Economic Trends

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Editor: ALAN HYDE

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Contents

Introduction

Economic Trends brings together all the main economic indicators. It contains three regular sections of tables and charts illustrating trends in the UK economy.

'Economic Update' is a new feature giving an overview of the latest economic statistics. The content and presentation will vary from month to month depending on topicality and coverage of the published statistics. The accompanying table on main economic indicators is wider in coverage than the table on selected monthly indicators appearing in previous editions of *Economic Trends*. Data included in this section may not be wholly consistent with other sections which will have gone to press earlier.

The main section is based on information available to the CSO on the date printed at the foot of this page and shows the movements of the key economic indicators. The indicators appear in tabular form on left hand pages with corresponding charts on facing right hand pages. Colour has been used to aid interpretation in some of the charts, for example by creating a background grid on those charts drawn to a logarithmic scale. Index numbers in some tables and charts are given on a common base year for convenience of comparison.

The section on cyclical indicators shows the movements of four composite indices over 20 years against a reference chronology of business cycles. The indices group together indicators which lead, coincide with and lag behind the business cycle, and a short note describes their most recent movements. The March, June, September and December issues carry further graphs showing separately the movements in all of the 27 indicators which make up the composite indices.

An article on international economic indicators appears monthly. Occasional articles comment on and analyse economic statistics and introduce new series, new analyses and new methodology.

Quarterly articles on the national accounts and the balance of payments appear in a separate supplement to *Economic Trends* entitled *UK Economic Accounts* which is published every January, April, July and October.

Economic Trends is prepared monthly by the Central Statistical Office in collaboration with the statistics divisions of Government Departments and the Bank of England.

Notes on the tables

1. Some data, particularly for the latest time period, are provisional and may be subject to revisions in later issues.

2. The statistics relate mainly to the United Kingdom; where figures are for Great Britain only, this is shown on the table.

3. Almost all quarterly data are seasonally adjusted; those not seasonally adjusted are indicated by NSA.

4. Rounding may lead to inconsistencies between the sum of constituent parts and the total in some tables.

5. A line drawn across a column between two consecutive figures indicates that the figures above and below the line have been compiled on different bases and are not strictly comparable. In each case a footnote explains the difference.

6. 'Billion' denotes one thousand million.

7. There may sometimes be an inconsistency between a table and the corresponding chart, because the data may be received too late to update the chart. In such cases it should be assumed that the table is correct.

8. There is no single correct definition of *money*. Consequently, several definitions of money stock are widely used:

M0 the narrowest measure consists of notes and coin in circulation outside the Bank of England and bankers' operational deposits at the Bank.

M2 comprises notes and coin in circulation with the public *plus* sterling retail deposits held by the UK private sector with UK banks and building societies.

M4 comprises notes and coin in circulation with the public, together with all sterling deposits (including *certificates of deposit*) held with UK banks and building societies by the rest of the private sector.

The Bank of England also publish data for liquid assets outside M4.

9. Symbols used:
   .. not available
   - nil or less than half the final digit shown
   + alongside a heading indicates a series for which measures of variability are given in the table on page 82
   † indicates that the data has been revised since the last edition; the period marked is the earliest in the table to have been revised
   * average (or total) of five weeks.

The Editor would welcome readers' suggestions for improvements to *Economic Trends*.

Central Statistical Office, 14 May 1993

CSO Databank

The data in this publication can be obtained in computer readable form via the CSO Databank service which provides macro-economic times series data on magnetic tape and High Density floppy disk. For more details about availability and prices, or to place your order you can telephone, write or fax to: Databank Marketing, Room D.134, Central Statistical Office, Cardiff Road, Newport, Gwent NP9 1XG (telephone: 0633-812915, fax: 0633-812863). For further information on the CSO Databank content and technical details you can telephone or write to: The Databank Service, Room 52/4, Central Statistical Office, Great George Street, London SW1P 3AQ (telephone: 071-270 6386 or 6387). The CSO does not offer direct on-line access for these data, but a list of host bureaux offering such a facility is available on request from the CSO.

ECONOMIC UPDATE - MAY 1993

(includes data up to 25 May)

Summary

- **Gross domestic product** at constant factor cost rose by 0.3 per cent between the first quarter of this year and 1992Q4. Excluding oil and gas extraction it rose by 0.7 per cent.

- **UK claimant unemployment**, seasonally adjusted, fell slightly in April; the third successive monthly fall.

- **The retail prices index** rose by 1.3 per cent in the year to April, down from 1.9 per cent in March. Excluding mortgage interest payments, retail price inflation fell to 2.9 per cent in April from 3.5 per cent in March.

- **Manufacturing output** rose by 2 per cent between the last quarter of 1992 and the first quarter of this year. Services output rose by 0.6 per cent.

- **Retail sales volume** rose by 1.4 per cent in the three months to April compared to the previous three months.

- **Output prices for manufactured products**, seasonally adjusted, excluding food, drink and tobacco, rose by 2.6 per cent in the year to April. The rise in **input prices for manufacturing industry** in the same period fell to 7.2 per cent, from 8.4 per cent in March.

- **Labour productivity** in manufacturing rose by 7.8 per cent in the year to March. Over this period **unit wage costs in manufacturing**, fell by 2.9 per cent - the highest fall on record.

- Annual growth in **whole economy underlying average earnings** for Great Britain fell to four per cent in March from four and a half per cent in February.

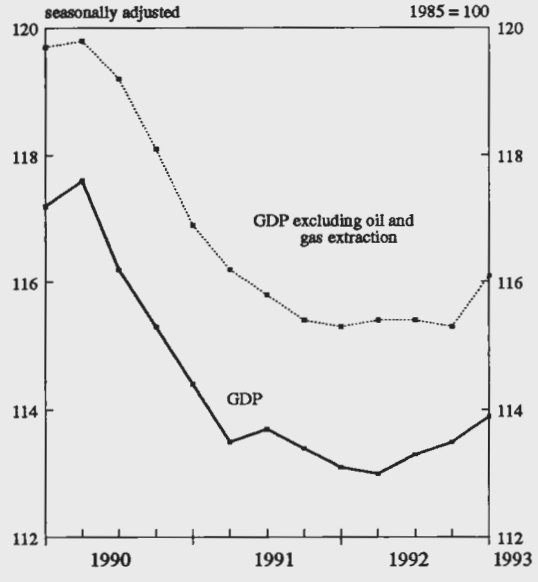
- Annual growth of **M0**, seasonally adjusted, fell to 4.8 per cent in April from 4.9 per cent in March.

Output

The latest estimate of **Gross domestic product (GDP)** at constant factor cost, shown in Chart 1, confirms that GDP continued to rise in the first quarter. It rose by 0.3 per cent between 1992Q4 and the first quarter of this year. Excluding oil and gas extraction, GDP rose by 0.7 per cent in the first quarter, having remained flat throughout 1992. On this basis it was 3.1 per cent below the high point of 1990Q2.

2. Within GDP, the **index of industrial production** rose a little between the first quarter and 1992Q4. A fall in energy output resulting from disruptive weather in the North Sea and above average temperatures, was more than offset by a rise of 2 per cent in manufacturing output between these quarters. Output in the **service industries** rose by 0.6 per cent. Within this, there were rises of 0.8 per cent in distribution, hotels and catering, and 1.4 per cent in the transport and communication sector.

Chart 1
Gross domestic product
at constant factor cost



Activity and expectations

3. The CSO's **coincident cyclical indicator** turned up in the spring of last year. The **shorter leading indicator** is rising, though the **longer leading index** has flattened in recent months.

4. The **CBI Quarterly Industrial Trends Survey** in manufacturing revealed a slight rise in the 'optimism' balance (those more optimistic minus those less), seasonally adjusted by the CSO. This was 18 per cent in April compared to 17 per cent in January. The percentage balance of firms expecting rises in output over the next four months, also seasonally adjusted by the CSO, rose to 11 per cent in April from 6 per cent in January. Recent balances are plotted in Chart 2.

5. In the three months to March **the number of dwellings started** in Great Britain, rose by 22 per cent, seasonally adjusted, compared with the three previous months.

Indicators of domestic demand

6. Between 1992Q4 and the first quarter of this year, **consumers expenditure** at constant prices rose by 0.5 per cent, **fixed investment** rose by 0.3 per cent and **general government consumption** rose by 0.4 per cent.

7. The **volume of retail sales** fell slightly in April, though

Chart 2
CBI optimism and output expectations

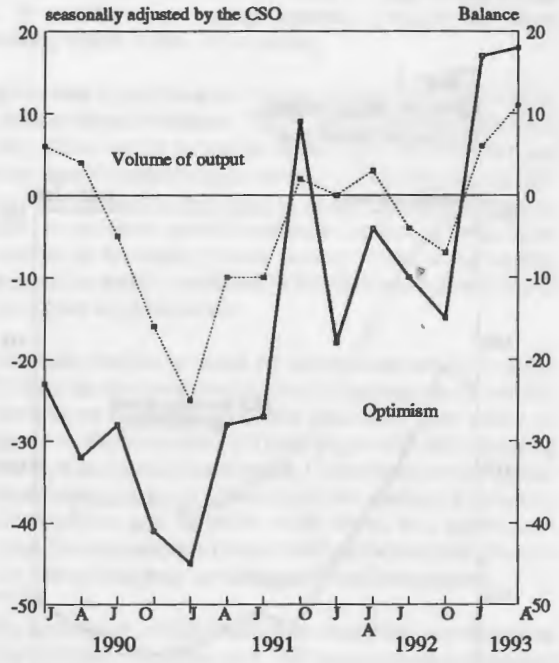
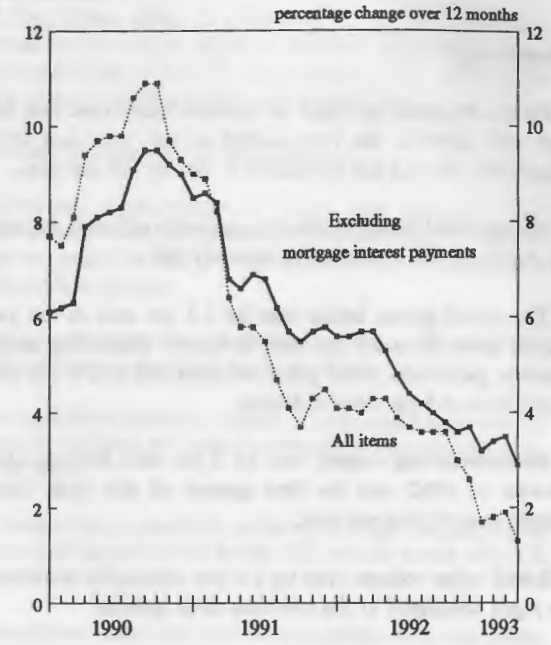


Chart 3
Retail prices index



the trend remains upwards. In the three months to April the volume of sales was 1.4 per cent above that of the previous three months and 3.2 per cent higher than in the same period a year earlier. Within the total, sales by specialist non-food retailers have recovered strongly (rising by 2.7 per cent in the three months to April), but remain below the peak levels of 1990.

8. **Net lending to consumers**, on the broader coverage, (which includes loans by banks on personal accounts, by insurance companies and retailers) rose to £393 million in the first quarter of 1993, up from £250 million in the fourth quarter of 1992. This was the third successive quarterly increase.

Prices and wages

9. The 12 month inflation rate of the **retail prices index** (RPI) fell to 1.3 per cent in April from 1.9 per cent in March. Excluding mortgage interest payments it fell to 2.9 per cent from 3.5 per cent during the same period, to remain within the government's target range of 1-4 per cent.

10. The fall in these annual inflation rates is shown in Chart 3. In April the fall was largely due to lower average council tax bills for households, when compared to the community charge, which rose last April.

11. The **output price index for manufactured products**, seasonally adjusted and excluding food, drink and tobacco, rose by 0.2 per cent in April and by 2.6 per cent on the previous year.

12. The **input price index for purchases by manufacturing industry**, seasonally adjusted, fell by 1.0 per cent in April. This fall in the monthly index follows a number of significant monthly rises since the UK left the ERM. The fall between March and April is largely due to falls in import prices of food manufacturing materials (-2.9 per cent) and other materials (-0.9 per cent) and falls in the domestic prices of other fuels (-3.2 per cent) and metals (-5.4 per cent). The annual rise in the index fell to 7.2 per cent in the year to April from 8.4 per cent in March.

13. **Output price expectations** remains subdued. The CBI Quarterly Industrial Trends Survey in manufacturing in April reported a balance of 7 per cent (ups less downs), seasonally adjusted by the CSO, expecting to raise their prices in the next four months.

14. The Department of the Environment's **old dwellings house price index** showed signs of stabilising between the last quarter of 1992 and the first quarter of this year. Between these quarters it was unchanged, while the annual rate of decline fell to 6 per cent from the 8 per cent, of 1992Q4.

15. The annual rise in underlying **whole economy average earnings** for Great Britain in March was four per cent; down from the four and a half per cent of February. It has fallen from a peak of ten and a quarter per cent in July 1990. In March the underlying annual increases for manufacturing and services also fell, to four and three quarters per cent and three and three quarters per cent respectively. Progress in reducing wage growth is shown in Chart 4.

Chart 4
Whole economy underlying earnings in GB

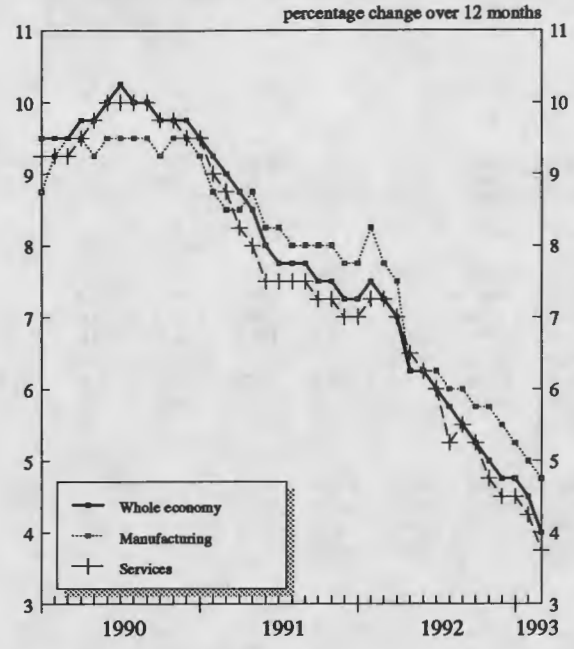
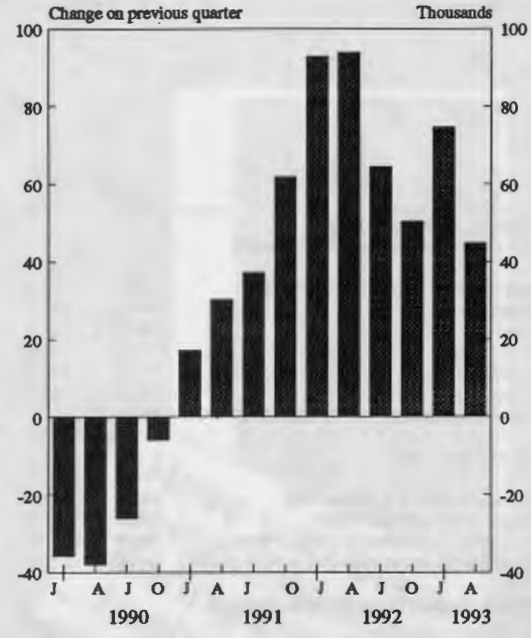


Chart 5
Long term unemployment



Labour market and productivity

16. **UK claimant unemployment**, seasonally adjusted, fell in April for the third successive month by 1,400 to 2.940 million or 10.5 per cent of the labour force. The net average monthly rise in the six months to April was 11,900, well below those recorded throughout 1992 and the earlier part of this year. **Long term unemployment**, defined as those unemployed for more than one year, rose by 44,800 between the three months, to April of this year and the three months to January. Quarterly changes in long term unemployment are shown in Chart 5.

17. **The number of employees in manufacturing industry** rose by 5,000 between February and March, the third successive monthly rise. Over the three months to March the average monthly rise was 4,000 compared to average falls of between 9,000 and 40,000 recorded last year.

18. **Labour productivity in manufacturing** in the three months to March was 7.8 per cent above its level of one year earlier. The continued lower growth of average earnings coupled with an acceleration of productivity growth resulted in a fall in **unit wage costs in manufacturing** of 2.9 per cent in the three months to March compared with one year earlier. This is the largest annual fall since records began in 1970.

Monetary indicators

19. The annual growth of narrow money (**M0**), seasonally adjusted, in April fell to 4.8 per cent from 4.9 per cent in March to remain above the Government's monitoring range of 1-4 per cent. The annual growth of broad money (**M4**) fell, provisionally, from 3.6 per cent in March to 3.5 per cent in April, to remain within the monitoring range of 3-9 per cent.

Government finances

20. The **PSBR** outturn for 1992-93 was revised from £36.5 billion to £36.7 billion. The **PSBR** was £4.7 billion in April compared to £3.5 billion in April 1992. Excluding privatisation proceeds the figures were £6.1 billion and £4.1 billion respectively.

Balance of payments

21. In April of this year, the **non EC visible trade deficit** was £0.8 billion: a fall of £0.1 billion on the deficit in March. After rising in the latter part of 1992 the trend of the visible deficit has begun to fall. In the three months to April, the **export volume of goods excluding oil and erratics to non-EC countries** was 6.3 per cent higher than in the previous three months while **imports** were 2.0 per cent higher.

22. The **unit value of exports, excluding oil, to non-EC countries** was 3.8 per cent higher in the three months to April than the three preceding months. On the same basis, the **unit value of imports** was 4.2 per cent higher. The non-EC terms of trade, excluding oil, fell by 0.5 per cent between March and April.

INTERNATIONAL ECONOMIC INDICATORS

INTRODUCTION

The series presented here are taken from the Organisation of Economic Co-operation and Development's (OECD) Main Economic Indicators, except for the United Kingdom where several of the series are those most recently published. The series shown are for each of the G7 economies (United Kingdom, Germany, France, Italy, United States, Japan and Canada) and for the European Communities (EC) and OECD countries in aggregate. The data are those available at 25 May 1993.

