



Statistics Publication Notice

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BUSINESS ENTERPRISE RESEARCH AND DEVELOPMENT SCOTLAND 2005

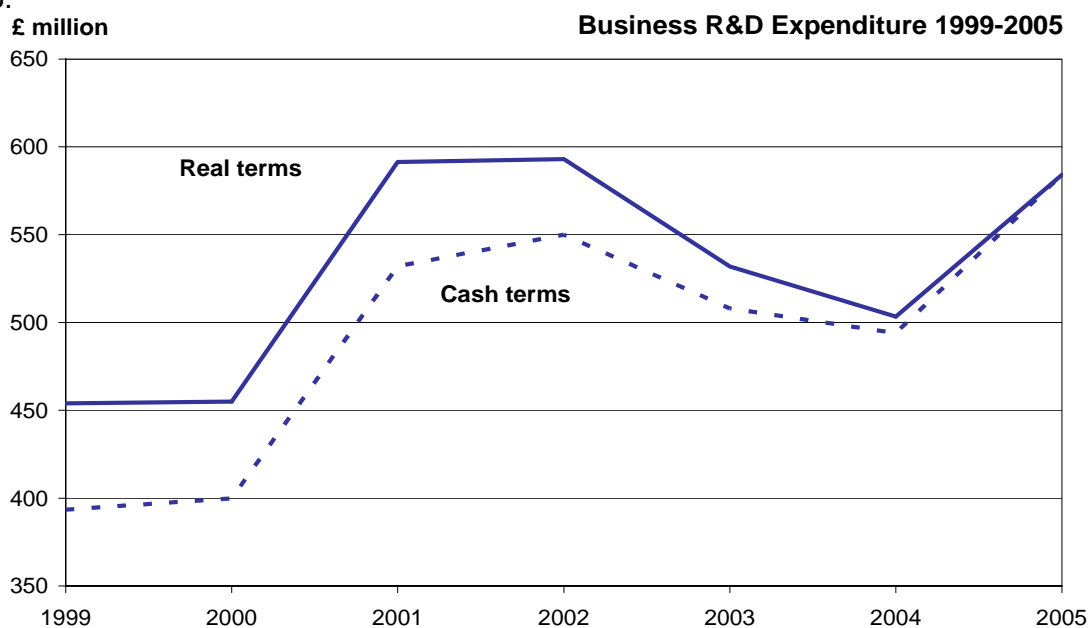
This publication presents information on research and development (R&D) performed by businesses operating in Scotland in 2005. In addition, figures are presented for total R&D expenditure in Scotland for 2004, which include government and higher education R&D expenditure. The majority of the data presented in this release comes from R&D surveys conducted by the Office for National Statistics (ONS). Further information on Scottish R&D activity and the full set of tables are available at:

www.scotland.gov.uk/Topics/Statistics/Browse/Business/BERD

BUSINESS ENTERPRISE RESEARCH AND DEVELOPMENT (BERD)

Expenditure and employment

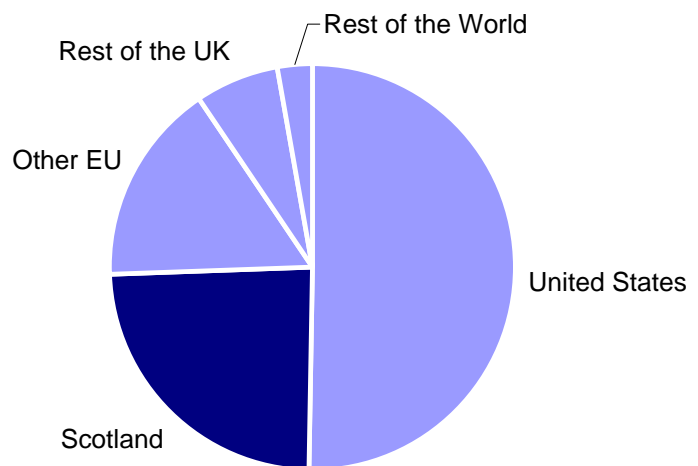
The value of business enterprise research and development (BERD) undertaken in Scotland in 2005 was £584 million, 4.4% of the UK total and 0.59% of Scottish GDP. Expenditure increased from £494 million in the previous year (a 16% increase in real terms). This is the highest level of Scottish BERD in cash terms since 1999, however in real terms it is just below the levels seen in 2001 and 2002. R&D expenditure in Scotland has increased by 29% in real terms in the 6 year period between 1999 and 2005, compared to a real terms increase of 3% in the UK. Almost two thirds of Scottish BERD supported just 3 product groups: 'pharmaceuticals' (40%); 'precision instruments' (17%) and 'radio, TV and communications equipment' (9%). Business R&D provided employment for 7,400 people in 2005.



