

SET Statistics 2011

REVISED - amended Table 2.1 to correct DCMS and DfT figures

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Introduction:

'SET Statistics' is a summary of key science, engineering and technology indicators and is prepared in collaboration with the Office for National Statistics.

It aims to:

- Provide historical reporting of Government financing of Science, Engineering and Technology (SET) activities in the UK
- Describe the relationship between the funders and performers of Research and Development (R&D) in the UK
- Report on business enterprise R&D expenditure
- Show how the UK compares with other G7 countries.

Notes:

- 1) The main source of the statistics is the annual Office for National Statistics (ONS) survey of R&D in Government. Other sources include ONS's annual survey of R&D in businesses; and the OECD's Main Science and Technology Indicators database.
- 2) For the purpose of Government SET statistics, Science, Engineering and Technology is taken to include:
 - research and development 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 this stock of knowledge to devise new applications;
 - technology transfer activities associated with research and experimental development and contributing to the dissemination and application of scientific and technical knowledge; and
 - scientific and technical postgraduate education and training.This definition of SET excludes all those other scientific, technical, commercial and financial steps that are often necessary for the successful development and marketing of new or improved products, processes or services.

Gross expenditure covers all R&D performed in the country, irrespective of who pays for it, including funding from abroad. However, it excludes R&D performed abroad even if it is funded from the UK. **Net expenditure** is Gross expenditure less any funding received for R&D - this is to avoid double counting .
- 3) R&D is measured under the guidance of the Frascati Manual
http://www.oecd.org/document/6/0,3343,en_2649_34451_33828550_1_1_1_1.00.html
- 4) For R&D funded by Government the primary purposes are:
 - ppA, general support for research - all basic and applied R&D which advances knowledge for its own sake; support for postgraduate research studentships (PhDs);
 - ppB, Government services - R&D relevant to any aspect of Government service provision (all defence included here);
 - ppC, policy support - R&D which Government funds to inform policy (excluding ppB and ppD) and for monitoring developments of significance for the welfare of the population;
 - ppD, technology support - applied R&D that advances technology underpinning the UK economy (but excluding defence). The category includes strategic as well as applied research, and pre-competitive research under schemes such as LINK;It should be noted that these boundaries are determined by the Governments primary purpose in funding the activity and not the intentions of the researcher or the end result.
- 5) From 1993-94 all expenditure data supplied by ONS includes VAT. Data prior to 1993-94 were collected on a VAT exclusive basis, but it is thought that variable amounts of VAT had been included by many departments due to difficulties in separating out expenditure subject to VAT. MOD and Research Council data prior to this date have been revised to include ...
- 6) The OECD terminology is used to classify main sectors of the economy. Government corresponds to the General Government sector of the UK National accounts. Business enterprise corresponds to the corporate sector and includes public corporations and research associations as well as commercial and industrial companies. Private non-profit (PNP) sector includes research charities and independent research organisations, and corresponds to the Personal sector of the National Accounts except that the higher education institutions (HEIs) are excluded and put into a separate OECD sector Higher Education.
- 7) **Research Councils**

The figures from 1994-95 show the new structure of the Research Councils resulting from the 1993 Science, Engineering and Technology White Paper. They also take account of the grouping together of the Swindon-based Research Councils' pension arrangements and the consequent changes in accounting for pensions expenditure.

8) Higher Education Funding Councils

- The structure of higher education has undergone a radical change since the mid-1980s, with rapid expansion of the numbers of students, the translation of the polytechnics into universities and increases in the level of externally funded research. From 1993-94 funding has been organised through separate Funding Councils for England, Scotland, Wales and the Department for Education in Northern Ireland.
- All HEIs are now covered including universities previously funded through the Universities Funding Council (UFC); the former polytechnics in England and Wales; institutions in Scotland previously funded by the Scottish Office Education Department (SOED); the Open University; and Cranfield University. Funding of R&D in the former polytechnics in England is included from 1992-93, and the Open University and Cranfield are included in the HEFC total from 1993-94, before then they were in the DFE total. R&D in institutions formerly funded by SOED is included from 1993-94, but is excluded in earlier years.
- Up to 1992-93, estimates of Government funded R&D in the higher education sector were based on the finance returns from the old universities, using a method containing coefficients obtained in the mid-1980s for the proportion of expenditure attributed to research. The broad assumptions used in the methodology meant that the derived estimates had a significant margin of error and were also becoming out-of-date.
- The collection of finance statistics also changed significantly from the commencement of the academic year 1994-95, when all institutions completed the same finance statistics return to the new Higher Education Statistical Agency (HESA). This differs significantly from that completed by the old universities.
- Thus, following agreement between HEFCE, SHEFC, HEFCW, ONS and OST, a new method was established in 1996 to estimate Government funded R&D expenditure in HEIs. The new method uses grant income as a proxy for expenditure. The grants have been classified into three groups research-orientated grants, teaching-orientated grants, and other grants.
- The research-orientated grants comprise the block research grant plus other grants which are deemed to be used for research. The teaching-orientated grants are those considered to be related to teaching-only activities and contribute nothing to the research expenditure estimate. The other grants category is those grants which are not allocated specifically for research or teaching but which may contain elements of both to varying degrees.
- In the case of the postgraduate research (PGR) element of the teaching grant it has been agreed by the Funding Councils, ONS and OST that, by considering the total resource (grant plus fee) for a postgraduate student, one-third of PGR will be included in the overall estimate of research expenditure.
- This new method is sufficiently distinct from that used previously as to preclude the backwards revision of data published before 1993-94.
- The figures for the Funding Councils and Research Councils take account of the transfer of funds to the Science Vote. From April 1993 some funds previously allocated directly to HEIs were transferred to research councils to target support for particular projects performed within HEIs, to enable them to cover all direct costs, excluding premises and central computing, plus a contribution to overheads.

9) Government departments

Due to machinery of Government changes, caution should be taken when examining long-term departmental funding.

- Ministry of Agriculture Fisheries and Food (MAFF): MAFF's progressive withdrawal from the provision of subsidised agricultural advice was completed by 31 March 1996.
- Department for Culture, Media and Sport (DCMS): Formerly the Department for National Heritage (DNH) before May 1997: expenditure begins in 1992-93 and includes Sports Council (from DFE) and the British Library and Natural History Museum (from Other Departments).
- Ministry of Defence (MOD): There are breaks in the time series between 1991-92 and 1992-93, and between 1992-93 and 1993-94 reflecting: a) reassessment of the proportion of MoD R&D expenditure that should be classified as research as opposed to development; b) the establishment of the DRA (subsequently DERA) as a trading fund, the contractorisation of the Atomic Weapons Establishment and associated changes in accounting procedures. Further details can be found in Defence Statistics Bulletin nos 1 and 2 Changes to the statistics of MoD's R&D expenditure, published by Defence Analytical Services Agency. These are available from Rm 102, Northumberland House, Northumberland Avenue, London WC2N 5BP. Figures for 1993-94 onwards include the rationalisation costs of the DERA.
- Department for Education and Skills (DfES): The Department of Education and the Department for Employment were amalgamated in 1995-96 to become the Department for Education and Employment. The Open University and Cranfield University were both transferred to the HEFCE from 1993-94. Training Agency is included from 1990-91. In 2000-01, DfEE was reorganised into DfES. In June 2007, DfES was disbanded with functions being passed to the Department for Children, Schools and Families (DCSF) and the Department for Innovation, Universities & Skills (DIUS).
- Department of the Environment, Transport and the Regions (DETR): The Department of the Environment and the Department of Transport were amalgamated in 1997 to form the Department of the Environment, Transport and the Regions (DETR). The Building Research Establishment moved from the public sector to the private sector in 1997-98. Transport Research Laboratory (TRL) moved to the private sector at the end of March 1996. Payments to TRL of recoverable VAT in and following 1996-97 result in an increase in expenditure.

- Department of Health (DH) and Department of Social Security (DSS): DHSS expenditure is split between DH and DSS from 1988-89. Health includes R&D funded by the Department as well as that funded by the NHS. The total for NHS for England for 1995-96 was obtained from an exercise in 1996 to determine the total net costs to all NHS Trusts of their involvement in R&D. Previously, only estimates have been available for NHS research and research-related expenditure which, for example, including the DH SET return, totalled 385 million in 1994-95. The following points about R&D Support Funding for NHS Providers should be noted:
 - i. The figures shown do not include the basic costs of treating patients who are involved in R&D;
 - ii. The outturn for 1995-96 was obtained from an exercise in 1996 to determine the total net costs to all NHS Trusts in England of their involvement in R&D. This exercise was undertaken to allow a move in 1997-98 to contracting for R&D support funding on the basis of actual costs, rather than the existing R&D system of subsidies paid to Trusts in that year.
- Health and Safety Commission/Executive (HSC): HSC includes nuclear safety from 1990-91 and offshore safety from 1991-92, which were both transferred from the former Department of Energy (DEn).
- Home Office (HO): The decrease in expenditure in the Home Office from 1993-94 reflects a reassessment of R&D in the Police Scientific Development Branch.
- Department for International Development (DfID): Formerly the Overseas Development Administration (ODA), before May 1997. In 2009-10, DFID reported higher expenditure due to increasing research budget and the continual expansions of the research and evidence division which is expected to remain high over the next couple of years.

- Department of Trade and Industry (DTI): DTI includes the former Department of Energy from 1992-93. The Warren Spring Research Laboratory moved to the private sector on 1 April 1994. The Office of Science and Technology moved to the DTI from the Cabinet Office (Office of Public Service and Science) in July 1995 and its running costs (excluding the Science Budget) are included with DTI from 1995-96. R&D expenditure in 1986-87 includes £50 million which was later identified as technology transfer (not R&D) and is excluded in the following years. Payments and receipts arising under the provisions of Civil Aviation Act (1982) for Launch Aid are shown separately from DTI figures. In June 2007, DTI was disbanded with functions being passed to the Department for Business Enterprise & Regulatory Reform (BERR) and the Department for Innovation, Universities & Skills (DIUS). CSR plan figures for '08/'09 are therefore not available. Figures for DIUS will be available in subsequent editions of SET Statistics.

