006		
	% of GDP	% financed by		Per capita at current USD, PPPs	% of GERD	% of value added in industry	% financed by		% of GDP	% of which defence R&D	
		Government	Industry				Government	Industry			
Australia*	1.76 ⁻¹	39.84 ⁻¹	51.64 ⁻¹	574 ⁻¹	53.5 ⁻¹	1.27 ⁻¹	4.3 ⁻¹	91.4 ⁻¹	0.54	6.5	Australia*
Austria*	2.42	36.46	45.47	831	67.7 ⁻¹	2.12 ⁻¹	6.4 ⁻¹	67.2 ⁻¹	0.70	0.0	Austria*
Belgium	1.82	23.55 ⁻²	60.31 ⁻²	601	68.3	1.83	5.8 ⁻¹	81.8 ⁻¹	0.60 ⁻²	0.3 ⁻²	Belgium
Canada*	1.98	32.93	47.85	675	53.9	1.44	2.2	82.4	0.57 ⁻¹	3.6 ⁻¹	Canada*
Czech Republic	1.42	40.87	54.09	293	64.5	1.23	14.7	80.8	0.57 ⁻¹	2.8 ⁻¹	Czech Republic
Denmark	2.45	27.10 ⁻²	59.89 ⁻²	834	68.3	2.71	2.4 ⁻²	85.6 ⁻²	0.76	0.6	Denmark
Finland	3.48	25.65	66.86	1 077	70.8	3.66	3.8	90.9	0.99	2.4	Finland
France	2.13	37.56 ⁻¹	51.73 ⁻¹	644	61.9	1.98	9.3 ⁻¹	79.9 ⁻¹	0.93 ⁻²	22.3 ⁻²	France
Germany	2.46	30.52 ⁻¹	66.56 ⁻¹	758	69.3	2.43	5.9 ⁻¹	91.8 ⁻¹	0.77 ⁻¹	6.4 ⁻¹	Germany
Greece	0.49	46.42 ⁻²	28.23 ⁻²	144	29.3	0.21	4.4 ⁻²	75.9 ⁻²	0.29 ⁻¹	0.5	Greece
Hungary	0.94	49.41	39.45	165	43.2	0.62	3.9	77.8	0.37 ⁻¹	0.1 ⁻¹	Hungary
Iceland	2.81	40.50	48.00	1 017	51.5	2.28	2.8	84.9	1.44 ⁻¹	0.0 ⁻¹	Iceland
Ireland	1.26	32.43	57.25	491	65.3	1.16	4.1	86.1	0.48 ⁻¹	0.0 ⁻¹	Ireland
Italy	1.10 ⁻¹	50.80	43.00	305 ⁻¹	47.8 ⁻¹	0.77	13.8 ⁻¹	75.0 ⁻¹	0.62 ⁻¹	1.4 ⁻¹	Italy
Japan*	3.33	16.76	76.12	1 023	76.4	3.40	1.2	98.3	0.70 ⁻¹	5.1 ⁻¹	Japan*
Korea	2.99	23.02	74.96	662	76.9	3.17	4.6	94.4	0.92	16.6	Korea
Luxembourg	1.56	11.16 ⁻²	80.39 ⁻²	1 094	86.2	1.82	2.5 ⁻²	89.2 ⁻²	0.34 ⁻¹	..	Luxembourg
Mexico	0.50	45.34	46.49	54	49.5	0.38	5.7	92.6	0.21 ⁻¹	0.0 ⁻¹	Mexico
Netherlands	1.78 ⁻¹	36.23 ⁻²	51.06 ⁻²	598 ⁻¹	57.8 ⁻¹	1.52	3.4 ⁻²	81.6 ⁻²	0.73	2.0	Netherlands
New Zealand	1.15 ⁻²	45.06 ⁻²	38.47 ⁻²	273 ⁻²	42.5 ⁻²	0.65 ⁻²	10.0 ⁻²	76.2 ⁻²	0.54 ⁻²	0.7 ⁻²	New Zealand
Norway	1.52	41.91 ⁻²	49.23 ⁻²	735	53.7	1.16	8.9	80.6	0.70	5.6	Norway