2. The length and periodicity of the series have been chosen to show their movement over a number of years as well as the recent past. There is no attempt here to make cross country comparisons across cycles. Further, because the length and timing of these cycles varies across countries, comparisons of indicators over the same period should be treated with caution.

COMMENTARY

3. Gross Domestic Product (GDP) at constant market prices continued to rise in both the United Kingdom and the United States. In the first quarter these rises were 0.4 per cent. Figures for the fourth quarter of 1992, show a fall in GDP of 0.3 per cent in the EC as a whole. Within this GDP fell in Germany by 0.9 per cent, France by 0.4 per cent and Italy by 0.5 per cent. GDP in the major 7 rose by 0.5 per cent in 1992Q4.

4. Consumer price inflation rose slightly in the United States from 3.1 per cent in March to 3.2 per cent in April - around the levels recorded since the beginning of last year. Within the EC, between March and April inflation rose in Germany, from 4.2 per cent to 4.3 per cent, while in France it was stable between the two months at around 2.2-2.3 per cent. In the United Kingdom it fell from 1.9 per cent to 1.3 per cent between the same two months. In the OECD as a whole consumer prices inflation in March was 3.7 per cent - much the same as it has been since the middle of last year.

5. The standardised unemployment rate in the United States remained at 6.9 per cent in March, having fallen by just over 0.5 per cent since the middle of 1992. In Canada it rose from 10.8 per cent to 11.0 per cent - though, again, it remains below levels experienced a year ago. Within the EC, the rate for the United Kingdom fell in both February and March, while that for France rose by 0.1 per cent in March. EC rates, other than those in Germany, are considerably above those averaged elsewhere.

1 Gross domestic product at constant market prices: index numbers

1985 = 100

	United Kingdom	Germany[1]	France	Italy	EC	United States	Japan[2]	Canada	Major 7	OECD
	FNAO	GABI	GABH	GABJ	GAEK	GAEH	GAEI	GAEG	GAEO	GAEJ
1980	90.5	94.6	92.7	93.3	93.0	88.2	82.9	86.7	88.7	88.9
1985	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1986	104.1	102.2	102.5	102.9	102.8	102.9	102.6	103.3	102.9	102.9
1987	109.1	103.6	104.8	106.1	105.8	106.1	107.1	107.6	106.2	106.3
1988	114.0	107.3	109.5	110.5	110.2	110.3	113.8	113.0	111.0	111.0
1989	116.4	111.0	114.2	113.7	114.0	113.0	119.3	115.6	114.4	114.5
1990	117.0	116.8	117.1	116.1	117.3	114.0	125.0	115.0	116.8	117.1
1991	114.4	121.2	117.9	117.6	118.7	112.6	130.0	113.1	117.3	117.8
1992	113.6	122.6	119.5	118.7	119.4	115.0	132.0	114.1	119.0	119.5
1990 Q1	117.9	114.7	116.7	115.7	116.8	114.3	122.6	116.2	116.4	116.7
Q2	118.2	115.8	116.9	115.6	117.0	114.6	124.6	115.6	117.0	117.3
Q3	116.5	117.9	117.7	116.9	117.6	114.1	125.9	114.9	117.1	117.5
Q4	115.3	118.9	117.0	116.4	117.5	112.9	127.1	113.6	116.6	117.1
1991 Q1	114.8	120.5	117.1	116.8	117.9	112.1	129.1	111.9	116.6	117.1
Q2	114.0	121.6	117.7	117.4	118.6	112.6	129.9	113.4	117.2	117.7
Q3	114.3	121.5	118.5	117.8	119.0	112.9	130.5	113.5	117.6	118.0
Q4	114.2	121.3	118.5	118.3	119.3	113.1	131.1	113.5	117.7	118.3
1992 Q1	113.6	123.3	119.4	119.0	119.5	113.9	132.5	113.6	118.6	119.0
Q2	113.4	123.0	119.6	119.2	119.5	114.3	132.5	113.7	118.8	119.2
Q3	113.6	122.6	119.8	118.6	119.5	115.3	131.7	114.0	119.1	119.6
Q4	114.0	121.5	119.3	118.0	119.2	116.6	131.9	115.0	119.7	120.1
1993 Q1	114.4	..	..	..	..	117.1	..	..	..	..
Percentage change, latest quarter on corresponding quarter of previous year										
1992 Q4	*–0.2*	*0.2*	*0.7*	*–0.3*	*–0.1*	*3.1*	*0.6*	*1.3*	*1.7*	*1.5*
1993 Q1	*0.8*	..	..	..	..	*2.8*	..	..	..	..
Percentage change, latest quarter on previous quarter										
1992 Q4	*0.3*	*–0.9*	*–0.4*	*–0.5*	*–0.3*	*1.1*	*0.2*	*0.9*	*0.5*	*0.4*
1993 Q1	*0.4*	..	..	..	..	*0.4*	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification)
2 GNP

2 Consumer prices[1] Percentage change on year earlier

	United Kingdom	Germany[2]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	18.0	5.5	13.6	21.0	13.7	13.5	8.0	10.1	12.7	13.7
1985	6.1	2.2	5.8	8.6	6.2	3.5	2.0	4.0	4.0	4.8
1986	3.4	–0.1	2.7	6.1	3.7	1.9	0.4	4.2	2.1	3.0
1987	4.2	0.2	3.1	4.6	3.4	3.6	–0.2	4.3	2.9	3.6
1988	4.9	1.3	2.6	5.0	3.6	4.1	0.5	4.0	3.3	4.3
1989	7.8	2.8	3.7	6.6	5.2	4.8	2.3	5.0	4.6	5.4
1990	9.5	2.7	3.4	6.0	5.6	5.5	3.1	4.8	5.0	5.8
1991	5.9	3.5	3.2	6.5	5.0	4.2	3.3	5.6	4.3	5.2
1992	3.7	4.0	2.4	5.3	4.3	3.0	1.6	1.5	3.1	4.1
1991 Q3	4.8	4.2	3.3	6.3	5.0	3.8	3.2	5.7	4.1	5.0
Q4	4.2	4.0	3.0	6.1	4.6	3.0	2.8	4.1	3.4	4.4
1992 Q1	4.1	4.3	2.8	5.6	4.7	2.9	1.8	1.7	3.1	4.2
Q2	4.1	4.5	2.8	5.5	4.7	3.1	2.3	1.4	3.3	4.2
Q3	3.6	3.4	2.1	5.3	4.1	3.1	1.6	1.3	3.0	3.9
Q4	3.0	3.6	1.9	4.8	3.8	3.0	0.7	1.7	2.8	3.7
1993 Q1	1.8	4.3	2.1	4.3	3.5	3.2	1.2	2.0	2.8	3.7
1992 Apr	4.3	4.6	2.8	5.4	4.7	3.2	2.4	1.7	3.3	4.4
May	4.3	4.6	2.8	5.6	4.8	3.0	2.0	1.4	3.2	4.2
Jun	3.9	4.3	2.6	5.4	4.5	3.1	2.2	1.1	3.2	4.1
Jul	3.7	3.3	2.2	5.4	4.1	3.2	1.5	1.3	3.0	3.9
Aug	3.6	3.5	2.1	5.2	4.1	3.1	1.6	1.2	3.0	3.9
Sep	3.6	3.6	2.1	5.1	4.0	3.1	2.0	1.3	3.0	3.9
Oct	3.6	3.7	2.0	4.8	3.9	3.2	0.9	1.6	2.9	3.8
Nov	3.0	3.7	1.6	4.7	3.8	3.0	0.4	1.7	2.7	3.7
Dec	2.6	3.7	1.9	4.7	3.6	2.9	0.9	2.1	2.7	3.6
1993 Jan	1.7	4.4	2.1	4.2	3.5	3.3	1.1	2.1	2.9	3.8
Feb	1.8	4.2	2.0	4.4	3.4	3.3	1.3	2.3	2.9	3.8
Mar	1.9	4.2	2.2	4.2	3.4	3.1	1.3	1.9	2.8	3.7
Apr	1.3	4.3	2.3	4.2	..	3.2	..	..	..	..

1 Components and coverage not uniform across countries
2 Western Germany (Federal Republic of Germany before unification)

3 Standardised unemployment rates: percentage of total labour force[1]

	United Kingdom	Germany[2]	France	Italy	EC[3]	United States	Japan	Canada	Major 7	OECD
	GABF	GABD	GABC	GABE	GADR	GADO	GADP	GADN	GAEQ	GADQ
1980	6.4	2.9	6.3	7.5	6.4	7.0	2.0	7.4	5.5	5.8
1985	11.2	7.1	10.2	9.6	10.8	7.1	2.6	10.4	7.2	7.8
1986	11.2	6.4	10.4	10.5	10.8	6.9	2.8	9.5	7.1	7.7
1987	10.3	6.2	10.5	10.9	10.6	6.1	2.8	8.8	6.7	7.3
1988	8.6	6.2	10.0	11.0	9.9	5.4	2.5	7.7	6.1	6.7
1989	7.1	5.5	9.4	10.9	9.0	5.2	2.3	7.5	5.7	6.2
1990	6.8	4.9	8.9	10.3	8.4	5.4	2.1	8.1	5.6	6.1
1991	8.7	4.4	9.4	9.9	8.7	6.6	2.1	10.2	6.3	6.8
1992	9.9	4.8	10.2	10.5	9.5	7.3	2.2	11.2	6.9	7.5
1991 Q2	8.6	4.4	9.3	10.0	8.6	6.6	2.1	10.3	6.3	6.8
Q3	9.1	4.5	9.6	9.7	8.8	6.7	2.1	10.3	6.4	6.9
Q4	9.3	4.4	9.8	9.8	8.9	6.9	2.1	10.3	6.5	7.0
1992 Q1	9.6	4.5	10.0	9.9	9.1	7.2	2.1	10.7	6.7	7.2
Q2	9.7	4.7	10.2	10.0	9.3	7.4	2.1	11.2	6.8	7.4
Q3	10.1	4.8	10.2	10.1	9.5	7.4	2.2	11.5	6.9	7.5
Q4	10.4	5.1	10.4	9.3	9.7	7.2	2.3	11.5	6.9	7.6
1992 Mar	9.5	4.5	10.1	–	9.1	7.2	2.1	11.1	6.7	7.3
Apr	9.6	4.6	10.2	10.0	9.2	7.2	2.0	11.0	6.7	7.3
May	9.7	4.7	10.2	–	9.3	7.4	2.1	11.1	6.8	7.4
Jun	9.8	4.7	10.2	–	9.3	7.6	2.1	11.5	6.9	7.5
Jul	10.0	4.8	10.3	10.1	9.4	7.5	2.2	11.5	6.9	7.5
Aug	10.1	4.8	10.2	–	9.5	7.5	2.2	11.5	6.9	7.5
Sep	10.2	4.9	10.2	–	9.5	7.4	2.2	11.3	6.9	7.5
Oct	10.2	5.0	10.3	9.3	9.6	7.3	2.3	11.3	6.8	7.5
Nov	10.4	5.1	10.4	–	9.7	7.2	2.3	11.7	6.9	7.6
Dec	10.6	5.2	10.5	–	9.8	7.2	2.4	11.4	6.9	7.6
1993 Jan	10.7	5.4	10.5	9.1	9.8	7.0	2.3	11.0	6.8	7.5
Feb	10.6	5.5	10.6	..	9.9	6.9	2.3	10.8	6.8	7.5
Mar	10.5	..	10.7	..	..	6.9	..	11.0	..	..

1 Uses an ILO based measure of those without work, currently available for work, actively seeking work or waiting to start a job already obtained
2 Western Germany (Federal Republic of Germany before unification)
3 Excludes Denmark, Greece and Luxembourg

4 Balance of payments current account as percentage of GDP

	United Kingdom	Germany[1,2]	France	Italy	United States[1]	Japan[1]	Canada
1980	1.2	–1.9	–0.6	–2.3	0.1	–1.0	–0.4
1985	0.8	2.7	–0.1	–0.9	–2.9	3.6	–0.4
1986	–	4.5	0.3	0.4	–3.1	4.3	–2.0
1987	–1.1	4.1	–0.6	–0.2	–3.2	3.6	–1.7
1988	–3.4	4.2	–0.5	–0.7	–2.6	2.7	–1.7
1989	–4.2	4.9	–0.5	–1.2	–2.0	2.0	–3.2
1990	–3.1	3.1	–0.8	–1.3	–1.6	1.2	–3.8
1991	–1.1	–1.3	–0.5	..	–0.1	2.1	–4.3
1992	–2.0	–1.5	..	..	..	..	..
1990 Q3	–2.0	0.6	–0.2	0.1	–1.7	1.0	–2.5
Q4	–2.2	0.5	–0.2	–0.3	–1.6	1.0	–3.5
1991 Q1	–2.0	–0.3	–0.4	–0.6	0.9	1.2	–5.3
Q2	–0.2	–0.4	–0.1	..	0.2	2.3	–3.7
Q3	–0.9	–0.4	–	..	–0.8	2.3	–3.5
Q4	–1.3	–0.1	–	..	–0.5	2.7	–4.9
1992 Q1	–2.0	–0.3	–0.2	..	–0.4	3.0	–5.6
Q2	–2.2	–0.4	0.1	..	–1.2	3.2	–3.8
Q3	–1.5	–0.5	0.1	..	–1.1	..	..
Q4	–2.4	–0.3	..	..	..	..	..

1 Balance as percentage of GNP
2 Western Germany (Federal Republic of Germany before unification)

5 Total industrial production: index numbers

1985 = 100

	United Kingdom	Germany[1]	France	Italy	EC	United States	Japan[2]	Canada[3]	Major 7	OECD[4]
	DVIM	HFGA	HFFZ	HFGB	GACY	HFGD	HFGC	HFFY	GAES	GACX
1980	92.6	97.3	101.9	103.6	97.2	89.1	84.4	86.2	91.0	91.1
1985	100.0	100.3	100.0	100.0	100.1	100.0	100.0	100.0	100.0	100.0
1986	102.4	102.3	100.9	103.6	102.3	101.0	99.8	99.3	101.1	101.2
1987	105.7	102.6	102.8	107.6	104.7	105.9	103.3	104.1	104.8	104.9
1988	109.5	106.3	107.7	114.1	109.0	111.6	112.8	109.6	110.9	110.7
1989	109.9	111.4	112.1	117.6	113.1	114.5	119.6	109.2	114.6	114.6
1990	109.3	117.2	114.2	117.6	115.2	115.7	125.3	104.6	116.8	116.7
1991	106.1	120.7	114.1	115.4	115.1	113.4	128.2	100.3	116.2	116.1
1992	105.8	118.4	..	114.8	..	115.2	121.2	101.2	115.3	..
1991 Q2	105.2	121.9	114.1	114.7	115.0	112.7	128.2	100.4	115.9	115.9
Q3	106.3	120.6	115.3	114.3	114.9	114.6	128.5	101.2	116.7	116.6
Q4	106.2	119.1	113.8	115.6	114.8	114.4	127.3	100.3	116.3	116.3
1992 Q1	105.4	122.1	113.1	118.8	116.0	113.5	123.9	100.1	115.7	115.8
Q2	105.0	120.1	114.0	115.5	114.7	114.9	121.0	100.5	115.3	115.4
Q3	105.9	118.5	113.2	112.8	113.8	115.6	121.6	101.3	115.4	115.6
Q4	106.8	112.9	..	112.0	111.4	116.9	118.4	102.9	114.6	114.6
1993 Q1	107.2	108.6	..	..	..	118.4	..	..	..	..
1992 Mar	105.2	121.2	113.2	119.5	115.8	114.0	121.6	100.4	115.4	115.5
Apr	105.7	120.6	115.2	112.8	114.7	114.5	121.5	100.7	115.2	115.3
May	104.6	120.5	113.4	117.9	114.9	115.4	119.4	100.4	115.3	115.4
Jun	104.7	119.3	113.7	115.7	114.4	114.9	122.0	100.4	115.4	115.5
Jul	105.8	118.7	113.7	116.3	114.8	115.9	122.9	99.9	116.0	116.2
Aug	105.7	118.3	113.7	110.7	113.0	115.6	118.2	101.9	114.6	114.8
Sep	106.1	118.4	114.0	111.4	113.5	115.4	123.7	102.0	115.7	115.7
Oct	107.4	115.5	114.6	113.7	113.7	116.2	120.4	102.4	115.4	115.5
Nov	106.6	113.2	109.6	114.6	111.7	116.9	118.1	102.9	114.7	114.6
Dec	106.5	110.1	108.4	107.6	108.9	117.6	116.8	103.5	113.8	113.6
1993 Jan	106.4	109.8	108.3	..	109.7	118.0	116.7	103.6	114.4	114.1
Feb	108.2	108.4	111.0	..	110.7	118.6	118.4	104.3	115.2	115.0
Mar	106.8	107.7	..	..	..	118.6	..	..	..	..
Percentage change: average of latest three months on that of corresponding period of previous year										
1993 Jan	*0.9*	*–7.1*	*–4.1*	..	*–4.1*	*3.3*	*–7.3*	*3.5*	*–1.4*	*–1.6*
Feb	*1.3*	*–9.1*	*–3.8*	..	*–4.7*	*4.1*	*–6.5*	*4.1*	*–1.0*	*–1.3*
Mar	*1.6*	*–11.1*	..	..	..	*4.3*	..	..	..	..
Percentage change: average of latest three months on previous three months										
1993 Jan	*0.1*	*–5.4*	*–4.7*	..	*–2.9*	*1.5*	*–3.0*	*1.2*	*–0.8*	*–1.1*
Feb	*0.3*	*–5.4*	*–3.1*	..	*–2.8*	*1.6*	*–2.8*	*1.3*	*–0.7*	*–0.9*
Mar	*0.3*	*–3.8*	..	..	..	*1.3*	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification)
2 Not adjusted for unequal number of working days in a month
3 GDP in industry at factor cost and 1986 prices
4 Some countries excluded from area total