R&D funding and size & ownership of R&D performing businesses

Over three quarters (77%) of R&D undertaken by businesses in Scotland was funded by UK businesses. The largest companies (400 employees and over) accounted for 72% of BERD expenditure, while companies employing 100 to 399 employees accounted for a further 12%. USA owned firms undertook 50% of business R&D in Scotland, followed by Scottish based firms (24%).

Business R&D expenditure by country of ownership 2005

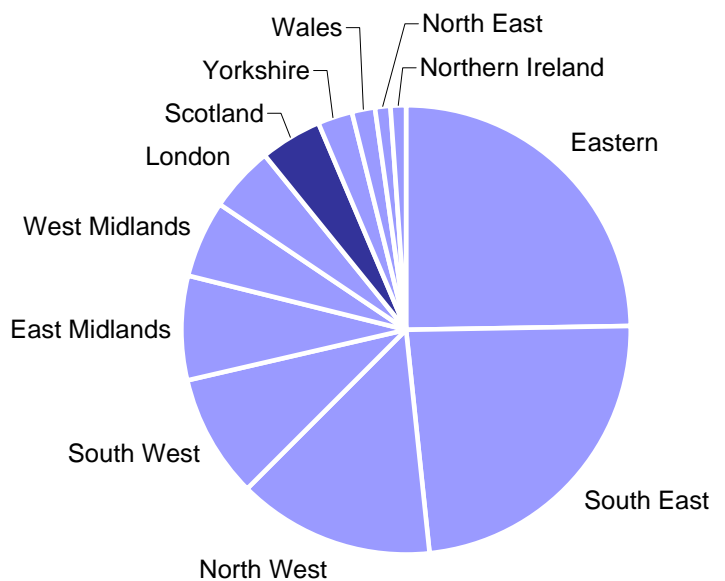


International and regional comparisons

In 2005 BERD expenditure was equivalent to 0.59% of GDP in Scotland compared to 1.08% of GDP in the UK. BERD expenditure as a percentage of GDP is lower in Scotland than in most important competitor countries. In 2005 EU expenditure as a percentage of GDP was almost twice as high as that in Scotland (1.12%). The leading countries in terms of business R&D have expenditure levels more than four times higher than Scotland (e.g. 2.92% of GDP in Sweden).

Within the UK, the bulk of business R&D expenditure takes place within the East of England (25%) and South East (24%) regions. In terms of expenditure as a percentage of GDP, Scotland ranked 7th out of the 12 UK regions in 2005.

Business R&D expenditure by UK region 2005



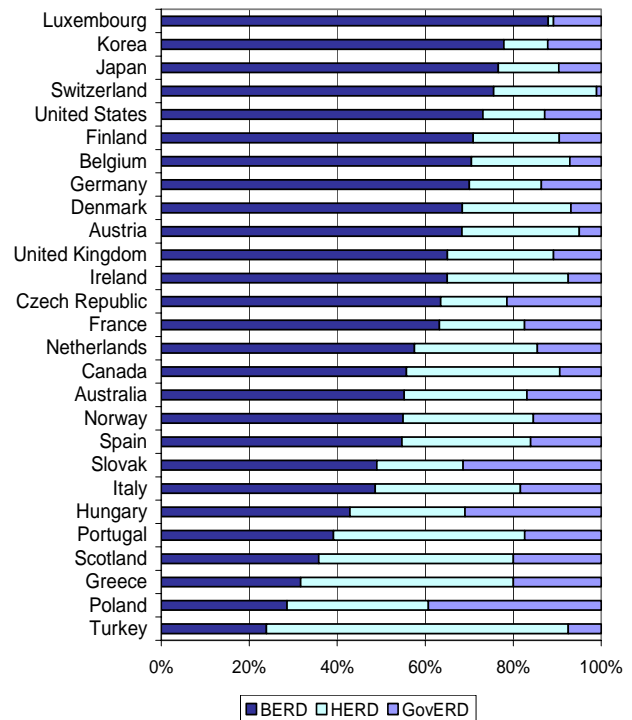
GROSS EXPENDITURE ON RESEARCH AND DEVELOPMENT (GERD)

Expenditure and components of GERD

Gross expenditure on R&D (GERD) comprises that undertaken by business, government and the higher education sector. Data for 2005 is not available, but in 2004 Scottish GERD reached £1,379 million, 7% of the UK total. This is an increase of £23 million since 2003. GERD represented 1.46% of GDP in Scotland, compared to 1.71% in the UK. Scotland performs better on this measure of R&D due to the inclusion of government and higher education activity (see below). However, the relatively low contribution of business R&D to GERD is clear when comparing Scotland to other countries.