- UK Atomic Energy Authority (UKAEA): From 1999-2000 the figures for UKAEA are to be included within those for the Department of Trade and Industry, as UKAEA has been reclassified to the Government sector as a non-departmental body serving the Government. The Business figures are to be revised in the product group "Refined petroleum products: processing of nuclear fuel" to take account of this.
- Welsh Office (WO): The reduction in expenditure in 1992-93 is due to a transfer of responsibilities of Education R&D to the HEFCW. From 1993-94 includes some central NHS budget funds devolved to the Welsh Office, part of the health research budget has now been devolved back to the DH in 1996-97.
- Northern Ireland Office (NIO): In 1993-94 Department of Health and Department of Agriculture data have been adjusted to remove research falling outside the Frascati definitions of R&D. From 1997-98, the Department of Health and Social Services will centrally control the NDPBs and Agency research budget.
- The sharp fall in 2009-10 net research expenditure was reported by the MOD's Science, Innovation & Technology (SIT) organisation and is in line with reported reductions in the MOD research budget. The drop in net development expenditure is consistent with an overall reduction in capitalised development reported by the Defence Equipment & Support (DE&S) organisation. These are partly due to a number of project teams moving from the development to the manufacture stage of their equipment programmes, resulting in a tailing off of their development costs. In other project teams some of their estimated spend for 09/10 included elements that were not Frascati compliant and in other instances delays to the projects have meant that bills expected during 2009/10 were not paid during the year and will appear in 2010/11.

10) European Union

The European Union (EU) supports R&D programmes in member states. The UK makes a positive net contribution to the EU budget. A proportion of this net contribution is assumed to be for R&D and is included in some of the tables. It is excluded when making comparisons with other countries, because its inclusion would be inconsistent with OECD Frascati definitions of national R&D expenditure and therefore with statistics of these countries.

11) Launch Investment

Launch investment is a risk-sharing government investment in the design and development of civil aerospace projects in the UK. The investment is repayable at a real rate of return, usually via levies on sales of the product. Launch investment is only available to the civil aerospace sector and is permitted under the Civil Aviation Act 1982, which charges the Secretary of State with "organising, carrying out and encouraging measures for the designing, development and production of civil aircraft."

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Abbreviations:

BBSRC - Biotechnology and Biological Sciences Research Council
BERD - Business Enterprise Research and Development
BERR - Department for Business Enterprise & Regulatory Reform
CCLRC - Council for the Central Laboratory of the Research Councils
DCMS - Department of Culture, Media and Sport
DCSF - Department for Children, Schools and Families
DECC - Department of Energy and Climate Change
DEn - Department of Energy
DENI - Department of Education Northern Ireland
DES - Department of Education and Science
DETR - Department of the Environment, Transport and the Regions
DFE - Department for Education
DfEE - Department for Education and Employment
DfES - Department for Education and Skills
DFID - Department for International Development
DH - Department of Health
DHSS - Department of Health and Social Security
DIUS - Department for Innovation, Universities and Skills
DoE - Department of the Environment
DoT - Department of Transport
DTI - Department of Trade and Industry
ED - Employment Department
EPSRC - Engineering and Physical Sciences Research Council
ESRC - Economic and Social Research Council
GDP - Gross Domestic Product

GERD - Gross Domestic Expenditure on Research and Development
GOVERD - Government Intramural Expenditure on R&D
HEFC - Higher Education Funding Councils (see DENI, HEFCE, HEFCW, SHEFC)
HEFCE - Higher Education Funding Council for England
HEFCW - Higher Education Funding Council for Wales
HEI - Higher Education Institution
HERD - Higher Education Expenditure on Research and Development
HO - Home Office
HSC - Health and Safety Commission
MAFF - Ministry of Agriculture, Fisheries and Food
MoD - Ministry of Defence
MRC - Medical Research Council
MSC/TA - Manpower Services Commission/Training Agency
NERC - Natural Environment Research Council
NHS - National Health Service
NI - Northern Ireland
OST - Office of Science and Technology
PCFC - Polytechnics and Colleges Funding Council
PNP - Private Non-Profit
PPARC - Particle Physics and Astronomy Research Council
R&D - Research and Development
SE - Scottish Executive (formerly Scottish Office)
SERC - Science and Engineering Research Council
SHEFC - Scottish Higher Education Funding Council
STFC - Science & Technology Facilities Council

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Table 1.1: Net Government expenditure on SET by departments (cash), UK, 2000-01 to 2009-10

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	£ million
DTI (ex OST and Launch Investment) ⁽³⁾	354	366	409	334	322	300	265	-	-	-	
Total	1,664	1,776	2,043	2,140	1,866	1,965	1,918	2,312	r 2,378	2,681	
Defence											
MoD ^(19,20,21)											
Development	1,673	1,500	2,218	2,153	1,937	1,921	1,492	1,505	1,406	1,175	
Research	566	557	516	524	639	598	632	635	584	567	
Total	2,240	2,057	2,734	2,677	2,576	2,519	2,124	2,139	1,991	1,742	
Indicative UK contribution to the EU R&D budget	399	391	440	390	325	365	374	374	r 593	650	
GRAND TOTAL	7,093	7,404	8,791	9,130	8,980	9,649	9,515	9,819	r 10,232	10,642	

Notes:

r revised

Source: ONS Government R&D Survey

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2000-01 are shown in Table A1.1.

1) In April 2007 CCLRC & PPARC merged to form Science & Technology Facilities Council (STFC).

2) AHRC was established in April 2005.

3) From July 2007 DTI and OST were renamed Business Enterprise and Regulatory Reform (BERR) and Department of Innovation and Skills (DIUS) respectively.

4) With effect from 2002/03, non cash costs are included.

5) Where a single year PES settlement is known, this figure is carried forward to subsequent years. The resulting apparent reduction in projected Government spend is a result of the routine application of the GDP deflator and does not signify a real reduction in planned spending.

6) In 2009, DIUS and BERR merged to form BIS. DIUS was renamed as BIS Science and BERR renamed as BIS. A number of departments previously reported under DIUS have been transferred to BIS.

7) In 2009-10, higher expenditure due to increasing research budget and the continual expansions of the research and evidence division and this is expected to remain high over the next couple of years.

8) Includes the following departments: HMRC, HMT, Forestry Commission, Ordnance Survey Research, GCHQ and Ofsted. Also, includes expenditure attributed to the Forestry Commission in 2002-03 of £11.2 million, in 2003-04 of £11 million and of £12 million from 2004-05 onwards.

9) From June 2007 DfES was renamed Department for Children, Schools and Families (DCSF).

10) DECC was created in October 2008

11) All amounts from 20001-02 onwards include additional research taken on from the former DfEE as a result of the transition from DSS to DWP during that year.

12) From 2006 Ministry of Justice figures are displayed separately and are no longer included under "Other departments"

13) Increase from 2001-02 onwards is partially attributed to the inclusion of expenditure and personnel from Assembly Sponsored Public Bodies (ASPBs). Increase in direct Assembly expenditure on SET between 2001-01 and 2001-02 is 4.8%.

14) FCO figures are estimated. Previously their figures were included under the Home Office.

15) MAFF funding transferred to the Food Standards Agency (FSA) on 1 April 2000.

16) Decrease in 2001/2 (formation of the Department for Education and Skills) was due to the transfer of responsibility for employment to the Department for Work and Pensions and for employer related equal opportunities issues to the Department for Trade and Industry.

17) The Department of the Environment, Transport and the Regions split in May 2001 to form Department of Transport, Local Government and the Regions (DTLR) which also included Fire Directorate from the Home Office, and the Department for Environment, Food and Rural Affairs (DEFRA).

18) The Department of Transport, Local Government and the Regions split in June 2002 to form Department for Transport (DfT) and Office of Deputy Prime Minister (ODPM).

19) From 2000/01 the Departmental Resource Accounts (DRAc) follow Statement of Standard Accounting Practice 13, "Accounting for Research and Development." From 2000/01 the figures are calculated on a resource basis, and are consistent with the aggregate of Research and Expensed Development plus Additions to Intangible Assets. This table therefore comprises elements from both the Operating Cost Statement and the Balance Sheet in the DRAc.

20) On 1st July 2001, DERA was split into two organisations: the Defence Science & Technology Laboratory (Dstl) (about a quarter of DERA) staying as a Trading Fund within MOD, and QinetiQ, the remainder, becoming a private (extramural) company. Receipts are monies received by MOD & its Trading Funds for expenditure on R&D, for example from other government departments & private industry. This money is not necessarily spent on defence-related R&D.

21) The sharp fall in 2009-10 net research expenditure was reported by the MOD's Science, Innovation & Technology (SIT) organisation and is in line with reported reductions in the MOD research budget - see item 9 under Notes, for more details.

22) In 2009-10, net launch investment was positive because income received from investments was less than forecast and expenditure was more than the forecast.

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Table 1.2: Net Government expenditure on SET by departments (in real terms), UK, 2000-01 to 2009-10

	£ million (base year 2009-10)									
	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
MAFF ⁽¹⁾	150	-	-	-	-	-	-	-	-	-
DfES ⁽¹⁾	168	119	112	60	67	111	78	-	-	-
DETR ⁽¹⁾	238	-	-	-	-	-	-	-	-	-
DTLR ⁽¹⁾	-	96	-	-	-	-	-	-	-	-
BERR (ex DIUS and Launch Investment) ⁽¹⁾	-	-	-	-	-	-	-	1	1	-
DTI (ex OST and Launch Investment) ⁽¹⁾	447	452	488	389	364	333	284	-	-	-
Total	2,099	2,191	2,442	2,487	2,110	2,182	2,061	2,415	2,417	2,681
Defence										
MoD ⁽¹⁾										
Development	2,110	1,851	2,651	2,502	2,191	2,134	1,603	1,572	1,429	1,175
Research	714	687	616	609	723	664	679	663	594	567
Total	2,825	2,538	3,268	3,111	2,914	2,798	2,283	2,235	2,024	1,742
Indicative UK contribution to the EU R&D budget	503	482	525	453	368	405	402	391	602	650
GRAND TOTAL	8,946	9,134	10,506	10,612	10,156	10,717	10,225	10,259	10,402	10,642

Notes:

All figures have been rebased to 2009-10 prices, and those prior to 2000-01 are shown in Table A1.2.

