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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](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.

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.
- 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).
- 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 - see SET 2011 for more details.
- From 2010-11 onwards BIS Science included under BIS, and NHS Wales started reporting separately from WAG. In 2010-11, sharper reduction in spending by DfT, DWP and DCLG arose due to the Spending Review identifying savings.

#### 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, 2001-02 to 2010-11

	£ million									
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
BERR (ex DIUS and Launch Investment) <sup>(3)</sup>	-	-	-	-	-	-	1	1	-	-
DfES <sup>(9)(16)</sup>	96	93	52	59	100	73	-	-	-	-
DTLR <sup>(17)</sup>	78	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch Investment) <sup>(3)</sup>	366	409	334	322	300	265	-	-	-	-
BIS Science (formerly DIUS) <sup>(3)</sup>	-	-	-	-	-	-	r 785	r 664	348	-
Net Launch Investment <sup>(21)</sup>	22	150	215	-127	-158	-154	-154	-128	34	-33
<b>Total</b>	<b>1,776</b>	<b>2,043</b>	<b>2,140</b>	<b>1,866</b>	<b>1,965</b>	<b>1,918</b>	<b>r 2,262</b>	<b>r 2,299</b>	<b>r 2,598</b>	<b>2,431</b>
<b>Defence</b>										
<b>MoD</b> <sup>(18,19,20)</sup>										
Development	1,500	2,218	2,153	1,937	1,921	1,492	1,505	1,406	r 1177	1,026
Research	557	516	524	639	598	632	635	584	r 575	534
<b>Total</b>	<b>2,057</b>	<b>2,734</b>	<b>2,677</b>	<b>2,576</b>	<b>2,519</b>	<b>2,124</b>	<b>2,139</b>	<b>1,991</b>	<b>r 1,752</b>	<b>1,560</b>
<b>Indicative UK contribution to the EU R&amp;D</b>	<b>391</b>	<b>440</b>	<b>390</b>	<b>325</b>	<b>365</b>	<b>374</b>	<b>374</b>	<b>r 593</b>	<b>668</b>	<b>637</b>
<b>GRAND TOTAL</b>	<b>7,404</b>	<b>8,791</b>	<b>9,130</b>	<b>8,980</b>	<b>9,649</b>	<b>9,515</b>	<b>r 9,769</b>	<b>r 10,153</b>	<b>r 10,616</b>	<b>10,171</b>

Notes: Source: ONS Government R&D Survey

r revised

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2001-02 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. 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. From 2010-11, BIS Science reported under BIS.

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

5) Where a single year PE 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) The decline in 2010 spend was due to Environment Agency and VLA having less in-house expenditure. CORE DEFRA purchased less from Higher Education. VLA reported decrease in expenditure as a result of Government funding, and EA reported reduced budget & reduction in FTEs.

7) In 2010-11, sharper reduction in spending arose due to the Spending Review identifying savings.

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). In 2010-11, expenditure fell due to decrease in FTEs and reduction in salary costs. Also, commissioned different projects this year.

10) In 2010-11, reduced expenditure was due to the abolition of Museums, Libraries and Arts Council.

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) DECC was created in October 2008.

16) Decrease in 2001-02 (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 Transport, Local Government and the Regions split in June 2002 to form Department for Transport (DfT) and Office of Deputy Prime Minister (ODPM).

18) This table comprises elements from both the Operating Cost Statement and the Balance Sheet in the DRAC.

19) 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.

20) 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.

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

22) In 2010-11 NHS Wales started reporting separately from WAG.





Table 1.2: Net Government expenditure on SET by departments (in real terms), UK, 2001-02 to 2010-11

		£ million (base year 2010-11)									
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	BERR (ex DIUS and Launch Investment) <sup>(1)</sup>	-	-	-	-	-	-	2	2	-	-
	DTI (ex OST and Launch Investment) <sup>(1)</sup>	458	498	399	374	341	291	-	-	-	-
	BIS Science (formerly DIUS) <sup>(1)</sup>	-	-	-	-	-	-	846	694	357	-
	Net Launch Investment <sup>(1)</sup>	28	183	257	-148	-180	-170	-166	-134	35	-33
		<b>2,223</b>	<b>2,492</b>	<b>2,557</b>	<b>2,167</b>	<b>2,236</b>	<b>2,113</b>	<b>2,436</b>	<b>2,403</b>	<b>2,668</b>	<b>2,431</b>
<b>Defence</b>											
<b>MoD <sup>(1)</sup></b>	Development	1,878	2,706	2,572	2,250	2,187	1,644	1,620	1,470	1,208	1,026
	Research	697	629	626	742	681	696	683	611	591	534
	<b>Total</b>	<b>2,575</b>	<b>3,335</b>	<b>3,198</b>	<b>2,992</b>	<b>2,868</b>	<b>2,340</b>	<b>2,304</b>	<b>2,081</b>	<b>1,799</b>	<b>1,560</b>
	<b>Indicative UK contribution to the EU R&amp;D budget</b>	<b>489</b>	<b>536</b>	<b>466</b>	<b>378</b>	<b>415</b>	<b>412</b>	<b>403</b>	<b>620</b>	<b>687</b>	<b>637</b>
	<b>GRAND TOTAL</b>	<b>9,268</b>	<b>10,722</b>	<b>10,908</b>	<b>10,430</b>	<b>10,983</b>	<b>10,483</b>	<b>10,521</b>	<b>10,615</b>	<b>10,904</b>	<b>10,171</b>

Notes:

All figures have been rebased to 2010-11 prices, and those prior to 2001-02 are shown in Table A1.2.