In comparison to other regions within the UK, Scotland ranks 6th in terms of GERD as a percentage of GDP in 2004.

Components of GERD for OECD countries that reported in 2004



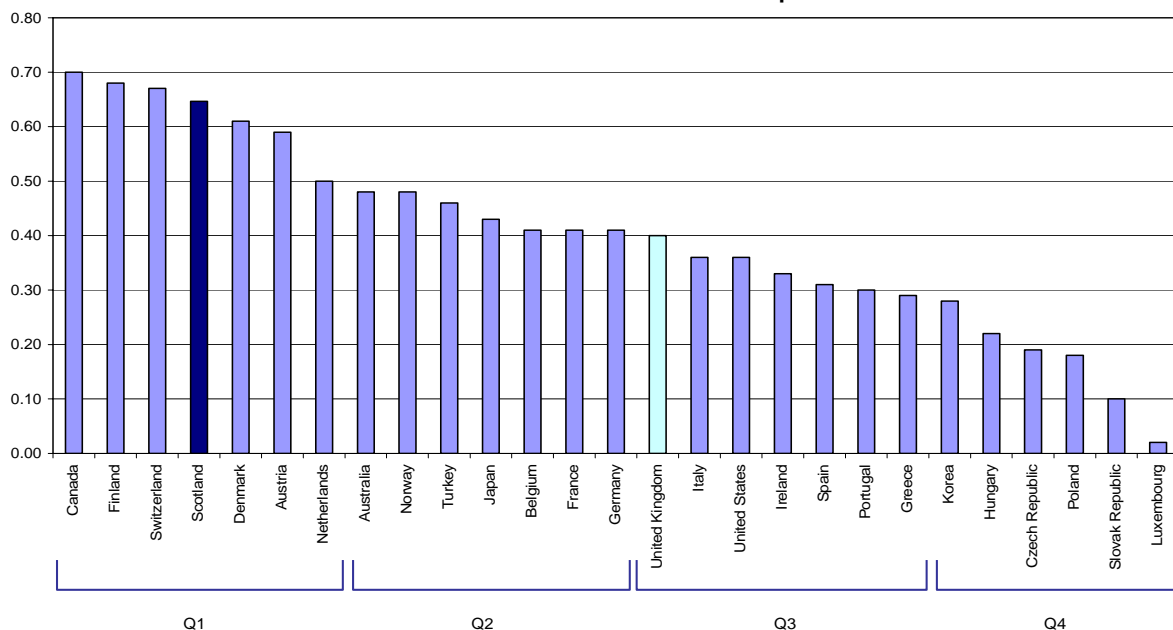
Government Research and Development (GovERD)

Government expenditure on R&D stood at £276 million in 2004, 13.2% of the UK figure and 0.29% of GDP. This is an increase of £4 million since 2003. In comparison to other regions within the UK, Scotland ranks 4th in terms of government R&D as a percentage of GDP.

Higher Education Research and Development (HERD)

Scotland performs very well in terms of R&D undertaken by the higher education sector. In 2004, Higher Education R&D expenditure (HERD) in Scotland stood at £610 million, 12.8%

HERD as a % of GDP for OECD countries that reported in 2004



of the UK figure and 0.65% of GDP. This is an increase of £35 million since 2003. In comparison to other regions within the UK, Scotland ranks 1st in terms of HERD as a percentage of GDP. Scotland also performs well at the international level, with Scotland's HERD as a percentage of GDP in the 1st quartile of OECD countries and below only that of Canada, Finland and Switzerland.



TABLE 1
EXPENDITURE ON R&D PERFORMED IN SCOTTISH BUSINESSES:
BROAD PRODUCT GROUPS, 1996 to 2005
Current Prices

	£ thousands									
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Manufacturing: Total	233 850	214 076	254 829	315 498	359 350	478 932	470 186	434 518	422 979	490 686
Chemicals	44 333	36 397	61429	134 984	131 767	209 950	220 020	222 064	216 919	248 659
Mechanical Engineering	45 421	45 270	53 641	55 623	55 989	51 434	63 345	49 689	53 665	54 698
Electrical Machinery	116 229	103 521	115 040	96 062	136 156	57 149	66 086	49 624	56 770	68 327
Transport Equipment & Aerospace	2 421	2 409	4 455	3 342	3 543	3 727	4 916	6 267	6 985	6 777
Other manufactured Products	25 446	26 480	20 264	25 488	31 896	156 671	115 819	106 874	88 640	112 226
Services	60 531	69 891	90 961	65 157	33 679	39 892	60 287	56 789	56 964	74 227
Other Total	7 324	6 869	11 724	12 753	6 829	12 861	19 286	16 730	13 653	18 984
Agriculture, hunting & forestry; Fishing	..	..	..	..	..	..	547	..	..	..
Extractive industries	2 982	2 879	6 389	8 688	4 540	11 149	17 651	13 706	10 991	17 249
Electricity, gas & water supply	..	1 023	..	..	657	..	..	..	..	..
Construction	212	..	..	..	..	..	..	1 341	1 556	1 085
GRAND TOTAL	301 705	290 835	357 514	393 408	399 858	531 686	549 760	508 037	493 596	583 896