¹ See notes on Table 1.1

Implied deflators

79.3 81.1 83.7 86.0 88.4 90.0 93.1 95.7 98.4 100

Source: ONS Government R&D Survey

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Table 2.1: Net Government expenditure on R&D by departments (cash), UK, 2000-01 to 2009-10

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
<i>£ million</i>										
Research Councils										
EPSRC	395	454	479	405	480	553	643	694	734	754
MRC	315	347	358	361	376	416	471	494	581	634
STFC ⁽¹⁾	-	-	-	-	-	-	-	548	583	599
BBSRC	211	213	240	267	275	320	364	369	383	432
NERC	170	166	195	278	296	363	351	350	381	404
ESRC	64	68	74	83	98	116	133	147	158	170
AHRC ⁽²⁾	-	-	-	-	-	58	70	86	91	87
Pensions/Other	24	26	27	28	40	15	17	24	72	37
OST - DTI ⁽³⁾	73	151	244	388	356	503	413	-	-	-
PPARC ⁽⁴⁾	205	214	249	272	295	334	329	-	-	-
CCLRC	2	10	3	62	64	84	92	-	-	-
Total	1,459	1,649	1,870	2,143	2,281	2,763	2,883	2,714	2,984	3,117
Higher Education Funding Councils										
Total	1,276	1,474	1,626	1,665	1,804	1,928	2,085	2,234	2,227	2,395
Civil Departments										
DH (including NHS) ⁽⁵⁾	478	504	514	593	629	628	673	712	r 788	802
NHS	423	445	461	533	575	583	623	661	730	753
BIS (formerly BERR) ⁽⁶⁾	-	-	-	-	-	-	-	-	-	363
BIS Science (formerly DIUS) ⁽³⁾	-	-	-	-	-	-	-	810	680	348
DFID (formerly ODA) ⁽⁷⁾	173	147	193	215	215	265	247	134	149	225
DEFRA	-	172	173	181	191	201	194	190	187	176
SG (formerly SE)	105	115	115	129	131	137	132	137	r 141	155
DfT	-	-	47	59	48	51	57	62	60	68
DCMS (formerly DNH)	11	11	19	15	16	23	36	39	47	46
HO	38	40	57	48	58	73	50	42	r 44	43
Net Launch Investment	-99	22	150	215	-127	-158	-154	-154	-128	34
Other departments ⁽⁸⁾⁽¹²⁾	27	30	24	30	28	25	30	36	37	33
DCSF ⁽⁹⁾	-	-	-	-	-	-	-	35	33	31
DCLG (formerly ODPM)	-	-	27	30	29	27	30	25	27	28
DWP (including DSS) ⁽¹¹⁾	5	16	15	18	18	18	18	17	19	25
DECC ⁽¹⁰⁾	-	-	-	-	-	-	-	-	27	25
NI departments	29	18	17	21	21	21	22	22	22	21
HSC	16	17	16	14	25	19	14	12	12	13
FSA	23	20	20	22	20	17	15	14	11	11
WAG (formerly WO) ⁽¹³⁾	21	36	35	31	32	33	10	12	10	10
MOJ ⁽¹²⁾	-	-	-	-	-	-	2	10	12	9
FCO ⁽¹⁴⁾	-	-	-	-	-	-	-	-	-	6
MAFF ⁽¹⁵⁾	118	-	-	-	-	-	-	-	-	-
DfES ⁽⁹⁾⁽¹⁶⁾	133	96	93	52	59	100	73	-	-	-
DETR ⁽¹⁷⁾	141	-	-	-	-	-	-	-	-	-
DTLR ⁽¹⁸⁾	-	74	-	-	-	-	-	-	-	-
BERR (ex DIUS and Launch Investment) ⁽⁶⁾	-	-	-	-	-	-	-	1	1	-

Table 2.1: Net Government expenditure on R&D by departments (cash), UK, 2000-01 to 2009-10

		£ million									
		2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
	DTI (ex OST and Launch Investment) ⁽³⁾	255	275	331	255	275	243	204	-	-	-
	Total	1,474	1,595	1,849	1,929	1,666	1,721	1,652	2,155	2,179	2,473
Defence											
MoD ^(19,20,21)	Development	1,673	1,500	2,218	1,609	1,552	1,645	1,492	1,505	1,406	1,175
	Research	566	557	516	524	639	598	632	635	584	567
	Total	2,240	2,057	2,734	2,133	2,191	2,243	2,124	2,139	1,991	1,742
Indicative UK contribution to the EU R&D budget		399	391	440	390	325	365	374	374	r 593	650
GRAND TOTAL		6,848	7,165	8,519	8,260	8,267	9,021	9,119	9,616	9,973	10,378

Notes:
r revised

Source: ONS Government R&D Survey

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2000-01 are shown in Table A2.1.

- 1) In April 2007 CCLRC & PPARC merged to form Science & Technology Facilities Council (STFC).
- 2) AHRC was established in April 2005.
- 3) From July 2007 DTI and OST were renamed Business Enterprise and Regulatory Reform (BERR) and Department of Innovation and Skills (DIUS) respectively.
- 4) With effect from 2002/03, non cash costs are included.
- 5) Where a single year PES settlement is known, this figure is carried forward to subsequent years. The resulting apparent reduction in projected Government spend is a result of the routine application of the GDP deflator.
- 6) In 2009, DIUS and BERR merged to form BIS. DIUS was renamed as BIS Science and BERR renamed as BIS. A number of departments previously reported under DIUS have been transferred to BIS.
- 7) In 2009-10, higher expenditure due to increasing research budget and the continual expansions of the research and evidence division and this is expected to remain high over the next couple of years.
- 8) Includes the following departments: HMRC, HMT, Forestry Commission, Ordnance Survey Research, GCHQ and Ofsted. Also, includes expenditure attributed to the Forestry Commission in 2002-03 of £11.2 million, in 2003-04 of £11 million and of £12 million from 2004-05 onwards.
- 9) From June 2007 DfES was renamed Department for Children, Schools and Families (DCSF).
- 10) DECC was created in October 2008.
- 11) All amounts from 20001-02 onwards include additional research taken on from the former DfEE as a result of the transition from DSS to DWP during that year.
- 12) From 2006 Ministry of Justice figures are displayed separately and are no longer included under "Other departments".
- 13) Increase from 2001-02 onwards is partially attributed to the inclusion of expenditure and personnel from Assembly Sponsored Public Bodies (ASPBs). Increase in direct Assembly expenditure on SET between 2001-01 and 2001-02 is estimated.
- 14) FCO figures are estimated.
- 15) MAFF funding transferred to the Food Standards Agency (FSA) on 1 April 2000.
- 16) Decrease in 2001/2 (formation of the Department for Education and Skills) was due to the transfer of responsibility for employment to the Department for Work and Pensions and for employer related equal opportunities to the Department for Work and Pensions.
- 17) The Department of the Environment, Transport and the Regions split in May 2001 to form Department of Transport, Local Government and the Regions (DTLR) which also included Fire Directorate from the Home Office.
- 18) The Department of Transport, Local Government and the Regions split in June 2002 to form Department for Transport (DfT) and Office of Deputy Prime Minister (ODPM).
- 19) From 2000/01 the Departmental Resource Accounts (DRAc) follow Statement of Standard Accounting Practice 13, "Accounting for Research and Development." From 2000/01 the figures are calculated on a resource basis. Additions to Intangible Assets. This table therefore comprises elements from both the Operating Cost Statement and the Balance Sheet in the DRAc.
- 20) On 1st July 2001, DERA was split into two organisations: the Defence Science & Technology Laboratory (Dstl) (about a quarter of DERA) staying as a Trading Fund within MOD, and QinetiQ, the remainder, becoming a private (extramural) company. Receipts are monies received by MOD & its Trading Funds for expenditure on R&D, for example from other government departments & private industry. This money is not necessarily spent on defence-related R&D.
- 21) The sharp fall in 2009-10 net research expenditure was reported by the MOD's Science, Innovation & Technology (SIT) organisation and is in line with reported reductions in the MOD research budget. The drop in net development expenditure is consistent with an overall reduction in capitalised development reported by the Defence Equipment & Support (DE&S) organisation. These are partly due to a number of project teams moving from the development to the manufacture stage of their equipment programmes, resulting in a tailing off of their development costs. In other project teams some of their estimated spend for 09/10 included elements that were not Frascati compliant and in other instances delays to the projects have meant that bills expected during 2009/10 were not paid during the year and will appear in 2010/11.

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Table 2.2: Net Government expenditure on R&D by departments (in real terms), 2000-01 to 2009-10

	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
	£ million (base year 2009-10)									
Research Councils										
EPSRC	499	560	573	471	543	614	691	725	746	754
MRC	397	427	428	419	425	462	506	517	591	634
STFC ⁽¹⁾	-	-	-	-	-	-	-	573	593	599
BBSRC ⁽¹⁾	266	262	287	310	311	356	391	386	390	432
NERC	214	205	233	323	335	403	377	366	387	404
ESRC	81	84	89	97	111	129	143	154	161	170
AHRC ⁽¹⁾	-	-	-	-	-	64	76	90	92	87
Pensions/Other ⁽¹⁾	31	32	32	33	45	17	11	25	74	37
OST - DTI ⁽¹⁾	93	187	291	450	403	559	444	-	-	-
PPARC ⁽¹⁾	258	264	297	316	334	371	354	-	-	-
CCLRC ⁽¹⁾	3	12	3	72	73	93	99	-	-	-
Total	1,840	2,034	2,234	2,491	2,579	3,069	3,091	2,835	3,034	3,117
Higher Education Funding Councils										
Total	1,609	1,818	1,944	1,935	2,040	2,142	2,241	2,334	2,264	2,395
Civil Departments										
DH (including NHS) ⁽¹⁾	602	622	615	689	711	698	723	744	801	802
NHS	533	549	551	619	650	648	670	690	742	753
BIS (formerly BERR) ⁽¹⁾	-	-	-	-	-	-	-	-	-	363
BIS Science (formerly DIUS) ⁽¹⁾	-	-	-	-	-	-	-	846	692	348
DFID (formerly ODA) ⁽¹⁾	218	181	230	250	243	294	266	140	152	225
DEFRA	-	213	207	210	216	223	209	198	190	176
SG (formerly SE)	133	142	138	149	148	152	142	143	143	155
chk DfT	-	-	56	68	55	56	61	65	61	68
DCMS (formerly DNH)	13	14	23	18	18	26	39	40	48	46
HO	48	49	69	56	65	81	54	44	45	43
Net Launch Investment	-125	27	179	250	-144	-176	-166	-161	-130	34
Other departments ⁽¹⁾	34	37	29	35	32	28	32	38	37	33
DCSF ⁽¹⁾	-	-	-	-	-	-	-	37	33	31
DCLG (formerly ODPM)	-	-	32	35	32	30	32	26	28	28
DWP (including DSS) ⁽¹⁾	7	20	18	21	20	20	20	17	19	25
DECC ⁽¹⁾	-	-	-	-	-	-	-	-	27	25
NI departments	36	23	21	24	23	23	23	23	22	21

Table 2.2: Net Government expenditure on R&D by departments (in real terms), 2000-01 to 2009-10

