

PRODUCTION OF THE PUBLIC EXPENDITURE BY FUNCTION HISTORICAL SERIES – METHODOLOGY NOTE

INTRODUCTION

On 27 September 2004 HM Treasury released further historical data to extend the public expenditure by function series published in table 3.2 of Public Expenditure Statistical Analyses (PESA) 2004. The additional data extended the series to provide data back to 1987-88.

Public expenditure by function shows spending in the different functional areas of government, such as health, education and defence, and is based on the overall spending aggregate, Total Expenditure on Services (TES). It differs from the departmental spending series in that it shows actual spending on the functions of government rather than departmental budgets, meaning the series is unaffected by transfers of responsibility between departments. The functional spending numbers are therefore consistent and comparable over time and for this reason often preferred to departmental numbers.

Prior to the publication of PESA 2004 the public expenditure by function series underwent considerable change to achieve closer alignment to the UN Classification of the Functions of Government (COFOG). For further information of the changes to the public expenditure by function series please see the original technical note:

http://www.hm-treasury.gov.uk/media/9E6/8A/natstat_techpesa04.pdf

This note explains the methodology used to produce a consistent back data series for the functional series published in PESA 2004.

REASON FOR CHANGED METHODOLOGY

Producing a consistent series

The exercise to align the functional analyses to COFOG for PESA 2004 meant existing historical functional data were inconsistent with the new series. This new historical series has been produced to be consistent with the functional series provided in PESA 2004.

Improving the accuracy of the series

Production of a new expenditure by function series gave the opportunity to review the methodology used to produce historical functional data. The previous method involved an estimation process to bring historical data in line with recent years' data following definitional changes. The Treasury Public Expenditure System (PES) holds information for five previous years from which fixed proportions were used to allocate classification or definitional changes to past years' data. The difference between the historical series and the current functional spending for the oldest database year was used as a scale factor by which previous years were adjusted. This resulted in an estimate of previous spending under new definitions with two major drawbacks:

- Older years were subject to estimation and re-estimation with each yearly release of data; and
- Mis-classifications (sometimes resulting from machinery of government changes) were not always corrected.

The new methodology addresses these issues to improve the quality and accuracy of historical spending by function data.

METHODOLOGY

Alignment of the functional analysis to COFOG conferred several quality improvements to UK functional spending data. The new series, using internationally recognised COFOG

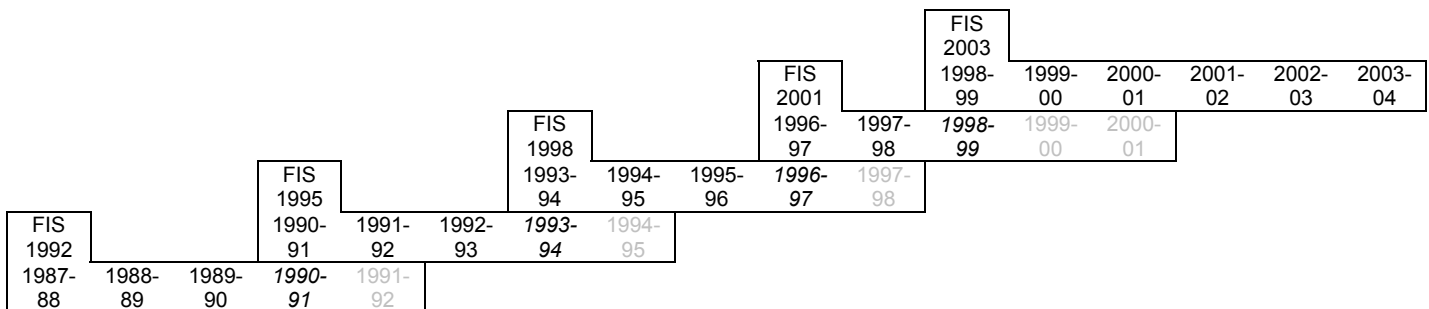
methodology, gives users increased understanding of how the statistics are compiled. HM Treasury also conducted a quality improvement exercise alongside the methodology change, involving a detailed audit of the allocation of departments' programme expenditure to functions. This ensured that the allocations are based on knowledge of the programme expenditure and correct classification rather than according to historical precedent¹. To apply these quality improvements to historical functional spending data, a new methodology was devised.