Source: Office for National Statistics

1 .. denotes disclosive value

TABLE 1A
EXPENDITURE ON R&D PERFORMED IN SCOTTISH BUSINESSES:
BROAD PRODUCT GROUPS, 1996 to 2005
In Real Terms (2005 prices)

	£ thousands									
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
Manufacturing: Total	290 511	258 430	300 004	364 064	408 915	532 354	506 950	454 964	431 004	490 686
Chemicals	55 075	43 938	72319	155 763	149 941	233 369	237 223	232 513	221 035	248 659
Mechanical Engineering	56 426	54 649	63 150	64 185	63 711	57 171	68 298	52 027	54 683	54 698
Electrical Machinery	144 391	124 970	135 434	110 849	154 936	63 524	71 253	51 959	57 847	68 327
Transport Equipment & Aerospace	3 008	2 908	5 245	3 856	4 032	4 143	5 300	6 562	7 117	6 777
Other manufactured Products	31 612	31 966	23 856	29 411	36 295	174 147	124 875	111 903	90 322	112 226
Services	75 198	84 372	107 086	75 187	38 324	44 342	65 001	59 462	58 045	74 227
Other Total	9 099	8 292	13 802	14 716	7 771	14 296	20 794	17 517	13 912	18 984
Agriculture, hunting & forestry; Fishing	..	..	..	..	..	..	589	..	..	..
Extractive industries	3 705	3 476	7 522	10 025	5 166	12 393	19 031	14 351	11 199	17 249
Electricity, gas & water supply	..	1 235	..	..	748	..	..	..	..	..
Construction	263	..	..	..	..	..	..	1 404	1 585	1 085
GRAND TOTAL	374 807	351 094	420 892	453 967	455 010	590 922	592 745	531 943	502 961	583 896