1 See notes on Table 1.1

Implied deflators

79.9      82.0      83.7      86.1      87.9      90.8      92.9      95.6      97.363      100.0

Source: ONS Government R&D Survey

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Table 2.1: Net Government expenditure on R&amp;D by departments (cash), UK, 2001-02 to 2010-11

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	£ million									
<b>Research Councils</b>										
EPSRC	454	479	405	480	553	643	694	734	754	802
MRC	347	358	361	376	416	471	494	581	634	679
STFC <sup>(1)</sup>	-	-	-	-	-	-	548	583	599	556
NERC	166	195	278	296	363	351	350	381	435	442
BBSRC	213	240	267	275	320	364	369	383	432	421
ESRC	68	74	83	98	116	133	147	158	170	177
AHRC <sup>(2)</sup>	-	-	-	-	58	70	86	91	87	89
Pensions/Other	26	27	28	40	15	10	24	72	37	34
OST - DTI <sup>(3)</sup>	151	244	388	356	503	413	-	-	-	-
PPARC <sup>(1)(4)</sup>	214	249	272	295	334	329	-	-	-	-
CCLRC <sup>(1)</sup>	10	3	62	64	84	92	-	-	-	-
<b>Total</b>	<b>1,649</b>	<b>1,870</b>	<b>2,143</b>	<b>2,281</b>	<b>2,763</b>	<b>2,876</b>	<b>2,714</b>	<b>2,984</b>	<b>3,148</b>	<b>3,201</b>
<b>Higher Education Funding Councils</b>										
<b>Total</b>	<b>1,474</b>	<b>1,626</b>	<b>1,665</b>	<b>1,804</b>	<b>1,928</b>	<b>2,085</b>	<b>2,234</b>	<b>2,227</b>	<b>2,395</b>	<b>2,303</b>
<b>Civil Departments</b>										
DH (including NHS) <sup>(5)</sup>	504	514	593	629	628	673	712	786	850	901
NHS	445	461	533	575	583	623	661	730	801	866
BIS (formerly BERR) <sup>(3)</sup>	-	-	-	-	-	-	-	-	266	607
DFID (formerly ODA)	147	193	215	215	265	247	134	149	225	209
SG (formerly SE)	115	115	129	131	137	132	137	141	154	167
DEFRA <sup>(6)</sup>	172	173	181	191	201	194	190	187	181	153
DCMS (formerly DNH) <sup>(10)</sup>	11	19	15	16	23	36	39	47	46	47
HO	40	57	48	58	73	50	42	44	43	42
DfT <sup>(7)</sup>	0	47	59	48	51	57	62	60	68	35
Other departments <sup>(8)(12)</sup>	30	24	30	28	25	30	36	37	33	31
DWP (including DSS) <sup>(7)(11)</sup>	16	15	18	18	18	18	17	19	35	28
DCSF <sup>(9)</sup>	-	-	-	-	-	-	35	33	31	27
DECC <sup>(15)</sup>	-	-	-	-	-	-	-	27	25	24
NI departments	18	17	21	21	21	22	22	22	21	20
DCLG (formerly ODPM) <sup>(7)</sup>	0	27	30	29	27	30	25	27	28	16
HSC	17	16	14	25	19	14	12	12	13	12
MOJ <sup>(12)</sup>	-	-	-	-	-	2	10	12	9	7
WAG (formerly WO) <sup>(13)</sup>	36	35	31	32	33	10	12	10	10	6
FSA	20	20	22	20	17	15	14	11	11	5
NHS Wales <sup>(22)</sup>	-	-	-	-	-	-	-	-	-	3
FCO <sup>(14)</sup>	-	-	-	-	-	-	-	-	6	3
DfES <sup>(9)(16)</sup>	96	93	52	59	100	73	-	-	-	-
DTLR <sup>(17)</sup>	74	-	-	-	-	-	-	-	-	-
BERR (ex DIUS and Launch Investment) <sup>(3)</sup>	-	-	-	-	-	-	1	1	-	-
DTI (ex OST and Launch Investment) <sup>(3)</sup>	275	331	255	275	243	204	-	-	-	-

Table 2.1: Net Government expenditure on R&D by departments (cash), UK, 2001-02 to 2010-11

		£ million									
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	BIS Science (formerly DIUS) <sup>(3)</sup>	-	-	-	-	-	-	758	634	348	-
	Net Launch Investment <sup>(21)</sup>	22	150	215	-127	-158	-154	-154	-128	34	-33
<b>Total</b>	<b>Total</b>	<b>1,595</b>	<b>1,849</b>	<b>1,929</b>	<b>1,666</b>	<b>1,721</b>	<b>1,652</b>	<b>2,104</b>	<b>2,131</b>	<b>2,438</b>	<b>2,311</b>
<b>Defence</b>											
<b>MoD</b> <sup>(18,19,20)</sup>	Development	1,500	2,218	1,609	1,552	1,645	1,492	1,505	1,406	1,177	1,026
	Research	557	516	524	639	598	632	635	584	575	534
	<b>Total</b>	<b>2,057</b>	<b>2,734</b>	<b>2,133</b>	<b>2,191</b>	<b>2,243</b>	<b>2,124</b>	<b>2,139</b>	<b>1,991</b>	<b>1,752</b>	<b>1,560</b>
<b>Indicative UK contribution to the EU R&amp;D budget</b>		<b>391</b>	<b>440</b>	<b>390</b>	<b>325</b>	<b>365</b>	<b>374</b>	<b>374</b>	<b>r 593</b>	<b>668</b>	<b>637</b>
<b>GRAND TOTAL</b>		<b>7,165</b>	<b>8,519</b>	<b>8,260</b>	<b>8,267</b>	<b>9,021</b>	<b>9,119</b>	<b>9,564</b>	<b>9,925</b>	<b>10,401</b>	<b>10,012</b>

Notes: Source: ONS Government R&D Survey

r revised

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2001-02 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. 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. From 2010-11, BIS Science reported under BIS.

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) The decline in 2010 spend was due to Environment Agency and VLA having less in-house expenditure. CORE DEFRA purchased less from Higher Education. VLA reported decrease in expenditure as a result of Government funding, and EA reported reduced budget & reduction in FTEs.

7) In 2010-11, sharper reduction in spending arose due to the Spending Review identifying savings.

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). In 2010-11, expenditure fell due to decrease in FTEs and reduction in salary costs. Also, commissioned different projects this year.

10) In 2010-11, reduced expenditure was due to the abolition of Museums, Libraries and Arts Council.

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) DECC was created in October 2008.

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

18) This table comprises elements from both the Operating Cost Statement and the Balance Sheet in the DRAc.

19) 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.

20) 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.

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

22) In 2010-11 NHS Wales started reporting separately from WAG.