Public expenditure by function data are extracted from the current PES database, which holds current year spending, five previous years and three forward years' plans data. The database is updated once a year in line with the Financial Information System (FIS). For example, the FIS 2003 database holds the following information:

- Estimated current year outturn (2003-04)
- Five previous years' outturns (1998-99 to 2002-03)
- Three forward years' plans data (2004-05 to 2006-07)

The original exercise to align the functional analyses to COFOG was undertaken on the database for FIS year 2003 and resulted in a new functional series from 1998-99 to 2003-04. Rather than estimate the historical data from the old historical series we analysed old databases that were two or three years apart. The original exercise involved flagging every sub-programme line (sprog) on FIS 2003 with a sub-function. The sprogs for each sub-function were then aggregated to give the functional spending series. We were able to migrate the mapping of the lines on the current database onto old databases. To certify the accuracy of the mappings, databases used in the final series overlap so that the final years of data can be compared to ensure consistency². The databases used in constructing the final series and their respective overlaps are shown in Chart 1.

Chart 1 – Construction of the final series from overlapping databases



Data used in final series
 Data used for comparison in overlapping years
 Estimated data excluded from comparison

To produce a consistent series each database was adjusted to align with the following database. This began by aligning FIS 2001 with FIS 2003, and then continued back chronologically so that all databases were aligned with FIS 2003. Depending on the initial differences in the overlap there were a number of steps to aligning the databases:

- The overall spending aggregate TES was compared to ensure that the right data had been pulled of the database and any changes in PES coding were identified and adjusted.
- Once TES was aligned each function total was compared.

¹ See 'Pre-Announcement of Changes to the Public Expenditure by Function Series to be Published in Public Expenditure Statistical Analyses 2004' published on the HM Treasury public website at http://www.hm-treasury.gov.uk/economic_data_and_tools/national_statistics/natstat_index.cfm for a detailed explanation of how the methodological change and quality audit affected the series.

² The final years' data from each database are excluded from the comparison since they are provisional outturn figures.

- Where there were differences in function totals every sprog in the function was compared. Analysis identified those sprogs that had different values in different databases, sprogs that had different descriptions in different databases (each sprog on the database has a unique code which is mapped to sub-function) or data that had been switched in a restructuring of the sprogs between databases.

Once problem sprogs were identified they were allocated correctly and the function totals compared again. In some cases adjustments were made at more disaggregated level, with sprogs split between functions based on other database attributes.

Once all databases were aligned the series was constructed from data held on the newer database where years overlap.

CHANGES TO TOTAL EXPENDITURE ON SERVICES

The key concept to understand in the derivation of the public expenditure by function series is **Total Expenditure on Services (TES)**. This is the spending aggregate that is allocated to function and covers most expenditure by the public sector that is included in Total Managed Expenditure (TME).

TME is a concept derived from national accounts that covers current and capital expenditure of the whole of the public sector, that is, central government, local authorities and public corporations. TES includes central government spending but excludes the part of this that is finance to local authorities and public corporations. This central government expenditure is then combined with actual spending by local authorities and public corporations to give total public sector expenditure. TES is a near-cash measure of spending in that it excludes all non-cash items such as depreciation and cost of capital charges. Further detail on the derivation of TES from departmental budgets is available in Appendix E of PESA 2005.

The effect of COFOG on TES

Aligning the functional analysis to COFOG entailed revising the TES series to include additional expenditure in the following areas:

- Public sector debt interest
- Public sector occupational pensions

These changes had been implemented on the FIS 2003 database and needed adding to all years of the series for TES to be consistent.

Public sector debt interest data were not on PES before FIS 2003, therefore these were added using official figures supplied by the Public Sector Finance team in HM Treasury. The final long-run public sector debt interest series is shown in Table 1.

Table 1 – Public sector debt interest, 1987-88 to 1997-98³

	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98
Public sector debt interest	19.7	20.2	20.9	20.5	18.3	19.0	20.8	23.5	26.8	28.1	29.7

Public sector occupational pensions data were available on PES databases after FIS 1995 but not for preceding years. For 1993-94 onwards public sector occupational pensions data were extracted from PES databases and included in TES. Data before 1993-94 were taken from Parliamentary Supply Estimates, where outturn data for two previous years are

³ Data are from public expenditure by function historical series release September 2004. These figures may have been updated since.

published. These figures have been compared with PES database figures where possible to ensure their consistency. The long-run series of public sector occupational pensions is shown below in Table 2.

Table 2 – Public sector occupational pensions, 1987-88 to 1998-99⁴

	£ billion											
	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99
Public sector occupational pensions	2.4	2.5	3.1	3.6	3.9	4.9	4.0	4.1	4.8	5.3	5.5	4.9

TES also changed to include the effect of EU transactions on the same basis as TME. The previous definition of TES included net payments to the EC. This has been changed to exclude the payments to the EC that, in the national accounts, are considered as direct payments to the EC from UK citizens and enterprises. The national accounts adjustment for EC contributions for the years included in FIS 2001 and FIS 1998 databases have been taken from table 1.7 of PESA 2000-01 and PESA 2001-02 respectively. For all preceding years EC adjustments have been estimated as a percentage of TME, resulting in the long-run series of national accounts adjustments for EC contributions shown in Table 3.