		£ million (base year 2009-10)									
		2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
	HSC	20	21	20	16	28	21	15	13	13	13
	FSA	30	24	24	26	23	19	16	15	12	11
	WAG (formerly WO) ⁽¹⁾	27	44	42	36	36	37	10	13	11	10
	MOJ ⁽¹⁾	-	-	-	-	-	-	2	10	13	9
	FCO ⁽¹⁾	-	-	-	-	-	-	-	-	-	6
	MAFF ⁽¹⁾	149	-	-	-	-	-	-	-	-	-
	DfES ⁽¹⁾	168	119	112	60	67	111	78	-	-	-
	DETR ⁽¹⁾	178	-	-	-	-	-	-	-	-	-
	DTLR ⁽¹⁾	-	92	-	-	-	-	-	-	-	-
	BERR (ex DIUS and Launch Investment) ⁽¹⁾	-	-	-	-	-	-	-	1	1	-
	DTI (ex OST and Launch Investment) ⁽¹⁾	321	340	396	297	311	269	219	-	-	-
Total	Total	1,859	1,967	2,210	2,242	1,884	1,912	1,776	2,252	2,215	2,473
Defence											
MoD ⁽¹⁾	Development	2,110	1,851	2,651	1,870	1,756	1,827	1,603	1,572	1,429	1,175
	Research	714	687	616	609	723	664	679	663	594	567
	Total	2,825	2,538	3,268	2,479	2,478	2,492	2,283	2,235	2,024	1,742
Indicative UK contribution to the EU R&D budget		503	482	525	453	368	405	402	391	602	650
GRAND TOTAL		8,637	8,838	10,181	9,600	9,349	10,020	9,800	10,046	10,138	10,378

Notes: Source: ONS Government R&D Survey
 All figures have been rebased to 2009-10 prices, and those prior to 2000-01 are shown in Table A2.2.
 1. See notes on Table 2.1
 2. Implied deflators 79.3 81.1 83.7 86.0 88.4 90.0 93.1 95.7 98.4 100

Table 2.3: Net Government R&D expenditure by primary purpose and department,

					£ million
	General support pp A	Government services pp B	Policy support pp C	Technology support pp D	Total
UK 2009-10 (1)					
Research Councils					
EPSRC	654	-	-	101	754
MRC	579	28	2	25	634
STFC	539	1	2	58	599
BBSRC	428	-	-	4	432
NERC	283	8	84	30	404
ESRC	150	11	2	7	170
AHRC	87	-	-	-	87
Total	2,719	48	89	225	3,080
Higher Education Funding Councils	2,395	-	-	-	2,395
Civil Departments					
DH (includes NHS)	757	6	38	2	802
NHS	753	-	-	-	753
BIS (formerly BERR) ⁽²⁾	77	28	2	291	398
BIS Science (formerly DIUS) ⁽²⁾	348	-	-	-	348
DFID (formerly ODA)	-	-	225	-	225
DEFRA	56	8	112	-	176
SG (formerly SE)	74	4	50	27	155
DfT	-	3	36	28	68
DCMS (formerly DNH)	24	6	14	3	46
HO	-	8	15	20	43
Other departments	-	8	9	16	33
DFES	-	-	31	-	31
DCLG (formerly ODPM)	-	-	28	-	28
DWP (formerly DSS)	-	-	25	-	25
DECC	2	-	21	2	25
NI departments	11	2	9	-	21
HSC	-	-	13	-	13
FSA	-	-	11	-	11
WAG (formerly WO)	2	-	8	-	10
MOJ	-	5	5	-	9
FCO ⁽³⁾	-	-	6	-	6
Total	1,350	77	658	388	2,473
Defence	MOD	-	1,742	-	1,742
TOTAL GOVERNMENT	6,463	1,867	747	613	9,691

Notes:

Source: ONS Government R&D Survey

1 For the purpose of this analysis Research Councils expenditure for Pensions/Other costs have been excluded.

2 In 2009, DIUS and BERR merged to form BIS. DIUS was renamed as BIS Science and BERR renamed as BIS. A number of departments previously reported under DIUS have been transferred to BIS.

3 FCO figures are estimated.

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Table 2.4: Government funding of net R&D by socio-economic objectives
percentage share

	2007-08	2008-09	2009-10
-			
Agriculture	3	3	3
Industrial production and technology	0	1	2
Energy	1	1	1
Transport, telecommunication, other infrastructure	1	1	1
Environment	2	3	3
Health	16	17	18
Education	1	1	1
Exploration and exploitation of the earth	2	3	3
General advancement of knowledge: R&D financed from General University Funds	24	24	25
Exploration and exploitation of space	2	2	2
Defence	23	21	18
Culture, recreation, religion and mass media	2	2	2
Political and social systems, structures and processes	2	2	2
General advancement of knowledge: R&D financed from other sources	21	20	19
Total	100	100	100

Source: ONS Government R&D Survey

Table 2.5: Aggregate destination of total Government R&D expenditure ⁽¹⁾, 2000-01 to 2009-10

		£ million in cash terms									
		2000-01 ⁽²⁾	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Civil R&D											
	Total Gross Expenditure	4,748	5,323	5,938	6,276	6,338	7,035	7,253	7,697	7,970	8,610
	Within government departments ⁽³⁾	1,576	1,628	1,685	1,833	1,960	2,077	2,106	2,116	2,199	2,236
	Higher Education Institutions	2,370	2,745	3,097	3,214	3,384	3,863	4,132	4,507	4,599	4,936
	Private Industry/Public corporations	410	580	719	737	427	416	372	433	435	668
	Overseas	307	274	310	356	397	476	446	429	500	504
	Others	82	96	127	137	169	203	197	213	236	265
	Less receipts	539	606	593	539	587	623	632	595	580	624
	Total Net expenditure	4,209	4,717	5,345	5,737	5,751	6,413	6,621	7,103	7,390	7,985
Defence R&D											
	Total Gross Expenditure	2,321	2,117	2,790	2,200	2,260	2,318	2,212	2,220	2,074	1,830
	Within government departments ⁽³⁾	932	432	288	380	362	371	361	279	269	293
	Higher Education Institutions	-	17	8	10	16	5	13	5	5	5
	Private Industry/Public corporations	-	1,651	2,477	1,590	1,631	1,809	1,752	1,652	1,353	1,109
	Overseas	-	17	17	219	251	132	85	276	446	423
	Others	-	-	-	-	-	-	-	-	1	-
	Less receipts	81	60	56	68	69	75	88	81	83	87
	Total Net expenditure	2,240	2,057	2,734	2,133	2,191	2,243	2,124	2,139	1,991	1,742
Total R&D											
	Total Gross Expenditure	7,069	7,440	8,728	8,476	8,598	9,353	9,465	9,918	10,043	10,439
	Within government departments ⁽³⁾	2,508	2,060	1,974	2,213	2,322	2,448	2,467	2,395	2,469	2,529
	Higher Education Institutions	2,370	2,762	3,105	3,224	3,400	3,868	4,146	4,513	4,604	4,941
	Private Industry/Public corporations	410	2,231	3,196	2,327	2,058	2,225	2,124	2,085	1,788	1,777
	Overseas	307	292	327	575	648	609	531	705	946	927
	Others	82	96	127	137	170	203	197	221	237	265
	Less receipts	620	666	649	606	656	697	720	676	663	712
	Total Net expenditure	6,449	6,774	8,079	7,869	7,942	8,656	8,745	9,242	9,380	9,728

Notes:

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2000-01 are shown in Table A2.3.

1 Payments to other government departments and Research Councils are excluded here to avoid double counting. The expenditure represented by these payments is shown in the aggregated figures for expenditure within and outside government departments. These payments are also excluded from the figure for receipts.

2 Following a National Statistics Quality Review conducted during 2002/03 the MOD's R&D statistics were revised for 1997/98 to 2000/01. The changes were: the removal of associated costs, a review of the treatment of VAT and the reclassification of R&D in relation to the OECD Frascati definitions but more detailed breakdown as shown are not available.

3 Includes Research Council Institutes and Local Authorities.

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Table 3.1: Qualified scientists and engineers in the labour force, GB, 2009

	000's			Percentage holding:		
	All	With HE Qual (1)	Science or Engineering HE Qual (2)	No HE Qual (3)	With HE Qual (1)	Science or Engineering HE Qual (2)
Persons						
Population aged 16-64	38,727	8,472	4,157	78	22	11
inactive	8,941	942	471	89	11	5
economically active	29,786	7,530	3,686	75	25	12
employed	27,459	7,229	3,551	74	26	13
unemployed (4)	2,327	300	135	87	13	6
Occupation of those employed (5):						
all occupations (6)	27,543	7,240	3,556	74	26	13
Managers and Senior Officials	4,308	1,546	688	64	36	16
Professional occupations	3,777	2,805	1,303	26	74	35
Associate Professional and Techni ^c	4,082	1,574	970	61	39	24
Administrative and Secretarial	3,006	479	164	84	16	5
Skilled Trades Occupations	2,867	139	78	95	5	3
Personal Service Occupations	2,415	249	163	90	10	7
Sales and Customer Service Occu ^f	2,064	203	83	90	10	4
Process, Plant and Machine Opera ^t	1,825	60	27	97	3	1
Elementary Occupations	3,030	163	70	95	5	2

Notes:

Figures are not seasonally adjusted and relate to three months ending December 2009

1 People who have obtained a Higher, First or Other degree or NVQ level 5.

2 People who have obtained a HE qualification in a science or engineering subject.

3 Nil returns have been included in the No HE Qualifications category.

4 Unemployed as defined by the International Labour Organisation.

5 Occupation is based on SOC 2000 which was first used in Spring 2001.

6 Includes people who did not state their occupations.

Source: ONS - Labour Force Survey

Table 3.2: Qualified scientists and engineers by gender in the labour force, GB, 2009

	000's			Percentage holding:		
	All	With HE Qual (1)	Science or Engineering HE Qual (2)	All	With HE Qual (1)	Science or Engineering HE Qual (2)
Men						
Population aged 16-64	19,276	4,313	2,188	78	22	11
inactive	3,286	362	187	89	11	6
economically active	15,990	3,951	2,001	75	25	13
employed	14,582	3,775	1,916	74	26	13
unemployed (3)	1,408	176	85	88	12	6
Women						
Population aged 16-64	19,451	4,158	1,970	79	21	10
inactive	5,655	580	284	90	10	5
economically active	13,796	3,579	1,685	74	26	12
employed	12,876	3,454	1,636	73	27	13
unemployed (3)	919	124	50	86	14	5

Notes - see Table 3.1 above

Source: ONS - Labour Force Survey

Table A1.1: Net Government expenditure on SET by departments (cash), 1986-87 to 1999-00