Table 2.2: Net Government expenditure on R&amp;D by departments (in real terms), 2001-02 to 2010-11

	£ million (base year 2010-11)									
	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
<b>Research Councils</b>										
EPSRC	568	585	484	558	629	708	747	767	775	802
MRC	434	437	431	436	474	519	533	608	651	679
STFC (1)	-	-	-	-	-	-	590	610	616	556
NERC	208	238	332	344	413	386	377	398	447	442
BBSRC	266	293	319	320	365	401	398	401	443	421
ESRC	85	91	100	114	132	147	159	166	174	177
AHRC <sup>(1)</sup>	-	-	-	-	66	78	93	95	89	89
Pensions/Other	32	33	33	46	17	11	26	76	38	34
OST - DTI <sup>(1)</sup>	189	297	463	414	572	455	-	-	-	-
PPARC <sup>(1)</sup>	268	303	325	343	381	362	-	-	-	-
CCLRC <sup>(1)</sup>	13	3	74	75	96	101	-	-	-	-
<b>Total</b>	<b>2,064</b>	<b>2,280</b>	<b>2,561</b>	<b>2,649</b>	<b>3,145</b>	<b>3,169</b>	<b>2,922</b>	<b>3,120</b>	<b>3,233</b>	<b>3,201</b>
<b>Higher Education Funding Councils</b>										
<b>Total</b>	<b>1,844</b>	<b>1,984</b>	<b>1,989</b>	<b>2,096</b>	<b>2,195</b>	<b>2,297</b>	<b>2,406</b>	<b>2,328</b>	<b>2,460</b>	<b>2,303</b>
<b>Civil Departments</b>										
DH (including NHS) <sup>(1)</sup>	631	627	708	730	715	741	767	822	873	901
NHS	557	563	636	667	664	686	712	763	822	866
BIS (formerly BERR) <sup>(1)</sup>	-	-	-	-	-	-	-	-	273	607
DFID (formerly ODA) <sup>(1)</sup>	183	235	257	250	302	272	144	156	232	209
SG (formerly SE)	144	141	154	152	156	146	148	147	158	167
DEFRA	216	211	216	222	228	214	204	195	186	153
DCMS (formerly DNH)	14	23	18	18	26	40	42	49	47	47
HO	50	70	57	67	83	56	45	46	45	42
DfT	-	58	70	56	58	63	67	63	70	35
Other departments <sup>(1)</sup>	37	30	36	33	29	33	39	38	34	31
DWP (including DSS) <sup>(1)</sup>	20	19	22	20	21	20	18	19	36	28
DCSF <sup>(1)</sup>	-	-	-	-	-	-	38	34	32	27
DECC <sup>(1)</sup>	-	-	-	-	-	-	-	28	25	24
NI departments	23	21	25	24	23	24	24	23	22	20
DCLG (formerly ODPM) <sup>(1)</sup>	-	33	36	33	31	33	27	28	29	16
HSC	21	20	17	29	21	16	13	13	13	12
MOJ <sup>(1)</sup>	-	-	-	-	-	2	11	13	9	7
WAG (formerly WO) <sup>(1)</sup>	45	42	37	37	38	11	13	11	11	6
FSA	25	25	26	23	19	17	16	12	11	5
NHS Wales <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	3
FCO <sup>(1)</sup>	-	-	-	-	-	-	-	-	6	3
DfES <sup>(1)</sup>	121	114	62	69	114	80	-	-	-	-

Table 2.2: Net Government expenditure on R&D by departments (in real terms), 2001-02 to 2010-11

		£ million (base year 2010-11)									
		2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
	DTLR <sup>(1)</sup>	93	-	-	-	-	-	-	-	-	-
	BERR (ex DIUS and Launch Investment) <sup>(1)</sup>	-	-	-	-	-	-	1	1	-	-
	DTI (ex OST and Launch Investment) <sup>(1)</sup>	345	404	305	319	276	224	-	-	-	-
	BIS Science (formerly DIUS) <sup>(1)</sup>	-	-	-	-	-	-	817	663	357	-
	Net Launch Investment <sup>(1)</sup>	28	183	257	-148	-180	-170	-166	-134	35	-33
<b>Total</b>	<b>Total</b>	<b>1,996</b>	<b>2,256</b>	<b>2,305</b>	<b>1,935</b>	<b>1,959</b>	<b>1,821</b>	<b>2,265</b>	<b>2,228</b>	<b>2,504</b>	<b>2,311</b>
<b>Defence</b>											
<b>MoD <sup>(1)</sup></b>	Development	1,878	2,706	1,922	1,803	1,873	1,644	1,620	1,470	1,208	1,026
	Research	697	629	626	742	681	696	683	611	591	534
	<b>Total</b>	<b>2,575</b>	<b>3,335</b>	<b>2,548</b>	<b>2,545</b>	<b>2,554</b>	<b>2,340</b>	<b>2,304</b>	<b>2,081</b>	<b>1,799</b>	<b>1,560</b>
<b>Indicative UK contribution to the EU R&amp;D budget</b>		<b>489</b>	<b>536</b>	<b>466</b>	<b>378</b>	<b>415</b>	<b>412</b>	<b>403</b>	<b>620</b>	<b>687</b>	<b>637</b>
<b>GRAND TOTAL</b>		<b>8,968</b>	<b>10,390</b>	<b>9,868</b>	<b>9,602</b>	<b>10,268</b>	<b>10,047</b>	<b>10,300</b>	<b>10,377</b>	<b>10,683</b>	<b>10,012</b>

Notes:

All figures have been rebased to 2010-11 prices, and those prior to 2001-02 are shown in Table A2.2.

1 See notes on Table 2.1

2. Implied deflators

Source: ONS Government R&D Survey

	79.9	82.0	83.7	86.1	87.9	90.8	92.9	95.6	97.4	100
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Table 2.3: Net Government R&amp;D expenditure by primary purpose and department,

(1)

£ million					
	General support pp A	Government services pp B	Policy support pp C	Technology support pp D	Total
<b>UK, 2010-11</b>					
<b>Research Councils</b>					
EPSRC	650	-	-	152	802
MRC	592	56	4	27	679
STFC	513	-	-	43	556
NERC	312	8	88	33	442
BBSRC	417	-	-	5	421
ESRC	150	17	2	8	177
AHRC	89	-	-	-	89
<b>Total</b>	<b>2,723</b>	<b>81</b>	<b>95</b>	<b>267</b>	<b>3,166</b>
<b>Higher Education Funding Councils</b>	<b>2,303</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>2,303</b>
<b>Civil Departments</b>					
DH (includes NHS)	868	1	32	1	901
NHS	866	-	-	-	866
BIS (formerly BERR) <sup>(2)</sup>	266	2	10	296	574
DFID (formerly ODA)	-	-	209	-	209
SG (formerly SE)	73	3	42	48	167
DEFRA	44	10	100	-	153
DCMS (formerly DNH)	25	6	14	3	47
HO	-	24	18	-	42
DFT	-	2	16	16	35
Other departments	-	7	9	15	31
DWP (formerly DSS)	-	-	28	-	28
DFES	-	-	27	-	27
DECC	3	-	3	19	24
NI departments	9	2	9	-	20
DCLG (formerly ODPM)	-	-	16	-	16
HSC	-	-	12	-	12
MOJ	-	3	4	-	7
WAG (formerly WO)	-	1	5	-	6
FSA	-	-	5	-	5
NHS Wales <sup>(3)</sup>	3	-	-	-	3
FCO <sup>(4)</sup>	-	-	3	-	3
<b>Total</b>	<b>1,292</b>	<b>61</b>	<b>560</b>	<b>398</b>	<b>2,311</b>
<b>Defence</b>	<b>MOD</b>	<b>-</b>	<b>1,560</b>	<b>-</b>	<b>1,560</b>
<b>TOTAL GOVERNMENT</b>	<b>6,319</b>	<b>1,702</b>	<b>655</b>	<b>665</b>	<b>9,341</b>

## Notes:

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

2) From 2010 BIS Science is included under BIS

3) NHS Wales is reported separately for 2010

4) FCO figures are estimated.