Table 3 – National accounts adjustments for EC contributions, 1987-88 to 2002-03⁴

	£ billion															
	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	2001-02	2002-03
National accounts adjustment for EC contributions	-3.4	-3.6	-3.9	-4.4	-4.8	-5.3	-6.5	-5.5	-7.4	-7.0	-5.9	-6.2	-5.5	-6.3	-6.1	-4.1
	Estimated as % of TME					Taken from PESA tables					Taken from FIS 2003 database					

General Government Expenditure and Total Managed Expenditure aggregates

In 1998 TME, on which TES is based, replaced the previous aggregate of General Government Expenditure (GGE). The main differences between GGE and TME are:

- GGE covers only general government, i.e. central and local government; whereas TME covers the public sector as a whole, i.e. general government and public corporations.
- TME is the sum of current and capital expenditure, whereas GGE is the sum of current and capital expenditure and two financial transactions (namely, net lending and transactions in company securities (net)).

Data from FIS 2003 and FIS 2001 databases for the years 1996-97 onwards were already on a TME basis. Databases from FIS 1998 and FIS 1995 contained information on public corporations; therefore relevant data on public corporations have been extracted from these and used in the final series to ensure consistency with the TME aggregate. For preceding years, public corporation capital expenditure data were not available on PES databases and have been taken instead from ONS public corporation own gross expenditure data as published in the national accounts, 23 March 2004. This release includes NHS Trusts as public corporations before the reclassification to central government and is therefore consistent with PES data.

⁴ Data are from public expenditure by function historical series release September 2004. These figures may have been updated since.

Total public corporation capital expenditure taken from ONS national accounts has been distributed to the functions of government using the average ratios for the years 1990-91 and 1991-92. To account for the privatisation of water at the end of 1989, public corporation capital expenditure on water was excluded from all years prior to 1989 before proportioning spending to functions, and then re-added to the series in the **enterprise and economic development** function. Table 4 shows the final series of public corporation capital expenditure by function that has been included in TES for 1987-88 to 1989-90.

Table 4 – Public corporation capital expenditure by function, 1987-88 to 1991-92⁵

	£ billion				
	1987-88	1988-89	1989-90	1990-91	1991-92
General public services	0.0	0.0	0.0	0.0	0.0
International services	0.0	0.0	0.0	0.0	0.0
Enterprise and economic development	2.8	3.1	3.3	3.5	1.9
Employment policies	0.0	0.0	0.0	0.0	0.1
Transport	1.1	1.1	1.3	1.6	2.0
Agriculture fisheries and forestry	0.0	0.0	0.0	0.0	0.0
Environmental protection	0.0	0.0	0.0	0.0	0.0
Housing and community amenities	0.2	0.2	0.3	0.3	0.4
Health	0.0	0.0	0.0	0.0	0.2
Recreation, culture and religion	0.2	0.2	0.2	0.3	0.2
Total public corporation capital expenditure	4.3	4.7	5.1	5.8	4.8

Resource accounting and budgeting

The whole of government accounts were transferred from a cash basis to a resource basis between Spending Review 2000 and 2004. Public expenditure is now measured on an accruals basis rather than a cash basis; therefore there is a break in the public expenditure by function series, with 1998-99 being the first year measured on an accruals basis. More information on resource accounting and budgeting can be found in Appendix D of PESA 2005.

CHANGES TO FUNCTIONAL ALLOCATIONS

As well as changes to the overall spending aggregate, TES, there have been some changes between functions as a result of moving to COFOG definitions. These changes are outlined in more detail in the March 2004 technical note⁶ and have been carried back throughout the series. Further changes to the allocation of spending between functions are outlined below.

Local authority adjustments

Prior to publication of PESA 2004 an audit of local authority data was conducted, resulting in some data being reallocated between functions. The changes affected current and capital expenditure by local authorities in England, Scotland and Wales and have been carried back historically by estimating the amount to reallocate by proportion of TME. This entailed switching data between functions and had no effect on overall local authority expenditure or TME.

Machinery of government changes

The majority of machinery of government changes had no effect on the functional series since they entailed the transfer of whole sprogs between departments. Where departmental responsibility of a sprog had transferred to more than one department, with spending across different functions, the allocation of data between functions was estimated as a proportion of total spending within that sprog. An example is given below:

⁵ Data are from public expenditure by function historical series release September 2004. These figures may have been updated since.