	£ million													
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Research Councils														
EPSRC	-	-	-	-	-	-	-	-	369	369	378	387	374	401
MRC	128	140	150	176	186	203	228	255	271	278	282	282	277	305
NERC	70	73	92	115	135	123	130	140	146	168	157	160	168	167
BBSRC ⁽¹⁾	-	-	-	-	-	-	-	-	143	180	180	188	186	196
ESRC	24	25	27	32	37	36	46	53	59	62	64	65	68	71
Pensions/Other ⁽²⁾	-	-	-	-	-	-	-	-	31	8	10	26	13	21
OST - DTI ⁽³⁾	-	-	-	-	-	-	20	21	24	25	27	28	43	45
AFRC	57	55	61	74	89	97	105	109	-	-	-	-	-	-
SERC	316	358	368	406	443	456	523	584	-	-	-	-	-	-
PPARC	-	-	-	-	-	-	-	-	180	203	214	196	205	185
CCLRC ⁽⁴⁾	-	-	-	-	-	-	-	-	-	2	2	-	-	2
Total ⁽⁵⁾	596	650	697	803	890	915	1,051	1,163	1,223	1,295	1,312	1,331	1,334	1,394
Higher Education Funding Councils														
HE Funding Council (UK)	-	-	-	-	-	-	963	968	1,017	1,018	1,028	1,033	1,085	1,157
UFC and PCFC	720	760	830	830	863	950	-	-	-	-	-	-	-	-
Total ⁽⁵⁾	720	760	830	830	863	950	963	968	1,017	1,018	1,028	1,033	1,085	1,157
Civil Departments														
DH (including NHS) ⁽⁶⁾	-	-	51	59	72	59	55	62	60	404	470	460	463	473
NHS ⁽⁷⁾	-	-	-	-	-	-	-	-	-	347	408	401	403	410
SG (formerly SE)	57	55	60	63	66	71	74	77	78	78	79	73	72	123
DFID (formerly ODA) ⁽⁸⁾	27	33	34	36	47	67	102	131	131	132	108	112	104	148
DCMS (formerly DNH)	-	-	-	-	-	-	15	12	11	11	11	10	10	11
HO ⁽⁹⁾	13	14	14	15	15	17	20	25	17	17	15	18	21	28
Other departments ⁽¹⁹⁾	29	24	26	26	26	28	15	22	24	17	17	22	23	25
Net Launch Investment	96	27	76	91	89	-5	-41	-54	-43	-35	-61	-119	-126	-135
NI departments ⁽¹⁰⁾	17	17	18	21	22	23	25	27	26	25	24	24	29	28
DSS	-	-	1	1	2	3	3	4	5	5	5	4	4	5
HSC	5	8	10	9	13	21	27	28	26	28	28	26	22	20
WAG (formerly WO) ^(11,12)	4	2	2	2	2	3	1	3	3	3	2	18	20	19
MAFF ⁽¹³⁾	157	141	148	146	150	152	168	154	149	151	139	142	141	136
DES/DFE	69	105	74	75	88	53	48	27	29	-	-	-	-	-
ED	2	2	2	3	54	60	54	59	59	-	-	-	-	-
DfEE ⁽¹⁴⁾	-	-	-	-	-	-	-	-	-	100	98	68	104	124

Table A1.1: Net Government expenditure on SET by departments (cash), 1986-87 to 1999-00

	£ million													
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
MSC/TA	18	24	45	45	-	-	-	-	-	-	-	-	-	-
DOE	60	63	64	71	77	88	105	111	116	117	-	-	-	-
DOT	25	26	28	29	31	37	40	39	38	38	-	-	-	-
DETR ⁽¹⁵⁾	-	-	-	-	-	-	-	-	-	-	154	154	154	162
DHSS	49	48	-	-	-	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch Investment) ⁽³⁾	366	391	335	309	324	335	503	463	388	377	356	343	330	335
DEn ⁽¹⁶⁾	198	183	211	201	194	147	-	-	-	-	-	-	-	-
Total	1,191	1,163	1,199	1,203	1,271	1,158	1,213	1,190	1,117	1,468	1,445	1,354	1,373	1,502
Defence														
MoD ^(17,18)														
Development	1,778	1,760	1,737	1,856	1,926	2,091	1,568	1,624	1,366	1,394	1,562	1,750	1,581	1,721
Research	408	396	386	448	412	466	513	654	665	675	672	564	560	552
Total	2,186	2,156	2,123	2,302	2,337	2,557	2,081	2,279	2,032	2,070	2,234	2,314	2,140	2,272
Indicative UK contribution to the EU R&D budget														
	95	110	130	172	208	190	259	292	286	338	357	339	375	328
GRAND TOTAL	4,788	4,839	4,979	5,310	5,569	5,769	5,567	5,891	5,674	6,188	6,375	6,371	6,306	6,652

Notes:

Figures for the departments may not add up to the grand total shown due to rounding, and those after 1999-00 are shown in Table 1.1.

- 1) Excludes £16.1 million receipts from the sale of the Plant Breeding Institute, 1994-95
- 2) In 1994-95 Research Council Pension Scheme (RCPS) costs were met centrally. The 1995-96 transfer from central provision to the Councils allowed the RCPS to be funded principally from Councils' direct contributions of percentage of salary costs. Shortfalls are still met centrally. From 1997-98 restructuring costs are included.
- 3) Excludes OST administration costs, which are included in DTI from 1995-96 onwards. OST expenditure is mostly in support of the Royal Society and the Royal Academy of Engineering, which before 1992-93 had been included in DFE (now DES).
- 4) Figures for 1995-96 and 1996-97 relate to restructuring costs only. In 1997-98 and 1998-99 these costs are included in Pensions/Other. From 1999-2000 onwards the net expenditure relates to research and development.
- 5) Figures include the phased transfer of £156 million between the HEFCs and RCs over the period 1992-93 to 1994-95.
- 6) Where a single year PES settlement is known, this figure is carried forward to subsequent years. The resulting apparent reduction in projected Government spend is a result of the routine application of the GDP deflator and do not signify a real reduction in planned spending.
- 7) Expenditure on R&D in NHS regions was not centrally collected in 1995/96 and is therefore omitted from this figure.
- 8) The former Natural Resources Institute technology transfer funding, £11.8 million in 1995-96, cannot be disaggregated. This has been included within the Natural Resources Research Division R&D spend from 1996-97 onwards.
- 9) The decrease in expenditure in the Home Office from 1993-94 reflects a reassessment of R&D in the Police Scientific Development Branch.
- 10) Prior to 1997-98, figures shown relate solely to departmental expenditure. In 1997-98, it was intended that expenditure by NDPBs should be included. Due to delays in the establishment of the Research and Development Office (RDO), this expenditure was not monitored, and the 1997-98 outturn figures shown relate solely to departmental expenditure. From 1998-99, figures relate to expenditure by the Department and RDO.
- 11) Increase from 1997-98 onwards is attributed to revised recording and funding arrangements for NHS based research rather than an increase in expenditure.
- 12) Validated central reporting only available for the Assembly from 1999-00 onwards.
- 13) MAFF funding transferred to the Food Standards Agency (FSA) on 1 April 2000.
- 14) The decrease in 1997-98 relates to a major development programme ceasing and the subsequent increase in 1998-99 is due to new Government initiatives.
- 15) The Department of the Environment and the Department of Transport merged in June 1997 to form the Department of the Environment, Transport and the Regions.
- 16) The Department of Energy merged with the Department of Trade and Industry in April 1992.
- 17) The amendments made to the data from 1996/97 onwards are described in Defence Statistics Bulletin 6, which is available at www.dasa.mod.uk.
- 18) Receipts are monies received by MOD & its Trading Funds for expenditure on R&D, for example from other government departments & private industry. This money is not necessarily spent on defence-related R&D.
- 19) Includes the following departments: HMRC, HMT, Forestry Commission, Ordnance Survey Research, GCHQ and Ofsted.

Source: ONS - Labour Force Survey

Table A1.2: Net Government expenditure on SET by departments (in real terms), 1986-87 to 1999-00

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
£ million (ba)													
Research Councils													
EPSRC	-	-	-	-	-	-	-	-	538	522	516	514	487
MRC	278	286	287	316	308	318	346	378	395	394	385	376	360
BBSRC ⁽¹⁾	-	-	-	-	-	-	-	-	208	255	245	250	242
NERC	152	150	176	206	224	192	197	208	213	238	215	213	219
ESRC	52	51	52	56	61	56	70	79	86	87	87	87	89
Pensions/Other ⁽¹⁾	-	-	-	-	-	-	-	-	45	12	14	35	17
OST - DTI ⁽¹⁾	-	-	-	-	-	-	30	32	35	36	37	37	56
AFRC	124	112	117	133	148	152	160	162	-	-	-	-	-
SERC	685	732	705	727	736	715	795	863	-	-	-	-	-
PPARC ⁽¹⁾	-	-	-	-	-	-	-	-	262	287	291	261	267
CCLRC ⁽¹⁾	-	-	-	-	-	-	-	-	-	3	2	-	-
Total	1,290	1,332	1,337	1,438	1,477	1,433	1,598	1,721	1,782	1,834	1,792	1,771	1,738
Higher Education Funding Councils													
HE Funding Council (UK)	-	-	-	-	-	-	1,464	1,433	1,482	1,441	1,403	1,374	1,414
UFC and PCFC	1,559	1,557	1,593	1,486	1,433	1,488	-	-	-	-	-	-	-
Total	1,559	1,557	1,593	1,486	1,433	1,488	1,464	1,433	1,482	1,441	1,403	1,374	1,414
Civil Departments													
DH (including NHS) ⁽¹⁾	-	-	97	105	119	92	84	91	87	572	642	613	603
NHS ⁽¹⁾	-	-	-	-	-	-	-	-	-	491	557	534	525
DFID (formerly ODA) ⁽¹⁾	58	67	66	65	78	105	155	193	190	187	148	149	136
SG (formerly SE)	124	113	115	113	109	110	112	114	114	110	108	96	94
DCMS (formerly DNH)	-	-	-	-	-	-	22	17	17	15	15	13	14
HO ⁽¹⁾	29	29	27	27	25	27	31	36	24	24	20	24	28
Other departments ⁽¹⁾	62	50	49	46	42	43	22	33	35	24	23	29	30
Net Launch Investment	208	55	145	163	148	-7	-62	-80	-63	-49	-84	-159	-164
DWP (formerly DSS)	-	-	2	2	3	4	5	6	7	7	7	5	6
NI departments ⁽¹⁾	37	34	35	37	36	35	38	40	38	36	33	31	38
HSC	12	17	19	17	21	33	41	41	37	40	39	35	28
WAG (formerly WO) ⁽¹⁾	8	4	4	4	4	4	1	4	4	4	3	23	26
MAFF ⁽¹⁾	339	288	284	262	250	239	256	228	217	213	190	189	184
DES/DFE	149	216	141	135	146	83	73	40	43	-	-	-	-
ED	3	5	4	6	89	94	81	88	86	-	-	-	-
DfEE ⁽¹⁾	-	-	-	-	-	-	-	-	-	141	134	90	136