Source: ONS Government R&amp;D Survey

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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 Governme

Table 2.5: Aggregate destination of total Government R&D expenditure <sup>(1)</sup>, 2001-02 to 2010-

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
<b>Civil R&amp;D</b>						
Total Gross Expenditure	5,323	5,938	6,276	6,338	7,035	7,253
Within government departments <sup>(2)</sup>	1,628	1,685	1,833	1,960	2,077	2,106
Higher Education Institutions	2,745	3,097	3,214	3,384	3,863	4,132
Private Industry/Public corporations	580	719	737	427	416	372
Overseas	274	310	356	397	476	446
Others	96	127	137	169	203	197
Less receipts	606	593	539	587	623	632
<b>Total Net expenditure</b>	<b>4,717</b>	<b>5,345</b>	<b>5,737</b>	<b>5,751</b>	<b>6,413</b>	<b>6,621</b>
<b>Defence R&amp;D</b>						
Total Gross Expenditure	2,117	2,790	2,200	2,260	2,318	2,212
Within government departments <sup>(2)</sup>	432	288	380	362	371	361
Higher Education Institutions	17	8	10	16	5	13
Private Industry/Public corporations	1,651	2,477	1,590	1,631	1,809	1,752
Overseas	17	17	219	251	132	85
Others	-	-	-	-	-	-
Less receipts	60	56	68	69	75	88
<b>Total Net expenditure</b>	<b>2,057</b>	<b>2,734</b>	<b>2,133</b>	<b>2,191</b>	<b>2,243</b>	<b>2,124</b>
<b>Total R&amp;D</b>						
Total Gross Expenditure	7,440	8,728	8,476	8,598	9,353	9,465
Within government departments <sup>(2)</sup>	2,060	1,974	2,213	2,322	2,448	2,467
Higher Education Institutions	2,762	3,105	3,224	3,400	3,868	4,146
Private Industry/Public corporations	2,231	3,196	2,327	2,058	2,225	2,124
Overseas	292	327	575	648	609	531
Others	96	127	137	170	203	197
Less receipts	666	649	606	656	697	720
<b>Total Net expenditure</b>	<b>6,774</b>	<b>8,079</b>	<b>7,869</b>	<b>7,942</b>	<b>8,656</b>	<b>8,745</b>

Notes:

Figures for the departments may not add up to the grand total shown due to rounding, and those prior to 2001-02 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 the aggregated figures for expenditure within and outside government departments. These payments are also excluded from the figure for receipts.

2 Includes Research Council Institutes and Local Authorities.

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Table 3.1: Qualified scientists and engineers in the labour force, GB, Q4 2010

	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)
<b>Persons</b>						
<b>Population aged 16-64</b>	<b>38,923</b>	<b>8,864</b>	<b>4,366</b>	<b>77</b>	<b>23</b>	<b>11</b>
inactive	9,007	993	494	89	11	5
economically active	29,917	7,871	3,871	74	26	13
employed	27,565	7,560	3,736	73	27	14
unemployed (4)	2,352	311	135	87	13	6
<b>Occupation of those employed (5):</b>						
all occupations (6)	<b>27,565</b>	<b>7,560</b>	<b>3,736</b>	<b>73</b>	<b>27</b>	<b>14</b>
Managers and Senior Officials	4,294	1,598	731	63	37	17
Professional occupations	3,874	2,857	1,342	26	74	35
Associate Professional and Technical	4,146	1,652	1,056	60	40	25
Administrative and Secretarial	2,959	513	173	83	17	6
Skilled Trades Occupations	2,791	140	70	95	5	3
Personal Service Occupations	2,436	284	169	88	12	7
Sales and Customer Service Occupations	2,054	254	87	88	12	4
Process, Plant and Machine Operatives	1,773	61	28	97	3	2
Elementary Occupations	3,140	188	81	94	6	3

Notes:

Figures are not seasonally adjusted.

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. These subjects broadly consist of Medicine, Medical related subjects, Biological sciences, Agricultural Sciences, Physical/environmental sciences, Mathematical science &amp; computing, Engineering, Technology, Architecture and related studies and Social sciences.

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, Q4 2010

	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)
<b>Men</b>						
<b>Population aged 16-64</b>	<b>19,380</b>	<b>4,474</b>	<b>2,260</b>	<b>77</b>	<b>23</b>	<b>12</b>
inactive	3,264	364	181	89	11	6
economically active	16,116	4,111	2,079	74	26	13
employed	14,755	3,937	1,994	73	27	14
unemployed (4)	1,361	174	85	87	13	6
<b>Women</b>						
<b>Population aged 16-64</b>	<b>19,544</b>	<b>4,389</b>	<b>2,105</b>	<b>78</b>	<b>22</b>	<b>11</b>
inactive	5,743	629	313	89	11	5
economically active	13,800	3,760	1,792	73	27	13
employed	12,810	3,623	1,741	72	28	14
unemployed (4)	990	137	50	86	14	5

Notes - see Table 3.1 above

Source: ONS - Labour Force Survey

Table A1.1: Net Government expenditure

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**Research Councils**

EPSRC  
MRC  
NERC  
BBSRC <sup>(1)</sup>  
ESRC  
Pensions/Other <sup>(2)</sup>  
OST - DTI <sup>(3)</sup>  
AFRC  
SERC  
PPARC <sup>(4)</sup>  
CCLRC <sup>(5)</sup>  
**Total** <sup>(6)</sup>