6 Producer prices (manufacturing)
Percentage change on a year earlier

	United Kingdom	Germany[1]	France[2]	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	*14.1*	*7.1*	*9.2*	..	..	*13.5*	*14.8*	*13.3*	..	..
1985	*5.3*	*1.9*	*4.4*	*7.8*	*5.0*	*0.9*	*–0.8*	*2.8*	*1.9*	*3.0*
1986	*4.3*	*–2.4*	*–2.8*	*0.2*	*–0.8*	*–1.4*	*–4.7*	*0.9*	*–1.5*	*–1.1*
1987	*3.8*	*–0.4*	*0.6*	*3.0*	*1.3*	*2.1*	*–2.9*	*2.8*	*1.1*	*1.5*
1988	*4.5*	*1.6*	*5.1*	*3.5*	*3.5*	*2.5*	*–0.2*	*4.4*	*2.5*	*3.5*
1989	*5.1*	*3.4*	*5.4*	*5.9*	*5.1*	*5.1*	*2.1*	*1.9*	*4.4*	*5.4*
1990	*5.9*	*1.5*	*–1.1*	*4.2*	*2.3*	*5.0*	*1.6*	*0.3*	*3.4*	*3.9*
1991	*5.6*	*2.0*	*–1.3*	*3.3*	*2.3*	*2.1*	*1.0*	*–1.1*	*2.0*	*2.6*
1992	*3.8*	*1.6*	*–1.6*	*1.9*	*1.4*	*1.2*	*–0.8*	*0.5*	*0.7*	*1.8*
1991 Q2	*5.9*	*2.0*	*–0.7*	*3.8*	*2.7*	*3.5*	*1.7*	*–0.5*	*2.8*	*3.5*
Q3	*5.6*	*2.3*	*–1.5*	*3.1*	*2.2*	*1.9*	*1.0*	*–1.6*	*1.8*	*2.5*
Q4	*5.0*	*1.6*	*–3.6*	*2.0*	*1.1*	*–0.3*	*–0.1*	*–3.2*	*0.2*	*0.9*
1992 Q1	*4.5*	*1.7*	*–3.0*	*1.4*	*1.2*	*0.4*	*–0.8*	*–2.3*	*0.3*	*1.3*
Q2	*3.6*	*2.4*	*–1.1*	*2.1*	*1.8*	*1.3*	*–0.9*	*–0.2*	*0.9*	*1.9*
Q3	*3.4*	*1.4*	*–0.9*	*1.9*	*1.4*	*1.5*	*–0.8*	*1.6*	*1.1*	*2.1*
Q4	*3.3*	*1.0*	*–1.5*	*2.3*	*1.2*	*1.5*	*–1.1*	*3.2*	*1.0*	*2.2*
1993 Q1	*3.7*	*0.7*	..	..	..	*1.9*	*–1.1*	*3.8*	..	..
1992 May	*3.5*	*2.5*		*2.1*	*1.8*	*1.1*	*–0.9*	*–0.1*	*0.8*	*1.9*
Jun	*3.6*	*2.5*		*2.1*	*1.7*	*1.6*	*–1.0*	*0.4*	*1.1*	*2.0*
Jul	*3.6*	*1.6*		*1.9*	*1.6*	*1.7*	*–0.8*	*0.8*	*1.1*	*2.1*
Aug	*3.4*	*1.5*		*1.9*	*1.4*	*1.5*	*–0.9*	*1.6*	*1.0*	*2.0*
Sep	*3.4*	*1.2*		*1.9*	*1.3*	*1.6*	*–0.9*	*2.2*	*1.0*	*2.1*
Oct	*3.3*	*1.0*		*2.0*	*1.1*	*1.7*	*–1.1*	*3.0*	*1.1*	*2.2*
Nov	*3.3*	*1.0*		*2.2*	*1.2*	*1.4*	*–1.1*	*3.1*	*0.9*	*2.1*
Dec	*3.5*	*1.0*		*2.5*	*1.3*	*1.5*	*–1.2*	*3.7*	*1.0*	*2.2*
1993 Jan	*3.6*	*1.0*		*2.8*	*1.4*	*1.8*	*–1.1*	*4.3*	*1.2*	*2.6*
Feb	*3.7*	*0.7*		*2.9*	*1.4*	*1.8*	*–1.0*	*3.7*	*1.2*	*2.5*
Mar	*3.7*	*0.6*		..	..	*2.0*	*–1.2*	*3.7*	..	..
Apr	*3.8*	..		..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification).
2 Producer prices in intermediate goods

7 Total employment: index numbers[1]

1985 = 100

	United Kingdom	Germany[2,3]	France[3]	Italy	EC	United States[3]	Japan	Canada[3]	Major 7	OECD
	DMBC	GAAR	GAAU	GAAS	GADW	GADT	GADU	GADS	GAEU	GADV
1980	103.5	102	101.6	100	..	93	95	95	..	..
1985	100.0	100	100.0	100	100	100	100	100	100	100
1986	100.1	101	100.3	101	101	102	101	103	101	101
1987	101.9	102	100.6	100	102	105	102	106	103	103
1988	105.2	103	101.4	102	104	107	104	109	105	105
1989	107.8	104	102.7	101	106	109	106	111	107	107
1990	108.5	107	103.8	103	107	110	108	112	108	108
1991	105.6	109	103.8	104	107	109	110	110	108	108
1992	102.6	109	..	104	106	110	111	109	108	108
1991 Q3	105.1	109	104.1	105	108	110	111	113	109	109
Q4	104.3	110	103.3	104	107	109	110	109	108	108
1992 Q1	103.9	109	103.3	103	106	108	109	106	107	107
Q2	103.4	110	103.8	105	107	110	112	109	109	109
Q3	102.0	110	103.8	104	106	111	112	112	109	109
Q4	101.1	109	..	105	106	110	111	109	109	108
1993 Q1	..	..	..	..	..	109	109	107	..	..
1992 Sep	..	110	103.8	–	106	110	112	110	109	109
Oct	..	110	..	105	106	110	112	110	109	109
Nov	..	110	..	..	106	110	112	109	109	108
Dec	..	109	..	..	106	110	111	108	108	108
1993 Jan	..	108	..	..	..	108	108	106	107	..
Feb	..	108	..	..	..	109	108	107	107	..
Mar	..	..	..	..	..	110	109	107	..	..
Percentage change, latest quarter on that of corresponding period of previous year										
1992 Q4	*–3.1*	*–0.9*	..	*1.0*	*–0.9*	*0.9*	*0.9*	*0.0*	*0.9*	*0.0*
1993 Q1	..	..	..	..	..	*0.9*	*0.0*	*0.9*	..	..
Percentage change latest quarter on previous quarter										
1992 Q4	*–0.9*	*–0.9*	..	*1.0*	*0.0*	*–0.9*	*–0.9*	*–2.7*	*0.0*	*–0.9*
1993 Q1	..	..	..	..	..	*–0.9*	*–1.8*	*–1.8*	..	..

1 Not seasonally adjusted except for the United Kingdom
2 Western Germany (Federal Republic of Germany before unification)
3 Excludes members of armed forces

8 Average wage earnings in manufacturing[1] Percentage change on a year earlier

	United Kingdom[2]	Germany[3]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	*17.8*	*6.5*	*15.2*	*18.7*	*10.3*	*8.6*	*7.5*	*10.9*	*9.0*	*9.1*
1985	*9.1*	*4.2*	*5.7*	*11.2*	*7.5*	*4.2*	*3.1*	*4.2*	*5.3*	*5.3*
1986	*7.7*	*4.0*	*3.9*	*4.8*	*5.0*	*2.0*	*1.4*	*3.0*	*3.0*	*4.0*
1987	*8.0*	*3.8*	*3.2*	*6.5*	*5.7*	*2.0*	*1.7*	*2.9*	*2.9*	*2.9*
1988	*8.5*	*4.6*	*3.1*	*6.1*	*5.4*	*2.9*	*4.6*	*3.8*	*4.7*	*4.7*
1989	*8.7*	*3.5*	*3.8*	*6.1*	*6.0*	*2.8*	*5.8*	*5.5*	*4.5*	*5.4*
1990	*9.4*	*5.1*	*4.5*	*7.2*	*7.3*	*3.6*	*5.4*	*5.2*	*5.2*	*5.9*
1991	*8.2*	*5.7*	*4.3*	*9.8*	*7.5*	*2.6*	*3.5*	*4.9*	*4.9*	*4.8*
1992	*6.6*	..	*3.6*	*5.4*	*5.6*	*2.6*	*1.0*	*3.9*	*3.9*	*3.8*
1991 Q3	*7.8*	*6.4*	*4.3*	*10.7*	*8.2*	*3.5*	*3.3*	*4.9*	*4.8*	*5.6*
Q4	*7.7*	*6.3*	*4.1*	*10.6*	*8.0*	*3.5*	*2.9*	*4.0*	*5.3*	*4.5*
1992 Q1	*8.6*	..	*3.6*	*9.2*	*7.2*	*2.6*	*2.2*	*3.9*	*5.1*	*4.9*
Q2	*6.0*	..	*3.8*	*6.0*	*6.4*	*2.6*	*2.0*	*3.9*	*4.0*	*4.7*
Q3	*6.1*	..	*3.5*	*3.8*	*4.8*	*1.7*	*0.7*	*3.1*	*3.1*	*3.8*
Q4	*5.7*	..	*3.6*	*2.9*	*4.7*	*1.7*	*−0.1*	*3.1*	*2.2*	*2.9*
1993 Q1	*4.7*	..	*3.4*	..	..	*2.5*	..	..	..	..
1992 May	*6.9*	..	..	*4.6*	*7.1*	*2.6*	*0.6*	*3.9*	*4.2*	*4.8*
Jun	*5.9*	..	..	*4.7*	*7.1*	*2.6*	*3.4*	*3.1*	*4.4*	*4.3*
Jul	*6.2*	..	*3.5*	*4.0*	*5.5*	*1.7*	*2.0*	*3.1*	*2.8*	*3.4*
Aug	*6.5*	..	..	*3.5*	*5.6*	*2.6*	*−1.8*	*3.9*	*2.4*	*3.1*
Sep	*5.7*	..	..	*3.7*	*4.8*	*2.5*	*1.1*	*3.1*	*3.3*	*4.0*
Oct	*6.2*	..	*3.6*	*4.1*	*5.4*	*1.7*	*1.2*	*3.9*	*3.3*	*3.1*
Nov	*5.6*	..	..	*2.1*	*4.7*	*1.7*	*1.2*	*3.1*	*3.2*	*3.1*
Dec	*5.4*	..	..	*2.4*	*4.7*	*2.5*	*−1.0*	*3.8*	*1.8*	*2.4*
1993 Jan	*5.0*	..	*3.4*	..	..	*3.4*	*−3.6*	*3.8*	*2.4*	+
Feb	*5.0*	..	..	..	..	*2.5*	*1.3*	*3.0*	..	..
Mar	*4.1*	..	..	..	..	*2.5*	..	..	..	..

1 Definitions of coverage and treatment vary among countries
2 Figures for Great Britain refer to weekly earnings; others are hourly
3 Western Germany (Federal Republic of Germany before unification)

9 Retail Sales (volume): index numbers

1985 = 100

	United[2] Kingdom	Germany[1]	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
	FAAM	GADD	GADC	GADE	GADH	GADA	GADB	GACZ	GAEW	GADG
1980	86.3	103	101.0	83.1	94.6	84.0	103.2	83.6	89.9	90.7
1985	100.0	100	100.0	100.0	99.9	100.0	99.9	100.0	100.0	99.9
1986	105.2	103	102.4	106.8	104.3	105.5	101.5	104.6	104.5	104.3
1987	110.7	107	104.5	112.0	108.6	108.4	107.1	110.3	108.3	108.0
1988	117.7	111	108.0	109.5	111.7	112.1	112.2	114.6	111.9	111.6
1989	119.9	114	109.5	117.1	116.1	114.6	116.0	114.5	114.9	114.8
1990	120.4	123	110.1	114.4	119.1	115.0	121.8	112.0	116.5	116.6
1991	119.5	130	109.7	111.2	120.2	112.7	123.3	100.4	115.4	115.7
1992	120.3	128	108.9	..	120.2	117.6	119.6	101.4	117.4	117.3
1992 Q1	119.4	129	108.8	110.6	120.2	116.4	122.4	100.2	117.1	117.2
Q2	120.0	126	109.0	115.6	120.4	116.2	120.3	100.6	116.7	116.9
Q3	120.7	127	109.2	..	120.1	117.4	120.0	101.9	117.2	117.3
Q4	120.8	130	108.5	..	120.0	120.6	115.7	102.9	118.5	118.0
1992 Apr	119.7	128	111.2	117.2	121.8	116.0	120.9	100.6	117.0	117.4
May	120.0	126	108.0	123.4	121.7	116.5	119.6	100.1	117.2	117.2
Jun	120.2	124	107.7	106.2	117.7	116.2	120.4	101.1	115.8	116.0
Jul	119.8	127	109.2	117.0	120.6	116.9	121.5	101.2	117.4	117.5
Aug	120.9	126	108.8	112.8	119.5	117.4	119.4	102.0	117.0	116.9
Sep	121.2	129	109.8	..	120.1	118.0	119.0	102.5	117.3	117.4
Oct	121.5	127	110.7	..	119.8	120.3	116.5	103.0	118.4	118.1
Nov	121.5	129	105.2	..	119.8	120.0	115.4	102.9	118.2	117.6
Dec	120.1	133	109.6	..	120.3	121.4	115.2	102.9	119.0	118.4
1993 Jan	122.7	123	110.5	..	119.1	121.2	117.3	104.2	118.8	118.2
Feb	123.0	123	106.5	..	..	121.0	..	103.1	..	..
Mar	123.5	..	109.4	..	..	..	..	..	..	..
Apr	122.7	..	..	..	..	..	..	..	..	..
Percentage change average of latest three months on that of corresponding period of previous year										
1993 Mar	*3.0*	..	*0.0*	..	..	..	..	..	..	..
Apr	*3.0*	..	..	..	..	..	..	..	..	..
Percentage change average of latest three months on previous three months										
1993 Mar	*1.7*	..	*0.3*	..	..	..	..	..	..	..
Apr	*1.3*	..	..	..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification)
2 March and April estimates due to rebasing to 1990

Chart I: Gross domestic product

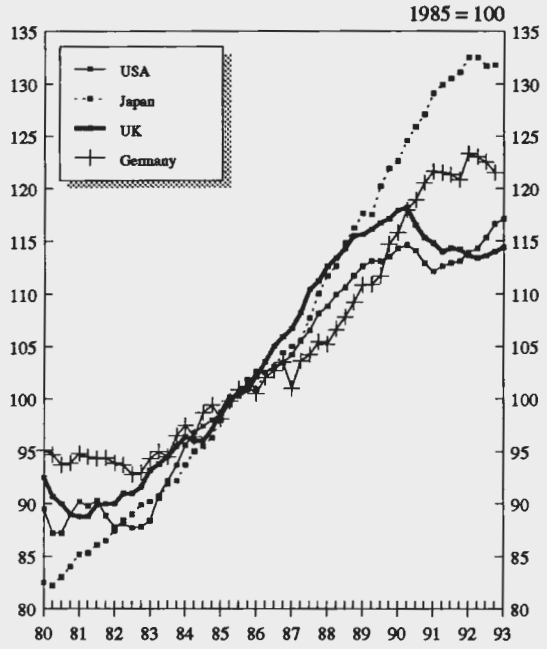


Chart II: Consumer price inflation

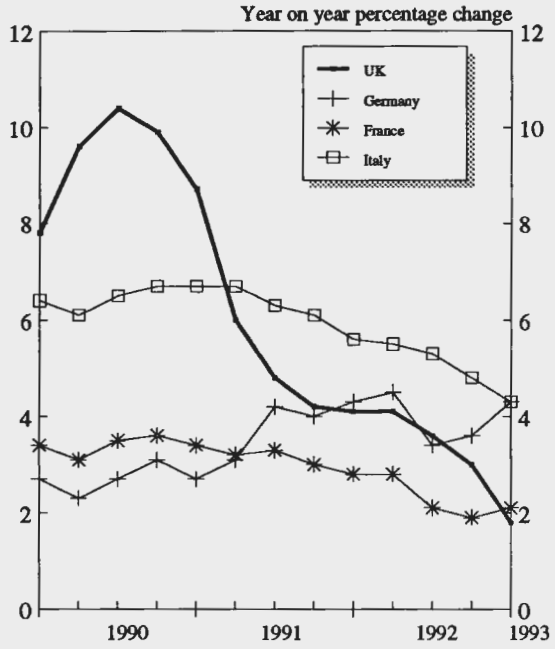
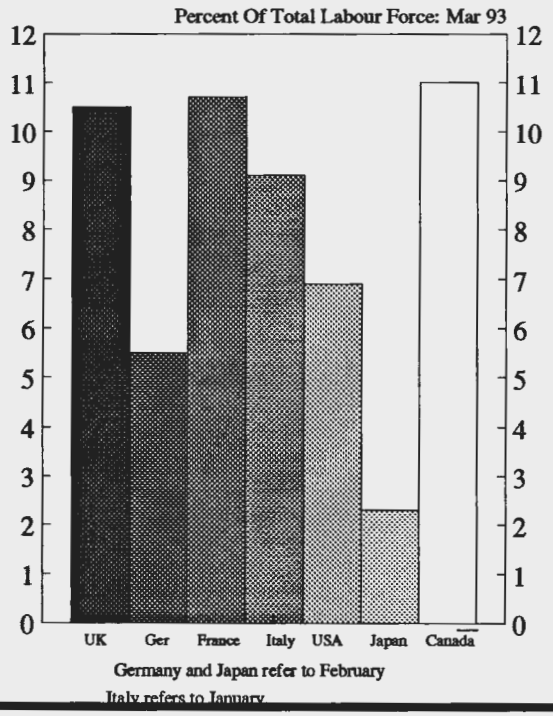