Poland	0.57	57.71	33.35	79	31.8	0.25	13.7	83.0	0.29 ⁻²	1.3 ⁻²	Poland
Portugal	0.80	60.11 ⁻²	31.73 ⁻²	160	36.2	0.46	5.3 ⁻²	89.2 ⁻²	0.77	0.6 ⁻¹	Portugal
Slovak Republic	0.51	57.03	36.60	82	49.8	0.34	26.7	67.9	0.30 ⁻¹	5.0 ⁻¹	Slovak Republic
Spain	1.12	41.01 ⁻¹	48.04 ⁻¹	306	54.4	0.86	12.5 ⁻¹	82.1 ⁻¹	0.84 ⁻¹	16.4 ⁻¹	Spain
Sweden	3.89	23.45 ⁻²	64.97 ⁻²	1 250	74.0	4.55	5.9 ⁻²	85.9 ⁻²	0.87 ⁻¹	16.9 ⁻¹	Sweden
Switzerland	2.93 ⁻¹	22.71 ⁻¹	69.73 ⁻¹	1 017 ⁻¹	73.7 ⁻¹	3.19 ⁻¹	1.5 ⁻¹	90.9 ⁻¹	0.76 ⁻³	0.4 ⁻³	Switzerland
Turkey	0.67 ⁻¹	56.96 ⁻¹	37.92 ⁻¹	49 ⁻¹	24.2 ⁻¹	0.20 ⁻¹	4.2 ⁻¹	95.0 ⁻¹	..	..	Turkey
United Kingdom	1.78	32.76	42.10	584	61.6	1.62	8.6	64.4	0.72 ⁻²	31.0 ⁻²	United Kingdom
United States*	2.62	30.37	63.97	1 094	69.6	2.60	9.7	90.3	1.03	57.9	United States*
G7	2.48	28.94	63.42	878	69.0	2.43	7.2	89.9	0.91 ⁻³	37.0 ⁻³	G7
EU15*	1.86	34.97 ⁻²	54.14 ⁻²	567	63.3	1.72	7.7 ⁻¹	82.1 ⁻¹	0.76 ⁻²	13.6 ⁻²	EU15*
EU27*	1.74	35.72 ⁻²	53.49 ⁻²	470	62.5	1.58	7.9 ⁻¹	82.0 ⁻¹	0.71 ⁻²	13.0 ⁻²	EU27*
OECD total*	2.25	30.20 ⁻¹	62.10 ⁻¹	659	67.9	2.17	6.9	89.4	0.80 ⁻²	32.6 ⁻²	OECD total*
Brazil	0.91 ⁻¹	57.88 ⁻¹	39.88 ⁻¹	76 ⁻¹	40.2 ⁻¹	..	0.8 ⁻¹	99.2 ⁻¹	0.53 ⁻²	1.2 ⁻²	Brazil
China*	1.34	26.34	67.04	88	68.3	..	4.6	91.2	..	..	China*
India*	0.69 ⁻¹	..	..	22 ⁻¹	25.3 ⁻³	..	..	..	..	..	India*
Russian Federation	1.07	61.95	30.00	116	68.0	1.09	53.6	37.3	0.36 ⁻²	52.1 ⁻⁴	Russian Federation
South Africa	0.86 ⁻¹	35.61 ⁻¹	48.62 ⁻¹	96 ⁻¹	56.3 ⁻¹	0.69 ⁻¹	7.7 ⁻¹	74.5 ⁻¹	..	..	South Africa

StatLink  <http://dx.doi.org/10.1787/OIF2007en17>

* Additional information, including footnotes, are available via the Statlink URL

.. Not available or not applicable.

⁻ⁿ Data in this cell are from n years earlier than the reference year. E.g. if the column refers to 2006, a data point with ⁻¹ attached refers to 2005.

Sources:

Main Science and Technology Indicators, OECD, Paris, 2007.