**Higher Education Funding Councils**

HE Funding Council (UK)  
UFC and PCFC  
**Total** <sup>(6)</sup>

**Civil Departments**

DH (including NHS) <sup>(7)</sup>  
*NHS*  
DFID (formerly ODA) <sup>(8)</sup>  
SG (formerly SE)  
DCMS (formerly DNH)  
HO <sup>(9)</sup>  
Other departments <sup>(10)</sup>  
DSS/DWP <sup>(11)</sup>  
NI departments <sup>(12)</sup>  
HSC  
WAG (formerly WO) <sup>(13)</sup>  
FSA  
MAFF <sup>(14)</sup>  
DES/DFE  
ED  
DfEE <sup>(15)</sup>  
DfES <sup>(16)</sup>  
MSC/TA  
DOE  
DOT  
DETR <sup>(17)</sup>  
DHSS  
DTI (exc OST and Launch  
Investment) <sup>(3)</sup>  
DfEn <sup>(18)</sup>  
Net Launch Investment <sup>(19)</sup>

**Defence**

**MoD** <sup>(20)</sup>

Development  
Research  
**Total**



Table A1.2: Net Government expenditure on SET by departments (in real terms), 1986-87 to 2000-01

		£ million (base year 2010-11)														
		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	2000-01
	DTI (ex OST and Launch Investment) <sup>(1)</sup>	790	798	640	551	535	524	762	683	564	532	485	455	431	429	452
	DEn <sup>(1)</sup>	426	373	404	358	322	229	-	-	-	-	-	-	-	-	-
	Net Launch Investment <sup>(1)</sup>	207	54	145	163	148	-7	-61	-80	-63	-49	-83	-158	-164	-172	-126
		<b>2,570</b>	<b>2,373</b>	<b>2,291</b>	<b>2,147</b>	<b>2,102</b>	<b>1,808</b>	<b>1,837</b>	<b>1,754</b>	<b>1,621</b>	<b>2,071</b>	<b>1,966</b>	<b>1,794</b>	<b>1,793</b>	<b>1,922</b>	<b>2,121</b>
<b>Defence</b>																
<b>MoD<sup>(1)</sup></b>	Development	3,837	3,592	3,320	3,312	3,185	3,265	2,375	2,395	1,984	1,967	2,126	2,318	2,065	2,202	2,133
	Research	881	808	738	799	681	728	777	964	966	953	914	747	731	706	722
	<b>Total</b>	<b>4,718</b>	<b>4,400</b>	<b>4,058</b>	<b>4,107</b>	<b>3,865</b>	<b>3,993</b>	<b>3,151</b>	<b>3,359</b>	<b>2,949</b>	<b>2,920</b>	<b>3,040</b>	<b>3,065</b>	<b>2,795</b>	<b>2,908</b>	<b>2,856</b>
	<b>Indicative UK contribution to the EU R&amp;D budget</b>	<b>206</b>	<b>223</b>	<b>248</b>	<b>307</b>	<b>343</b>	<b>297</b>	<b>392</b>	<b>430</b>	<b>415</b>	<b>477</b>	<b>485</b>	<b>449</b>	<b>489</b>	<b>419</b>	<b>508</b>
	<b>GRAND TOTAL</b>	<b>10,333</b>	<b>9,876</b>	<b>9,517</b>	<b>9,475</b>	<b>9,210</b>	<b>9,008</b>	<b>8,432</b>	<b>8,686</b>	<b>8,236</b>	<b>8,731</b>	<b>8,675</b>	<b>8,438</b>	<b>8,236</b>	<b>8,513</b>	<b>9,042</b>

Notes:  
r revised  
Figures for the departments may not add up to the grand total shown due to rounding, and those after 2000-01 are shown in Table 1.2.  
1 See notes on Table A1.1  
Implied deflators

Source: ONS - Labour Force Survey Force Survey

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	78.3
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Table A2.1: Net Government expenditure on R&amp;D by departments (cash)

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93 <sup>(6)</sup>	1993-94 <sup>(6)</sup>	1994-95 <sup>(6)</sup>	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
£ million															
<b>Research Councils</b>															
EPSRC	-	-	-	-	-	-	-	-	344	345	357	363	351	376	525
MRC	128	140	149	176	186	203	227	255	267	275	278	281	276	304	398
BBSRC <sup>(1)</sup>	-	-	-	-	-	-	-	-	136	173	175	186	184	194	267
NERC	69	71	86	111	132	119	124	134	139	156	148	152	160	159	225
ESRC	20	22	24	28	33	33	43	49	55	55	58	59	64	66	88
Pensions/Other <sup>(2)</sup>	-	-	-	-	-	-	-	-	29	8	9	14	13	20	32
OST - DTI <sup>(3)</sup>	-	-	-	-	-	-	20	21	24	25	27	28	28	32	112
AFRC	49	51	59	67	74	76	97	109	-	-	-	-	-	-	-
SERC	301	341	348	386	420	438	499	566	-	-	-	-	-	-	-
PPARC <sup>(4)</sup>	-	-	-	-	-	-	-	-	180	202	211	196	205	185	258
CCLRC <sup>(5)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	2	3
<b>Total<sup>(6)</sup></b>	<b>566</b>	<b>624</b>	<b>665</b>	<b>767</b>	<b>845</b>	<b>869</b>	<b>1,009</b>	<b>1,035</b>	<b>1,074</b>	<b>1,240</b>	<b>1,261</b>	<b>1,279</b>	<b>1,280</b>	<b>1,339</b>	<b>1,910</b>
<b>Higher Education Funding Councils</b>															
HE Funding Council (UK)	-	-	-	-	-	-	963	968	1,017	1,018	1,028	1,033	1,085	1,157	1,609
UFC and PCFC	720	760	830	830	863	950	-	-	-	-	-	-	-	-	-
<b>Total<sup>(6)</sup></b>	<b>720</b>	<b>760</b>	<b>830</b>	<b>830</b>	<b>863</b>	<b>950</b>	<b>963</b>	<b>968</b>	<b>1,017</b>	<b>1,018</b>	<b>1,028</b>	<b>1,033</b>	<b>1,085</b>	<b>1,157</b>	<b>1,609</b>
<b>Civil Departments</b>															
DH (including NHS) <sup>(7)</sup>	-	-	51	59	72	59	55	62	60	404	470	460	463	473	478
NHS	-	-	-	-	-	-	-	-	-	347	408	401	403	410	423
DFID (formerly ODA) <sup>(8)</sup>	27	33	34	36	47	67	102	131	131	132	108	112	104	148	173
SG (formerly SE)	57	55	60	63	66	71	74	77	78	78	79	73	72	123	139
DCMS (formerly DNH)	-	-	-	-	-	-	15	12	11	11	11	10	10	11	11
HO <sup>(9)</sup>	13	14	14	15	15	17	20	25	17	17	15	18	21	28	38
Other departments <sup>(10)</sup>	29	24	26	26	26	28	15	22	24	17	17	22	23	25	27
DSS/DWP <sup>(11)</sup>	-	-	1	1	2	3	3	4	5	5	5	4	4	5	5
NI departments <sup>(12)</sup>	17	17	18	21	22	23	25	27	26	25	24	24	29	28	29
HSC	5	8	10	9	13	21	27	28	26	28	28	26	22	20	19
WAG (formerly WO) <sup>(13)</sup>	4	2	2	2	2	3	1	3	3	3	2	18	20	19	25
FSA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23
MAFF <sup>(14)</sup>	157	141	148	146	150	152	168	154	149	151	139	142	141	136	119
DES/DFE	69	105	74	75	88	53	48	27	29	-	-	-	-	-	-
ED	2	2	2	3	54	60	54	59	59	-	-	-	-	-	-
DfEE <sup>(15)</sup>	-	-	-	-	-	-	-	-	-	100	98	68	104	124	-
DfES <sup>(16)</sup>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	133
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 <sup>(17)</sup>	-	-	-	-	-	-	-	-	-	-	154	154	154	162	189
DHSS	49	48	-	-	-	-	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch Investment) <sup>(3)</sup>	366	391	335	309	324	335	503	463	388	377	356	343	330	335	354

