

Gross domestic expenditure on research and development 1996 /Office of National Statistics.

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Great Britain. Office of National Statistics.

Publication/Creation

London : The Office, 1998.

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ONS (98) 78
20 March 1998

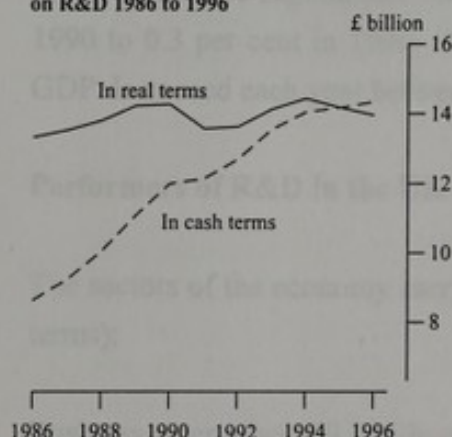
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First Release

Gross domestic expenditure on research and development 1996

In 1996 the UK's gross domestic expenditure on research and development (R&D) was £14.3 billion. This represented an increase, in cash terms, of one per cent from the level in 1995.

Gross domestic expenditure
on R&D 1986 to 1996



In real terms Gross Domestic Expenditure on R&D decreased by two per cent between 1995 and 1996.

In 1996, expenditure on R&D was 1.94 per cent of gross domestic product. This proportion has fallen in the last three years, as expenditure on R&D has been outstripped by growth in GDP.

Gross expenditure on R&D in the UK (£million)

	In cash terms	In real terms	Cash terms % GDP
1985	7959	12665	2.23
1986	8623	13320	2.25
1987	9221	13524	2.19
1988	10035	13795	2.14
1989	11069	14222	2.15
1990	11991	14266	2.18
1991	12131	13567	2.11
1992	12689	13619	2.13
1993	13541	14123	2.15
1994	14046	14432	2.11
1995	14172	14172	2.02
1996	14340	13953	1.94

Note: 1995 prices are calculated using GDP deflator.

Prepared by the Government Statistical Service

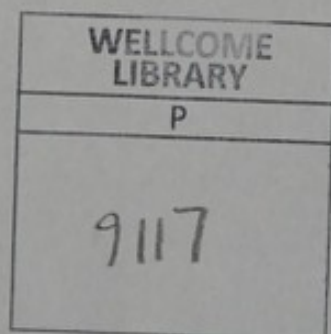
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- 4 APR 1998

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Gross domestic expenditure on research and development in the UK (tables 1, 2 and 3)

The estimate of the UK's gross domestic expenditure on R&D in 1996 was £14.3 billion compared to £14.2 billion in 1995. R&D expenditure for civil purposes at £12.3 billion in 1996 was two per cent higher in cash terms than for 1995. R&D expenditure for defence purposes, at £2.1 billion, decreased by two per cent in cash terms from the 1995 level. As a percentage of GDP, defence expenditure on R&D has declined from 0.5 per cent in 1990 to 0.3 per cent in 1996. Civil R&D expenditure as a proportion of GDP decreased each year between 1993 and 1996.

Performers of R&D in the UK (table 2)

The sectors of the economy carrying out this R&D in 1996 were (in cash terms):

Business enterprises: £9.3 billion, the same as in 1995.

Government: £2.1 billion, one per cent higher than 1995
(Including research councils)

Higher education: £2.8 billion compared with £2.7 billion in 1995.

Private non-profit: £0.2 billion, similar to 1995.

Funding of R&D in the UK (tables 4 and 5)

In 1996 Government funded 32 per cent of all R&D performed in the UK (26 per cent of civil R&D and 65 per cent of defence R&D).

Gross domestic expenditure on research and development in the UK
(Tables 1.1 and 1.2)

The estimate of the UK's gross domestic expenditure on R&D in 1995 was
£14.5 billion compared to £14.1 billion in 1994. R&D expenditure for
civil purposes at £11.3 billion in 1995 was two per cent higher in cash
terms than in 1994. R&D expenditure for defence purposes at £3.1 billion,
however, fell by two per cent in cash terms from the 1994 level. As a percentage
of GDP, defence expenditure on R&D has declined from 0.5 per cent in
1994 to 0.3 per cent in 1995. Civil R&D expenditure as a proportion of
GDP declined very slightly between 1994 and 1995.

Performance of R&D in the UK (Table 1)

The sector of the economy carrying out this R&D in 1995 was the same
as in 1994.

Business expenditure £9.5 billion, 66 per cent in 1995.

Government £2.4 billion, 17 per cent in 1995.
(Excluding expenditure on defence)

Higher education £2.6 billion and private sector £2.4 billion in 1995.

Private non-profit £0.1 billion, 1 per cent in 1995.

Tending of R&D in the UK (Tables 1 and 2)

In 1995 the private sector funded 75 per cent of all R&D expenditure in the UK.
(The per cent of civil R&D, 65 per cent, is shown in Table 1.1.)