National sources:

Brazil: Ministry of Science and Technology (MCT)

India: National Science & Technology Management Information System, Department of Science & Technology

Science and technology > Research and development (II), 2005*

40

	% of business expenditure on R&D (BERD) performed in				Researchers (national totals)		Higher education expenditure on R&D (HERD)		
	High-tech industries*	Medium high-tech industries*	Medium low-tech and low-tech industries*	Service industries	Full-time equivalent	Per 1 000 total employment	% of GERD	% of GDP	
Australia	12.1 ⁻²	17.9 ⁻²	15.6 ⁻²	41.1 ⁻²	81 740 ⁻¹	8.4 ⁻¹	27.2 ⁻¹	0.5 ⁻¹	Australia
Austria	39.2 ⁻¹	23.7 ⁻¹	16.2 ⁻¹	18.0 ⁻¹	28 207	6.8	26.7	0.6	Austria
Belgium	38.8 ⁻¹	23.5 ⁻¹	16.1 ⁻¹	17.8 ⁻¹	31 953	7.6	22.8	0.4	Belgium
Canada	37.5 ⁻¹	9.5 ⁻¹	11.3 ⁻¹	37.9 ⁻¹	125 330 ⁻¹	7.7 ⁻¹	36.4	0.7	Canada
Czech Republic	11.5 ⁻¹	40.8 ⁻¹	9.0 ⁻¹	36.9 ⁻¹	24 169	4.8	16.4	0.2	Czech Republic
Denmark	37.9 ⁻¹	17.4 ⁻¹	10.2 ⁻¹	33.3 ⁻¹	28 187	10.2	23.8	0.6	Denmark
Finland	55.2 ⁻¹	16.2 ⁻¹	11.7 ⁻¹	14.5 ⁻¹	39 582	16.5	19.0	0.7	Finland
France	44.7 ⁻²	30.0 ⁻²	11.6 ⁻²	9.4 ⁻²	200 064 ⁻¹	8.0 ⁻¹	19.5	0.4	France
Germany	30.6 ⁻¹	53.4 ⁻¹	7.1 ⁻¹	8.3 ⁻¹	271 119	7.0	16.9	0.4	Germany
Greece	32.4 ⁻²	18.1 ⁻²	13.3 ⁻²	34.2 ⁻²	17 024	3.7	49.3	0.2	Greece
Hungary	55.4	18.0	5.7	18.9	15 878	4.1	25.1	0.2	Hungary
Iceland	25.0	6.8	5.8	59.7	2 155	..	22.0	0.6	Iceland
Ireland	38.2 ⁻¹	13.6 ⁻¹	9.1 ⁻¹	38.7 ⁻¹	11 487	5.9	27.0	0.3	Ireland
Italy	34.8 ⁻¹	30.7 ⁻¹	9.3 ⁻¹	24.4 ⁻¹	72 012 ⁻¹	3.0 ⁻¹	32.8 ⁻¹	0.4 ⁻¹	Italy
Japan	38.0 ⁻²	39.0 ⁻²	11.9 ⁻²	9.1 ⁻²	704 949	11.0	13.4	0.4	Japan
Korea*	53.0 ⁻¹	26.1 ⁻¹	8.9 ⁻¹	6.9 ⁻¹	179 812	7.9	9.9	0.3	Korea*
Luxembourg	19.4 ⁻¹	29.3 ⁻¹	14.8 ⁻¹	24.7 ⁻¹	2 091	6.8	1.5	0.0	Luxembourg
Mexico	9.7	21.8	35.1	32.6	48 401	1.2	27.4	0.1	Mexico
Netherlands	39.4 ⁻¹	28.5 ⁻¹	9.4 ⁻¹	18.3 ⁻¹	37 282 ⁻²	4.5 ⁻²	27.9 ⁻¹	0.5 ⁻¹	Netherlands
New Zealand	..	..	..	..	15 568 ⁻²	10.2 ⁻²	28.5 ⁻²	0.3 ⁻²	New Zealand
Norway	15.6 ⁻¹	16.0 ⁻¹	17.8 ⁻¹	35.3 ⁻¹	21 653	9.2	30.7	0.5	Norway