Table A1.2: Net Government expenditure on SET by departments (in real terms), 1986-87 to 1999-00

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
													£ million (ba)
MSC/TA	40	49	87	81	-	-	-	-	-	-	-	-	-
DOE	129	129	123	128	128	138	159	165	169	165	-	-	-
DOT	53	54	53	51	51	58	60	58	56	54	-	-	-
DETR ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	210	205	201
DHSS	107	98	-	-	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch Investment) ⁽¹⁾	793	801	643	553	537	526	765	685	566	534	486	457	430
DEn ⁽¹⁾	428	374	405	360	323	230	-	-	-	-	-	-	-
Total	2,578	2,382	2,299	2,155	2,109	1,814	1,843	1,760	1,626	2,078	1,972	1,802	1,789
Defence													
MoD ⁽¹⁾													
Development	3,850	3,605	3,332	3,323	3,197	3,276	2,383	2,403	1,991	1,975	2,132	2,328	2,060
Research	884	811	740	802	684	730	779	968	969	956	917	750	730
Total	4,734	4,416	4,072	4,122	3,879	4,007	3,162	3,371	2,959	2,931	3,050	3,079	2,788
Indicative UK contribution to the EU R&D budget	206	224	249	308	345	298	393	431	416	479	487	451	488
GRAND TOTAL	10,368	9,911	9,550	9,508	9,242	9,040	8,461	8,716	8,265	8,763	8,703	8,476	8,216

Notes:

r revised

Figures for the departments may not add up to the grand total shown due to rounding, and those after 1999-00 are shown in Table 1.2.

1 See notes on Table A1.1

Implied deflators

46.2	48.8	52.1	55.9	60.3	63.8	65.8	67.6	68.6	70.6	73.3	75.2	76.8
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Source: ONS - Labour I

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use year 2009-10)

1999-00

513

389

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Force Survey

78.3

Table A2.1: Net Government expenditure on R&D by departments (cash)

	£ million													
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
Research Councils														
EPSRC	-	-	-	-	-	-	-	-	344	345	357	363	351	376
MRC	128	140	149	176	186	203	227	255	267	275	278	281	276	304
BBSRC ⁽¹⁾	-	-	-	-	-	-	-	-	136	173	175	186	184	194
NERC	69	71	86	111	132	119	124	134	139	156	148	152	160	159
ESRC	20	22	24	28	33	33	43	49	55	55	58	59	64	66
Pensions/Other ⁽²⁾	-	-	-	-	-	-	-	-	29	8	9	14	13	20
OST - DTI ⁽³⁾	-	-	-	-	-	-	20	21	24	25	27	28	28	32
AFRC	49	51	59	67	74	76	97	109	-	-	-	-	-	-
SERC	301	341	348	386	420	438	499	566	-	-	-	-	-	-
PPARC	-	-	-	-	-	-	-	-	180	202	211	196	205	185
CCLRC ⁽⁴⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Total ⁽⁵⁾	566	624	665	767	845	869	1,009	1,035	1,074	1,240	1,261	1,279	1,280	1,339
Higher Education Funding Councils														
HE Funding Council (UK)	-	-	-	-	-	-	963	968	1,017	1,018	1,028	1,033	1,085	1,157
UFC and PCFC	720	760	830	830	863	950	-	-	-	-	-	-	-	-
Total ⁽⁵⁾	720	760	830	830	863	950	963	968	1,017	1,018	1,028	1,033	1,085	1,157
Civil Departments														
DH (including NHS) ⁽⁶⁾	-	-	50	58	71	59	55	61	59	403	470	460	463	473
NHS ⁽⁷⁾	-	-	-	-	-	-	-	-	-	347	408	401	403	410
DFID (formerly ODA) ⁽⁸⁾	27	33	34	36	47	56	87	116	111	118	106	112	104	148
SG (formerly SE)	53	52	55	59	62	68	71	74	75	74	76	68	68	103
DCMS (formerly DNH)	-	-	-	-	-	-	15	12	11	11	11	10	10	11
HO ⁽⁹⁾	13	14	14	15	15	17	20	25	17	17	15	18	21	28
Net Launch Investment	96	27	76	91	89	-5	-41	-54	-43	-35	-61	-119	-126	-135
Other departments	29	24	26	26	26	28	15	22	24	17	17	22	23	25
DSS	-	-	1	1	2	3	3	4	5	5	5	4	4	5
NI departments ⁽¹⁰⁾	17	17	18	20	21	22	24	26	25	24	23	23	28	26
HSC	5	5	6	6	9	17	22	25	23	25	25	23	19	17
WAG (formerly WO) ^(11,12)	4	2	2	2	2	3	1	3	3	3	2	18	20	19
MAFF ⁽¹³⁾	118	114	115	112	119	122	133	135	137	140	137	141	140	134
DES/DFE	69	105	73	75	88	53	45	24	26	-	-	-	-	-
ED	2	2	2	3	54	60	54	59	59	-	-	-	-	-
DfEE ⁽¹⁴⁾	-	-	-	-	-	-	-	-	-	96	94	68	104	124

Table A2.1: Net Government expenditure on R&D by departments (cash)

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
														£ million
MSC/TA	18	24	45	45	-	-	-	-	-	-	-	-	-	-
DOE	59	62	63	70	76	88	92	97	101	95	-	-	-	-
DOT	25	26	27	29	31	36	40	39	38	38	-	-	-	-
DETR ⁽¹⁵⁾	-	-	-	-	-	-	-	-	-	-	133	133	132	138
DHSS	49	47	-	-	-	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch Investment) ⁽³⁾	267	298	239	219	220	243	391	354	308	284	274	304	235	235
DEn ⁽¹⁶⁾	192	176	190	166	153	126	-	-	-	-	-	-	-	-
Total	1,044	1,029	1,038	1,036	1,086	996	1,026	1,022	979	1,316	1,328	1,283	1,246	1,351
Defence														
MoD ^(17,18)														
Development	1,778	1,760	1,737	1,856	1,926	2,091	1,568	1,624	1,366	1,394	1,562	1,750	1,581	1,721
Research	408	396	386	448	412	466	513	654	665	675	672	564	560	552
Total	2,186	2,156	2,123	2,302	2,337	2,557	2,081	2,279	2,032	2,070	2,234	2,314	2,140	2,272
Indicative UK contribution to the EU R&D budget	95	110	130	172	208	190	259	292	286	338	357	339	375	328
GRAND TOTAL	4,611	4,678	4,786	5,106	5,338	5,561	5,336	5,694	5,486	5,980	6,206	6,247	6,126	6,447

Notes:

Source: ONS - Labour Force Survey

Figures for the departments may not add up to the grand total shown due to rounding, and those after 1999-00 are shown in Table 2.1.

- 1) Excludes £16.1 million receipts from the sale of the Plant Breeding Institute, 1994-95
- 2) In 1994-95 Research Council Pension Scheme (RCPS) costs were met centrally. The 1995-96 transfer from central provision to the Councils allowed the RCPS to be funded principally from Councils' direct contributions of a percentage of
- 3) Excludes OST administration costs, which are included in DTI from 1995-96 onwards. OST expenditure is mostly in support of the Royal Society and the Royal Academy of Engineering, which before 1992-93 had been included in DFE (now
- 4) Figures for 1995-96 and 1996-97 relate to restructuring costs only. In 1997-98 and 1998-99 these costs are included in Pensions/Other. From 1999-2000 onwards the net expenditure relates to research and development.
- 5) Figures include the phased transfer of £156 million between the HEFCs and RCs over the period 1992-93 to 1994-95.
- 6) Where a single year PES settlement is known, this figure is carried forward to subsequent years. The resulting apparent reduction in projected Government spend is a result of the routine application of the GDP deflator and does not signify
- 7) Expenditure on R&D in NHS regions was not centrally collected in 1995/96 and is therefore omitted from this figure.
- 8) The former Natural Resources Institute technology transfer funding, £11.8 million in 1995-96, cannot be disaggregated. This has been included within the Natural Resources Research Division R&D spend from 1996-97 onwards.
- 9) The decrease in expenditure in the Home Office from 1993-94 reflects a reassessment of R&D in the Police Scientific Development Branch.
- 10) Prior to 1997-98, figures shown relate solely to departmental expenditure. In 1997-98, it was intended that expenditure by NDPBs should be included. Due to delays in the establishment of the Research and Development Office (RDO), this
- 11) Increase from 1997-98 onwards is attributed to revised recording and funding arrangements for NHS based research rather than an increase in expenditure.
- 12) Validated central reporting only available for the Assembly from 1999-00 onwards.
- 13) MAFF funding transferred to the Food Standards Agency (FSA) on 1 April 2000.
- 14) The decrease in 1997-98 relates to a major development programme ceasing and the subsequent increase in 1998-99 is due to new Government initiatives.
- 15) The Department of the Environment and the Department of Transport merged in June 1997 to form the Department of the Environment, Transport and the Regions.
- 16) The Department of Energy merged with the Department of Trade and Industry in April 1992.
- 17) The amendments made to the data from 1996/97 onwards are described in Defence Statistics Bulletin 6, which is available at www.dasa.mod.uk.
- 18) Receipts are monies received by MOD & its Trading Funds for expenditure on R&D, for example from other government departments & private industry. This money is not necessarily spent on defence-related R&D.