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

		£ million														
		1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93 <sup>(6)</sup>	1993-94 <sup>(6)</sup>	1994-95 <sup>(6)</sup>	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
	DEn <sup>(18)</sup>	198	183	211	201	194	147	-	-	-	-	-	-	-	-	-
	Net Launch Investment <sup>(19)</sup>	96	27	76	91	89	-5	-41	-54	-43	-35	-61	-119	-126	-135	-99
	<b>Total</b>	<b>1,191</b>	<b>1,163</b>	<b>1,199</b>	<b>1,203</b>	<b>1,271</b>	<b>1,158</b>	<b>1,213</b>	<b>1,190</b>	<b>1,117</b>	<b>1,468</b>	<b>1,445</b>	<b>1,354</b>	<b>1,373</b>	<b>1,502</b>	<b>1,664</b>
<b>Defence</b>																
	MoD <sup>(20)</sup>															
	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	2,110
	Research	408	396	386	448	412	466	513	654	665	675	672	564	560	552	714
	<b>Total</b>	<b>2,186</b>	<b>2,156</b>	<b>2,123</b>	<b>2,302</b>	<b>2,337</b>	<b>2,557</b>	<b>2,081</b>	<b>2,279</b>	<b>2,032</b>	<b>2,070</b>	<b>2,234</b>	<b>2,314</b>	<b>2,140</b>	<b>2,272</b>	<b>2,825</b>
<b>Indicative UK contribution to the EU R&amp;D budget</b>		<b>95</b>	<b>110</b>	<b>130</b>	<b>172</b>	<b>208</b>	<b>190</b>	<b>259</b>	<b>292</b>	<b>286</b>	<b>338</b>	<b>357</b>	<b>339</b>	<b>375</b>	<b>328</b>	<b>503</b>
<b>GRAND TOTAL</b>		<b>4,611</b>	<b>4,678</b>	<b>4,786</b>	<b>5,106</b>	<b>5,338</b>	<b>5,561</b>	<b>5,336</b>	<b>5,694</b>	<b>5,486</b>	<b>5,980</b>	<b>6,206</b>	<b>6,247</b>	<b>6,126</b>	<b>6,447</b>	<b>8,946</b>

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 2000-01 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 salary
- 3) Excludes OSI administration costs, which are included in DTI from 1995-96 onwards. OSI 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), and
- 4) With effect from 2002/03, non cash costs are included.
- 5) 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.
- 6) Figures include the phased transfer of £156 million between the HEFCs and Research Councils over the period 1992-93 to 1994-95.
- 7) 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. 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) Includes Ministry of Justice figures, HMRC, HMT, Forestry Commission, Ordnance Survey Research, GCHQ and Ofsted.
- 11) In 1988 the Department of Social Security was created when DHSS was split. In 2001 the Department for Work and Pensions was formed from , absorbing the employment functions which had previously been the responsibility of the Department for
- 12) 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
- 13) Increase from 1997-98 onwards is attributed to revised recording and funding arrangements for NHS based research rather than an increase in expenditure. Validated central reporting only available for the Assembly from 1999-00 onwards.
- 14) MAFF funding transferred to the Food Standards Agency (FSA) on 1 April 2000.
- 15) In 1995, the Department for Education merged with the Department of Employment to become the Department for Education and Employment (DfEE). 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.
- 16) After the 2001 general election, the employment functions were transferred to a newly created Department for Work and Pensions, with the DfEE becoming the Department for Education and Skills (DfES).
- 17) 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. The Department of the Environment, Transport and the Regions split in May 2001
- 18) The Department of Energy merged with the Department of Trade and Industry in April 1992.
- 19) Net launch investment was positive when income received from investments was less than forecast and expenditure was more than the forecast.
- 20) 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. Receipts are monies received by MOD & its Trading Funds for expenditure on R&D, for example from

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Table A2.2: Net Government expenditure on R&D by departments (in real terms), 1986-87 to 2000-01