BACKGROUND NOTES

1. This First Release presents estimates of gross domestic expenditure on research and development in the UK (GERD) in 1996.
2. More detailed figures will be published later in the year by the DTI's Office of Science and Technology (OST) in the *Science, Engineering and Technology Statistics 1998 (SET Statistics 1998)*¹, and in ONS's *Economic Trends*². Detailed tabulations for Business Enterprise R&D were published in January 1998 in *Business Monitor MA14*³. International comparisons are published by the Organisation of Economic Cooperation and Development (OECD)⁴.

Sources

3. Two annual surveys of R&D are conducted by ONS. One is addressed to all government departments and covers R&D performed in or funded by the Central Government sector. (See the classification of sectors below). Detailed results, including figures for individual departments, will be available from the ONS on request after they have appeared in the OST's *SET Statistics 1998*. This publication has detailed analyses of the net expenditure of government departments (ie. which includes government expenditure on R&D performed outside central government, less any receipts for work performed within central government).
4. The other annual survey is addressed to businesses performing R&D. The 1996 survey results were first published in an ONS First Release on 14 November 1997.
5. The government funding totals in tables 4 and 5 differ from tables showing departmental breakdowns of net expenditure in OST's *SET Statistics 1997*. Tables 4 and 5 use information on government funded R&D from the survey of Business Enterprise R&D. The *SET Statistics 1997* use the survey of government funded R&D. The differences are due chiefly to the way each survey records the R&D content of Ministry of Defence contracts.

Definition of R&D

6. The definitions used here are based on those internationally agreed by OECD; they are set out in the *Frascati Manual*⁵.
7. The guiding line to distinguish R&D activity is the presence of an appreciable element of innovation. If the activity follows an established

BACKGROUND NOTES

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Sources

3. The annual survey of R&D are conducted by OST. One is addressed to all government departments and covers R&D performed for or funded by the Central Government sector. (See the classification of sectors below). Detailed results including figures for individual departments will be available from the OST on request after they have appeared in the OST's SET Statistics 1996. This publication has detailed analysis of the expenditure of government departments (as well as includes government expenditure on R&D performed outside central government, less any receipts for work performed within central government).
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Definition of R&D

6. The definitions used here are based on those internationally agreed by OECD, they are set out in the Annex to Annex.
7. The guiding line to distinguish R&D activity is the presence of an appreciable element of innovation. If the activity follows a well-established

pattern it is excluded; if it departs from routine and breaks new ground it is included. For example: activities such as routine testing, market research, patent applications, trial production runs, and artistic design work, are excluded. Overheads are included. VAT is excluded.

Defence R&D

8. Defence includes all R&D programmes undertaken primarily for defence reasons regardless of their content or whether they have secondary civil applications. It includes nuclear and space R&D undertaken for defence purposes. It does not include civil R&D financed by the Ministry of Defence, for instance on meteorology or telecommunications. It includes defence R&D commissioned by overseas clients.

Classifications of sectors

9. The OECD terminology is used. "Government" corresponds to the "General Government" sector of the UK National Accounts and includes Local as well as Central Government. "Business enterprise" corresponds to the "Corporate" sector and includes public corporations and research associations as well as commercial and industrial companies. "Private non-profit" corresponds to the "Personal" sector of the National Accounts, except that higher education institutions are excluded and put into a separate OECD sector ("Higher Education"). "Abroad" corresponds to the "Overseas" sector.
10. There is a significant discontinuity between 1985 and 1986. In 1986 the UK Atomic Energy Authority ceased to be a part of the Department of Energy and became a public corporation. Its expenditure therefore moved from the government sector to the business enterprise sector. Estimates of NHS R&D are in the government sector total and are included from 1991.

Gross domestic expenditure on research and development (GERD)

11. GERD is the measure most commonly used for international comparisons. It covers all R&D performed in the country concerned irrespective of who pays for it. So, UK GERD covers all R&D in the UK including that funded from abroad; but it excludes R&D performed abroad even if funded from the UK. The four components of GERD relate to R&D performed in the four sectors of the economy.

- a. **Government R&D** is based on the returns of intramural R&D in the government survey with the addition of ONS estimates for two other

patents it is excluded, if it departs from routine and involves new ground it is included. For example, activities such as routine testing, market research, patent applications, trial production runs, and artistic design work are excluded. Overhead costs included. VAT is excluded.

Defining R&D

The following includes all R&D activity undertaken primarily for defence purposes regardless of their nature or whether they have economic or applications. It includes research and development R&D undertaken for defence purposes. It does not include work R&D funded by the Ministry of Defence for instance on technology extramural activities. It includes defence R&D contracted by overseas clients.

Classification of sectors

The OECD terminology is used. "Government" corresponds to the "General Government" sector of the UK National Accounts and includes central government, local government, "public corporations" and "public bodies" as well as "social services". "Private industry" corresponds to the "Private" sector and includes public corporations and private corporations as well as non-profit and not-for-profit companies. "Non-profit" corresponds to the "Private" sector of the National Accounts except that higher education institutions are excluded and are included in the "Government" sector. "Higher education" is the "Government" sector.