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Table A2.2: Net Government expenditure on R&D by departments (in real terms), 1986-87 to 1999-00

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
<i>£ million (base year 2009-10)</i>														
Research Councils														
EPSRC	-	-	-	-	-	-	-	-	501	488	487	483	457	480
MRC	276	286	285	315	308	317	345	377	389	390	379	374	359	388
STFC ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BBSRC	-	-	-	-	-	-	-	-	198	245	239	248	240	248
NERC	149	145	164	198	218	187	188	198	203	220	201	203	209	204
ESRC	43	44	45	49	55	52	65	73	80	78	79	79	83	84
AHRC ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pensions/Other	-	-	-	-	-	-	-	-	43	11	13	19	16	26
OST - DTI ⁽¹⁾	-	-	-	-	-	-	30	32	35	36	37	37	37	41
AFRC	106	105	113	120	123	120	147	162	-	-	-	-	-	-
SERC	652	698	668	690	698	687	759	837	-	-	-	-	-	-
PPARC	-	-	-	-	-	-	-	-	262	286	288	261	267	237
CCLRC	-	-	-	-	-	-	-	-	-	-	-	-	-	3
Total	1,227	1,278	1,276	1,374	1,402	1,362	1,533	1,531	1,564	1,755	1,722	1,701	1,668	1,710
Higher Education Funding Councils														
HE Funding Council (UK)	-	-	-	-	-	-	1,464	1,433	1,482	1,441	1,403	1,374	1,414	1,479
UFC and PCFC	1,559	1,557	1,593	1,486	1,433	1,488	-	-	-	-	-	-	-	-
Total	1,559	1,557	1,593	1,486	1,433	1,488	1,464	1,433	1,482	1,441	1,403	1,374	1,414	1,479
Civil Departments														
DH (including NHS) ⁽¹⁾	-	-	96	104	118	92	84	90	86	571	642	612	603	604
NHS ⁽¹⁾	-	-	-	-	-	-	-	-	-	491	557	534	525	524
DFID (formerly ODA)	58	67	66	65	78	88	132	172	162	167	145	149	136	190
SG (formerly SE)	116	106	106	106	103	106	107	110	109	105	104	90	89	132
DCMS (formerly DNH)	-	-	-	-	-	-	22	17	17	15	15	13	14	14
HO ⁽¹⁾	29	29	27	27	25	27	31	36	24	24	20	24	28	35
Net Launch Investment	208	55	145	163	148	-7	-62	-80	-63	-49	-84	-159	-164	-172
Other departments	62	49	49	46	42	43	22	32	35	24	23	29	30	32
DWP (formerly DSS) ⁽¹⁾	-	-	2	2	3	4	5	6	7	7	7	5	6	7
NI departments ⁽¹⁾	37	34	35	36	36	34	36	38	36	34	31	30	37	34
HSC	12	10	12	11	15	26	33	37	33	36	35	31	25	21
WAG (formerly WO) ⁽¹⁾	8	4	4	4	4	4	1	4	4	4	3	23	26	24
MAFF ⁽¹⁾	256	233	221	201	198	190	202	200	200	198	187	187	182	172
DES/DFE	149	216	141	134	146	83	69	36	38	-	-	-	-	-
ED	3	5	4	6	89	94	81	88	86	-	-	-	-	-
DfEE ⁽¹⁾	-	-	-	-	-	-	-	-	-	137	129	90	136	159

Table A2.2: Net Government expenditure on R&D by departments (in real terms), 1986-87 to 1999-00

		£ million (base year 2009-10)													
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00
	MSC/TA	40	49	87	81										
	DOE	128	127	121	126	126	137	140	143	146	135	-	-	-	-
	DOT	53	54	52	51	51	57	60	58	56	54	-	-	-	-
	DETR ⁽¹⁾	-	-	-	-	-	-	-	-	-	-	182	177	173	176
	DHSS	107	97	-	-	-	-	-	-	-	-	-	-	-	-
	DTI (ex OST and Launch	578	610	458	392	366	381	595	523	449	402	374	404	306	300
	DEn ⁽¹⁾	417	361	365	297	254	198	-	-	-	-	-	-	-	-
	Total	2,261	2,108	1,991	1,855	1,803	1,560	1,560	1,511	1,427	1,864	1,813	1,707	1,624	1,727
Defence															
	MoD ⁽¹⁾														
	Development	3,850	3,605	3,332	3,323	3,197	3,276	2,383	2,403	1,991	1,975	2,132	2,328	2,060	2,199
	Research	884	811	740	802	684	730	779	968	969	956	917	750	730	705
	Total	4,734	4,416	4,072	4,122	3,879	4,007	3,162	3,371	2,959	2,931	3,050	3,079	2,788	2,903
	Indicative UK contribution to the EU R&D bi	206	224	249	308	345	298	393	431	416	479	487	451	488	419
	GRAND TOTAL	9,985	9,581	9,179	9,142	8,859	8,713	8,111	8,424	7,992	8,469	8,472	8,311	7,982	8,237

Notes:

Figures for the departments may not add up to the grand total shown due to rounding, and those after 1999-00 are shown in Table 2.2.

1 See notes on Table A2.1

Implied deflators	46.2	48.8	52.1	55.9	60.3	63.8	65.8	67.6	68.6	70.6	73.3	75.2	76.8	78.3
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Source: ONS - Labour Force Survey

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Table A2.3: Aggregate destination of total Government R&D expenditure⁽¹⁾, 1986-87 to 1999-00

	£ million in cash terms													
	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98 ⁽²⁾	1998-99 ⁽²⁾	1999-00 ⁽²⁾
Civil R&D														
Total Gross Expenditure	2,466	2,479	2,619	2,747	2,948	3,000	3,166	3,302	3,355	3,732	3,797	4,041	4,127	4,384
Within government departments ⁽³⁾	577	602	677	745	809	845	960	1,020	1,016	1,329	1,299	1,489	1,475	1,522
Higher Education Institutions	1,025	1,136	1,195	1,239	1,408	1,503	1,478	1,569	1,768	1,788	1,817	1,847	1,924	2,123
Private Industry/Public corporations	559	427	428	426	435	366	363	309	234	249	308	343	376	391
Overseas	150	163	177	176	185	199	222	257	268	286	292	279	256	274
Others	155	151	143	161	112	86	144	147	68	79	81	83	95	75
Less receipts	136	67	87	115	155	186	169	179	186	159	181	447	515	537
Total Net expenditure⁽⁴⁾	2,330	2,412	2,533	2,632	2,793	2,814	2,997	3,124	3,169	3,572	3,616	3,594	3,611	3,847
Defence R&D														
Total Gross Expenditure	2,371	2,299	2,265	2,429	2,453	2,680	2,159	2,411	2,158	2,157	2,285	2,371	2,240	2,350
Within government departments ⁽³⁾	766	773	829	956	921	958	681	731	707	746	875	750	801	798
Higher Education Institutions	16	17	17	20	30	25	28	33	32	42	35	-	-	-
Private Industry/Public corporations	1,492	1,437	1,346	1,285	1,330	1,506	1,287	1,541	1,374	1,356	1,347	-	-	-
Overseas	93	65	67	161	160	183	154	96	35	14	28	-	-	-
Others	4	7	6	7	12	8	9	11	9	-	-	-	-	-
Less receipts	185	143	142	127	116	123	79	132	127	87	52	57	100	77
Total Net expenditure	2,186	2,156	2,123	2,302	2,337	2,557	2,081	2,279	2,032	2,070	2,234	2,314	2,140	2,272
Total R&D														
Total Gross Expenditure	4,837	4,778	4,884	5,176	5,401	5,680	5,325	5,713	5,513	5,888	6,082	6,412	6,367	6,734
Within government departments ⁽³⁾	1,343	1,375	1,506	1,701	1,730	1,803	1,641	1,751	1,723	2,075	2,174	2,239	2,276	2,320
Higher Education Institutions	1,041	1,153	1,212	1,259	1,438	1,528	1,505	1,602	1,801	1,830	1,852	1,847	1,924	2,123
Private Industry/Public corporations	2,051	1,864	1,774	1,711	1,765	1,872	1,650	1,849	1,609	1,605	1,655	343	376	391
Overseas	243	228	244	337	345	382	377	353	304	300	320	279	256	274
Others	159	158	149	168	124	94	153	158	77	80	81	83	95	75
Less receipts	321	210	229	242	271	309	248	311	313	246	233	504	615	614
Total Net expenditure⁽⁴⁾	4,516	4,568	4,656	4,934	5,130	5,371	5,078	5,402	5,200	5,642	5,850	5,908	5,751	6,119

Notes:

Figures post 1999-00 are shown in Table 2.5.

1 Payments to other government departments and Research Councils are excluded here to avoid double counting. The expenditure represented by these payments is shown in the aggregated figures for expenditure within and outside government departments. These payments are also excluded from the figure for receipts.

2 Following a National Statistics Quality Review conducted during 2002/03 the MOD's R&D statistics were revised for 1997/98 to 2000/01. The changes were: the removal of associated costs, a review of the treatment of VAT and the reclassification of R&D in relation to the OECD Frascati definitions but more detailed breakdown as shown are not available.

3 Includes Research Council Institutes and Local Authorities.

4 Includes NHS expenditure from 1995-96.

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Table A3.1: GERD as a percentage of GDP in the G7 countries

	Canada	France	Germany	Italy	Japan ¹	UK	US
1986	1.46	2.15	^c 2.63	^w 1.11	^l 2.70	2.22	^j 2.73
1987	1.41	2.19	2.74	^w 1.16	^l 2.78	2.15	^j 2.70
1988 ^a	1.38	2.19	^c 2.73	^w 1.19	^l 2.79	2.10	^j 2.65
1989	1.45	2.23	2.71	^w 1.21	^l 2.88	2.11	^j 2.62
1990	1.51	2.32	^c 2.61	^w 1.25	^l 2.95	2.10	^j 2.65
1991	1.57	2.32	^a 2.47	^a 1.19	^b 2.78	2.03	^j 2.72
1992	1.62	2.33	^c 2.35	1.15	^b 2.73	^a 1.99	^j 2.64
1993	1.68	2.38	^o 2.28	1.10	^b 2.65	2.02	^j 2.51
1994	1.73	2.32	^{oo} 2.19	1.02	^b 2.60	1.98	^j 2.41
1995	1.70	2.29	^c 2.19	0.97	^b 2.71	1.91	^j 2.50
1996	1.65	2.27	^c 2.19	0.99	2.81	1.83	^j 2.54
1997	1.66	^a 2.19	^o 2.24	^a 1.03	2.87	1.77	^j 2.57
1998	1.76	2.14	^{oo} 2.27	1.05	3.01	1.76	^{aj} 2.60
1999	1.80	2.16	2.40	1.02	3.02	1.82	^j 2.64
2000	1.91	^a 2.15	2.45	1.05	3.04	1.81	^j 2.71
2001	2.09	2.20	2.46	1.09	3.12	1.79	^j 2.72
2002	2.04	2.23	2.49	1.13	3.17	1.79	^j 2.62
2003	2.04	2.17	2.52	1.11	3.20	1.75	^j 2.61
2004	2.08	^a 2.15	2.49	1.10	3.17	1.68	^j 2.54
2005	2.04	2.10	2.49	1.09	3.32	1.73	^j 2.57
2006	2.01	2.10	2.53	1.13	3.41	1.75	^j 2.61
2007	1.96	2.07	2.53	1.18	3.44	1.78	^j 2.67
2008	1.87	2.11	2.68	1.23	^a 3.44	^c 1.77	^{jp} 2.79
2009	1.93	^c 2.21	^c 2.78	^p 1.27	3.34	^c 1.85	..