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93 <sup>(1)</sup>	1993-94 <sup>(1)</sup>	1994-95 <sup>(1)</sup>	1995-96	1996-97	1997-98	1998-99	1999-00
	£ million (base)													
MSC/TA	40	49	87	80	-	-	-	-	-	-	-	-	-	-
DOE	127	127	120	126	125	137	139	142	146	134	-	-	-	-
DOT	53	54	52	51	50	57	60	58	56	54	-	-	-	-
DETR <sup>(1)</sup>	-	-	-	-	-	-	-	-	-	-	182	176	173	176
DHSS	107	97	-	-	-	-	-	-	-	-	-	-	-	-
DTI (ex OST and Launch	576	608	456	391	364	379	593	522	448	400	373	403	307	300
DEn <sup>(1)</sup>	415	360	364	296	253	197	-	-	-	-	-	-	-	-
Net Launch Investment	207	54	145	163	148	-7	-61	-80	-63	-49	-83	-158	-164	-172
	<b>2,254</b>	<b>2,100</b>	<b>1,984</b>	<b>1,848</b>	<b>1,797</b>	<b>1,555</b>	<b>1,554</b>	<b>1,506</b>	<b>1,422</b>	<b>1,857</b>	<b>1,807</b>	<b>1,700</b>	<b>1,628</b>	<b>1,729</b>
<b>Defence</b>														
<b>MoD <sup>(1)</sup></b>														
Development	3,837	3,592	3,320	3,312	3,185	3,265	2,375	2,395	1,984	1,967	2,126	2,318	2,065	2,202
Research	881	808	738	799	681	728	777	964	966	953	914	747	731	706
<b>Total</b>	<b>4,718</b>	<b>4,400</b>	<b>4,058</b>	<b>4,107</b>	<b>3,865</b>	<b>3,993</b>	<b>3,151</b>	<b>3,359</b>	<b>2,949</b>	<b>2,920</b>	<b>3,040</b>	<b>3,065</b>	<b>2,795</b>	<b>2,908</b>
<b>Indicative UK contribution to the EU R&amp;D</b>	206	223	248	307	343	297	392	430	415	477	485	449	489	419
<b>GRAND TOTAL</b>	<b>9,951</b>	<b>9,547</b>	<b>9,147</b>	<b>9,110</b>	<b>8,828</b>	<b>8,683</b>	<b>8,083</b>	<b>8,395</b>	<b>7,964</b>	<b>8,438</b>	<b>8,446</b>	<b>8,274</b>	<b>8,000</b>	<b>8,250</b>

Notes:  
 Figures for the departments may not add up to the grand total shown due to rounding, and those after 2000-01 are shown in Table 2.2.  
 1 See notes on Table A2.1  
 Implied deflators

Source: ONS - Labour F

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Table A2.3: Aggregate destination of total Government R&D expenditure<sup>(1)</sup>, 1986-87 to 2000-01

	£ 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 <sup>(2)</sup>	1998-99 <sup>(2)</sup>	1999-00 <sup>(2)</sup>
<b>Civil R&amp;D</b>														
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 <sup>(3)</sup>	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
<b>Total Net expenditure<sup>(4)</sup></b>	<b>2,330</b>	<b>2,412</b>	<b>2,533</b>	<b>2,632</b>	<b>2,793</b>	<b>2,814</b>	<b>2,997</b>	<b>3,124</b>	<b>3,169</b>	<b>3,572</b>	<b>3,616</b>	<b>3,594</b>	<b>3,611</b>	<b>3,847</b>
<b>Defence R&amp;D</b>														
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 <sup>(3)</sup>	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
<b>Total Net expenditure</b>	<b>2,186</b>	<b>2,156</b>	<b>2,123</b>	<b>2,302</b>	<b>2,337</b>	<b>2,557</b>	<b>2,081</b>	<b>2,279</b>	<b>2,032</b>	<b>2,070</b>	<b>2,234</b>	<b>2,314</b>	<b>2,140</b>	<b>2,272</b>
<b>Total R&amp;D</b>														
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 <sup>(3)</sup>	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
<b>Total Net expenditure<sup>(4)</sup></b>	<b>4,516</b>	<b>4,568</b>	<b>4,656</b>	<b>4,934</b>	<b>5,130</b>	<b>5,371</b>	<b>5,078</b>	<b>5,402</b>	<b>5,200</b>	<b>5,642</b>	<b>5,850</b>	<b>5,908</b>	<b>5,751</b>	<b>6,119</b>

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.

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

	Canada	France	Germany	Italy	Japan <sup>1</sup>	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 <sup>a</sup>	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	2.11		2.51		1.09		3.31	1.73	j	2.59	
2006	2.01	2.11		2.54		1.13		3.41	1.75	j	2.64	
2007	1.96	2.08		2.53		1.17		3.46	1.78	j	2.70	
2008	1.90	2.12		2.69		1.21	a	3.47	c	1.79	j	2.84
2009	1.93	2.26		2.82		1.26		3.36	c	1.86	j	2.90
2010	1.81	p	2.25	c	2.82	p	1.26	3.26	p	1.76	..	

## Notes:

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

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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 <sup>1</sup>	UK	US
1986	0.79	1.26 <sup>c</sup>	1.90 <sup>w</sup>	0.65 <sup>l</sup>	1.80 <sup>a</sup>	1.53 <sup>j</sup>	1.94
1987	0.78	1.29	1.98 <sup>w</sup>	0.67 <sup>l</sup>	1.83	1.48 <sup>j</sup>	1.92
1988	0.75	1.30 <sup>c</sup>	1.98 <sup>w</sup>	0.69 <sup>l</sup>	1.90	1.45 <sup>j</sup>	1.88
1989	0.73	1.35	1.96 <sup>w</sup>	0.71 <sup>l</sup>	2.01	1.46 <sup>j</sup>	1.84
1990	0.76	1.40 <sup>c</sup>	1.88 <sup>w</sup>	0.73 <sup>l</sup>	2.09	1.46 <sup>j</sup>	1.87
1991	0.78	1.43 <sup>a</sup>	1.71 <sup>a</sup>	0.67 <sup>l</sup>	2.10	1.36 <sup>j</sup>	1.93
1992	0.82 <sup>a</sup>	1.46 <sup>c</sup>	1.61	0.64 <sup>l</sup>	2.00 <sup>a</sup>	1.31 <sup>j</sup>	1.86
1993	0.88	1.47 <sup>o</sup>	1.53	0.59 <sup>l</sup>	1.88	1.33 <sup>j</sup>	1.75
1994	0.98	1.43 <sup>c</sup>	1.46	0.54 <sup>l</sup>	1.85	1.28 <sup>j</sup>	1.67
1995	0.99	1.39	1.45	0.52 <sup>l</sup>	1.90	1.24 <sup>j</sup>	1.76
1996	0.96	1.40 <sup>c</sup>	1.45	0.53 <sup>a</sup>	2.00	1.19 <sup>j</sup>	1.83
1997	0.99 <sup>a</sup>	1.37	1.51	0.51	2.07	1.15 <sup>j</sup>	1.88
1998	1.06	1.33 <sup>c</sup>	1.54	0.51	2.14	1.15 <sup>j</sup>	1.91
1999	1.06	1.36	1.67	0.50	2.14	1.22 <sup>j</sup>	1.96
2000	1.15	1.34	1.73	0.52	2.16	1.18 <sup>j</sup>	2.02
2001	1.29 <sup>a</sup>	1.39	1.72	0.53	2.30 <sup>a</sup>	1.17 <sup>j</sup>	1.97
2002	1.18	1.41	1.72	0.55	2.36	1.16 <sup>j</sup>	1.83
2003	1.16	1.36	1.76	0.52	2.40	1.11 <sup>j</sup>	1.81
2004	1.18 <sup>a</sup>	1.36	1.74	0.52	2.38	1.05 <sup>j</sup>	1.76
2005	1.14	1.31	1.74	0.55	2.53	1.06 <sup>j</sup>	1.80
2006	1.14 <sup>a</sup>	1.33	1.78	0.55	2.63	1.08 <sup>j</sup>	1.86
2007	1.10	1.31	1.77	0.61	2.70	1.11 <sup>j</sup>	1.93
2008	1.02	1.33	1.86	0.65	2.72	1.11 <sup>j</sup>	2.04
2009	0.99	1.40	1.91	0.67	2.54	1.12 <sup>j</sup>	2.04
2010	0.92 <sup>p</sup>	1.38	1.90 <sup>p</sup>	0.67	2.49 <sup>p</sup>	1.07	..