There is a significant discrepancy between 1982 and 1986. In 1982 the UK Annual Survey of Industry failed to be a part of the Department of Energy and became a public corporation. Its expenditure on research and development was included in the government sector and the government sector total and the included was 1982.

Government expenditure on research and development (GERD)

GERD is the measure most commonly used for international comparisons. It covers all R&D performed in the country concerned irrespective of who pays for it. So UK GERD covers R&D performed for instance that funded from abroad but is excluded R&D performed abroad and funded from the UK. The two components of GERD are R&D performed in the four sectors of the economy.

Government R&D is based on the sector of expenditure R&D is the government sector with the addition of GERD within the two other

components : R&D performed by local authorities and some R&D within Central Government R&D not available from the survey. For 1996 UK NHS figures have been obtained from the Department of Health and the Scottish Office on the basis of the Culyer directive which since 1995 confirmed the extent of R&D spending in the NHS. Previously an estimate of one and a half per cent of the NHS budget was used.

- b. **Business enterprise R&D** is derived from the results of the ONS's business R&D survey.
 - c. **Higher Education R&D** is estimated by the Higher Education Funding Councils for England, Scotland, Wales and the Department for Education in Northern Ireland.
 - d. **Private non-profit R&D** is derived mainly from the results of ONS's 1996 Private Non Profit Survey (PNP) (see notes on revisions).
- 12. In addition to being analysed by sector of performance, GERD may be analysed by sector of funding. The R&D performed by any one sector of the economy can be funded by any of the other sectors or by the performing sector itself.
 - 13. For the purposes of estimating GERD the standard internationally recommended practice of the OECD is to use information from those performing R&D when this is available. These estimates are considered more reliable than those from surveys of R&D funders. This is why, in the UK GERD table, the estimate of business enterprise R&D funded by Government is from the business enterprise survey rather than the Government R&D survey.
 - 14. The figures for R&D performed by Government and business enterprises may be considered more robust than the other GERD components, since they are based on well established surveys.

Gross domestic product (GDP)

- 15. The measure of GDP used is at market prices - based on the UN definition.

Real terms

- 16. Figures given in "real terms" are calculated using the GDP deflator adjusted for the abolition of domestic rates; 1995=100.

Revisions

17. There have been some revisions to the 1995 Business Survey results. This was due to Product Group changes, more accurate reporting of R&D services and some revisions due to company misreporting. Full details on the revisions were included in ONS's First Release (97) 325 published on 14 November 1997.
18. Last year's First Release referred to work by ONS to improve the reliability of estimates by the PNP sector. A more detailed survey was conducted in respect of 1996 using data from the ONS Survey of Charities⁶ as a sampling frame. This survey has confirmed that the levels established last year for the sector as a performer were correct although the components of the funding prior to 1996 needed revising. This has been done on a simple pro-rata basis using 1996 as the benchmark.

Rounding of figures

19. There may be discrepancies between totals and the sum of their independently rounded components.

General

20. For information on available aggregated data on Gross Domestic Expenditure on Research and Development please contact Jane Morgan on 01633 813109.
21. Details of the policy governing the release of new data, including a description of the release categories featured on the front page of ONS releases, are available from the press office.
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Revisions

17. There have been some revisions to the 1995 Business Survey results. This was due to Product Group changes, more accurate reporting of R&D services and some revisions due to company misreporting. Full details on the revisions were included in ONS's First Release (27) 200 published on 14 November 1997.

18. Last year's First Release referred to work by ONS to improve the reliability of estimates by the 1995 sector. A more detailed survey was conducted in respect of 1995 using data from the ONS Survey of Companies' as a sampling frame. This survey has confirmed that the levels recorded last year for the sector as a percentage were correct although the components of the findings were in 1995 needed revision. This has been done on a sample basis using 1995 as the benchmark.

Revisions of figures

19. There may be discrepancies between totals and the sum of their individual components.

General

20. For information on available aggregated data on these releases, please see the Statistical and Developmental pages on our website.

21. Details of the sector governing the release of new data, including a description of the data, are available on the front page of ONS releases are available from the press office.

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and performance of government, allowing the impact of government policies and actions to be assessed.

References

1. 1995-96 outturn government R&D expenditure figures were in OST's *SET Statistics 1997*, HMSO, London; 1996-97 figures will be published in *SET Statistics 1998* in May 1998. ISBN 0-10-136952-2
2. 1995 UK R&D figures were in *Economic Trends*, August 1997. 1996 figures will be published in *Economic Trends*, later in 1998.
3. 1996 Business Enterprise R&D was published in *Business Monitor MA 14* in January 1998. Available from The Stationery Office. ISBN 0-11-536357-2
4. *Main Science and Technology Indicators 1997*, OECD, Paris. ISBN 92-64-05253-4
5. Proposed Standard Practice for Surveys of Research and Experimental Development, 'Frascati Manual', OECD, Paris. ISBN 92-64-14202-9
6. Charities contributions to Gross Domestic Product. The results of the 1997 survey of charities 'Economic Trends' No 517 November 1997.

and performance of government, allowing the impact of government policies and actions to be assessed.