Poland	19.4 ⁻¹	30.6 ⁻¹	13.5 ⁻¹	24.7 ⁻¹	62 162	4.7	31.6	0.2	Poland
Portugal	..	..	..	..	21 003	4.1	39.1	0.3	Portugal
Slovak Republic	..	..	..	..	10 921	5.2	20.4	0.1	Slovak Republic
Spain	24.7 ⁻¹	26.9 ⁻¹	17.1 ⁻¹	25.6 ⁻¹	109 753	5.7	28.6	0.3	Spain
Sweden	51.4 ⁻²	30.0 ⁻²	6.5 ⁻²	10.4 ⁻²	54 175	12.5	19.6	0.8	Sweden
Switzerland	..	..	..	..	25 400 ⁻¹	6.1 ⁻¹	22.9 ⁻¹	0.7 ⁻¹	Switzerland
Turkey	25.4 ⁻³	38.2 ⁻³	22.9 ⁻³	11.6 ⁻³	33 876 ⁻¹	1.6 ⁻¹	67.9 ⁻¹	0.5 ⁻¹	Turkey
United Kingdom	47.9 ⁻¹	21.6 ⁻¹	7.1 ⁻¹	21.1 ⁻¹	157 662 ⁻⁷	5.5 ⁻⁷	25.6	0.5	United Kingdom
United States*	40.3 ⁻²	16.6 ⁻²	6.4 ⁻²	36.1 ⁻²	1 394 682	9.7	14.1	0.4	United States*
G7*	39.2 ⁻²	26.5 ⁻²	8.2 ⁻²	24.8 ⁻²	2 953 782	8.6	16.5	0.4	G7*
EU15*	38.7 ⁻²	34.9 ⁻²	9.2 ⁻²	15.0 ⁻²	1 088 206 ⁻¹	6.2 ⁻¹	22.6	0.4	EU15*
EU27*	..	..	..	..	1 241 253 ⁻¹	5.8 ⁻¹	22.7	0.4	EU27*
OECD total*	..	..	..	..	3 865 778	7.3	17.7	0.4	OECD total*
Brazil	..	..	..	..	84 979 ⁻¹	1.0 ⁻¹	38.4 ⁻¹	0.4 ⁻¹	Brazil
China*	..	..	..	..	1 118 698	1.5	9.9	0.1	China*
India*	..	..	..	..	92 500 ⁻³	0.2 ⁻³	4.2 ⁻³	0.0 ⁻³	India*
Russian Federation	7.7	5.1	3.4	78.6	464 577	6.8	5.8	0.1	Russian Federation
South Africa	..	..	..	35.8 ⁻¹	17 915 ⁻¹	1.6 ⁻¹	21.1 ⁻¹	0.2 ⁻¹	South Africa

StatLink  <http://dx.doi.org/10.1787/OIF2007en18>

* Additional information, including footnotes, are available via the Statlink URL

.. Not available or not applicable.

⁻ⁿ Data in this cell are from n years earlier than the reference year. E.g. if the column refers to 2006, a data point with '-1' attached refers to 2005.

Sources:

Main Science and Technology Indicators, OECD, Paris, 2007;
Research and Development Expenditure in Industry, 2006.

National sources:

Brazil: Ministry of Science and Technology (MCT)

India: National Science & Technology Management Information System, Department of Science & Technology