⁶ Pre-Announcement of Changes to the Public Expenditure by Function Series to be Published in Public Expenditure Statistical Analyses 2004

In June 2001, the Department for the Environment, Food and Rural Affairs (DEFRA) was formed from the then Ministry of Agriculture, Fisheries and Food (MAFF) and environmental and countryside business areas from the then Department of the Environment, Transport and the Regions (DETR). The remaining functions of DETR were transferred to the Department for Transport (DfT) and the Office of the Deputy Prime Minister (ODPM). Before this transition, some DETR spending contained in the sprog 'other local services' fell entirely within the general public services function in databases pre FIS 2001. In FIS 2001 and later databases, ODPM spending on this sprog remains in the **general public services** function, whilst the DEFRA proportion is **environment protection** spending and the Department for Culture, Media and Sport (DCMS) element spending on **recreation, culture and religion**. Expenditure in this sprog was split between the three functions from FIS 1998 backwards according to the proportion of total spending within the sprog that was transferred to other departments on the FIS 2001 database.

Final alignment of functions

The differences between functional spending in overlapping database years are shown in Table 5. Total Expenditure on Services are aligned to within 0.1% for each database, whilst most functions are within 2%. Large differences between functions in FIS 2003 and 2001 are attributed to the change from cash accounts to resource accounting. Differences between other databases are the result of structural changes to the databases.

Table 5 – Difference between functional spending in overlapping database years⁷

	FIS 1992 to FIS 1995		FIS 1995 to FIS 1998		FIS 1998 to FIS 2001		FIS 2001 to FIS 2003	
	£ billion	%	£ billion	%	£ billion	%	£ billion	%
General public services	-0.3	-4.9	0.0	-0.2	-0.1	-1.2	0.3	3.9
EU transactions	0.0	-1.1	-0.1	1.4	0.0	0.0	0.0	0.0
International services	0.0	0.5	-0.1	-1.8	0.0	0.3	-0.1	-3.3
Debt interest	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Defence	-0.1	-0.4	-0.1	-0.5	0.0	0.1	1.1	4.7
Public order and safety	0.1	0.8	0.0	-0.3	0.0	0.2	0.4	2.5
Enterprise and economic development	0.1	0.8	0.1	1.4	0.1	2.8	-1.2	-35.6
Science and technology	0.0	0.5	0.0	-0.1	0.1	4.7	0.0	-1.5
Employment policies	0.0	0.8	0.0	0.8	0.0	-0.2	0.0	0.2
Agriculture fisheries and forestry	-0.1	-1.9	0.0	-0.4	0.1	2.5	0.1	2.9
Transport	-0.1	-1.6	0.2	1.4	0.0	0.3	-0.2	-2.6
Environmental protection	0.0	0.9	-0.1	-2.6	0.0	0.2	0.0	-0.5
Housing and community amenities	0.0	-0.1	0.0	0.1	0.0	-0.3	0.6	14.5
Health	0.0	-0.2	0.1	0.2	-0.2	-0.4	0.0	0.1
Recreation, culture and religion	0.0	0.9	0.0	0.2	0.1	2.0	-0.1	-2.5
Education and training	0.3	1.1	-0.1	-0.3	0.2	0.4	0.0	0.0
Social protection	-0.1	-0.2	0.0	0.0	-0.2	-0.2	-1.1	-1.0
Total Expenditure on Services	-0.2	-0.1	-0.1	-0.1	0.2	0.1	-0.2	-0.1

THE FINAL SERIES

The final series of public expenditure by function, 1987-88 to 2003-04, consistent with PESA 2004 table 3.2 is given in Table 6. Data in this table are updated throughout the year with the Budget, PESA, Public Expenditure Outturns White Paper (PEOWP) and Pre-Budget Report. Figures presented here are from the public expenditure by function historical series release September 2004 and have been updated since. Latest figures are available on the HM Treasury website at:

http://www.hm-treasury.gov.uk/economic_data_and_tools/finance_spending_statistics/pes_function/function.cfm

⁷ Data are from public expenditure by function historical series release September 2004. These figures may have been updated since.

Table 6 Total Expenditure on Services by function, 1987-88 to 2003-04

Data from 1998-99 are consistent with the National Statistics release on 20th July 2004

Historical data extend the series published in PESA 2004 and may include some revisions.