Chart III: Standardised unemployment



Germany and Japan refer to February

Italy refers to January

Chart IV: Current account balance - percentage of GDP at market prices

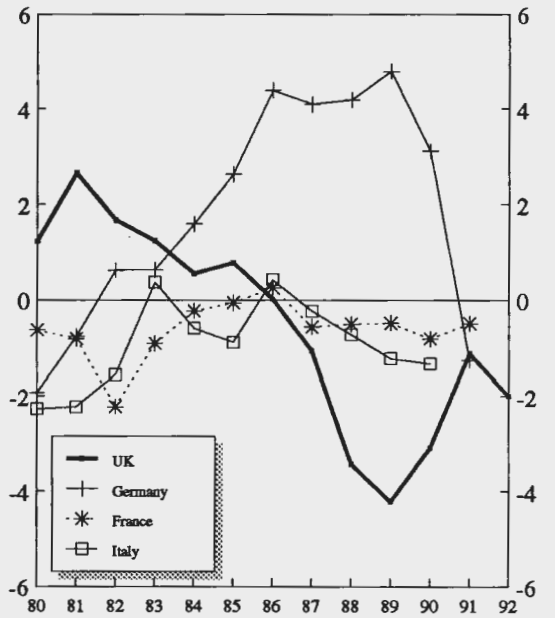


Chart V: Industrial production

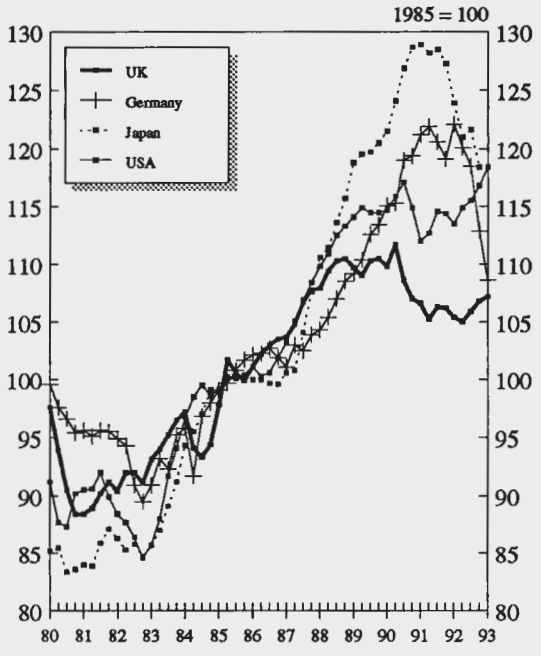


Chart VI: Producer price inflation

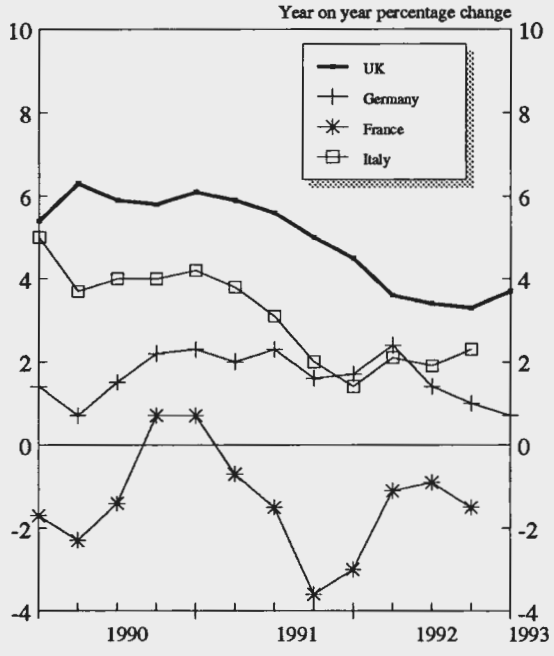


Chart VII: Employment

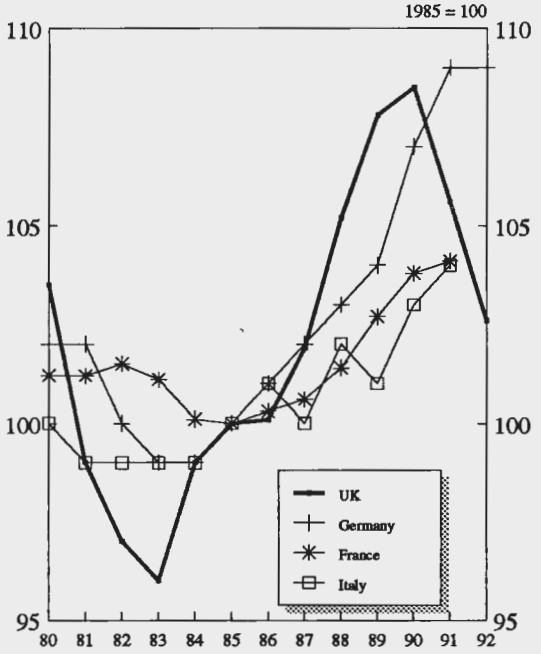
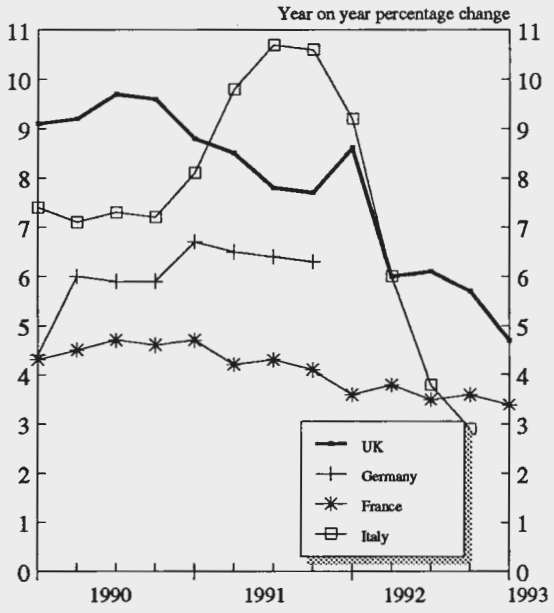


Chart VIII: Wage earnings (manufacturing)



NEW ARRANGEMENTS FOR RELEASE OF CENTRAL STATISTICAL OFFICE DATA

Each year the Central Statistical Office publishes about 130 press releases giving details of the latest movements in the major economic indicators. This information - on series such as visible trade, industrial production, retail sales and the national accounts - is published quickly on pre-announced and regular release dates.

In order to reinforce CSO's commitment to the integrity of these series the Chancellor of the Exchequer has agreed that the procedures for the publication of each press release should be improved and standardised.

Principles for the Release of Data

Release of statistical data by the CSO will be governed by three basic principles:

- the CSO publishes data as early as possible and always on pre-announced release dates and times
- data are available to all users at the same time with limited exceptions only on a strict need-to-know basis
- the CSO is solely responsible for the contents of its press releases, subject to advance consultation with the Chancellor of the Exchequer on changes in format.

These changes will take effect from April this year. The following table sets out new dates for CSO releases for April-June 1993. From now on all CSO release dates will be announced three months in advance.

Monthly Press Releases

The CSO's monthly releases give early information about changes in the economy and cover retail and producer prices, trade, production, retail sales and credit. The new procedures result in a number of small improvements to the timing of the following releases:

- Index of Production is advanced by one day
- Producer Price Index is advanced by one day
- and Overseas Trade (non-EC) is advanced by one day.

Release of the *Retail Prices Index* is to be advanced by one day from June and two days thereafter. Over the next 12 months CSO will work towards bringing out the *Retail Prices Index* earlier still.

In addition to these improvements the CSO will produce a monthly summary of the latest economic statistics, explaining and describing them in an objective fashion in *Economic Trends*.

Quarterly Press Releases

The CSO's quarterly releases focus on the national accounts and balance of payments, including gross domestic product (GDP), personal income, expenditure and savings, industrial and commercial companies and overall UK output, income and expenditure. There will be a number of significant improvements to the timing of the main quarterly releases on the national accounts and balance of payments.

The arrangements from 1 April are:

(i) a provisional estimate of the growth of GDP from the previous quarter will be published 3 weeks after the end of the quarter. This is 4 weeks earlier than the present 7 weeks. A limited breakdown by industry will be provided

(ii) a month later, after 7-8 weeks, expenditure, output and income breakdowns of GDP will be published, accompanied if necessary by any revisions to total GDP. At present, income and expenditure estimates are published after 12 weeks. Provisional estimates of capital expenditure and stockbuilding for all industries, replacing the partial estimates provided in the separate press releases currently published after about 7 weeks, will be included in this release. For the next few quarters, however, data on overseas trade is unlikely to be available at this stage, so the expenditure breakdown of GDP will be incomplete

(iii) full national accounts, including balance of payments, personal sector and industrial and commercial company sector accounts, will be published after 11-12 weeks. These will also be published as a new quarterly supplement to *Economic Trends* instead of the articles that now appear in successive monthly issues

(iv) an estimate of the balance on invisibles and on the balance of payments current account will be published with the overseas trade statistics for the third month of the quarter. The date of this release will be advanced each quarter as the Intrastat system settles down. The first estimate from Intrastat for Q1 1993 is likely to be available about 11-12 weeks after the end of the quarter and will form, together with statistics on invisibles, part of the release at (iii) above.

Availability of Statistics

CSO data is made available to all users at the same time with limited exceptions on a strict need-to-know basis. The exceptions, who receive advance copies no earlier than 5.00 pm two working days before the publication date, are:

The Prime Minister;
The Chancellor of the Exchequer;
The President of the Board of Trade;
The Economic Secretary;
The Governor of the Bank of England;
The Permanent Secretary to the Treasury;
The Chief Economic Adviser;
The Deputy Secretary, Monetary Policy and Markets Management;
The Under-Secretary, Forecasts and Analysis;
The Press Secretary to the Chancellor of the Exchequer.

Not all of these individuals will receive all of the CSO's press releases. In addition, for each release one or two named individuals responsible for policy advice on the statistics concerned may be included on the appropriate list. Further, other Ministers and, on a need-to-know basis, a limited number of Ministerial, Departmental and Bank of England staff, may be briefed on a confidential basis from 10.00 am on the day of publication.

These arrangements take effect from April 1993 except in the case of the *Retail Prices Index* where the arrangements will come into effect once the improvements already referred to have been introduced.

When the Budget date is announced each year the CSO's publication timetable will be re-examined. If in the circumstances of the Budget round there is a compelling case on operational grounds for Treasury officials to have access to data earlier than 5.00 pm two days before their release, this will be provided. A statement to that effect will be included in the press release when the relevant figures are published.

Users of CSO statistics will wish to note that the monthly press release on the *Public Sector Borrowing Requirement* is prepared jointly by the CSO and Treasury and these arrangements do not apply.

THE EFFECTS OF TAXES AND BENEFITS ON HOUSEHOLD INCOME, 1991

This article examines how the distribution of income amongst households in the UK is modified by government expenditure and taxation. The main findings are:

- The income share of the bottom 20% of households is increased from 2.0% of original income to 6.6% of post-tax income by taxes and benefits.
- The average original income of the top fifth of households is 24 times the average of the bottom fifth, the average final income of the top fifth of households is 4 times the average of the bottom fifth.
- Cash benefits contribute most to reducing income inequality.
- The impact of taxes and benefits is greatest for retired households and non-retired households with no economically active members.
- The distribution of original income is more equal among non-retired households than retired. But the distribution of post-tax income is more equal among the retired than the non-retired.

Introduction

During 1991, the government raised and spent £228 billion. Directly or indirectly most of this revenue was raised from households and the expenditure benefited households. This article examines the impact of government taxation and expenditure on the distribution of income by allocating the revenue to those households which paid the taxes and the expenditure to those households which benefited from it, wherever this is possible. Some outlays and revenue of government cannot readily be allocated to households, for example there is no clear conceptual basis for determining the benefit to each household of expenditure on defence. However, about two thirds of government revenue and half of government spending in 1991 can be allocated to households (see Table 1, Appendix 1). One of the consequences of this redistribution is to reduce the differences in income amongst households.

The stages of redistribution of incomes used in this analysis are shown in Chart 1. Household members receive income from their employment; from occupational pensions; from their investments and from other income. Total income from these sources constitutes original income. The flow chart shows the various ways in which government then raises revenue through taxation on households and distributes benefits to them both in cash and in kind.

The main data source for this analysis is the Family Expenditure Survey (FES) which covers about 7,000 households per year. The unit of analysis is the household rather than the individual. Being a sample survey its results are subject to the usual sampling errors - these errors are larger for the household groups with smaller sample numbers (see Appendix 2).

The article aims to present the most meaningful figures for 1991. The figures cannot be easily compared with earlier articles in this series because the FES changes in some details each year.

For example, the benefit of company cars has been included as part of original income in the 1990 and 1991 articles. This means that the analysis treats company car benefits consistently across income and taxation. Previous years' results cannot easily be reworked on a similar basis as the data were not collected in the FES.

Review

The effects of taxes and benefits on household income

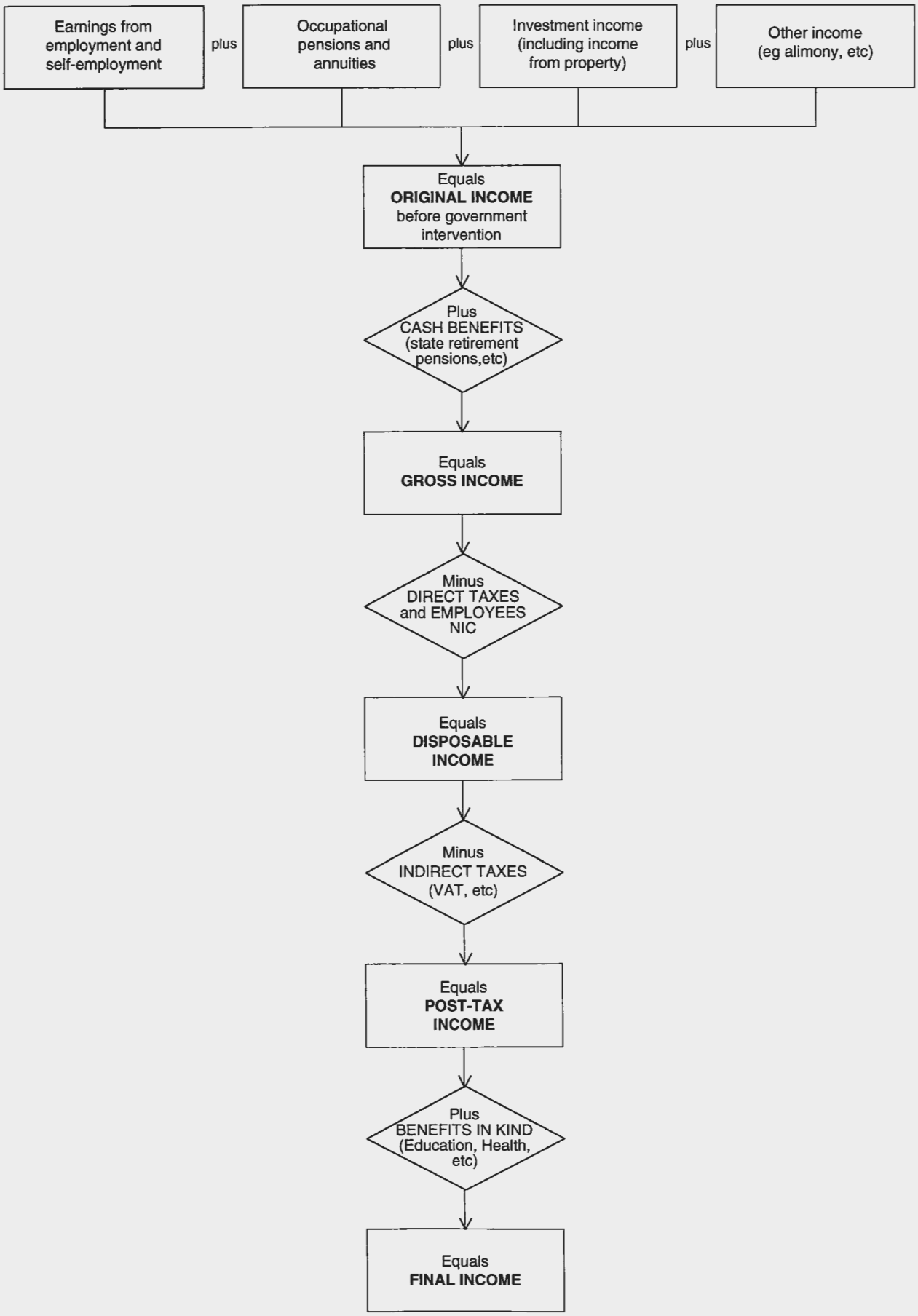
The CSO is reviewing all aspects of this article. As a result,changes may be made to the format and content of the article and to the underlying methodology. The aim of the review is to produce an article which is more informative, more accessible and better meets the readers' needs.

It would be most helpful if we could identify readers of the article and assess the uses made of the analysis. Please contact us at the address below. We would welcome your views on the current article and on any changes you would like to see.

Please contact:
Nigel Stuttard, SRHE Branch, Central Statistical Office, Room1937, Millbank Tower, Millbank, London SW1P 4QQ. Telephone number 071 217 4217.

CHART 1

Stages of redistribution



Summary of the effects of taxes and benefits by quintile groups of unadjusted disposable income, 1991

TABLE A

	Quintile groups of households ranked by UNADJUSTED disposable income					
	Bottom	2nd	3rd	4th	Top	All households
Average per household (£ per year)[1]						
Original income	1 040	4 620	12 270	20 480	40 450	15 770
plus cash benefits	3 290	3 880	2 260	1 510	1 040	2 400
Gross income	4 330	8 490	14 530	22 000	41 490	18 170
less direct taxes[2] and employees' NIC	550	1 220	2 670	4 350	8 940	3 540
Disposable income	3 780	7 270	11 870	17 650	32 550	14 620
less indirect taxes	940	1 790	2 700	3 610	5 240	2 860
Post-tax income	2 850	5 480	9 170	14 040	27 310	11 770
plus benefits in kind	1 730	2 340	2 400	2 580	2 580	2 330
Final income	4 570	7 820	11 560	16 620	29 890	14 090
Average per household (number)						
Children[3]	0.2	0.5	0.7	0.8	0.7	0.6
Adults	1.2	1.6	1.9	2.2	2.4	1.9
Persons	1.4	2.1	2.6	3.0	3.1	2.4
People in full-time education	0.1	0.4	0.5	0.6	0.6	0.5
Economically active people	0.2	0.6	1.2	1.7	2.1	1.2
Retired people	0.7	0.7	0.4	0.2	0.2	0.4
Composition (Percentages)						
Household type						
Retired	64	43	17	7	4	27
Non-retired						
1 adult	20	15	17	8	3	13
2 adults	5	15	26	29	32	21
1 adult with children[4]	7	9	3	1	-	4
2 adults with children	4	14	28	36	31	23
3 or more adults[5]	1	3	10	19	29	12
Total	100	100	100	100	100	100

[1] The monetary values in the tables in the main body of the article are rounded to the nearest £10.
[2] These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/Community charge.
[3] Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.
[4] This group is smaller than the category of "one parent families" because some of these families will be contained in the larger household types.
[5] With or without children.