Notes:

1. Japan adjusted up through 1995 for international comparability by OECD.

a: Break in series with previous year for which data is available

b: Secretariat estimate or projection based on national sources

c: National estimate or projection adjusted, if necessary, by the Secretariat to meet OECD norms

j: Excludes most or all capital expenditure

l: Overestimated or based on overestimated data

o: Includes other classes

p: Provisional

w: Including extramural R&D expenditure

Source: OECD Main Science and Technology Indicators

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Table A3.2: BERD as a percentage of GDP in the G7

	Canada	France	Germany	Italy	Japan ¹	UK	US					
1986	0.79	1.26	c	1.90	w	0.65	l	1.80	a	1.53	j	1.94
1987	0.78	1.29		1.98	w	0.67	l	1.83		1.48	j	1.92
1988	0.75	1.30	c	1.98	w	0.69	l	1.90		1.45	j	1.88
1989	0.73	1.35		1.96	w	0.71	l	2.01		1.46	j	1.84
1990	0.76	1.40	c	1.88	w	0.73	l	2.09		1.46	j	1.87
1991	0.78	1.43	a	1.71	a	0.67	l	2.10		1.36	j	1.93
1992	0.82	a	1.46	c	1.61	0.64	l	2.00	a	1.31	j	1.86
1993	0.88	1.47	o	1.53		0.59	l	1.88		1.33	j	1.75
1994	0.98	1.43	c	1.46		0.54	l	1.85		1.28	j	1.67
1995	0.99	1.39		1.45		0.52	l	1.90		1.24	j	1.76
1996	0.96	1.40	c	1.45		0.53	a	2.00		1.19	j	1.83
1997	0.99	a	1.37		1.51	0.51		2.07		1.15	j	1.88
1998	1.06	1.33	c	1.54		0.51		2.14		1.15	j	1.91
1999	1.06	1.36		1.67		0.50		2.14		1.22	j	1.96
2000	1.15	1.34		1.73		0.52		2.16		1.18	j	2.02
2001	1.29	a	1.39		1.72	0.53		2.30	a	1.17	j	1.97
2002	1.18	1.41		1.72		0.55		2.36		1.16	j	1.83
2003	1.16	1.36		1.76		0.52		2.40		1.11	j	1.81
2004	1.18	a	1.36		1.74	0.52		2.38		1.05	j	1.76
2005	1.14	1.30		1.72		0.55		2.54		1.06	j	1.80
2006	1.14	a	1.32		1.77	0.55		2.63		1.08	j	1.86
2007	1.09	1.31		1.77		0.61		2.68		1.11	j	1.92
2008	0.99	1.32		1.86		0.65		2.70		1.10	jp	2.02
2009	1.00	c	1.37	p	1.88	p		2.53		1.12		..

Notes:

1. Japan adjusted up through 1995 for international comparability by OECD.

a: Break in series with previous year for which data is available

b: Secretariat estimate or projection based on national sources

c: National estimate or projection adjusted, if necessary, by the Secretariat to meet OECD norms

j: Excludes most or all capital expenditure

l: Overestimated or based on overestimated data

o: Includes other classes

p: Provisional

w: Including extramural R&D expenditure

Source: OECD Main Science and Technology Indicators

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Table A3.3: HERD as a percentage of GDP in the G7

	Canada	France	Germany	Italy	Japan ¹	UK	US				
1986	0.34	0.32	c	0.39	0.22	l	0.54	0.33	j	0.26	
1987	0.33	0.33		0.40	0.24	l	0.55	0.34	j	0.27	
1988 ^a	0.34	0.32	c	0.39	0.24	l	0.53	0.33	j	0.28	
1989 ^a	0.43	0.33		0.39	0.24	l	0.52	0.32	j	0.29	
1990	0.45	0.34	c	0.38	0.26	l	0.52	0.33	j	0.29	
1991	0.48	0.35	a	0.40	0.26	be	0.34	0.34	j	0.31	
1992	0.50	0.36	c	0.40	0.26	be	0.35	0.34	j	0.31	
1993	0.50	0.38	o	0.40	0.27	be	0.37	a	0.35	j	0.31
1994	0.48	0.38		0.40	0.26	be	0.37	0.38	j	0.31	
1995	0.46	0.38		0.40	0.25	be	0.39	0.37	j	0.31	
1996	0.44	0.38		0.41	0.26	a	0.41	0.36	j	0.31	
1997	0.44	a	0.38	0.40	a	0.32	0.41	0.35	j	0.30	
1998	0.48	0.38		0.40	0.33		0.45	0.35	aj	0.30	
1999	0.52	0.37		0.39	0.32		0.45	0.36	j	0.30	
2000	0.54	a	0.40	0.40	0.33		0.44	0.37	j	0.31	
2001	0.58	0.42		0.40	0.35		0.45	0.41	j	0.33	
2002	0.65	0.42		0.42	0.37		0.44	0.43	j	0.35	
2003	0.67	0.42		0.43	0.37		0.44	0.42	j	0.37	
2004	0.70	a	0.40	0.41	0.36		0.43	0.42	j	0.37	
2005	0.69	0.40		0.41	a	0.33	0.45	0.45	j	0.36	
2006	0.66	0.40		0.41	0.34		0.43	0.46	j	0.35	
2007	0.67	0.40		0.41	0.36		0.43	0.46	j	0.35	
2008	0.68	0.42		0.45	0.39		0.40	0.47	j	0.36	
2009	0.72	c	0.45	c	0.49	0.40	0.45	0.52		..	

Notes:

1. Japan adjusted up through 1995 for international comparability by OECD.

a: Break in series with previous year for which data is available

b: Secretariat estimate or projection based on national sources

c: National estimate or projection adjusted, if necessary, by the Secretariat to meet OECD norms

e: National results adjusted by the Secretariat to meet OECD norms

j: Excludes most or all capital expenditure

l: Overestimated or based on overestimated data

o: Includes other classes

p: Provisional

Source: OECD Main Science and Technology Indicators

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Table A3.4: GovERD as a percentage of GDP in the G7

	Canada	France	Germany	Italy	Japan ¹	UK	US				
1986	0.32	0.55	c	0.33	w	0.24	0.25	a	0.31	h	0.46
1987	0.29	0.55		0.35	w	0.26	0.27		0.30	h	0.44
1988	0.27	0.55	c	0.34	w	0.26	0.25		0.28	h	0.43
1989	0.28	0.53		0.35	w	0.26	0.23		0.29	h	0.42
1990	0.29	0.56	c	0.34	w	0.26	0.22		0.28	h	0.42
1991	0.29	0.53	a	0.36	a	0.27	0.23	a	0.29	h	0.40
1992	0.29	a	0.49	a	0.33	0.25	0.24		0.30	h	0.39
1993	0.28		0.50	o	0.35	0.23	0.27		0.30	h	0.38
1994	0.26		0.48	o	0.33	0.22	0.25		0.30	h	0.36
1995	0.24		0.48	o	0.34	0.21	0.28		0.28	h	0.35
1996	0.24		0.46	o	0.34	0.20	0.26		0.27	h	0.33
1997	0.22	a	0.41	o	0.33	0.20	0.25		0.24	h	0.31
1998	0.21		0.40	o	0.33	0.21	0.28		0.24	h	0.30
1999	0.21		0.39	o	0.33	0.20	0.30		0.22	h	0.29
2000	0.22	a	0.37	o	0.33	0.20	0.30		0.23	h	0.28
2001	0.22		0.36	o	0.34	0.20	0.30	a	0.18	h	0.31
2002	0.21		0.37	o	0.34	0.20	0.30		0.16	h	0.32
2003	0.20		0.36	o	0.34	0.19	0.30		0.18	h	0.32
2004	0.18		0.37	o	0.34	0.20	0.30		0.18	h	0.31
2005	0.20		0.37	o	0.35	0.19	0.28		0.18	h	0.31
2006	0.20		0.35	o	0.35	0.20	0.28		0.18	h	0.30
2007	0.19		0.34	o	0.35	0.17	0.27		0.16	h	0.29
2008	0.19		0.34	o	0.38	0.15	0.29		0.16	h	0.30
2009	0.19	c	0.36	o	0.41	p	0.18		0.17		..

Notes:

1. Japan adjusted up through 1995 for international comparability by OECD.

a: Break in series with previous year for which data is available

b: Secretariat estimate or projection based on national sources

c: National estimate or projection adjusted, if necessary, by the Secretariat to meet OECD norms

h: Federal or central government only

o: Includes other classes

p: Provisional

w: Including extramural R&D expenditure

Source: OECD Main Science and Technology Indicators

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Table A3.5: R&D in G7 countries by sector of performance, 2009

	Canada	France	Germany	Italy	Japan	UK	US ^a
Percentage of GERD performed by:							
Business Enterprise sector ^p	51.7	61.9 ^c	67.5 ^p	51.5	75.8	60.4	72.6 ^{jp}
Higher Education sector ^p	37.6	20.6 ^c	17.6 ^p	31.4	13.4	27.9	12.8 ^{jp}
Government sector ^p	10.1	16.3 ^{oo}	14.9 ^p	13.9	9.2	9.2	10.6 ^{hjp}
Private Non-Profit sector ^p	0.6	1.2 ⁿ	.. ^p	3.2	1.6	2.5	3.9 ^{jp}
	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Notes:

.. not available

a: Data relates to 2008

c: National estimate or projection adjusted, if necessary, by the Secretariat to meet OECD norms

h: Federal or central government only

j: Excludes most or all capital expenditure

n: Included elsewhere

o: Includes other classes

p: Provisional

Source: OECD Main Science and Technology Indicators

Table A3.6: R&D performed in G7 countries by source of funding, 2009

	Canada	France ^a	Germany	Italy	Japan	UK	US ^a
Percentage of GERD financed by:							
Industry ^p	47.6	50.5	..	..	75.3	44.5	67.3 ^{jop}
Government ^{op}	33.4	39.4	..	..	17.7 ^e	32.6	27.1 ^{jp}
Other national sources ^{op}	12.1	2.1	..	..	6.6 ^e	6.3	5.7 ^{jp}
Abroad ^p	6.9	8.0	..	..	0.4	16.6	.. ⁿ
	100.0	100.0	..	..	100.0	100.0	100.0

Notes - see Table A3.5 above.

Source: OECD Main Science and Technology Indicators

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