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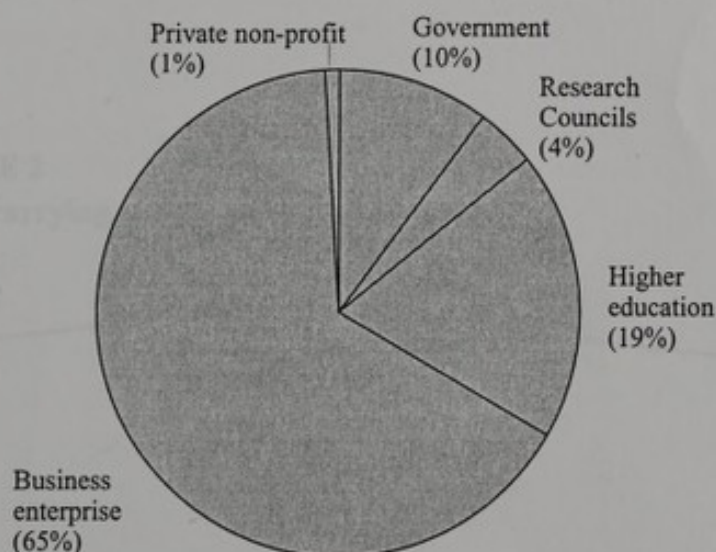
1. 1995-96 central government R&D expenditure figures were in OSE 257 January 1997, HMSO, London. 1996-97 figures will be published in SET Statistics 1998 in May 1998. ISBN 0-10-136922-2
2. 1995 UK R&D figures were in Economic Trends, August 1997. 1996 figures will be published in Economic Trends, later in 1998.
3. 1996 Business Enterprise R&D was published in Business Monitor 144, 14 in January 1998. Available from The Stationery Office. ISBN 0-11-336922-2
4. *State Science and Technology Indicators 1997*, OECD, Paris. ISBN 92-64-05222-4
5. *Proposed Standard Practices for Surveys of Research and Experimental Development*, Technical Manual, OECD, Paris. ISBN 92-64-14202-9
6. *Charting contributions to Gross Domestic Product: The results of the 1997 survey of charities*, Economic Trends, No 517 November 1997.

1 R&D PERFORMED IN THE UK IN EACH SECTOR ACCORDING TO SOURCE OF FINANCE, 1996

	Sector carrying out the work					£million	
	Government	Research Councils	Higher education	Business enterprise	Private non-profit	Total	Abroad
Sector providing the funds							
Government	1 317	77	157	876	18	2 445	171
Research Councils	11	391	671	9	9	1 092	139
Higher Education Funding Councils	-	-	1 027	-	-	1 027	-
Higher education	-	3	116	-	1	120	-
Business enterprise	129	35	188	6 401	32	6 786	-
Private non-profit	7	29	406	5	99	546	-
Abroad	30	40	226	2 010	17	2 323	-
TOTAL	1 495	575	2 792	9 301	177	14 340	-
of which:							
Civil	768	570	2 732	8 007	177	12 254	-
Defence	727	5	60	1 294	-	2 085	-