RESULTS FOR ALL HOUSEHOLDS

Unequivalised Results

When households are ranked by disposable income as in Table A, there is a strong relationship between a household's position in the income distribution and its size: the average number of persons per household is 3.1 for the highest quintile group and 1.4 for the lowest quintile group (the lowest quintile group contains the 20 per cent of households with the lowest disposable income). The bottom quintile group has a high proportion of retired households - defined as households where at least half the total gross income comes from retired people. In contrast, households with 3 or more adults are over-represented in the top quintile group. Further details of the distribution ranked by unadjusted disposable income are shown in Appendix 3.

Equivalisation

Using household income for comparing the welfare among households does not allow for differences in household composition and thus need. One way to take such differences into account is to use income per capita but such a measure does not allow for the differing needs of children relative to adults or for economies of scale. This analysis therefore uses equivalence scales designed to take into account household size, family composition and age of children. The remainder of this article refers to households ranked by equivalised disposable income (disposable income divided by the equivalence value of the household). Equivalisation results in larger households moving down the income distribution and smaller ones moving up. Fuller details of the derivation of equivalised scales are given in Appendix 2. Equivalisation has been used in the ranking process in this series of articles since 1987.

Summary of the effects of taxes and benefits by quintile groups of equivalised disposable income, 1991

TABLE B

	Quintile groups of households ranked by EQUIVALISED disposable income					All households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)[1]						
Original income	1 570	5 650	13 310	21 100	37 220	15 770
plus cash benefits	3 890	3 520	2 320	1 370	890	2 400
Gross income	5 460	9 170	15 630	22 470	38 110	18 170
less direct taxes[2] and employees' NIC	740	1 350	2 800	4 510	8 320	3 540
Disposable income	4 730	7 820	12 830	17 960	29 790	14 620
less indirect taxes	1 320	1 870	2 920	3 690	4 470	2 860
Post-tax income	3 410	5 940	9 900	14 270	25 320	11 770
plus benefits in kind	2 820	2 500	2 600	2 110	1 600	2 330
Final income	6 230	8 450	12 500	16 380	26 910	14 090
Average per household (number)						
Children[3]	0.6	0.6	0.7	0.5	0.4	0.6
Adults	1.6	1.7	2.0	2.1	1.9	1.9
Persons	2.2	2.3	2.7	2.6	2.3	2.4
People in full-time education	0.5	0.5	0.6	0.4	0.3	0.5
Economically active people	0.4	0.7	1.4	1.7	1.6	1.2
Retired people	0.7	0.7	0.4	0.3	0.2	0.4
Composition (Percentages)						
Household type						
Retired	51	43	21	13	8	27
Non-retired						
1 adult	11	10	9	14	20	13
2 adults	7	11	20	27	41	21
1 adult with children[4]	10	6	3	1	1	4
2 adults with children	15	21	31	26	20	23
3 or more adults[5]	6	10	16	19	11	12
Total	100	100	100	100	100	100

[1] All the tables in Part 1 of this article show unequivalised income:equivalised income has only been used in the ranking process to produce the quintile groups (and to produce the percentage shares and Gini coefficients).
[2] These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/Community charge.
[3] Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.
[4] This group is smaller than the category of "one parent families" because some of these families will contained in the larger household types.
[5] With or without children.

Equivalised results

The level of original income varies widely between households. Table B shows this and other income measures for quintile groups ranked by equivalised disposable income. In the lowest quintile group the average number of economically active people is 0.4 and hence the average original income is low (£1,570 per annum). In the highest quintile group, there are an average of 1.6 economically active people and average original income is £37,220. In the lowest quintile group, half of the households are retired and the majority of these have virtually no original income since the state retirement pension is a cash benefit.

Chart 2 illustrates the declining importance of cash benefits in gross income as income rises.

Chart 3 shows how the dispersion of incomes is reduced at each stage of the tax-benefit system, so that the average final income for each quintile group ranges from £6,230 to £26,910, a ratio of about 1:4 compared with the ratio for original incomes of about 1:24.

An alternative way to illustrate the extent of income redistribution is to examine how income shares are modified by the tax-benefit system (Table C). For example, households in the highest quintile group (when ranked by equivalised disposable income) receive 50 per cent of all original income. After taking into account cash benefits, this same group's share falls to 44 per cent. At the other end of the scale, the share of the lowest quintile group rises from 2.0 per cent to 6.7 per cent. A further, but comparatively smaller, compression of the income distribution occurs at the stage of disposable income, but this is reversed after indirect taxes are taken into account. This table is calculated using equivalised incomes, and hence 'final income' has not been included. The McClements equivalence scales, which were estimated using household spending patterns, are arguably inappropriate for equivalising non-spendable amounts of income eg benefits from education.

CHART 2

Sources of gross income, by quintile groups of equivalised disposable income, 1991

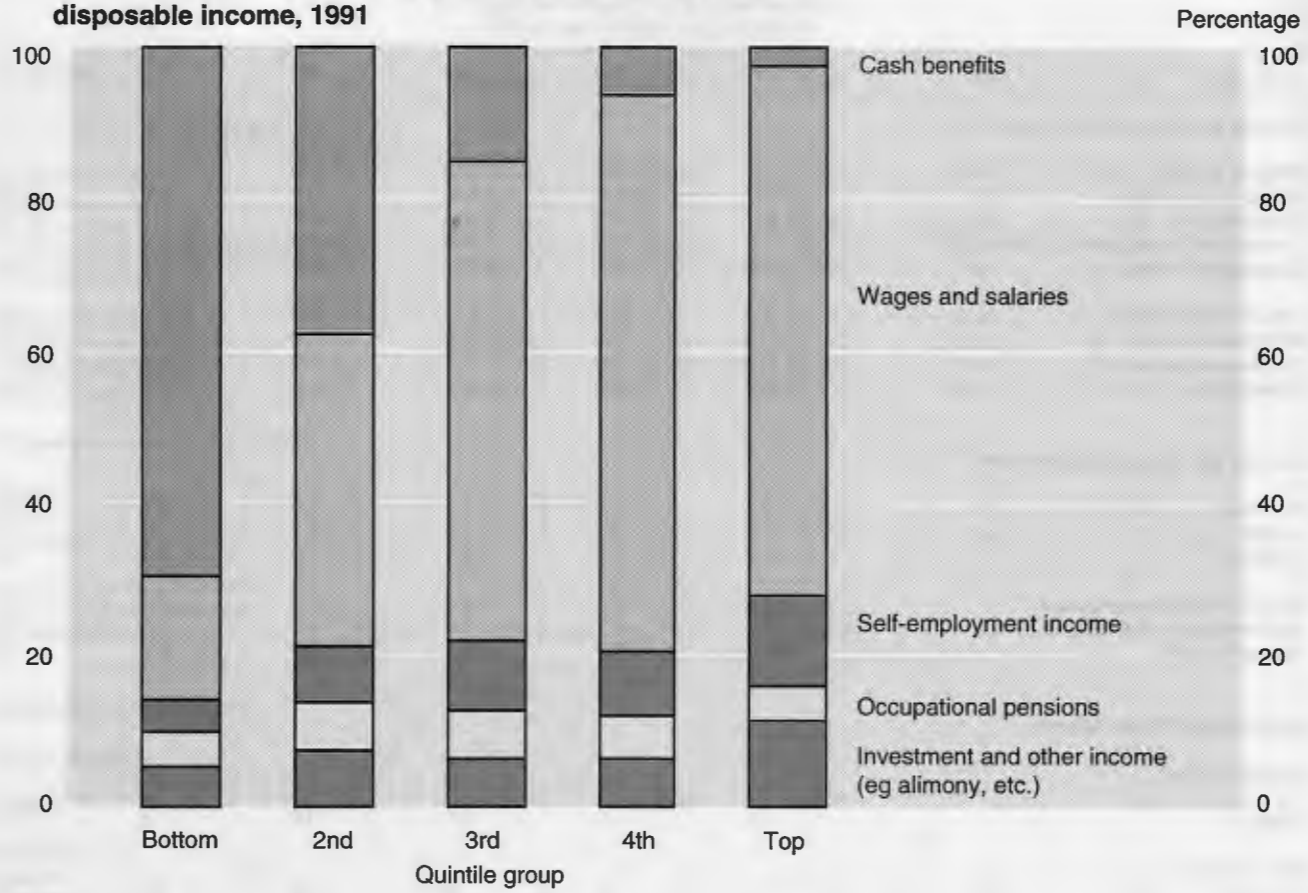
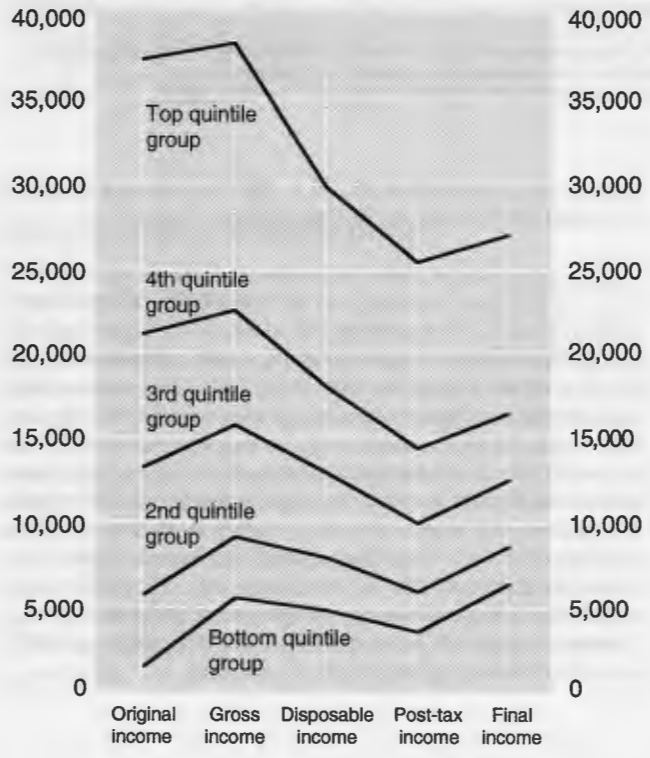


CHART 3

The effects of taxes and benefits on quintile groups[1] of households, 1991



[1] Households are ranked throughout by their equivalised disposable incomes

Percentage shares of total household income and Gini coefficients[1], 1991

TABLE C

	Percentage shares of total equivalised income for households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom	2.0	6.7	7.2	6.6
2nd	7	10	11	11
3rd	16	16	16	16
4th	26	23	23	23
Top	50	44	42	44
All households	100	100	100	100
Decile group				
Bottom	0.7	2.8	3.0	2.5
Top	32	27	26	28
Gini coefficient (percent)	51	37	35	39

[1] This is a measure of the dispersion of each definition of income. Unlike the percentage share analysis where household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

Summary of the effects of taxes and benefits on NON-RETIRED households, 1991

TABLE D

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Original income	3 590	12 060	18 330	24 800	40 930	19 940
plus cash benefits	3 730	2 140	1 400	870	610	1 750
Gross income	7 320	14 200	19 730	25 670	41 530	21 690
less direct taxes[1] & employees' NIC	1 070	2 520	3 870	5 300	9 130	4 380
Disposable income	6 250	11 680	15 860	20 380	32 400	17 310
less indirect taxes	1 830	2 860	3 480	4 060	4 640	3 370
Post-tax income	4 430	8 830	12 370	16 320	27 760	13 940
plus benefits in kind	3 450	3 030	2 460	2 010	1 500	2 490
Final income	7 880	11 860	14 830	18 320	29 260	16 430
Average per household (number)						
Children[2]	1.2	1.0	0.8	0.6	0.4	0.8
Adults	1.8	2.1	2.1	2.1	1.9	2.0
Persons	2.9	3.1	2.9	2.6	2.3	2.8
People in full-time education	0.9	0.8	0.6	0.4	0.3	0.6
Economically active people	0.9	1.5	1.8	1.9	1.7	1.6
Retired people	0.1	0.2	0.1	0.1	0.0	0.1

[1] These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/ Community charge.
[2] Children are defined as persons aged under 16 or aged between 16 and 18, unmarried and receiving non-advanced further education.

The Gini coefficient is the most widely used summary measure of the inequality of the distribution of income (see Appendix 2, paragraph 41). It takes values between 0 and 100 per cent - the higher values indicating greater inequality. Gini coefficients are calculated using equivalised incomes (using the same equivalence scale that is applied to equivalise disposable income). The fall from 51 per cent to 37 per cent shown in Table C shows that cash benefits contribute the most to the reduction in income inequality.

Attention has already been drawn to the preponderance of retired households in the lower ranges of the distribution of original income; nearly half of the households in the bottom two quintile groups are retired (Table B). The income pattern of the retired is very different from that of households whose head is of working age, as is their expenditure pattern (which is reflected in their indirect tax payments). For this reason, in the detailed examination of each stage of the tax-benefit system which follows, retired and non-retired households are analysed separately.

RESULTS FOR NON-RETIRED HOUSEHOLDS

Original income

The distribution of original income amongst non-retired households is more equal than among all households, ranging from an average of £3,590 per annum in the lowest quintile group to £40,930 in the highest (Table D), a ratio of 1:11 compared to the ratio of 1:24 for the distribution over all households. There is a relatively strong relationship between the original income of a household and the number of economically active people it contains and Table K (at the end of this section) gives a breakdown by the number of economically active people per household.

Cash benefits

Cash benefits are of two types: contributory (paid from the National

Average value of cash benefits for each quintile group of NON-RETIRED households,1991

TABLE E

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Contributory						
Retirement pension	130	400	330	200	170	250
Sickness/injury related	370	290	190	110	60	200
Unemployment benefit	70	60	50	10	20	40
Other	70	90	80	70	80	80
Total contributory	650	830	660	400	320	570
Non-contributory						
Income support	1 360	280	120	70	40	370
Child benefit	500	410	320	230	160	320
Housing benefit	780	210	80	30	20	220
Sickness/ disablement related	190	240	130	70	30	130
Other	270	180	110	60	30	130
Total non-contributory	3 090	1 310	740	470	280	1 180
Total cash benefits	3 730	2 140	1 400	870	610	1 750
Cash benefits as a percentage of gross income	51	15	7	3	1	8

Income tax, employees' NIC and domestic rates/ Community charge as percentages of gross income for each quintile group of NON-RETIRED households, 1991

TABLE F

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Percentages						
Income tax[1]	4.5	8.7	11.5	13.2	16.7	13.1
Employees NIC	2.3	4.2	4.7	4.8	3.7	4.1
Gross domestic rates/ Community charge	7.8	4.8	3.5	2.7	1.6	3.0
Total	14.6	17.7	19.6	20.6	22.0	20.2

[1] After tax relief at source on mortgage interest and life assurance premiums.

Insurance Fund to which individuals and their employers make contributions while working), and non-contributory (Table E). For non-retired households, non-contributory benefits form the most important source of cash benefit income. Child benefit payments are higher at the lower end of the income distribution, in proportion to the number of children per household (Table D). The other non-contributory benefits, in particular Income Support, are mainly income-related, and so payments are concentrated in the lowest quintile group, although the presence of some individuals with low incomes in high income households means that some payments are recorded further up the income distribution. Contributory benefits, for which the individual's contribution record rather than income is the criterion for payment, are highest for the second quintile group. On average, cash benefits formed 8 per cent of the gross income of non-retired households: their payment resulted in a significant reduction in income inequality.

Income tax, NI contributions and community charge

Both income tax payments and employees' National Insurance contributions are closely related to the size of original income. The payments by households of employees' National Insurance contributions in particular vary with the number of persons in employment and with their earnings. However, since National Insurance contributions are only levied on the first £390 of weekly earnings (the ceiling in operation during most of 1991), households in the top quintile group pay rather less in contributions as a percentage of gross income than the middle 60 per cent of households (Table F).

Indirect taxes as a percentage of (a) disposable income and (b) expenditure on goods and services for each quintile group of NON-RETIRED households, 1991

TABLE G

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
(a) Percentages of disposable income						
VAT	10.2	9.3	9.0	8.5	6.5	8.1
Duty on beer and cider	1.0	1.0	0.9	0.7	0.4	0.7
Duty on wines and spirits	0.5	0.7	0.6	0.7	0.6	0.6
Duty on tobacco	5.6	3.0	2.0	1.5	0.6	1.8
Duty on hydrocarbon oils	1.9	1.9	1.7	1.6	1.0	1.5
Car tax and vehicle excise duty	1.0	1.1	1.1	1.1	0.7	0.9
Other taxes on final goods and services	2.0	1.6	1.3	1.1	0.8	1.2
Intermediate taxes	7.1	5.8	5.2	4.7	3.7	4.7
Total indirect taxes	29.2	24.5	22.0	19.9	14.3	19.5
(b) Percentages of expenditure on goods and services[1]						
VAT	7.6	8.3	8.7	9.1	8.9	8.7
Duty on beer and cider	0.7	0.9	0.8	0.7	0.6	0.7
Duty on wines and spirits	0.4	0.6	0.6	0.7	0.8	0.7
Duty on tobacco	4.2	2.6	2.0	1.6	0.8	1.9
Duty on hydrocarbon oils	1.4	1.7	1.7	1.7	1.4	1.6
Car tax and vehicle excise duty	0.7	1.0	1.1	1.2	0.9	1.0
Other taxes on final goods and services	1.5	1.5	1.3	1.2	1.1	1.3
Intermediate taxes	5.3	5.2	5.1	5.0	5.0	5.1
Total indirect taxes	21.9	21.7	21.3	21.3	19.6	20.9

[1] Excludes savings, investments, superannuation contributions, and mortgage payments but includes imputed rent of owner occupiers (see paragraph 28 of Appendix 2 for the full definition of expenditure).