Notes:

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

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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&amp;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 <sup>1</sup>	UK	US
1986	0.34	0.32	<sup>c</sup> 0.39	0.22	<sup>l</sup> 0.54	0.33	<sup>j</sup> 0.26
1987	0.33	0.33	0.40	0.24	<sup>l</sup> 0.55	0.34	<sup>j</sup> 0.27
1988 <sup>a</sup>	0.34	0.32	<sup>c</sup> 0.39	0.24	<sup>l</sup> 0.53	0.33	<sup>j</sup> 0.28
1989 <sup>a</sup>	0.43	0.33	0.39	0.24	<sup>l</sup> 0.52	0.32	<sup>j</sup> 0.29
1990	0.45	0.34	<sup>c</sup> 0.38	0.26	<sup>l</sup> 0.52	0.33	<sup>j</sup> 0.29
1991	0.48	0.35	<sup>a</sup> 0.40	0.26	<sup>be</sup> 0.34	0.34	<sup>j</sup> 0.31
1992	0.50	0.36	<sup>c</sup> 0.40	0.26	<sup>be</sup> 0.35	0.34	<sup>j</sup> 0.31
1993	0.50	0.38	<sup>o</sup> 0.40	0.27	<sup>be</sup> 0.37	<sup>a</sup> 0.35	<sup>j</sup> 0.31
1994	0.48	0.38	0.40	0.26	<sup>be</sup> 0.37	0.38	<sup>j</sup> 0.31
1995	0.46	0.38	0.40	0.25	<sup>be</sup> 0.39	0.37	<sup>j</sup> 0.31
1996	0.44	0.38	0.41	0.26	<sup>a</sup> 0.41	0.36	<sup>j</sup> 0.31
1997	0.44	<sup>a</sup> 0.38	0.40	<sup>a</sup> 0.32	0.41	0.35	<sup>j</sup> 0.30
1998	0.48	0.38	0.40	0.33	0.45	0.35	<sup>aj</sup> 0.30
1999	0.52	0.37	0.39	0.32	0.45	0.36	<sup>j</sup> 0.30
2000	0.54	<sup>a</sup> 0.40	0.40	0.33	0.44	0.37	<sup>j</sup> 0.31
2001	0.58	0.42	0.40	0.35	0.45	0.41	<sup>j</sup> 0.33
2002	0.65	0.42	0.42	0.37	0.44	0.43	<sup>j</sup> 0.35
2003	0.67	0.42	0.43	0.37	0.44	0.42	<sup>j</sup> 0.37
2004	0.70	<sup>a</sup> 0.40	0.41	0.36	0.43	0.42	<sup>j</sup> 0.37
2005	0.69	0.40	0.42	<sup>a</sup> 0.33	0.44	0.45	<sup>j</sup> 0.36
2006	0.66	0.41	0.41	0.34	0.43	0.46	<sup>j</sup> 0.35
2007	0.67	0.41	0.41	0.35	0.44	0.46	<sup>j</sup> 0.35
2008	0.68	0.43	0.45	0.37	<sup>a</sup> 0.40	0.47	<sup>j</sup> 0.36
2009	0.72	0.47	0.50	0.38	0.45	0.52	<sup>j</sup> 0.39
2010	0.69	<sup>p</sup> 0.48	<sup>c</sup> 0.51	<sup>p</sup> 0.36	0.42	<sup>p</sup> 0.48	..

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 <sup>1</sup>	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	0.38	o	0.35		0.19	0.27		0.18	h	0.32
2006	0.20	0.35	o	0.35		0.19	0.28		0.18	h	0.32
2007	0.19	0.34	o	0.35		0.17	0.27		0.16	h	0.32
2008	0.19	0.34	o	0.38		0.15	0.29		0.16	h	0.32
2009	0.21	0.37	o	0.42		0.17	0.31		0.17	h	0.34
2010	0.20	p	0.37	o	0.42	p	0.18	0.29	p	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, 2010

	Canada		France		Germany		Italy		Japan		UK		US <sup>a</sup>
Percentage of GERD performed by:													
Business Enterprise sector	50.8	<sup>p</sup>	61.2	<sup>c</sup>	67.2	<sup>p</sup>	53.6		76.5	<sup>p</sup>	60.9		70.3
Higher Education sector	38.0	<sup>p</sup>	21.3	<sup>c</sup>	18.0	<sup>p</sup>	29.0		12.9	<sup>p</sup>	27.2		13.5
Government sector	10.9	<sup>p</sup>	16.4	<sup>oo</sup>	14.8	<sup>p</sup>	14.3		9.0	<sup>p</sup>	9.4		11.7
Private Non-Profit sector	0.4	<sup>p</sup>	1.2	<sup>n</sup>			3.2		1.6	<sup>p</sup>	2.4		4.4
	100.0		100.0		100.0		100.0		100.0		100.0		100.0

Notes:

.. not available

a: Data relates to 2009

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

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, 2010

	Canada		France		Germany <sup>a</sup>		Italy <sup>a</sup>		Japan		UK		US <sup>a</sup>
Percentage of GERD financed by:													
Industry	45.7	<sup>p</sup>	51.0		66.1		44.2		75.9		45.1		61.6
Government	34.3	<sup>a</sup>	39.7		29.7		42.1	<sup>e</sup>	17.2		32.1		31.3
Other national sources	11.9	<sup>a</sup>	2.0		0.3		4.3	<sup>e</sup>	6.5		6.3		7.1
Abroad	7.4	<sup>p</sup>	7.3		3.8		9.4		0.4		16.4		..
	99.2		100.0		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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