Source: Office for National Statistics

FIGURE 1
Sector carrying out the work 1996



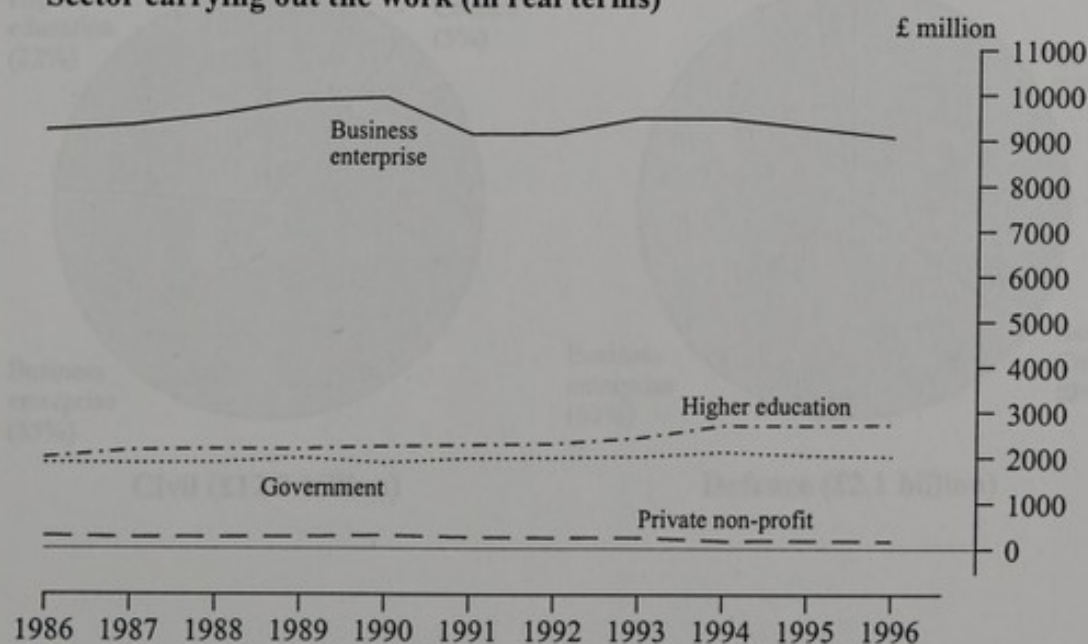
£million

		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sector carrying out the work												
In cash terms												
TOTAL	GLBA	8 623	9 221	10 035	11 068	11 991	12 131	12 689	13 541	14 046	14 172	14 340
Government	GLEK	1 212	1 264	1 360	1 534	1 566	1 757	1 846	1 928	2 051	1 462	1 495
Research Councils	DMRS	—	—	—	—	—	—	—	—	—	581	575
Business enterprise	GLBL	5 951	6 335	6 922	7 650	8 318	8 135	8 489	9 069	9 204	9 254	9 301
Higher education	GLBM	1 288	1 460	1 575	1 689	1 873	2 020	2 129	2 312	2 623	2 696	2 792
Private non-profit	GLBN	172	162	179	196	234	219	224	232	168	177	177
As % of GDP	GLBH	2.25	2.19	2.14	2.15	2.18	2.11	2.13	2.15	2.11	2.02	1.94

		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sector carrying out the work												
In real terms (1995 prices)												
TOTAL	GLBD	13 320	13 524	13 795	14 222	14 266	13 567	13 619	14 123	14 432	14 172	13 953
Government	GLEW	1 873	1 854	1 870	1 971	1 864	1 965	1 982	2 011	2 107	1 462	1 454
Research Councils	DMSU	—	—	—	—	—	—	—	—	—	581	559
Business Enterprise	GLBX	9 192	9 291	9 515	9 830	9 896	9 098	9 111	9 459	9 456	9 254	9 050
Higher Education	GLBY	1 989	2 141	2 165	2 170	2 228	2 259	2 285	2 411	2 695	2 696	2 717
Private non-profit	GLBZ	266	238	245	252	278	246	241	242	173	177	172

Source: Office for National Statistics

FIGURE 2
Sector carrying out the work (in real terms)

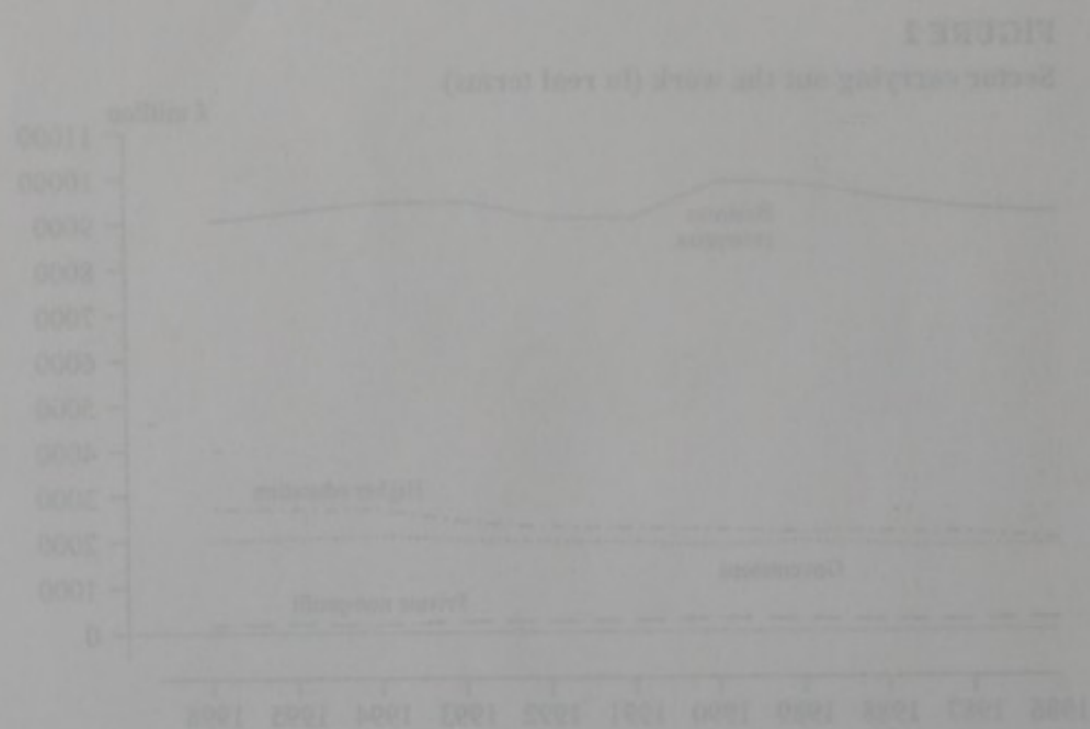


£ million

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total	12 546	12 752	14 002	15 741	17 041	18 088	19 181	20 501	21 901	23 402	24 952	26 552	28 202	29 902	31 652	33 452	35 302	37 202	39 152	41 152	43 202	45 302	47 402
Government	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102	2 152	2 202	2 252	2 302	2 352	2 402	2 452	2 502
Business	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102	2 152	2 202
Higher education	1 002	1 052	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102
Private industry	1 042	1 092	1 142	1 192	1 242	1 292	1 342	1 392	1 442	1 492	1 542	1 592	1 642	1 692	1 742	1 792	1 842	1 892	1 942	1 992	2 042	2 092	2 142
Non-profit making	1 002	1 052	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102