	cash, £ billion											accruals, £ billion					
	1987-88 outturn	1988-89 outturn	1989-90 outturn	1990-91 outturn	1991-92 outturn	1992-93 outturn	1993-94 outturn	1994-95 outturn	1995-96 outturn	1996-97 outturn	1997-98 outturn	1998-99 outturn	1999-00 outturn	2000-01 outturn	2001-02 outturn	2002-03 outturn	2003-04 estimated outturn
General public services	3.9	4.3	5.4	5.8	6.6	7.4	7.5	7.6	7.7	7.7	7.6	8.6	9.4	9.3	10.6	11.1	13.2
EU transactions	-1.6	-2.5	-1.5	-2.3	-4.1	-3.4	-4.7	-4.3	-4.1	-5.2	-3.7	-2.6	-2.7	-2.6	-5.3	-1.8	-2.0
International services	1.8	2.0	2.2	2.4	2.7	3.0	3.1	3.2	3.3	2.9	2.9	3.0	3.6	4.0	4.6	4.8	5.6
Public sector debt interest	19.7	20.2	20.9	20.5	18.3	19.0	20.8	23.5	26.8	28.1	29.7	29.4	25.3	26.4	22.5	21.3	22.7
Defence ⁽¹⁾	19.0	19.3	20.9	21.8	23.0	23.0	22.5	22.4	21.7	21.3	20.9	23.7	24.1	24.9	24.6	26.1	27.4
Public order and safety	8.0	8.9	10.1	11.5	13.0	14.3	14.8	15.4	15.8	16.3	17.0	17.9	18.4	20.4	23.0	24.9	27.3
Enterprise and economic development	6.4	6.6	6.9	6.7	5.1	5.1	5.4	4.6	4.4	4.4	4.4	3.4	4.7	4.9	5.3	5.9	6.5
Science and technology	1.0	1.1	1.1	1.2	1.3	1.4	1.5	1.1	1.2	1.3	1.3	1.3	1.3	1.3	1.5	1.9	2.1
Employment policies	2.8	2.6	2.2	2.3	2.6	2.7	2.9	3.0	2.9	2.8	2.5	2.8	3.1	3.4	3.3	3.4	3.5
Agriculture, fisheries and forestry	2.2	2.0	1.9	2.6	2.6	2.7	3.6	3.2	3.7	5.4	4.6	4.5	4.4	4.8	6.6	5.0	5.4
Transport	6.8	6.7	7.8	8.9	9.8	11.4	10.6	12.1	11.5	10.1	9.2	8.5	9.0	9.1	11.3	13.6	15.6
Environment protection	2.9	3.2	3.4	4.0	4.2	4.3	4.2	4.6	5.0	4.8	5.3	5.4	6.0	6.2	6.7	7.2	7.2
Housing and community amenities	4.3	3.2	5.0	5.8	6.6	6.9	5.8	5.8	5.6	4.9	4.0	4.3	3.5	4.5	5.3	4.9	7.5
Health	20.4	22.5	24.3	27.2	31.1	34.4	36.8	39.6	41.6	42.8	44.7	47.1	49.6	54.3	59.9	66.3	75.0
Recreation, culture and religion	2.2	2.4	2.7	3.0	3.1	3.2	3.2	3.3	3.6	3.8	4.4	5.2	5.6	5.6	5.5	6.0	6.2
Education and training	21.2	23.1	25.9	28.0	30.7	33.1	34.6	36.2	37.0	37.8	38.6	40.1	42.3	45.8	50.9	55.3	61.0
<i>of which: Education</i>	20.4	22.0	24.6	27.0	29.8	32.1	33.4	35.0	35.8	36.4	37.4	38.8	40.8	44.4	49.7	53.8	59.4
Social protection ⁽²⁾	54.9	56.6	60.9	67.8	79.8	90.7	97.8	101.5	107.1	111.9	113.6	114.4	122.0	127.4	136.0	143.8	152.1
Total Expenditure on Services	176.0	182.2	200.1	217.3	236.4	259.2	270.4	282.9	294.5	301.0	307.0	316.8	329.6	349.7	372.3	399.9	436.4
Other accounting adjustments	5.5	6.8	8.2	8.0	15.3	12.4	13.2	13.6	14.3	13.1	14.0	13.7	11.7	14.8	15.7	18.5	17.0
Total Managed Expenditure	181.5	189.0	208.4	225.3	251.7	271.6	283.5	296.5	308.9	314.1	321.0	330.5	341.3	364.5	388.0	418.4	453.4

⁽¹⁾ Expenditure on defence for 1996-97 and 1997-98 includes receipts from the sale of Ministry of Defence married quarters.⁽²⁾ Net public sector pensions figures vary in some years reflecting different levels of employer contributions but these will be included in the relevant function

Production of the public expenditure by function historical series – methodology note

A number of quality checks have been conducted on the series to ensure its accuracy. Table 7 shows TES from the Budget 2004 National Statistics release, reconciled to COFOG TES after accounting for data changes and adjustments made between the Budget 2004 and PEOWP July 2004.