	Technology balance of payments			Patenting activity					Trade coverage ratios		Export market shares		
				Triadic patent families*	Applications to the EPO*				Exports as % of imports		% of total OECD		
	Total	% of which foreign co-inventors	ICT		Bio-technology	High-tech industries*	Medium high tech industries*	All manufacturing industries	High-tech mfg industries*				
										Million USD, 2005*	2005	2003	
	Receipts	Payments	Balance	2005	2005	2003	2003	2003	2005	2005	2005	2005	
Australia	103.0 ⁻⁷	224.9 ⁻⁷	- 121.9 ⁻⁷	414	1 013	19.8	291	108	24	22	0.9	0.5	Australia
Austria	2 429.7 ⁻⁵	2 425.8 ⁻⁵	3.9 ⁻⁵	301	1 451	24.2	278	46	83	108	1.8	1.0	Austria
Belgium	6 581.1	5 422.1	1 159.0	333	1 259	36.5	298	85	94	118	5.1	4.0	Belgium
Canada	1 721.6 ⁻²	881.5 ⁻²	840.1 ⁻²	820	2 090	29.6	701	136	60	87	4.5	2.3	Canada
Czech Republic	307.7	840.0	- 532.3	15	109	34.8	12	5	85	128	1.3	0.8	Czech Republic
Denmark	1 657.3 ⁻⁶	1 055.3 ⁻⁶	602.0 ⁻⁶	220	915	19.2	224	119	106	92	1.2	1.1	Denmark
Finland	2 655.1	2 188.7	466.3	264	1 280	12.8	694	35	136	96	1.1	1.1	Finland
France	5 188.3 ⁻²	3 233.5 ⁻²	1 954.8 ⁻²	2 463	8 049	16.9	2 388	258	104	110	6.8	6.6	France
Germany	31 635.8	28 264.4	3 371.4	6 266	21 960	12.7	5 221	666	109	210	15.2	12.5	Germany
Greece	..	..	..	13	90	31.7	26	4	22	18	0.3	0.1	Greece
Hungary	216.1 ⁻⁶	503.7 ⁻⁶	- 287.6 ⁻⁶	37	126	39.6	26	6	116	106	1.0	1.3	Hungary
Iceland	..	..	..	5	23	34.2	11	9	41	7	0.1	0.0	Iceland
Ireland	..	..	..	59	283	31.7	82	10	217	195	1.8	3.8	Ireland
Italy	4 265.2	4 553.2	- 288.1	716	4 599	9.8	730	80	69	119	6.0	2.7	Italy
Japan	18 402.5	6 384.7	12 017.8	15 239	22 123	2.8	9 193	731	138	372	9.5	10.4	Japan
Korea	816.4 ⁻²	3 237.3 ⁻²	-2 420.9 ⁻²	3 158	4 926	4.5	1 906	71	172	158	4.8	6.9	Korea
Luxembourg	2 767.7 ⁻¹	915.1 ⁻¹	1 852.6 ⁻¹	24	98	48.3	13	0	49	58	0.2	0.1	Luxembourg

Mexico	43.8 ⁻¹	555.5 ⁻¹	- 511.7 ⁻¹	20	78	42.9	10	2	99	95	3.0	3.5	Mexico
Netherlands	..	..	..	1 184	3 321	19.1	1 513	144	107	123	4.8	6.3	Netherlands
New Zealand	7.9 ⁻⁶	3.7 ⁻⁶	4.2 ⁻⁶	64	176	23.6	36	21	22	25	0.3	0.1	New Zealand
Norway	2 312.3	2 220.4	91.9	111	378	16.1	99	14	45	37	0.6	0.3	Norway
Poland	246.3 ⁻³	1 044.6 ⁻³	- 798.3 ⁻³	11	132	29.5	21	3	39	92	1.4	0.4	Poland
Portugal	559.6	910.3	- 350.7	9	61	23.9	11	6	44	59	0.6	0.3	Portugal
Slovak Republic	30.4 ⁻⁴	64.9 ⁻⁴	- 34.4 ⁻⁴	3	22	60.4	6	1	67	107	0.5	0.3	Slovak Republic
Spain	190.9 ⁻⁷	1 025.4 ⁻⁷	- 834.5 ⁻⁷	201	1 150	22.3	153	40	47	77	3.0	1.4	Spain
Sweden	..	..	..	652	2 329	16.9	652	76	137	122	2.1	1.9	Sweden
Switzerland	7 494.5	8 080.8	- 586.3	801	2 817	32.9	593	102	168	120	2.1	3.7	Switzerland
Turkey	..	..	..	27	198	27.2	15	4	30	44	1.1	0.3	Turkey
United Kingdom	29 205.6	14 418.2	14 787.3	1 588	4 891	22.7	1 833	286	100	80	5.7	7.2	United Kingdom
United States	57 410.0	24 501.0	32 909.0	16 368	32 064	12.3	11 638	2 096	78	67	13.7	19.5	United States
Brazil	..	..	..	59	189	24.6	25	6	49	100	1.6	0.6	Brazil
China	..	..	..	433	1 403	27.1	387	42	113	82	12.5	18.4	China
India	..	..	..	132	516	32.4	105	39	25	63	1.6	0.4	India
Russian Federation	391.6	960.9	- 569.3	49	197	46.4	57	19	19	47	1.6	0.2	Russian Federation
South Africa	..	..	..	33	144	16.6	28	0	16	68	0.6	0.1	South Africa

StatLink  <http://dx.doi.org/10.1787/OIF2007en19>

* Additional information, including footnotes, are available via the Statlink URL

.. Not available or not applicable.