Source: Office for National Statistics

1 .. denotes disclosive value

TABLE 2
EXPENDITURE ON R&D PERFORMED IN SCOTTISH BUSINESSES:
DETAILED PRODUCT GROUPS, 1996 to 2005

	£ thousand										% of 2005 total
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	
Agriculture, hunting and forestry: Fishing	..	..	..	..	..	..	547	..	..	..	..
Extractive Industries	2 982	2 879	6 389	8 688	4 540	11 149	17 651	13 706	10 991	17 249	3.0%
Food Products and beverages: Tobacco products	2 143	3 167	2 268	1 871	2 937	2 326	6 147	3 120	3 762	5 148	0.9%
Textiles, clothing and leather products	1 356	1 934	2 594	2 150	2 022	898	1 357	1 754	5 661	946	0.2%
Pulp, paper and paper products; Printing and publishing: Wood and straw products	4 100	1 275	933	848	541	..	775	1 855	2 075	1 594	0.3%
Refined petroleum products and coke oven products: Processing of nuclear fuel	..	..	..	..	..	..	..	..	..	..	..
Chemicals. Man-made fibres	19 989	14 481	21 107	21 810	16 110	27 232	18 996	16 266	16 742	13 926	2.4%
Pharmaceuticals, medical chemicals and botanical products	24 345	21 916	40 322	113 174	115 657	182 719	201 024	205 798	200 177	234 733	40.2%
Rubber and plastic products	1 423	..	..	1 381	2 396	1 050	2 304	4 639	1 584	3 338	0.6%
Other non-metallic mineral products	..	..	..	..	372	..	..	..	920	1 107	0.2%
Casting of iron and steel	..	..	..	..	..	..	594	..	..	..	..
Non-ferrous metals	..	..	..	..	..	..	..	556	..	..	..
Fabricated metal products	5 745	6 197	8 288	8 494	5 666	4 996	8 619	5 401	5 761	6 079	1.0%
Machinery and equipment	39 676	39 072	45 354	47 129	50 323	46 438	54 727	44 289	47 904	48 618	8.3%
Office machinery and computers	..	..	..	10 523	5 465	3 026	4 016	1 668	1 047	2 017	0.3%
Electrical machinery and apparatus	..	..	..	70 370	115 281	20 142	15 682	7 703	14 627	13 355	2.3%
Radio, television and communication equipment	4 867	11 817	10 656	15 168	15 411	33 980	46 388	40 253	41 096	52 955	9.1%
Precision instruments	14 425	17 037	10 466	16 289	22 419	150 487	103 408	91 177	73 580	97 208	16.6%
Motor vehicles and parts	811	1 408	3 372	2 385	1 930	2 423	2 222	4 498	1 984	3 828	0.7%
Other transport equipment	..	..	..	..	..	..	..	..	1 270	1 153	0.2%
Shipbuilding and repairs	..	..	..	..	..	..	..	..	..	..	..
Aerospace	..	..	..	..	..	..	..	..	629	..	..
Furniture: Other manufactured goods	371	..	..	1 799	800	909	679	2 578	834	2 451	0.4%
Recycling	-	-	-	-	-	..	..	..	-	..	..
Electricity, gas and water supply	..	1 023	..	..	657	..	..	..	..	..	..
Construction	212	..	..	..	..	..	..	1 341	1 556	1 085	0.2%
Wholesale and retail trade	63	..	..	..	..	1 500	3 028	1 422	2 394	2 567	0.4%
Transport and storage	..	..	..	..	..	..	..	..	89	291	0.0%
Post and telecommunications	..	..	..	..	..	..	..	..	..	8 860	1.5%
Miscellaneous business activities: Technical testing and analysis	9 115	5 310	3 544	4 539	8 101	7 273	13 822	10 249	11 365	18 762	3.2%
Computer and related activities	37 960	55 048	57 705	40 961	9 797	13 851	18 281	21 301	25 587	27 644	4.7%
Research and development services	13 124	..	29 658	19 551	13 130	10 556	18 672	17 525	10 442	13 352	2.3%
Public administration	..	..	..	..	..	..	1 151	1 016	2 182	2 750	0.5%
GRAND TOTAL	301 705	290 835	357 514	393 408	399 858	531 686	549 760	508 037	493 596	583 896	100.0%

Source: Office for National Statistics

1 - denotes nil, figures unavailable or too small to display

2 .. denotes disclosive value

3 This data is provided for the whole of the UK in table 2 of MA14

TABLE 3
EMPLOYMENT ON R&D PERFORMED WITHIN SCOTTISH BUSINESSES:
1996 TO 2005

	Full time equivalent									
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
TOTAL	6 329	5 682	6 359	6 703	6 032	7 971	8 035	7 324	7 356	7 400
Scientist and engineers	4 233	3 866	4 574	3 922	3 435	4 262	4 246	3 832	3 698	3 725
Technicians, laboratory assistants and draughtsmen	1 115	956	1 005	1 069	1 117	1 323	1 400	1 102	1 194	1 271
Administrative, clerical industrial and other staff	981	860	779	1 712	1 480	2 387	2 389	2 391	2 464	2 404
As % of total employment										
Scientist and engineers	67	68	72	59	57	53	53	52	50	50
Technicians, laboratory assistants and draughtsmen	18	17	16	16	19	17	17	15	16	17
Administrative, clerical industrial and other staff	16	15	12	26	25	30	30	33	33	32

Source: Office for National Statistics

1 This data is provided for the whole of the UK in table 9 of MA14

TABLE 4
GROSS EXPENDITURE ON R&D (GERD) BY GOVERNMENT OFFICE REGION, 2004

	GERD ¹ (£millions)	Percentage of UK Expenditure	Expenditure per head of population £	GERD as a percentage of GDP
Eastern	3,508	17.8	639	3.42
South East	4,378	22.3	540	2.57
South West	1,824	9.3	362	1.97
North West	2,219	11.3	325	1.91
London	2,209	11.2	297	1.00
East Midlands	1,269	6.5	296	1.64
Scotland	1,379	7.0	272	1.46
West Midlands	1,072	5.5	201	1.15
Wales	463	2.4	157	1.04
Yorkshire	766	3.9	152	0.89
Northern Ireland	254	1.3	149	0.95
North East	321	1.6	126	0.82
UK¹	20 330	100.0	340	1.71