	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
Total	12 546	12 752	14 002	15 741	17 041	18 088	19 181	20 501	21 901	23 402	24 952	26 552	28 202	29 902	31 652	33 452	35 302	37 202	39 152	41 152	43 202	45 302	47 402
Government	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102	2 152	2 202	2 252	2 302	2 352	2 402	2 452	2 502
Business	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102	2 152	2 202
Higher education	1 002	1 052	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102
Private industry	1 042	1 092	1 142	1 192	1 242	1 292	1 342	1 392	1 442	1 492	1 542	1 592	1 642	1 692	1 742	1 792	1 842	1 892	1 942	1 992	2 042	2 092	2 142
Non-profit making	1 002	1 052	1 102	1 152	1 202	1 252	1 302	1 352	1 402	1 452	1 502	1 552	1 602	1 652	1 702	1 752	1 802	1 852	1 902	1 952	2 002	2 052	2 102

Source: Office for National Statistics



EXPENDITURE ON CIVIL AND DEFENCE R&D PERFORMED IN THE UK BY SECTOR OF PERFORMANCE: 1991 TO 1996

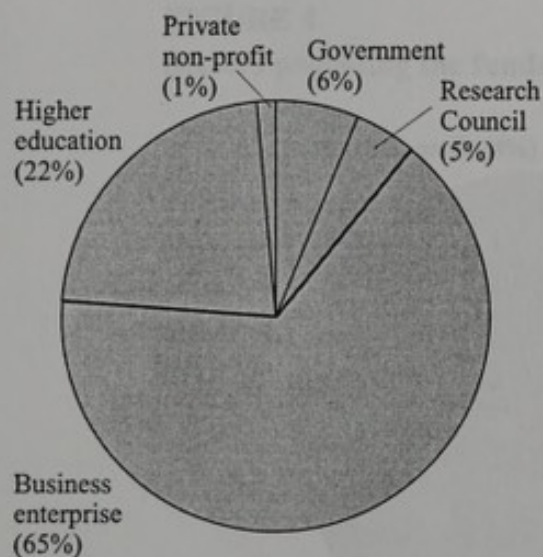
IN CASH TERMS

£million

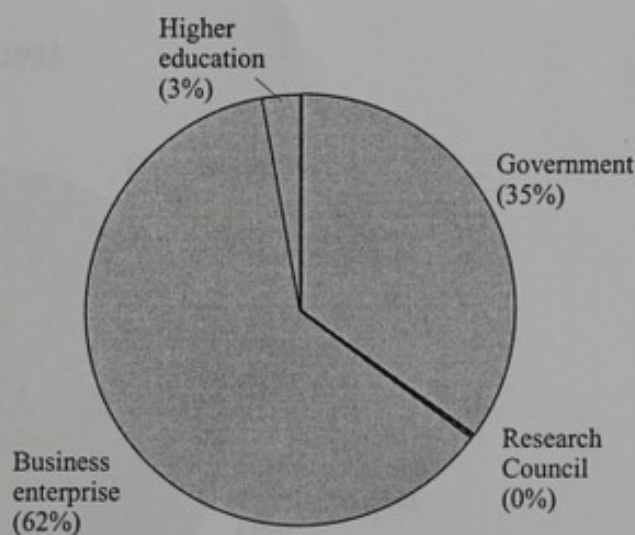
		Civil						Defence							
		1991 /	1992	1993	1994	1995	1996		1991	1992	1993	1994	1995	1996	
Sector carrying out the work															
TOTAL	GLBB	9 951	10 606	11 442	11 906	12 039	12 254	GLBC	2 180	2 083	2 099	2 140	2 133	2 085	
Government	GLBO	1 087	1 214	1 251	1 403	789	768	GLBS	670	632	677	648	673	727	
Research Councils	DMSC	—	—	—	—	574	570	DMSM	—	—	—	—	8	5	
Business enterprise	GLBP	6 669	7 092	7 710	7 771	7 863	8 007	GLBT	1 466	1 397	1 359	1 433	1 391	1 294	
Higher education	GLBQ	1 983	2 084	2 259	2 573	2 635	2 732	GLBU	37	45	53	50	61	60	
Private non-profit	GLBR	212	216	221	159	177	177	GLBV	8	8	11	9	—	—	
As % of GDP	GLBI	1.73	1.78	1.82	1.79	1.72	1.66	GLBJ	0.38	0.35	0.33	0.32	0.30	0.28	

Source: Office for National Statistics

FIGURE 3
Sector carrying out the work 1996



Civil (£12.3 billion)