Table 7 – Comparison of COFOG TES with Budget 2004 TES⁸

	cash, £ billion											accruals, £ billion				
	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	2001-02	2002-03
Budget 2004 TES (March)	55.3	162.6	179.8	198.3	220.7	243.0	254.0	260.8	270.5	274.5	277.1	288.9	302.4	324.8	351.6	377.5
Include debt interest																
Public sector debt interest	19.7	20.2	20.9	20.5	18.3	19.0	20.8	23.5	26.8	28.1	29.7	29.4	25.3	26.4	22.5	21.3
Include pension payments																
Public sector occupational pensions	2.4	2.5	3.1	3.6	3.9	4.9	4.0	4.1	4.8	5.3	5.5	4.9	5.1	4.9	4.9	3.9
Include effect of EU transactions on same basis as TME																
EC contributions adjustment	-3.4	-3.6	-3.9	-4.4	-4.8	-5.3	-6.5	-5.5	-7.4	-7.0	-5.9	-6.2	-5.5	-6.3	-6.1	-4.1
Data adjustments since Budget 2004 ⁹	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.5	0.5	0.5	0.5	-	-	-	-	-
Outturn revisions between Budget 2004 and PEOWP (July 2004) ¹⁰	-	-	-	-	-	-	-	-	-	-	-	0.0	0.2	0.0	-0.7	1.3
Revised Budget 2004 TES on COFOG basis	174.2	181.9	200.1	218.2	238.3	261.8	272.7	283.4	295.1	301.4	306.9	617.0	327.5	349.8	372.3	399.9
September 2004 COFOG TES	176.0	182.2	200.1	217.3	236.4	259.2	270.4	282.9	294.5	301.1	307.0	316.8	329.6	349.7	372.3	399.9
Difference	1.8	0.3	0.1	-1.0	-1.8	-2.7	-2.3	-0.5	-0.6	-0.4	0.0	-0.2	2.1	0.0	0.0	0.0

September 2004 COFOG TES is on a cash basis for years 1987-88 to 1997-98, and an accruals basis for 1998-99 to 2002-03. Revised Budget 2004 TES on COFOG basis is on a cash basis for years 1987-88 to 1999-2000, and an accruals basis for years 2000-01 to 2002-03. TES in years 2000-01 to 2002-03 is therefore comparable, whereas differences between cash and accruals measures accounts for the deviation in years 1998-99 and 1999-2000. Differences in preceding years represent improvements to TES from the new methodology.

As well as checks on the overall aggregate, the content of each function has been thoroughly audited in each database to ensure sprogs are assigned in accordance with the functional guidance and on the same basis as FIS 2003. This ensures the quality improvements

⁸ Budget 2004 TES consistent with National Statistics release on 17 March 2004. COFOG TES consistent with September 2004 public expenditure by function historical series release, these figures may have been updated since. Table may not sum due to rounding.

⁹ These include the addition of tax credits to TES and correction of coding errors on FIS 1998 and 2001.

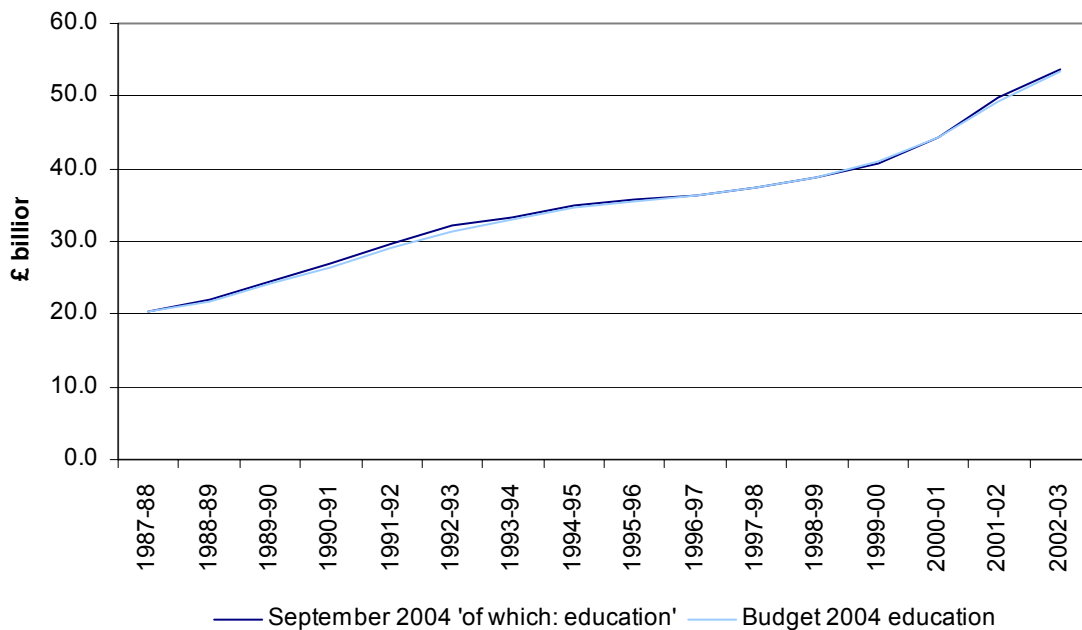
¹⁰ These include outturn revisions made in PESA 2004 (April 2004) and PEOWP July 2004

resulting from COFOG methodology have been applied throughout the series, resulting in more robust functional spending numbers exhibiting fewer effects due to machinery of government changes and classification errors. As a result of this, some functions appear markedly different from previously published statistics, details of which are given below.