⁻ⁿ Data in this cell are from n years earlier than the reference year. E.g. if the column refers to 2006, a data point with '-1' attached refers to 2005.

Sources:

Main Science and Technology Indicators, OECD, Paris, 2007;

OECD, STAN: OECD Structural Analysis Statistics (STAN Industry and STAN Indicators);

OECD Patents database;

OECD, International Trade by Commodity Statistics; United Nations, COMTRADE Database, 2006.

OECD in Figures 2007

Contents

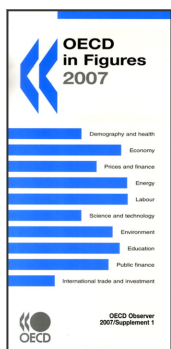
Demography and health	6
Demography	6
Health spending and resources	8
Health status	10
Economy	12
Gross domestic product	12
Economic growth and performance	14
Sectoral contributions to gross value added	16
Business statistics	18
Services: value added	20
Transport	22
Energy	24
Energy: supply	24
Energy: production	26
Energy consumption and electricity generation	28
Labour	30
Employment	30
Part-time and self-employment	32
Unemployment	34
Services: employment	36
Science and technology	38
Research and development (I)	38
Research and development (II)	40
Patents and trade in technology	42
Environment	44
Resources	44
Emissions and pollution	46
CO ₂ emissions	48
Education	50
Expenditure	50
Performance	52
Public finance	54
Agriculture: support estimates	54
Government sector	56
Taxation	58
Development aid	60
International trade and investment	62
Direct investment	62
Trade	64
Trade in services	66

Prices and finance	68
Prices and interest rates	68
Insurance and pensions	70
Financial balance sheets and institutional investment	72
Domestic and foreign finance	74
OECD in graphs	77
GDP growth	78
GDP per capita	79
Forecasting with leading indicators	80
Inflation	81
Components of population change	82
Minimum wages	83
Women in parliament	84
Thinkforce	85
Development aid	86
Public debt	87
Climate change	88
Educating medics	89
General notes	90
Glossary	91

The online edition is available at www.oecd.org/infigures

Published in English and French
OECD Publications
2, rue André-Pascal
75775 Paris Cedex 16, France
observer@oecd.org www.oecd.org
Tel: +33 (0) 1 45 24 82 10
Fax: +33 (0) 1 45 82 10

Price: US\$ 20 €15 £10 ¥2,000
Free with annual *Observer* subscription:
US\$ 75 €60 £41 ¥7,800
ISSN 0029-7054; sales@oecd.org
Available at www.oecdbookshop.org



From:
OECD in Figures 2007

Access the complete publication at:

<https://doi.org/10.1787/oif-2007-en>

Please cite this chapter as:

OECD (2008), "Science and technology", in *OECD in Figures 2007*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/oif-2007-6-en>

This work is published under the responsibility of the Secretary-General of the OECD. The opinions expressed and arguments employed herein do not necessarily reflect the official views of OECD member countries.

This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.

You can copy, download or print OECD content for your own use, and you can include excerpts from OECD publications, databases and multimedia products in your own documents, presentations, blogs, websites and teaching materials, provided that suitable acknowledgment of OECD as source and copyright owner is given. All requests for public or commercial use and translation rights should be submitted to rights@oecd.org. Requests for permission to photocopy portions of this material for public or commercial use shall be addressed directly to the Copyright Clearance Center (CCC) at info@copyright.com or the Centre français d'exploitation du droit de copie (CFC) at contact@cfcopies.com.