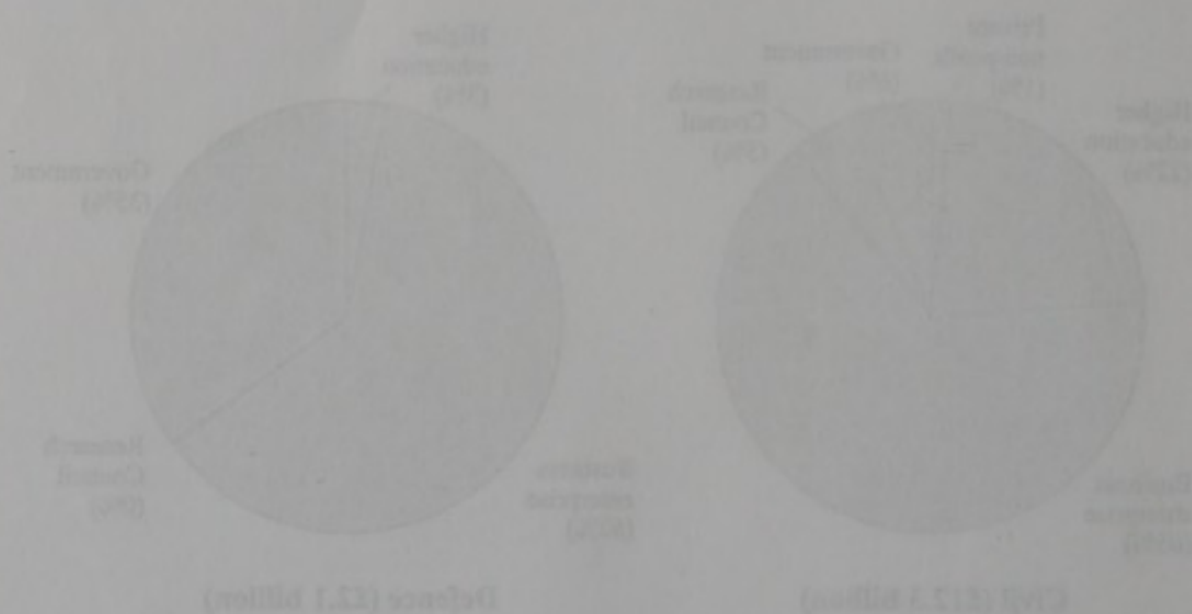
Defence (£2.1 billion)

Sector of performance	Civil					Defence				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Government	1,081	1,214	1,451	1,453	1,453	1,180	1,207	1,214	1,110	1,081
Private industry	1,081	1,214	1,451	1,453	1,453	1,180	1,207	1,214	1,110	1,081
Higher education	1,081	1,214	1,451	1,453	1,453	1,180	1,207	1,214	1,110	1,081
Research council	1,081	1,214	1,451	1,453	1,453	1,180	1,207	1,214	1,110	1,081
Other	1,081	1,214	1,451	1,453	1,453	1,180	1,207	1,214	1,110	1,081
Total	4,324	4,915	5,806	5,812	5,812	5,824	5,824	5,824	5,444	5,324

Source: Office for National Statistics

FIGURE 3

Sector carrying out the work 1995



£million

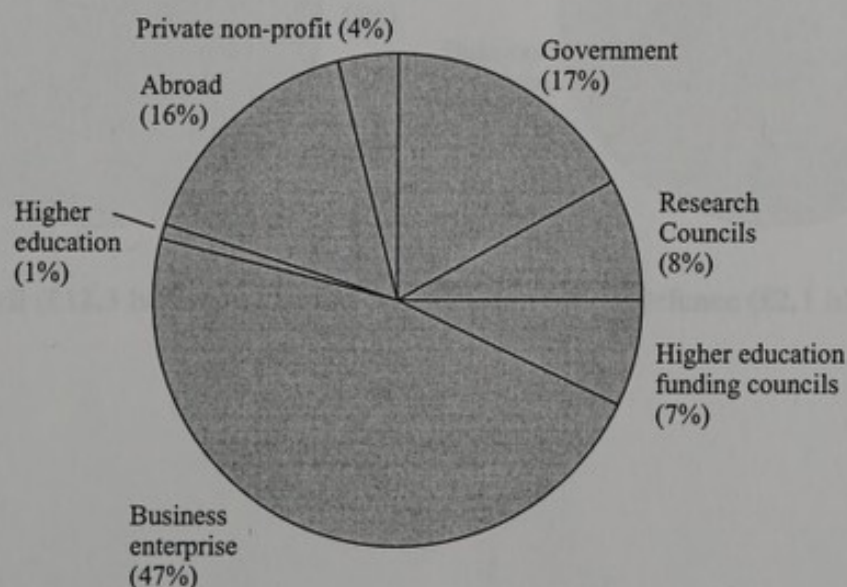
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sector funding R&D in the UK												
In cash terms												
TOTAL	GLBA	8 623	9 221	10 035	11 068	11 991	12 131	12 689	13 541	14 046	14 172	14 340
Government	GLCA	3 425	3 535	3 553	3 913	4 123	4 131	4 239	4 400	4 657	2 611	2 445
Research Councils	DMSR	—	—	—	—	—	—	—	—	—	1 078	1 092
Higher Education Funding Councils	DMS5	—	—	—	—	—	—	—	—	—	1 018	1 027
Business enterprise	GLCB	4 100	4 526	5 193	5 631	5 986	6 054	6 461	6 974	7 025	6 796	6 786
Higher education	GLCC	55	66	78	82	86	92	99	103	116	119	120
Abroad	GLCE	809	848	944	1 139	1 433	1 458	1 455	1 613	1 753	2 039	2 323
Private non-profit	GLCD	234	246	267	303	365	397	435	451	495	511	546
		1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996