Source: ONS Population Trends Winter 2006 Tables 1.3 and 1.4 and ONS

1. Private non-profit included in UK total only
2. Ranked by Expenditure per head of population

TABLE 5A
R&D PERFORMED IN UK BUSINESSES BY GOVERNMENT OFFICE REGION:
EXPENDITURE & AS A PERCENTAGE OF GDP, 1999 to 2005

	Business R&D Expenditure £million							% of total 2005	% of GDP ¹						
	1999	2000	2001	2002	2003	2004	2005		1999	2000	2001	2002	2003	2004	2005
East of England	2 559	2 758	2 768	2 650	2 936	2 703	3 316	24.7	3.27	3.39	3.24	2.93	3.03	2.64	3.11
South East	2 916	2 964	3 141	3 124	3 252	3 214	3 163	23.6	2.21	2.15	2.16	2.03	2.00	1.88	1.79
North West	1 476	1 451	1 554	1 602	1 545	1 742	1 887	14.1	1.59	1.51	1.55	1.52	1.39	1.50	1.56
East Midlands	838	933	895	972	868	960	1 019	7.6	1.42	1.53	1.40	1.43	1.19	1.24	1.26
South West	887	867	988	1 157	1 229	1 297	1 201	9.0	1.26	1.18	1.28	1.41	1.41	1.40	1.25
West Midlands	724	576	735	773	809	772	735	5.5	0.97	0.74	0.91	0.92	0.91	0.83	0.76
Scotland	393	400	532	550	508	494	584	4.4	0.53	0.52	0.67	0.65	0.57	0.52	0.59
Wales	203	144	150	186	207	226	231	1.7	0.58	0.40	0.39	0.46	0.49	0.51	0.50
Northern Ireland	99	139	150	149	116	116	136	1.0	0.47	0.63	0.66	0.62	0.46	0.43	0.49
Yorkshire & the Humber	309	304	298	336	345	348	350	2.6	0.46	0.44	0.41	0.44	0.42	0.41	0.39
North East	164	164	119	124	152	153	158	1.2	0.53	0.51	0.35	0.35	0.41	0.39	0.39
London	735	810	649	847	709	792	630	4.7	0.44	0.46	0.35	0.43	0.34	0.36	0.27
UK	11 302	11 510	11 978	12 469	12 677	12 816	13 410	100%	1.23	1.19	1.19	1.17	1.12	1.08	1.08

Source: Office for National Statistics and Scottish Executive

1. Market price GDP estimated for the regions based on the UK GVA to GDP ratio.
2. Ranked by percentage of GDP 2005

TABLE 5B
R&D PERFORMED IN HIGHER EDUCATION BY GOVERNMENT OFFICE REGION:
EXPENDITURE & AS A PERCENTAGE OF GDP, 1999 to 2004

	Higher Education R&D Expenditure £million						% of total 2004	% of GDP ¹					
	1999	2000	2001	2002	2003	2004		1999	2000	2001	2002	2003	2004
Scotland	411	440	510	581	575	610	12.8	0.55	0.57	0.64	0.69	0.64	0.65
London	837	895	979	1,059	1,069	1,130	23.7	0.50	0.51	0.53	0.54	0.51	0.51
Northern Ireland	64	70	73	84	100	118	2.5	0.30	0.32	0.32	0.35	0.39	0.44
Yorkshire & the Humber	270	284	317	340	347	369	7.8	0.40	0.41	0.44	0.44	0.43	0.43
East of England	255	324	366	402	412	441	9.3	0.33	0.40	0.43	0.44	0.42	0.43
North East	113	122	142	159	158	167	3.5	0.36	0.38	0.42	0.45	0.43	0.43
Wales	129	139	155	180	175	188	3.9	0.37	0.38	0.41	0.45	0.41	0.42
South East	493	515	562	608	614	645	13.5	0.37	0.37	0.39	0.40	0.38	0.38
North West	260	287	322	354	363	396	8.3	0.28	0.30	0.32	0.34	0.33	0.34
East Midlands	182	204	224	234	223	232	4.9	0.31	0.33	0.35	0.34	0.31	0.30
West Midlands	180	192	207	221	228	256	5.4	0.24	0.25	0.26	0.26	0.26	0.28
South West	148	160	178	191	192	208	4.4	0.21	0.22	0.23	0.23	0.22	0.23
UK	3341	3,633	4,034	4,413	4,457	4,759	100.0	0.36	0.38	0.40	0.41	0.40	0.40