Education

Education changed under COFOG definitions to include training, which had previously been included in the trade function. Comparing the newly published **education and training** function (excluding elements of spending that are on training) with education as published in the Budget 2004 National Statistics release demonstrates only minor changes, attributable to quality improvements resulting from methodology changes. Chart 2 shows the two series.

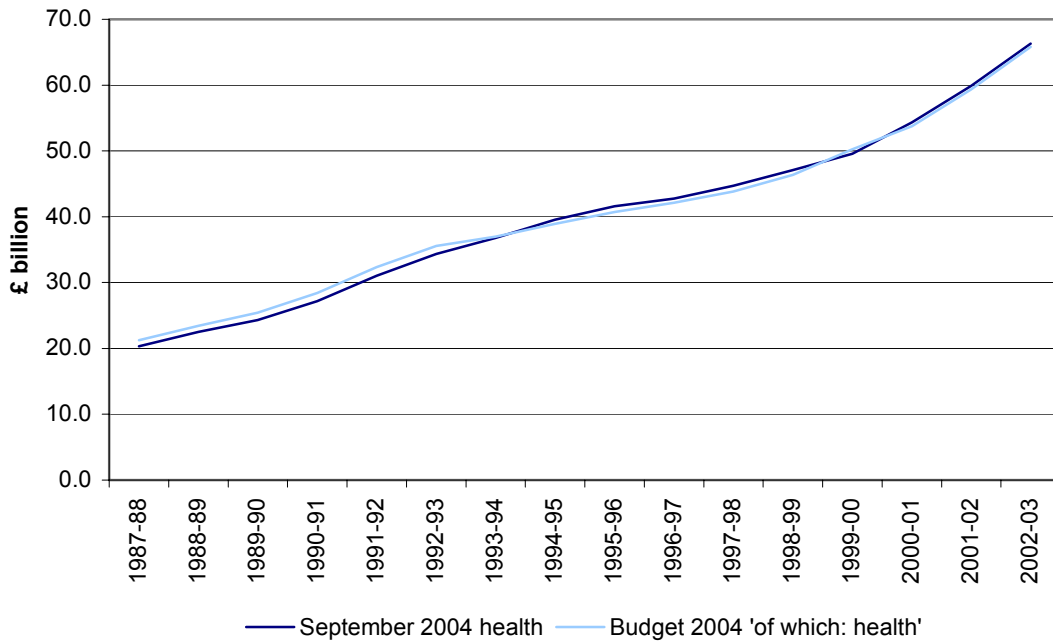
Chart 2 – Comparison of education series



Health

The **health** function changed under COFOG definitions to exclude spending on personal social services, which are now part of the **social protection** function. Chart 3 shows the new **health** series and previously published 'of which: health' data from the health and personal social services function in the Budget 2004 National Statistics release. Since these are again directly comparable, differences between the series result from aforementioned quality improvements.