Sector funding R&D in the UK

In real terms(1995 prices)

TOTAL	GLBD	13 320	13 524	13 795	14 222	14 266	13 567	13 619	14 123	14 432	14 172	13 953
Government	GLCP	5 290	5 184	4 884	5 027	4 905	4 620	4 549	4 589	4 785	2 611	2 379
Research Councils	DMSV	—	—	—	—	—	—	—	—	—	1 078	1 063
Higher Education Funding Councils	DMSW	—	—	—	—	—	—	—	—	—	1 018	1 000
Business enterprise	GLCQ	6 334	6 639	7 138	7 235	7 122	6 771	6 934	7 274	7 218	6 796	6 603
Higher education	GLCR	85	97	108	106	102	103	107	107	119	119	117
Abroad	GLCT	1 250	1 243	1 298	1 464	1 704	1 630	1 561	1 683	1 801	2 039	2 261
Private non-profit	GLCS	361	361	367	390	434	444	467	471	509	511	531

Source: Office for National Statistics

FIGURE 4
Sectors providing the funds 1996

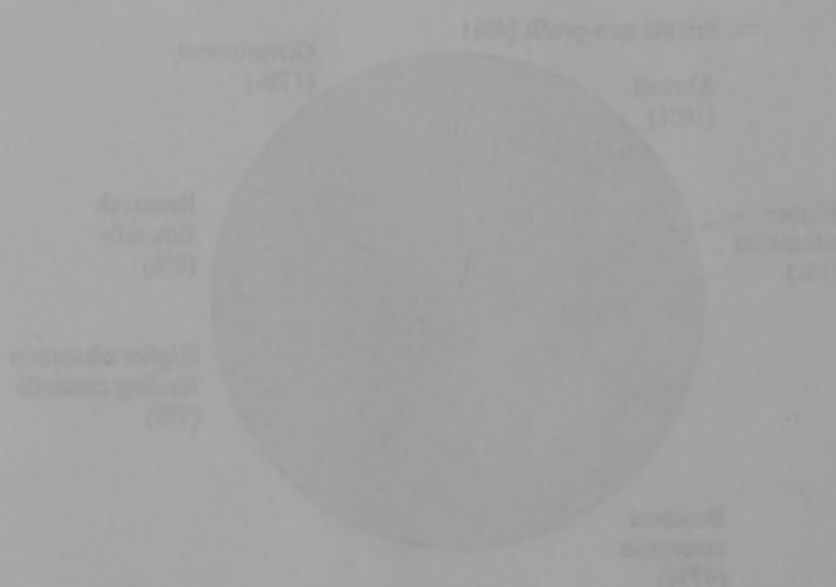


Expenditure (£ million)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	14,240	14,712	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240
Government	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
Higher education	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Business	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Private industry	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Other	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

Expenditure (£ million)	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total	14,240	14,712	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240	14,240
Government	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400	2,400
Higher education	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Business	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Private industry	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Other	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000

Source: Office for National Statistics

FIGURE 4
Sectors providing the funds 1995



EXPENDITURE ON CIVIL AND DEFENCE R&D PERFORMED IN THE UK BY SECTOR OF FUNDING: 1991 to 1996

IN CASH TERMS

£million

		Civil						Defence						
		1991	1992	1993	1994	1995	1996		1991	1992	1993	1994	1995	1996
Sector funding R&D in the UK														
TOTAL	GLBB	9 951	10 606	11 442	11 906	12 039	12 254	GLBC	2 180	2 083	2 099	2 140	2 133	2 085
Government	GLCF	2 835	2 979	3 046	3 347	1 225	1 103	GLCK	1 296	1 260	1 354	1 310	1 386	1 342
Research Councils	DMSX	—	—	—	—	1 078	1 092	DMSM	—	—	—	—	—	—
Higher Education Funding Councils	DMSY	—	—	—	—	1 018	1 027	DMSZ	—	—	—	—	—	—
Business enterprise	GLCG	5 561	5 959	6 549	6 554	6 405	6 355	GLCL	493	502	425	471	391	431
Higher education	GLCH	92	99	103	116	119	120	GLCM	—	—	—	—	—	—
Abroad	GLCJ	1 094	1 152	1 300	1 396	1 683	2 011	GLCO	363	303	314	358	356	312
Private non-profit	GLCI	369	416	445	493	511	546	GLCN	28	19	6	2	—	—

Source: Office for National Statistics

FIGURE 5

Sector funding R&D in the UK 1996