Source: Office for National Statistics and Scottish Executive

1. Market price GDP estimated for the regions based on the UK GVA to GDP ratio.
2. Ranked by percentage of GDP 2004

TABLE 5C
R&D PERFORMED IN GOVERNMENT, BY GOVERNMENT OFFICE REGION
EXPENDITURE & AS A PERCENTAGE OF GDP, 1999 to 2004

	Government R&D Expenditure £million						% of total 2004	% of GDP ¹					
	1999	2000	2001	2002	2003	2004		1999	2000	2001	2002	2003	2004
East of England	213	259	277	285	339	364	17.4	0.27	0.32	0.32	0.31	0.35	0.36
South West	259	307	254	228	292	319	15.3	0.37	0.42	0.33	0.28	0.33	0.34
South East	557	635	515	459	508	520	24.9	0.42	0.46	0.35	0.30	0.31	0.30
Scotland	200	238	226	237	272	276	13.2	0.27	0.31	0.28	0.28	0.30	0.29
London	198	258	238	238	288	288	13.8	0.12	0.15	0.13	0.12	0.14	0.13
Wales	47	65	49	41	56	49	2.4	0.13	0.18	0.13	0.10	0.13	0.11
East Midlands	48	56	68	65	77	77	3.7	0.08	0.09	0.11	0.10	0.11	0.10
Northern Ireland	12	15	16	15	17	21	1.0	0.06	0.07	0.07	0.06	0.07	0.08
North West	48	57	66	67	74	81	3.9	0.05	0.06	0.07	0.06	0.07	0.07
Yorkshire & the Humber	40	48	50	62	49	48	2.3	0.06	0.07	0.07	0.08	0.06	0.06
West Midlands	164	194	65	50	57	44	2.1	0.22	0.25	0.08	0.06	0.06	0.05
North East	2	2	4	6	2	2	0.1	0.01	0.01	0.01	0.02	0.01	0.01
UK	1788	2,134	1,829	1,752	2,031	2,089	100.0	0.19	0.22	0.18	0.16	0.18	0.18

Source: Office for National Statistics and Scottish Executive

1. Market price GDP estimated for the regions based on the UK GVA to GDP ratio.
2. Ranked by percentage of GDP 2004

TABLE 6A

EXPENDITURE ON R&D PERFORMED IN BUSINESSES IN SELECTED OECD COUNTRIES:
AS A PERCENTAGE OF GDP, 1999 to 2005

	Percentage							1999-2005 Change
	1999	2000	2001	2002	2003	2004	2005	
Scotland	0.53	0.52	0.67	0.65	0.57	0.52	0.59	0.06
UK	1.23	1.19	1.19	1.17	1.12	1.08	1.08	-0.15
Germany	1.67	1.73	1.72	1.72	1.76	1.75	1.76	0.09
France	1.37	1.34	1.39	1.41	1.36	1.34	1.32	-0.05
Italy	0.51	0.52	0.53	0.54	0.52	0.53	0.55	0.04
Japan	2.10	2.12	2.31	2.36	2.40	2.39	..	..
Canada	1.08	1.17	1.29	1.17	1.13	1.12	1.07	-0.01
USA	1.98	2.05	2.01	1.86	1.87	1.88	..	..
Ireland	0.88	0.81	0.77	0.76	0.77	0.78	0.82	-0.06
Finland	2.19	2.40	2.35	2.34	2.42	2.42	2.46	0.27
Sweden	2.74	..	3.28	..	2.93	..	2.92	0.18
EU 25 ²	1.12	1.04	1.14	1.13	0.12	1.12	1.12	0.00
OECD	1.51	1.38	1.57	1.52	1.52	1.53	..	..

Source: OECD MSTI 2006/2 Table 24 and ONS

1 .. Data not available

2. The EU expanded from 15 nations to 25 in 2004. These figures are for the 25 nations.

TABLE 6B

EXPENDITURE ON R&D PERFORMED IN HIGHER EDUCATION IN SELECTED OECD COUNTRIES:
AS A PERCENTAGE OF GDP, 1999 to 2004

	Percentage						1999-2004 Change
	1999	2000	2001	2002	2003	2004	
Scotland	0.55	0.57	0.64	0.69	0.64	0.65	0.10
UK	0.36	0.38	0.40	0.41	0.40	0.40	0.04
Germany	0.39	0.39	0.40	0.42	0.43	0.41	0.02
France	0.37	0.40	0.42	0.42	0.42	0.41	0.04
Italy	0.33	0.32	0.35	0.37	0.37	0.36	0.03
Japan	0.44	0.43	0.45	0.44	0.44	0.43	-0.01
Canada	0.53	0.55	0.58	0.65	0.67	0.70	0.17
USA	0.31	0.31	0.33	0.36	0.37	0.36	0.05
Ireland	0.25	0.23	0.24	0.25	0.29	0.33	0.08
Finland	0.63	0.60	0.60	0.64	0.66	0.68	0.05
Sweden	0.78	..	0.84	..	0.87	..	..
EU 25 ²	0.37	0.37	0.38	0.40	0.40	0.39	0.02
OECD	0.35	0.36	0.37	0.39	0.39	0.39	0.04