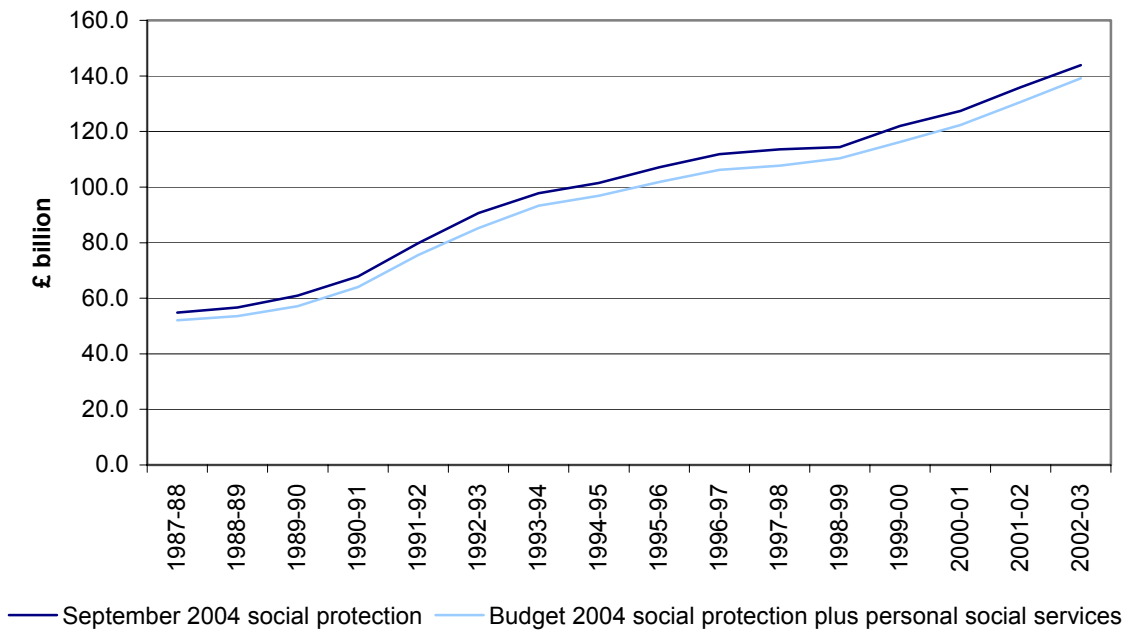
Chart 3 – Comparison of health series



Social protection

Social protection not only changed to include personal social services as detailed above, but also now includes the additional measure of public sector occupational pensions that had previously not been included in TES. Accounting for the inclusion of personal social services, newly published **social protection** spending is consistently higher than before as a result of public sector occupational pensions, although trends in social protection spending remain unchanged (see Chart 4).

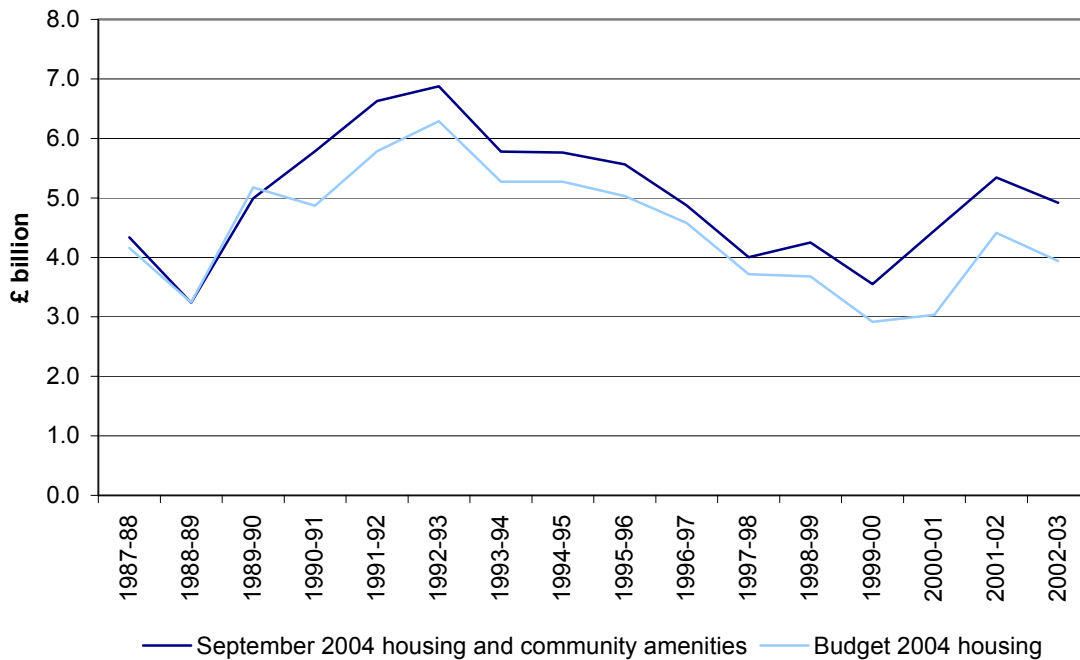
Chart 4 – Comparison of social protection series



Housing and community amenities

The definition of the **housing and community amenities** function was unchanged under the move to COFOG, yet the newly published series is markedly different from previously published data (Chart 5). This is a result of quality improvements to the series where audit of programme expenditure throughout the years revealed a number of instances of misclassifications that had persisted over time. The new housing series more accurately reflects actual programme expenditure on **housing and community amenities**.

Chart 5 – Comparison of housing and community amenities



PRODUCTION OF FUNCTION SERIES IN PESA 2005 AND BEYOND

PESA 2005 included Total Expenditure on Services by function from 1987-88 to 2004-05 in Table 3.2, with Tables 3.3 and 3.4 showing the same in real-terms and as a percentage of GDP respectively. Changes made to the current database having an affect on the series are imputed historically by revisiting old databases consistent with the above methodology. This includes the reallocation of data between functions or where changes to other database attributes change the series.

PUBLICATION OF TOTAL EXPENDITURE ON SERVICES BY FUNCTION

The latest public spending by function historical series is available to download as Excel or comma separated variables files from the public spending by function page of the Treasury website:

http://www.hm-treasury.gov.uk/economic_data_and_tools/finance_spending_statistics/pes_function/function.cfm

If you would like to comment on this article or have any queries, please write to the PESA branch of the Public Service Delivery Analysis team in HM Treasury, at the address below.

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Production of the public expenditure by function historical series – methodology note

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