In 1991 over one-third of working age individuals had insufficient income to pay income tax, and marginal tax rates for taxpayers were 25 per cent or 40 per cent. The analysis shows average rates were 4.5 per cent in the lowest quintile, rising steadily to 16.7 per cent in the top quintile. As the quintile groups are based on (after tax) equivalised disposable income, even the lowest quintile contains individuals who are liable for income tax.

Community charge and rates (in Northern Ireland) are included here with income tax and NICs in line with the treatment of community charge in the National Accounts. Rebates on these local taxes are treated as cash benefits. Thus, Table F may overstate the regressive impact of local taxation at the lower end of the income distribution.

Indirect taxes

The estimates of households' payments of indirect taxes are derived from figures for their expenditure recorded in the FES. Because the data on expenditure and incomes in the FES are compiled in different ways, they may not be fully compatible (see Appendix 2, paragraph 5).

In total, indirect taxes expressed as a proportion of disposable income fall as disposable income rises (upper part of Table G), ranging from 29 per cent in the bottom quintile group to 14 per cent in the highest, though the highest quintile pay most in indirect taxes in absolute terms. However, individual taxes have different effects.

VAT, tobacco duty, beer duty and intermediate taxes (see box below) all fall as a percentage of disposable income as income rises. The fall in tobacco duty payments as a percentage of income is particularly marked. For expenditure items relating to motoring (ie vehicle excise duty, car tax and duty on hydrocarbon oils), the tax as a proportion of income is similar for the bottom four quintile groups but much lower for the top group.

INTERMEDIATE TAXES

Some indirect taxes, such as VAT and excise duties on petrol, alcohol, tobacco, etc have a direct effect on the final price of goods and services. However, the producers of these goods and services also incur costs such as employers' National Insurance contributions, non-domestic rates, and duty on hydrocarbon oils, part of which they may pass on to households in the price of their products. These are called intermediate taxes.

The incidence assumptions used for these taxes are more difficult and contentious than those used for other taxes, so the figures must be regarded as very rough estimates.

Although some indirect taxes are less regressive than others, Table G (upper part) shows that the impact of virtually all the indirect taxes declines for the top quintile group compared with the fourth quintile group. This is so partly because higher income households tend to save a larger proportion of their income than households with smaller incomes.

Table G also shows estimates of indirect tax payments expressed as a percentage of expenditure (in the lower part of the table). Indirect taxes in total form a virtually constant proportion of expenditure on goods and services over all income groups. However, VAT payments actually rise as a proportion of expenditure as income goes up. This is largely due to the effects of zero-rating some items such as food and domestic fuel and power, which make up a higher proportion of the spending of the lower income groups. The apparent paradox of indirect taxes being regressive against disposable income but neutral against expenditure can be explained, at least in part, as follows: as income rises, there is a tendency for an increasing proportion of disposable income not to be spent on goods and services but to be channelled into savings, investments and mortgage payments.

Benefits in kind

The Government provides certain goods and services to households either free at the time of use or at subsidised prices. These benefits in kind are allocated to individual households in order to arrive at final income. The imputed value of these benefits is based on estimated costs of providing them. The largest two items for which such imputations are made are the health and education services, which together accounted for 24.4 per cent of total general government expenditure in 1991. Other items for which imputations are made are school meals and welfare milk, the housing subsidy and travel subsidies, together accounting for a further 1.6 per cent of general government expenditure.

Average value of benefits in kind for each quintile group of NON-RETIRED households, 1991

TABLE H

	Quintile groups of NON-RETIRED households ranked by equivalised disposable income					All non-retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Education	1 980	1 650	1 190	910	540	1 250
National health service	1 150	1 230	1 160	1 000	850	1 080
Housing subsidy[1]	170	70	40	20	10	60
Travel subsidies	30	40	50	60	90	60
School meals and welfare milk	110	30	20	10	10	40
Total	3 450	3 030	2 460	2 010	1 500	2 490
Benefits in kind as a percentage of post-tax income	78	34	20	12	5	18

[1] Does not include tax relief at source on mortgage payments. These are taken into account in the income tax payments shown in Table F.

Education benefit is attributed to individual households on the basis of the number of people in the household receiving each kind of state education and the cost of providing it (see Appendix 2, paragraph 31). The bottom quintile group contains the highest number of children and consequently the highest number of those in full-time education (Table D). This is the main reason for this quintile group being allocated the highest average imputed benefit (Table H). In addition, the majority of student-only households, for whom the costs of education are greatest, are in this quintile group. Similarly the impact of expenditure on school meals and welfare milk is greatest in the lower income groups where children are more likely to have school meals provided free of charge.

The benefit to each individual from the state health service is estimated according to the average use made of various types of health service by people of the same age and sex and according to the

Percentage shares of total household income and Gini coefficients[1] for NON-RETIRED households, 1991

TABLE J

	Percentage shares of total equivalised income for NON-RETIRED households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom	3.2	6.6	7.1	6.2
2nd	11	12	12	11
3rd	17	17	17	16
4th	24	23	23	23
Top	45	42	41	43
All non-retired households	100	100	100	100
Decile group				
Bottom	0.9	2.6	2.8	2.3
Top	28	26	25	28
Gini coefficient (percent)	43	35	34	38

[1] This is a measure of the dispersion of each definition of income. Unlike the percentage shares analysis where the household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each income definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

cost of providing the service. The benefit to a household is the aggregate of the benefits to the individuals within it (see Appendix 2, paragraph 33). Table H indicates that the distribution of these benefits is fairly equal across the lower three quintile groups and then the benefits decline as income goes up.

The total housing subsidy is the sum of the contributions from central and local government to the housing revenue account (see Appendix 2, paragraph 34). The housing subsidy has been spread between public sector tenants, and since such households tend to be concentrated in the lower half of the income distribution this is where the subsidy is highest. In these articles, tax relief on mortgage interest is treated as an adjustment to income tax, not as part of the housing subsidy analysed in Table H.

Travel subsidies cover the passenger element of the grants made to various public operations covering both buses and railways. The use of public transport by non-retired households is partly related to the need to travel to work and thus to the number of economically active people in a household and so the combined effect of these travel subsidies increases over the income distribution.

Table H shows that taken together the absolute values of these benefits in kind clearly decline as household income increases. As a proportion of post-tax income, benefits decrease from 78 per cent in the lowest quintile group to 5 per cent in the highest quintile group, indicating that this expenditure contributes to the reduction in income inequality.

Summary

The overall effect of the various stages of the tax-benefits system on non-retired households is summarised in Table J. Households in the highest quintile group receive 45 per cent of all (equivalised) original income, compared with 3.2 per cent received by the lowest quintile group. However, after direct taxes and benefits are taken into account, the share of the lowest quintile group rises to 7.1 per

Average incomes, taxes and benefits by the number of economically active people per NON-RETIRED household, 1991

TABLE K

	Number of economically active people[1] per household				All non-retired households
	None	One	Two	Three or more	
Number of households in the sample	*466*	*1 983*	*2 158*	*541*	*5 148*
Average per household (£ per year)					
Original income	1 770	14 860	25 210	33 190	19 940
plus cash benefits	5 130	1 940	1 020	1 050	1 750
Gross income	6 910	16 810	26 230	34 240	21 690
less direct taxes[2] & employees' NIC	530	3 390	5 430	7 120	4 380
Disposable income	6 380	13 420	20 800	27 120	17 310
less indirect taxes	1 510	2 630	3 850	5 800	3 370
Post-tax income	4 870	10 790	16 950	21 320	13 940
plus benefits in kind	3 280	2 140	2 490	3 090	2 490
Final income	8 160	12 920	19 440	24 400	16 430
Gini coefficients (percent)					
Equivalised original income	87	45	34	24	43
Equivalised gross income	27	37	32	23	35
Equivalised disposable income	27	35	30	22	34
Equivalised post-tax income	33	40	35	26	38

[1] Economically active people comprise employees, the self employed and others not in employment but who are seeking or intending, when able, to seek work.
[2] These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/Community charge.

cent and that of the highest falls to 41 per cent. Cash benefits are the major factor underlying these changes, causing the Gini coefficient to fall from 43 per cent based on original income to 35 per cent based on gross income. Income tax, employees' National Insurance contributions and rates produced a further reduction in inequality, but payment of indirect taxes increases inequality.

Economic activity

As already mentioned, the size of original income is largely determined by the number of economically active people in the household - even though someone may be defined as economically active if they have been out of work for up to a year as long as they are seeking work. This relationship between income and economic activity amongst non-retired households is explored further in Table K, in which households are classified according to the number of economically active people they contain.

Original income ranges from an average of £1,770 per annum in households where there are no economically active people to an average of £33,190 for households where there are three or more. Cash benefits are concentrated in households where no-one is economically active and here they form 74 per cent of gross income; but they remain important, at 12 per cent of gross income, for those where one household member is economically active. This latter group will contain a number of households where no-one is currently in work.

Not only does average original income differ widely between the four households groups in Table K, but there is also a considerable difference in the degree of variation of income within the groups. As measured by the Gini coefficient, variability in original income is very high amongst households where no-one is economically active but where two or more persons are economically active the variability is considerably less. Equally, the tax-benefit system has the effect of substantially reducing inequality between the different types of households within the economically inactive group. This results largely from the diverse nature of the economically inactive group, which ranges from single parents with young children, single full-time students, the disabled, and households where no member has been able to find work during the 12 months prior to interview, to a small number of households where income from other sources such as investments means that they have no need to work.

RESULTS FOR RETIRED HOUSEHOLDS

Retired households have quite distinct income and expenditure patterns and so the tax-benefit system affects them in a different way from non-retired households (Table L). Few retired households have substantial original income; those who do are concentrated in the top two quintile groups and are receiving occupational pensions. The majority of retired households are dependent on cash benefits, in the form of state retirement pensions and income-related benefits such as Housing Benefits and Income Support to pensioners.

Cash benefits form a very high proportion of gross income for all but the better-off retired households. However, unlike non-retired households, the bulk of these cash benefits are paid from the National Insurance Fund into which the recipients will have made contributions throughout their working lives.

People over pensionable age do not pay National Insurance contributions so the small payments recorded are made by non-retired people living in households defined as retired (see Appendix 2

Summary of the effects of taxes and benefits on RETIRED households, 1991

TABLE L

	Quintile groups of RETIRED households ranked by equivalised disposable income					All retired households
	Bottom	2nd	3rd	4th	Top	
Average per household (£ per year)						
Original income	600	780	1 630	4 110	15 440	4 510
plus cash benefits	3 480	4 390	4 380	4 610	3 830	4 140
Gross income	4 090	5 170	6 010	8 730	19 270	8 660
less direct taxes[1] & employees' NIC	590	540	630	1 020	3 690	1 290
Disposable income	3 500	4 630	5 380	7 710	15 580	7 360
less indirect taxes	960	920	1 050	1 630	2 710	1 460
Post-tax income	2 540	3 710	4 330	6 080	12 870	5 910
plus benefits in kind	1 940	2 010	1 920	1 800	1 740	1 880
Final income	4 480	5 710	6 250	7 880	14 620	7 790
Average per household (number)						
Children[2]	-	-	-	-	-	-
Adults	1.4	1.4	1.4	1.5	1.6	1.5
Persons	1.4	1.4	1.4	1.5	1.6	1.5
People in full-time education	-	-	-	-	-	-
Economically active people	-	-	-	0.1	0.1	0.1
Retired people	1.4	1.4	1.3	1.4	1.4	1.4

[1] These are income tax (which is after tax relief at source on mortgage interest and life assurance premiums) and gross domestic rates/ Community charge.
[2] Children are defined as persons aged under 16 or aged between 16 and 18,unmarried and receiving non-advanced further education.

Percentage shares of total household income and Gini coefficients[1] for RETIRED households, 1991

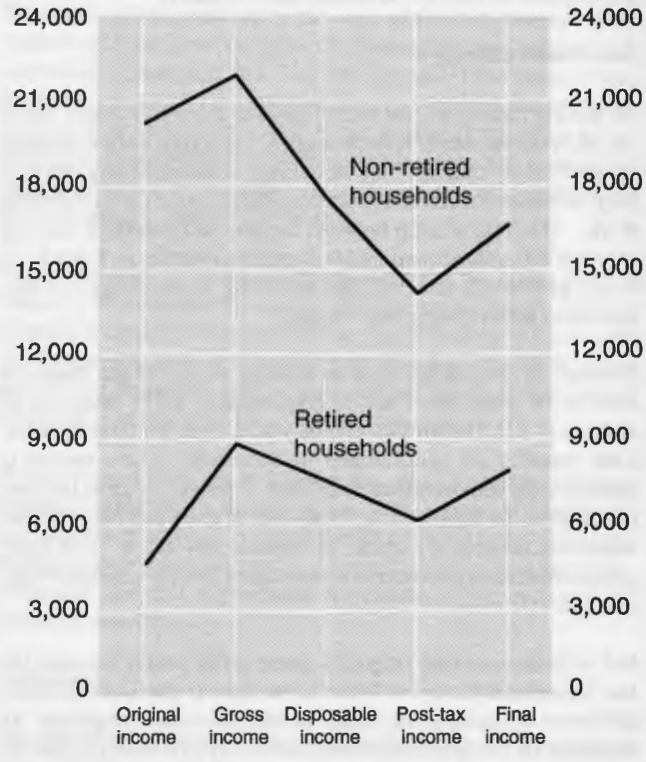
TABLE M

	Percentage shares of total equivalised income for RETIRED households ranked by equivalised disposable income			
	Original income	Gross income	Disposable income	Post-tax income
Quintile group				
Bottom	2.7	9.9	10.0	9.1
2nd	4	12	13	13
3rd	8	15	16	16
4th	19	20	21	21
Top	67	43	40	42
All retired households	100	100	100	100
Decile group				
Bottom	1.1	4.5	4.4	3.7
Top	47	28	26	27
Gini coefficient (percent)	68	32	30	33

[1] This is a measure of the dispersion of each definition of income. Unlike the percentage shares analysis where the household incomes are ranked only once, the Gini coefficient calculation needs a separate ranking for each income definition. For example, the coefficient for original income is produced by first equivalising the original income of all the households, then this distribution is ranked and this ranked distribution is used to calculate the coefficient.

CHART 4

The effects of taxes and benefits on retired and non-retired households, 1991



paragraph 8 for details of definition). All households except those in the highest quintile group of retired households pay very little income tax, because their income is unlikely to exceed their tax allowances unless they have significant income from investments or occupational pensions in addition to their state retirement pension. The largest indirect tax payment made by retired households is VAT, and the top quintile group pays more than twice as much as the average for all retired households.

Retired households derive significant benefits from health services and, to a lesser extent, the housing subsidy and travel subsidies, though of course virtually none from the education service. Health benefit is spread fairly evenly within the group of retired households, as a result primarily of the attribution method used, but housing subsidy is substantially higher for the middle three quintile groups since they have the highest concentration of public sector tenants. The benefits received by retired households from travel subsidies are mainly for bus travel, particularly in the form of concessionary fares, passes, etc, for senior citizens, and since these are not usually means-tested but depend instead on what sort of scheme is being operated by their local authority, there is no particular relationship with income.

Table M shows the extent to which income inequality amongst retired households is reduced by the tax-benefit system. Cash benefits play by far the largest part in bringing about this reduction and income tax payments make a further, though much smaller, contribution. Payments of indirect taxes result in an increase in inequality.

A comparison of Table M with Table J shows that although the distribution of original income amongst retired households is much more unequal than that within the non-retired household group, the distribution of post-tax income is more equal amongst the retired than amongst the non-retired. Chart 4 illustrates the different impact which the tax-benefits system has on retired and non-retired households.

REGIONAL ACCOUNTS 1991: PART 2

This article presents provisional estimates of personal income, personal disposable income, household income, household disposable income and consumers' expenditure by standard region for 1991 together with estimates of household income and household disposable income by county (and Scottish regions) for the years 1986 to 1990. This follows "Regional Accounts 1991: Part 1", which was published in Economic Trends, December 1992 and comprised regional estimates of gross domestic product (1981 to 1991) and gross domestic fixed capital formation (GDFCF) for 1988 to 1990.

The latest figures published in this article show that:

- in 1991, the South East accounted for over 35 per cent of personal income in the UK, compared with about 30 per cent of the population. *Table A*
- personal incomes per head in Greater London were about a quarter higher than the UK average, whereas in Wales and Northern Ireland they were about a sixth lower. *Appendix Table 1*
- Scotland has seen a significant increase in personal disposable income in 1990 and 1991, in terms of both the share of the UK total and per person. *Appendix Table 2*
- consumers' expenditure per head in Wales rose steadily between 1988 and 1991, compared with the UK average, whereas the South East has been experiencing a decrease over this time, although at a much higher base. *Appendix Table 3*
- in 1991, income from employment was the source of 60 per cent of household income per person in the South East, compared with about 53 per cent in Wales and the South West. *Table E*
- Social Security benefits accounted for 12 per cent of household income per head in Northern Ireland during 1991, compared with 6 per cent for the UK as a whole, and 5 per cent in the South East. *Table E*

Introduction

Scotland, Wales, Northern Ireland and the regions of England are all different in size, character, industrial structure and economic performance. Table A shows some of the differences in size of the regions. Scotland has the largest area, but a small population relative to its size; the North West has the smallest area, but the second largest population. The South East is very densely populated and as it is also large in area its population of over 17 million is nearly three times as large as any other region. Northern Ireland at the other extreme has a population of only 1.6 million. These large variations in regions' populations are, of course, reflected in the sizes of regional GDP and incomes. Table A shows how these varied in 1991. The background notes explain in some more detail the points which should be borne in mind when comparing figures for different regions and over time.