Source: OECD MSTI 2006/2 table 46 and ONS

1 .. Data unavailable

2. The EU expanded from 15 nations to 25 in 2004. These figures are for the 25 nations.

TABLE 6C
EXPENDITURE ON R&D PERFORMED IN GOVERNMENT IN SELECTED OECD COUNTRIES:
AS A PERCENTAGE OF GDP, 1999 to 2004

	Percentage						1999-2004 Change
	1999	2000	2001	2002	2003	2004	
Scotland	0.27	0.31	0.28	0.28	0.30	0.29	0.02
UK	0.19	0.22	0.18	0.16	0.18	0.18	-0.01
Germany	0.33	0.33	0.34	0.34	0.34	0.34	0.01
France	0.39	0.37	0.36	0.37	0.36	0.37	-0.02
Italy	0.20	0.20	0.20	0.20	0.19	0.20	0.00
Japan	0.29	0.30	0.30	0.30	0.30	0.30	0.01
Canada	0.22	0.22	0.22	0.22	0.20	0.19	-0.03
USA	0.29	0.28	0.31	0.32	0.33	0.33	0.04
Ireland	0.07	0.09	0.09	0.10	0.09	0.09	0.02
Finland	0.37	0.36	0.34	0.35	0.33	0.33	-0.04
Sweden	0.12	..	0.12	..	0.14	..	..
EU 25 ²	0.26	0.25	0.24	0.24	0.24	0.24	-0.02
OECD	0.27	0.26	0.27	0.27	0.28	0.27	0.00

Source: OECD MSTI 2006/2 table 53 and ONS

1 .. Data not available

2. The EU expanded from 15 nations to 25 in 2004. These figures are for the 25 nations.

TABLE 6D
GROSS EXPENDITURE ON R&D PERFORMED IN SELECTED OECD COUNTRIES:
AS A PERCENTAGE OF GDP, 1999 to 2004

	Percentage						1999-2004 Change
	1999	2000	2001	2002	2003	2004	
Scotland³	1.34	1.40	1.59	1.62	1.51	1.46	0.12
UK	1.84	1.84	1.81	1.80	1.76	1.71	-0.13
Germany	2.40	2.45	2.46	2.49	2.52	2.50	0.10
France	2.16	2.15	2.20	2.23	2.17	2.14	-0.02
Italy	1.04	1.05	1.09	1.13	1.11	1.10	0.06
Japan	2.96	2.99	3.13	3.18	3.20	3.18	0.22
Canada	1.82	1.94	2.09	2.04	2.01	2.01	0.19
USA	2.66	2.74	2.76	2.65	2.68	2.68	0.02
Ireland	1.19	1.13	1.10	1.10	1.16	1.21	0.02
Finland	3.21	3.38	3.30	3.36	3.43	3.46	0.25
Sweden	3.65	..	4.25	..	3.95	..	..
EU 25 ²	1.76	1.77	1.79	1.79	1.78	1.77	0.01
OECD	2.19	2.23	2.27	2.24	2.25	2.25	0.06

Source: OECD MSTI 2006/2 table 2 and ONS

1 .. Data not available

2. The EU expanded from 15 nations to 25 in 2004. These figures are for the 25 nations.

3. Scottish GERD excludes private non-profit sector

BACKGROUND NOTES

1. This is the first Scottish Executive R&D release produced following the identification of reporting errors by ONS, relating to both product and regional classification and businesses' understanding of what is included within the definition of R&D. Revisions were made by ONS to business R&D figures back to 2001. This has caused revisions to the business and total R&D figures for Scotland, that were published previously

2. The ONS R&D survey follows the definition of research and development proposed by the Organisation for Economic Co-operation and Development (OECD) and published in the 'Frascati' Manual. According to the manual, R&D is defined as:

“Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of the stock of knowledge to devise new applications.”

The definition therefore excludes activities such as market research, most software development, routine testing & quality control and artistic design work.

3. Figures on Gross R&D, Higher Education R&D and Government R&D are the latest at the time of publication. Updated figures will be published by ONS later in 2007.

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SCOTTISH EXECUTIVE STATISTICIAN GROUP

OUR AIM

To provide relevant and reliable information, analysis and advice that meet the needs of government, business and the people of Scotland.

OBJECTIVES

1. To produce statistics and analysis relevant to user needs by
 - Developing our understanding of customer requirements to ensure statistics are kept relevant and analysis is well targeted;
 - Developing the range of statistics and analysis we produce;
 - Where practicable improving timeliness;
 - Providing more statistics disaggregated by age, gender and ethnicity;
 - Developing more data for small areas through the Neighbourhood Statistics project;
 - Contributing to production of comparable statistics across the UK and internationally.
2. To ensure effective use of our statistics by
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 - Improving access to and presentation of data and analysis;
 - Improving the advice provided on statistics.
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