TABLE A

Key Regional Statistics - Proportions of the UK - 1991

	Percentages						Per Head (UK[1] = 100)		
Region	Area	Population	GDP[2]	Personal Income[2]	Consumers' Expenditure[2]	Household Income[2]	Personal Income[2]	Consumers' Expenditure[2]	Household Income[2]
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	6.4	5.3	4.8	4.8	4.6	4.8	89.0	85.7	89.1
Yorkshire and Humberside	6.4	8.6	7.9	7.9	7.5	7.9	91.9	87.4	92.0
East Midlands	6.4	7.0	6.9	6.7	6.5	6.7	96.4	93.2	96.0
East Anglia	5.2	3.6	3.6	3.6	3.6	3.7	99.0	100.2	101.8
South East	11.2	30.5	35.5	35.3	35.4	34.6	115.8	116.3	113.7
South West	9.8	8.2	7.7	7.8	8.4	8.2	95.7	102.7	100.3
West Midlands	5.4	9.1	8.4	8.4	8.4	8.3	91.9	92.5	91.4
North West	3.0	11.1	10.2	10.4	10.6	10.2	94.1	95.8	92.4
England	53.8	83.4	85.0	84.9	85.1	84.5	101.8	102.1	101.3
Wales	8.6	5.0	4.3	4.1	4.5	4.4	82.7	90.2	88.2
Scotland	31.8	8.8	8.6	8.7	8.1	8.8	98.6	91.2	99.8
Northern Ireland	5.8	2.8	2.1	2.3	2.3	2.3	81.4	83.8	82.2

1. Excluding the Continental Shelf region
2. Provisional

Personal income

Income from employment accounted for between 61 and 65 per cent of personal income in the regions in 1991 (Table B). Income from self employment was most important in East Anglia, followed by the South West, Wales and Northern Ireland - regions where agriculture is particularly important. The proportion of income accounted for by Social Security benefits was highest within Wales and Northern Ireland, these regions also having the lowest proportion of their incomes from Rent, dividends and interest.

The year to year changes in the regions' shares of total personal income per head are relatively small compared to the long-standing differences in levels (see Appendix table 1). Thus personal income per head in Northern Ireland and Wales remains substantially below the UK average whilst that in the South East remains substantially above it. However, the latest figures for 1990 and 1991 suggest that Scotland, the North and the North West have grown most strongly, whilst in the South East growth has been below average. It should be stressed however that undue reliance should not be placed on year on year comparisons as the estimates, particularly the provisional figures for 1991, may be revised as better information becomes available.

Over a longer period, trends in regions' incomes are more stable and Appendix table 1 shows total personal income from 1981 to 1991. Over this period the percentage increases in personal income have been greatest in East Anglia and the South East (excluding Greater London), whilst Wales, the North and North West have had increases in total incomes significantly below the national average.

Personal disposable income

Personal disposable income is defined as personal income less taxes on income, social security contributions, community charge, and current transfers (see background note 11), and trends in regional personal disposable income closely follow trends in personal income. As with personal income, many of the differences in regions' levels of personal disposable income per head are long-standing. The redistributive effects of personal taxation and National Insurance contributions however, means that differences in the level of personal disposable income are slightly smaller than differences in personal income. Thus while regions' personal income ranged from 81 to 116 per cent of the UK average in 1991, personal disposable income ranged from 86 to 114 per cent.

The last column of Table B shows that in the South East, disposable personal income comprised 77 per cent of total personal income, implying a deduction of 23 per cent in respect of taxes, etc, whereas in Wales, the deductions amounted to about 19 per cent.

Community charge, which replaced domestic rates in Scotland from April 1989 and in England and Wales from April 1990, introduced a discontinuity in the personal disposable income series. Scottish figures for 1989 onwards, and English and Welsh figures from 1990 onwards, are not directly comparable with earlier figures, or with those for Northern Ireland (see background note 11).

TABLE B

Sources of total and disposable personal income by region in 1991[1]

	percentage of total					£ million	
	Income from employment	Income from self-employment	Rent dividends and net interest	Social security benefits	Other income	Total personal income	Disposable income as a percentage of total
United Kingdom	64	11	11	14	1	518,744	79
North	64	9	10	17	0	24,705	80
Yorkshire & Humberside	62	11	11	15	0	40,967	80
East Midlands	63	12	11	13	0	34,935	78
East Anglia	61	16	11	12	0	18,625	78
South East	65	11	12	11	0	183,011	77
South West	61	14	11	14	0	40,656	78
West Midlands	63	10	12	14	0	43,444	78
North West	63	9	12	16	0	54,008	80
England	64	11	12	13	0	440,350	78
Wales	62	13	7	18	0	21,481	81
Scotland	65	10	9	15	1	45,241	80
Northern Ireland	61	13	7	18	1	11,672	83

1. Provisional

Consumers' expenditure

Consumers' expenditure measures the expenditure of UK residents whether in the UK or abroad. These figures include the expenditure of private non-profit making bodies which serve persons and are therefore comparable in coverage with the estimates of personal rather than household income. However, the margins of error on both sets of figures make it difficult to compare the two in practice. Appendix table 3 shows regional consumers' expenditure from 1981 to 1991 both in total and per head; table 4 gives a breakdown by broad category of expenditure for 1988 to 1991. The estimates for 1991 are provisional.

The estimates are largely based on the results of the Family Expenditure Survey and the accuracy of the estimates cannot be greater than that of the survey. The FES results are subject both to sampling error and non-response bias (see background note 13).

Differences between regions in the level of consumers' expenditure per head are influenced by a number of factors, such as relative prices and spending patterns, but necessarily there is a strong correlation with levels of income. Thus consumers' expenditure per head is lowest in Northern Ireland and the North (see Table C). The population structure will also influence levels of income and expenditure (see background note 3), and thus the low average expenditure in Northern Ireland is partly explained by its high proportion of children. In Northern Ireland, Scotland, the North, Yorkshire and Humberside and the North West, about a quarter of consumers' expenditure is on Food, drink and tobacco, whereas in the South East, this only accounts for 19 per cent. The South East has the highest expenditure per head and within this region it is substantially higher in Greater London than in the Rest of South East.

Recent trends in regions' shares of consumers expenditure are difficult to interpret due to the replacement of domestic rates with the community charge which took place in 1989 in Scotland and in 1990 in England and Wales. Community charge, unlike expenditure on rates, is not included in consumers' expenditure: see background note 13. However it seems likely that the long term trends in regions are broadly continuing. In the five years up to 1991, expenditure per head grew more strongly than the national average in East and West Midlands and the North West, having declined in the preceding five years. Growth was least strong in the North and the South East. Domestic rates continue to be a part of consumers' expenditure in Northern Ireland, and so the 1990 and 1991 Northern Ireland estimates include a component not included in the other UK regions. The 1990 increase in Northern Ireland's consumers' expenditure per head compared to the UK average may not therefore reflect an improvement in Northern Ireland's true standing.

TABLE C

Consumers' expenditure in 1991[1]

	percentage of total[2] on:				£ million	
	Food, drink and tobacco	Housing and fuel	Other	Total per Head(£)	Consumers' expenditure in the UK[2]	Total consumers' expenditure[3]
United Kingdom	22	19	60	6,381	355,566	367,853
North	24	18	58	5,468	15,984	16,864
Yorkshire and Humberside	24	19	57	5,580	26,317	27,643
East Midlands	23	19	58	5,948	22,971	23,946
East Anglia	20	19	61	6,395	13,100	13,373
South East	19	19	62	7,419	127,701	130,264
Greater London	19	19	62	7,974	54,252	54,249
Rest of South East	20	19	61	7,068	73,449	76,016
South West	21	20	59	6,552	30,041	30,945
West Midlands	23	20	57	5,904	29,600	31,023
North West	24	18	58	6,112	37,509	38,976
England	21	19	60	6,512	303,223	313,035
Wales	23	18	58	5,755	15,897	16,612
Scotland	25	14	61	5,821	28,534	29,685
Northern Ireland	24	15	61	5,349	7,911	8,521

1. Provisional
2. Expenditure by UK households and foreign residents in the UK.
3. Expenditure by UK consumers, including private non-profit-making bodies serving persons and UK households abroad but excluding expenditure in the UK by foreign residents in the UK.

Household income

Household income and disposable income have been estimated by region for the years 1984 to 1991, and by county for the years 1984 to 1990. The 1991 regional estimates are provisional. Appendix table 5 shows household income by region and source of income from 1988 to 1991. Tables 6, 7 and 8 give county estimates of household income and household disposable income, in total (£ millions), per head (£) and per head index (UK = 100), respectively, for the years 1986 to 1990.

Table D below shows that the ten largest counties, in terms of total household income and disposable household income, accounted for about 42 per cent of the respective UK totals for most of the period for which figures are available. The smallest ten, however, accounted for less than a tenth of this - about 4 per cent. These shares are much in line with the population shares for these counties.

The table also shows that the "richest" ten counties, in terms of income per head, accounted for about 30 per cent of the total, compared with about 14 per cent for the "poorest". The population shares of the richest and poorest 10 in 1990 were 24 and 16 per cent respectively.

It should be noted that household income has a narrower coverage than both personal income and consumers' expenditure; see background note 15 for further discussion of the scope of these concepts. There are also two significant points affecting the quality of the estimates. Firstly the results may tend to underestimate income in fast-growing counties and vice-versa; secondly the results for small counties will be less reliable than those for larger counties as sampling error is greater (see background note 16). As is the case with estimates for GDP, it has been considered necessary to combine the results for the smallest counties with those for neighbouring counties due to the effects of these errors.

TABLE D

Total and disposable household income - shares of the UK total

Percentages

	1984	1985	1986	1987	1988	1989	1990
Total household income							
Largest 10 counties [1]	42.7	42.5	42.4	42.2	42.2	42.4	42.4
Smallest 10 counties [1]	4.2	4.2	4.2	4.2	4.1	4.1	4.2
Richest 10 counties [2]	27.5	27.2	27.3	28.9	31.1	31.2	29.1
Poorest 10 counties [2]	13.7	14.8	15.1	14.3	12.5	13.9	13.9
Household disposable income							
Largest 10 counties [1]	42.7	42.4	42.4	41.9	42.1	42.1	41.8
Smallest 10 counties [1]	4.3	4.3	4.3	4.3	4.2	4.2	4.3
Richest 10 counties [2]	27.1	27.2	27.3	27.1	29.3	30.3	28.4
Poorest 10 counties [2]	16.6	16.3	16.9	17.6	14.3	15.8	15.5

1. Largest/smallest in terms of total household income for the county.
2. Richest/poorest in terms of household income per head.

Sources of household income

The sources of household income are shown by region for 1991 in table E. For all regions, income from employment is by far the most important source of income, accounting for around three-fifths of total income. However there is some variation between regions in the relative importance of the sources. In the South East, 60 per cent of income is from employment, whilst in the South West and Wales this proportion is 53 per cent. The variations between the regions are more marked for some of the other components of household income due to both demographic and economic reasons. For example the relatively high proportion of state and occupational pensions in the South West is a reflection of the larger proportion of retired people in the region. Similarly, self-employment income is relatively most important in East Anglia (13 per cent of household income in 1991) reflecting partly the importance of agriculture to the area's economy. The relative weight of income from investment varies greatly between regions: it is nearly twice as important in East Anglia and the South West, than in the North and Northern Ireland. Social security benefits make up the lowest proportion of income in the South East, East Anglia and South West, at 5 per cent, but are relatively most important in Northern Ireland at 12 per cent. These variations will be greater at county level, but the analysis is subject to a greater degree of sampling error and has not been presented here.

TABLE E

Sources of total and disposable household income by region in 1991[1]

	percentage of total						£ million	
	Income from employment	Income from self-employment	Income from investment	Occupational & state pensions	Social security benefits	Other income	Total household income	Disposable income as percent of total
United Kingdom	58	10	9	14	6	2	497,447	81
North	59	8	7	15	8	3	23,723	84
Yorkshire & Humberside	57	10	8	15	7	2	39,314	83
East Midlands	58	11	9	14	6	2	33,340	82
East Anglia	54	13	11	14	5	2	18,370	82
South East	60	10	10	13	5	2	172,328	78
South West	53	12	11	17	5	2	40,875	83
West Midlands	59	9	9	14	7	2	41,453	82
North West	59	8	8	15	8	3	50,824	83
England	59	10	9	14	6	2	420,228	81
Wales	53	11	8	17	8	3	21,976	84
Scotland	59	9	8	14	7	3	43,938	83
Northern Ireland	55	11	6	13	12	3	11,305	85

1. Provisional

Recent trends in household income by region

Trends in regions' household income over the years 1984 to 1991 are difficult to analyse due to the erratic nature of several of the series. Also, it should be borne in mind that the figures for 1991 are provisional, and those for 1984 are affected by special factors - the miners' strike and the exceptionally good grain harvest - which makes this year atypical for some regions. The figures in table F show that disposable income per head in the South East, East Anglia and the South West consistently remained above the UK average, although showing some decline in the most recent years from the high points of the late 1980's. The provisional figures for 1991 suggest that Scotland has risen above the UK average for the first time, whilst Northern Ireland incomes remain the lowest of the regions.

TABLE F

Disposable household income per head (UK=100)

	1984	1985	1986	1987	1988	1989	1990	1991[1]
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	93.3	93.4	91.9	92.1	90.5	90.0	90.2	92.2
Yorkshire and Humberside	93.5	94.6	94.9	94.9	92.8	93.0	93.5	94.2
East Midlands	95.2	95.4	96.1	97.6	94.5	96.4	96.1	97.0
East Anglia	103.7	101.1	102.4	101.2	102.5	103.1	102.9	102.6
South East	111.4	111.3	111.8	111.1	113.6	113.8	112.0	109.5
South West	103.0	104.8	106.3	105.5	103.2	104.0	102.2	102.3
West Midlands	90.0	91.0	89.8	91.3	91.3	91.8	93.0	92.2
North West	93.3	93.8	91.5	91.7	92.1	91.8	92.1	94.0
England	101.1	101.4	101.4	101.3	101.6	101.9	101.3	100.8
Wales	90.7	88.8	87.9	89.4	89.1	86.4	89.9	91.2
Scotland	99.0	97.1	98.2	97.8	95.6	94.6	98.5	101.7
Northern Ireland	88.2	86.7	86.8	86.0	86.6	86.0	85.2	86.4

1. Provisional

Household income by county

Total household income by county is given in Appendix table 6. Levels in 1990 varied from £68 billion in Greater London to around £1 billion or less for some of the least populous counties. Due to the large differences in counties' populations, comparisons between regions and counties are usually made in terms of household income per head (Appendix table 7). Household income per head is estimated to have been highest in Surrey (about £11,300 in 1990, 37 per cent higher than the UK average) and lowest in Mid Glamorgan (£6,400). These comparisons make no allowances for the different costs of living in different parts of the UK and therefore cannot be interpreted as precise measures of comparative living standards.

Trends in counties' household income per head must be treated even more cautiously than those for the regions, since the counties' shares of personal income are subject to considerable year-to-year fluctuations.

Appendix tables 6, 7 and 8 show the county estimates of household income and household disposable income for the years 1986 to 1990. Over these years, some counties have seen significant changes in household income per head compared to the UK average (Appendix table 8). The largest increases from 1986 to 1990 were in Buckingham and Warwickshire, up from 113 and 99 per cent respectively, to 119 and 105 per cent. Dorset on the other hand fell from 113 per cent to 103 per cent

Disposable household income by county

Disposable household income is defined as household income less payment of tax, National Insurance and contributions to life assurance and pension schemes. In 1990 household disposable income ranged from about £8,600 per head in Surrey to about £5,300 in Mid Glamorgan. As might be expected there is less variation in per capita levels of disposable income than in total household income. However the overall effect on the dispersion of county income is not great. Household disposable income per head ranged from 80 per cent of the UK average for the lowest county to 129 per cent for the highest in 1990 compared with 78 per cent to 137 per cent for total household income per head.

BACKGROUND NOTES

General

1. The regional accounts presented in this article are consistent with the national accounts published in the United Kingdom National Accounts 1992 edition, which also defines the terms used.

2. The methodology employed in producing the regional accounts was described in Regional Accounts (Studies in Official Statistics No 31) published in 1978 and updated in the publication Methods used to compile regional accounts (Eurostat, 1984). Brief descriptions of the sources and methods used to compile the estimates of personal and household income, consumers expenditure and government GDFCF are given below.

3. Due to the wide variation in the sizes of regions, comparisons of regional accounts aggregates such as total personal income are usually made in terms of amounts per head. It is important to note however that in regions where the population has increased or decreased significantly, the growth in total regional income or expenditure may be quite different to the growth per head. Furthermore the level of income per head is determined both by the earnings of the working population and the proportion of dependents. Northern Ireland households for example have a high proportion of children; 25 per cent of the population was aged 14 or under in 1991 compared with 18 to 19 per cent in most regions. This will tend to depress income and expenditure per head in the province relative to other regions. The age structure of the population should thus be taken into account in comparisons between regions and to an even greater extent in comparisons between counties.

4. All the items are measured in current prices which means that increases over time reflect inflation as well as real growth. Trends in total income and expenditure per head cannot be analysed easily without deflating the data. However, there are no regional or county price indices, which could be used to remove the effect of inflation from the figures. Comparisons of trends can therefore be based either on the difference between regional increases at current prices or on movements in the amount relative to the UK average. Both approaches would be misleading if the rate of inflation in any region were different from the national average.

5. In the regional accounts it is usual to look at changes per head relative to the UK average over time. However this obscures the effect of changes in population size on the total income and expenditure of an area. In counties where the population is increasing most rapidly, growth in total income and expenditure would be expected to grow relatively strongly; conversely, counties with a low or negative population growth would be expected to grow more slowly. Cambridgeshire, for example, has experienced a relatively high rate of population growth and total household income is certainly growing faster than the UK average; the same is not necessarily true of income per head.

Accuracy

6. As with the national accounts the estimates, although calculated as reliably as possible, cannot be regarded as accurate to the last digit shown.

7. The regional and county estimates are based partly on sample surveys and the quality of the results therefore varies according to sample size. This means that the results for areas with smaller populations such as the Isle of Wight and the Borders region of Scotland are subject to a greater degree of uncertainty than those for more populated areas. An assessment of the quality of regional and county estimates was published in Economic Trends, November 1990.

Provisional estimates

8. The estimates of personal and household incomes and consumers' expenditure given in this article for 1991 are based on a less complete set of data than estimates for earlier years and projections are employed where necessary. These provisional estimates are particularly subject to revision when more data for 1991 become available eg from the one per cent sample of pay records by the Department of Social Security and from the Survey of Personal Incomes.

Personal Income

9. Regional statistics of personal income and consumers' expenditure have been published annually since November 1976. Personal income is the income both actual and imputed of the personal sector, which comprises not only households, but also individuals living in hostels and other institutions, unincorporated businesses such as farms, the funds of pension and life assurance schemes, private trusts and all private non-profit making bodies: examples of these are universities, trade unions and charities. Personal disposable income is thus not a measure of the spending power of households.

10. The biggest component of personal income is income from employment. Other components include income from self employment and from rent, which are also components of GDP. Thus personal income and GDP tend to have similar regional distributions and show similar movements over time. Other components are income from dividends and interest, from social security benefits and from other sources.

11. Personal disposable income is calculated by deducting taxes on income, social security contributions, community charge payments and current transfers from personal income. The deduction of the community charge has introduced a discontinuity into the national and regional estimates of personal disposable income. The community charge was introduced in Scotland in April 1989, but in April 1990 in England and Wales, and thus the first full calendar year of the community charge was 1990 in Scotland and 1991 in England and Wales. Domestic rates have been retained in Northern Ireland. The estimates of Scottish personal disposable income for 1989 and 1990 are not comparable with estimates either for previous years or for England, Wales and Northern Ireland and similarly, the 1990 estimates for England and Wales are not comparable with earlier figures or with those for Scotland or Northern Ireland. Amounts of community charge deducted from Scottish personal income in 1989, and Great Britain personal income in 1990 and 1991, were £586 million, £8,629 million and £8,162 million respectively.

Consumers' expenditure

12. Consumers' expenditure measures expenditure by households and private non-profit making bodies resident in a region. In accordance with national accounts definitions it includes imputed rent for owner-occupied dwellings rather than mortgage payments and the administrative costs of life assurance and superannuation schemes. Consumers' expenditure results are not directly comparable

with household income (see background note 15). There are no estimates of consumers' expenditure by county.

13. The consumers' expenditure estimates are based mainly on the Family Expenditure Survey (FES), supplemented by information from other sources e.g. on rent and education. Information on the FES can be obtained from the publication Family Spending 1991 (HMSO), price £20.50 net. The FES, like all surveys, is subject to both sampling and non-sampling errors. The data are smoothed to reduce the effect of sampling error using a centred moving average with a 1:2:1 weighting, but no adjustments are made for non-sampling error except that the FES data are grossed up using regional population estimates. Taking into account sampling and non-sampling error, the margin of error on the regional shares of consumers' expenditure is thought to range from 1 1/2 per cent in the South East to over 3 per cent in East Anglia. Recent estimates for Northern Ireland are thought to be more accurate than those for earlier years reflecting improvements to the selection of the sample.

14. The change from domestic rates to community charge has introduced a discontinuity into the national and regional estimates of consumers' expenditure. Domestic rates were treated as part of consumers' expenditure, but the community charge is treated as a deduction from income and is not included in consumers' expenditure. The community charge was introduced in Scotland in April 1989, but in April 1990 in England and Wales, and thus the first full calendar year of the community charge was 1990 in Scotland and 1991 in England and Wales. Thus the estimate of Scottish consumers expenditure for 1989 is not comparable with estimates either for previous years or for England, Wales and Northern Ireland and similarly, the 1990 estimates for England and Wales are not comparable with earlier figures nor with those for Scotland or Northern Ireland. The amount of community charge not included in Scottish consumers' expenditure in 1989 was £586 million, and that in respect of Great Britain expenditure in 1990 and 1991 was £8,629 and £8,162 million respectively.

Household Income

15. The household sector is more narrowly defined than the personal sector as it includes only persons living in households and in institutions. The personal sector also includes the funds of pension and life assurance schemes and all private non-profit making bodies: examples of these are universities, trade unions and charities. Household income measures the income of the household sector and is not comparable with estimates of personal income and consumers' expenditure, which measure the income and expenditure of the whole of the personal sector.

16. The quality of the county estimates varies inversely with the population of the county. The margin of error in household income is thought to range from 2 to 6 1/2 per cent and in household disposable income from 3 to 8 per cent. These quality indicators are based on calculated sampling errors and a qualitative assessment of non-sampling errors. However non-sampling errors are difficult to assess. In particular income may be underestimated in counties where population growth is rapid. This is because addresses in the DSS 1% sample of National Insurance records, the main source of earnings data by county, are not always up to date. A fuller explanation was given in Economic Trends July 1989.

17. The estimates of household income may also understate income in areas with a very mobile population such as the oil-related population in Grampian and the Highlands and Islands.

18. The community charge is not treated as a deduction from household income and there is thus no discontinuity in the estimates of household disposable income for Scotland. There are however, discontinuities in consumers' expenditure and personal disposable income and these have been described earlier in the background notes.

Regional Trends

19. A wider range of statistics for the regions and counties of the United Kingdom can be found in Regional Trends 1992, (HMSO) price £23.00 net. The topics covered in Regional Trends include population, housing, transport and environment, health, law enforcement, education, employment, industry and agriculture. Regional Trends 1993 will be published in June 1993, price £26.00 net.

The regional accounts database

20. This article necessarily presents only a summary of the regional accounts for recent years. Longer time series and in some cases additional detail can be made available on payment of a fee either on paper or on floppy disk. Requests should be addressed to the Regional Accounts Section, Central Statistical Office, PO Box 1333, Room 1817, Millbank Tower, Millbank, London SW1P 4QQ.

GDP by County

County GDP estimates for 1989 were published in the regional accounts article in Economic Trends, November 1991. Comparisons of these with the county Household Income figures, published during 1992, revealed a broad degree of agreement for most areas. However, estimates for some Scottish areas, particularly Highlands and Islands and the Grampian region, showed substantial differences which could not be explained in terms of conceptual differences. A detailed comparison of the figures has since been carried out, including a thorough review of the data, sources and methodology for deriving the county breakdown of the Scottish total figures. Revised estimates have now been compiled for all Scottish regions for 1989, and were provided in answer to a Parliamentary Question on 12 February 1993. This information, together with more detailed breakdown of the figures, is available from the address at the end of this article. Revised estimates for all counties and Scottish regions, for all years, will be published in the regional accounts article in Economic Trends, December 1993.

1 Total Personal Income 1981-91

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991[1]
£ million											
United Kingdom	223 819	243 102	262 301	283 472	308 486	334 703	361 250	402 613	443 576	489 479	518 744
North	11 547	12 662	13 319	13 997	15 408	16 291	17 451	18 916	20 382	22 904	24 705
Yorkshire and Humberside	18 229	19 994	21 312	22 544	24 911	27 088	29 080	31 661	35 063	38 544	40 967
East Midlands	14 761	16 095	17 252	18 636	20 504	22 183	24 057	26 545	29 724	32 588	34 935
East Anglia	7 163	7 823	8 525	9 626	10 593	11 501	12 552	14 174	15 749	17 358	18 625
South East	77 616	83 691	91 217	98 782	107 572	117 637	126 884	144 955	159 919	176 455	183 011
Greater London	33 980	36 273	38 681	41 528	44 976	49 152	52 787	58 486	66 005	73 719	75 862
Rest of South East	43 635	47 417	52 536	57 254	62 596	68 485	74 096	86 470	93 914	102 736	107 149
South West	16 949	18 567	20 241	22 060	24 439	27 107	29 217	32 015	35 140	38 305	40 656
West Midlands	18 668	20 247	21 743	23 558	25 706	27 703	30 306	33 791	37 003	41 300	43 444
North West	24 264	26 269	27 973	30 178	32 489	34 655	37 259	41 073	45 101	49 974	54 008
England	189 195	205 347	221 581	239 382	261 623	284 165	306 805	343 130	378 081	417 429	440 350
Wales	9 869	10 834	11 503	12 383	13 097	14 065	15 316	17 036	18 643	19 992	21 481
Scotland	19 723	21 396	23 155	25 141	26 707	28 799	30 870	33 270	36 630	41 218	45 241
Northern Ireland	5 032	5 524	6 063	6 566	7 059	7 674	8 259	9 176	10 223	10 840	11 672
% Share of the UK											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	5.2	5.2	5.1	4.9	5.0	4.9	4.8	4.7	4.6	4.7	4.8
Yorkshire and Humberside	8.1	8.2	8.1	8.0	8.1	8.1	8.0	7.9	7.9	7.9	7.9
East Midlands	6.6	6.6	6.6	6.6	6.6	6.6	6.7	6.6	6.7	6.7	6.7
East Anglia	3.2	3.2	3.3	3.4	3.4	3.4	3.5	3.5	3.6	3.5	3.6
South East	34.7	34.4	34.8	34.8	34.9	35.1	35.1	36.0	36.1	36.0	35.3
Greater London	15.2	14.9	14.7	14.6	14.6	14.7	14.6	14.5	14.9	15.1	14.6
Rest of South East	19.5	19.5	20.0	20.2	20.3	20.5	20.5	21.5	21.2	21.0	20.7
South West	7.6	7.6	7.7	7.8	7.9	8.1	8.1	8.0	7.9	7.8	7.8
West Midlands	8.3	8.3	8.3	8.3	8.3	8.3	8.4	8.4	8.3	8.4	8.4
North West	10.8	10.8	10.7	10.6	10.5	10.4	10.3	10.2	10.2	10.2	10.4
England	84.5	84.5	84.5	84.4	84.8	84.9	84.9	85.2	85.2	85.3	84.9
Wales	4.4	4.5	4.4	4.4	4.2	4.2	4.2	4.2	4.2	4.1	4.1
Scotland	8.8	8.8	8.8	8.9	8.7	8.6	8.5	8.3	8.3	8.4	8.7
Northern Ireland	2.2	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.2	2.3
Per Head, £											
United Kingdom	3 972	4 318	4 655	5 021	5 449	5 896	6 345	7 055	7 750	8 526	8 999
North	3 704	4 075	4 296	4 525	4 993	5 289	5 672	6 159	6 632	7 447	8 010
Yorkshire and Humberside	3 706	4 072	4 341	4 597	5 082	5 529	5 934	6 445	7 097	7 784	8 269
East Midlands	3 831	4 178	4 470	4 810	5 261	5 659	6 102	6 686	7 433	8 109	8 678
East Anglia	3 781	4 093	4 429	4 963	5 392	5 775	6 233	6 967	7 703	8 430	8 906
South East	4 563	4 921	5 353	5 772	6 257	6 814	7 327	8 358	9 199	10 107	10 423
Greater London	4 993	5 361	5 726	6 147	6 646	7 255	7 797	8 683	9 769	10 850	11 151
Rest of South East	4 276	4 631	5 107	5 528	6 005	6 529	7 025	8 151	8 837	9 634	9 963
South West	3 868	4 222	4 575	4 945	5 430	5 967	6 368	6 909	7 553	8 209	8 608
West Midlands	3 599	3 909	4 200	4 551	4 960	5 347	5 831	6 490	7 094	7 913	8 267
North West	3 756	4 085	4 364	4 719	5 087	5 437	5 849	6 454	7 069	7 823	8 469
England	4 041	4 388	4 730	5 098	5 553	6 013	6 472	7 218	7 928	8 726	9 161
Wales	3 508	3 860	4 097	4 411	4 658	4 986	5 400	5 963	6 489	6 938	7 442
Scotland	3 807	4 141	4 496	4 886	5 199	5 624	6 039	6 531	7 195	8 078	8 871
Northern Ireland	3 273	3 592	3 929	4 235	4 531	4 898	5 244	5 815	6 458	6 822	7 327
Per Head, United Kingdom = 100											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	93.3	94.4	92.3	90.1	91.6	89.7	89.4	87.3	85.6	87.3	89.0
Yorkshire and Humberside	93.3	94.3	93.3	91.6	93.3	93.8	93.5	91.3	91.6	91.3	91.9
East Midlands	96.5	96.8	96.0	95.8	96.6	96.0	96.2	94.8	95.9	95.1	96.4
East Anglia	95.2	94.8	95.1	98.8	99.0	97.9	98.2	98.7	99.4	98.9	99.0
South East	114.9	114.0	115.0	115.0	114.8	115.6	115.5	118.5	118.7	118.5	115.8
Greater London	125.7	124.2	123.0	122.4	122.0	123.0	122.9	123.1	126.1	127.3	123.9
Rest of South East	107.7	107.3	109.7	110.1	110.2	110.7	110.7	115.5	114.0	113.0	110.7
South West	97.4	97.8	98.3	98.5	99.7	101.2	100.3	97.9	97.5	96.3	95.7
West Midlands	90.6	90.5	90.2	90.7	91.0	90.7	91.9	92.0	91.5	92.8	91.9
North West	94.6	94.6	93.7	94.0	93.4	92.2	92.2	91.5	91.2	91.7	94.1
England	101.7	101.6	101.6	101.5	101.9	102.0	102.0	102.3	102.3	102.3	101.8
Wales	88.3	89.4	88.0	87.9	85.5	84.6	85.1	84.5	83.7	81.4	82.7
Scotland	95.9	95.9	96.6	97.3	95.4	95.4	95.2	92.6	92.8	94.7	98.6
Northern Ireland	82.4	83.2	84.4	84.4	83.2	83.1	82.6	82.4	83.3	80.0	81.4

1. Provisional

2 Total Personal Disposable Income 1981-91

	1981	1982	1983	1984	1985	1986	1987	1988	1989[2]	1990[2]	1991[1,2]
£ million											
United Kingdom	177 720	192 254	206 928	224 916	244 818	265 824	287 094	319 888	354 068	382 110	407 646
North	9 300	10 178	10 649	11 253	12 402	13 088	14 125	15 341	16 534	18 227	19 865
Yorkshire and Humberside	14 548	15 918	16 869	17 996	19 982	21 705	23 332	25 380	28 341	30 453	32 575
East Midlands	11 663	12 684	13 562	14 672	16 106	17 493	19 070	20 943	23 634	25 200	27 290
East Anglia	5 638	6 130	6 678	7 622	8 340	9 032	9 887	11 181	12 501	13 402	14 518
South East	61 369	65 656	71 470	77 725	84 659	92 701	99 528	113 782	126 278	135 981	141 218
Greater London	27 122	28 933	30 802	33 285	36 201	39 741	42 675	47 405	54 527	60 037	61 765
Rest of South East	34 246	36 723	40 668	44 440	48 458	52 959	56 854	66 377	71 751	75 944	79 453
South West	13 527	14 783	16 054	17 588	19 539	21 714	23 381	25 520	28 082	29 655	31 695
West Midlands	14 820	16 101	17 280	18 840	20 544	22 058	24 109	26 868	29 674	32 338	34 100
North West	19 262	20 846	22 155	24 069	25 868	27 485	29 677	32 868	36 366	39 369	43 019
England	150 127	162 297	174 716	189 765	207 441	225 275	243 109	271 881	301 410	324 625	344 281
Wales	7 920	8 674	9 150	9 972	10 544	11 353	12 466	13 899	15 290	15 954	17 468
Scotland	15 562	16 865	18 205	19 842	21 050	22 877	24 701	26 533	28 847	32 566	36 167
Northern Ireland	4 111	4 418	4 856	5 337	5 783	6 318	6 818	7 575	8 521	8 966	9 730
% Share of the UK											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	5.2	5.3	5.1	5.0	5.1	4.9	4.9	4.8	4.7	4.8	4.9
Yorkshire and Humberside	8.2	8.3	8.2	8.0	8.2	8.2	8.1	7.9	8.0	8.0	8.0
East Midlands	6.6	6.6	6.6	6.5	6.6	6.6	6.6	6.5	6.7	6.6	6.7
East Anglia	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.5	3.5	3.5	3.6
South East	34.5	34.2	34.5	34.6	34.6	34.9	34.7	35.6	35.7	35.6	34.6
Greater London	15.3	15.0	14.9	14.8	14.8	15.0	14.9	14.8	15.4	15.7	15.2
Rest of South East	19.3	19.1	19.7	19.8	19.8	19.9	19.8	20.8	20.3	19.9	19.5
South West	7.6	7.7	7.8	7.8	8.0	8.2	8.1	8.0	7.9	7.8	7.8
West Midlands	8.3	8.4	8.4	8.4	8.4	8.3	8.4	8.4	8.4	8.5	8.4
North West	10.8	10.8	10.7	10.7	10.6	10.3	10.3	10.3	10.3	10.3	10.6
England	84.5	84.4	84.4	84.4	84.7	84.7	84.7	85.0	85.1	85.0	84.5
Wales	4.5	4.5	4.4	4.4	4.3	4.3	4.3	4.3	4.3	4.2	4.3
Scotland	8.8	8.8	8.8	8.8	8.6	8.6	8.6	8.3	8.1	8.5	8.9
Northern Ireland	2.3	2.3	2.3	2.4	2.4	2.4	2.4	2.4	2.4	2.3	2.4
Per Head, £											
United Kingdom	3 154	3 414	3 672	3 984	4 324	4 683	5 043	5 606	6 186	6 656	7 071
North	2 983	3 276	3 435	3 638	4 019	4 249	4 591	4 995	5 380	5 927	6 441
Yorkshire and Humberside	2 958	3 242	3 436	3 669	4 076	4 430	4 761	5 166	5 737	6 150	6 575
East Midlands	3 027	3 293	3 514	3 787	4 133	4 462	4 837	5 275	5 910	6 271	6 779
East Anglia	2 976	3 207	3 469	3 930	4 245	4 535	4 910	5 496	6 114	6 509	6 943
South East	3 608	3 861	4 194	4 542	4 925	5 369	5 747	6 560	7 264	7 789	8 043
Greater London	3 985	4 276	4 560	4 927	5 349	5 866	6 303	7 038	8 070	8 836	9 079
Rest of South East	3 356	3 587	3 954	4 291	4 649	5 049	5 390	6 257	6 751	7 122	7 388
South West	3 087	3 362	3 629	3 943	4 341	4 779	5 096	5 507	6 036	6 355	6 710
West Midlands	2 857	3 108	3 338	3 640	3 964	4 257	4 638	5 160	5 689	6 196	6 489
North West	2 982	3 242	3 456	3 764	4 050	4 312	4 659	5 165	5 700	6 162	6 746
England	3 206	3 468	3 730	4 041	4 403	4 767	5 128	5 719	6 320	6 786	7 162
Wales	2 815	3 091	3 259	3 552	3 750	4 025	4 395	4 865	5 322	5 537	6 052
Scotland	3 004	3 264	3 535	3 856	4 098	4 467	4 832	5 209	5 667	6 382	7 092
Northern Ireland	2 673	2 873	3 147	3 442	3 712	4 032	4 329	4 800	5 383	5 642	6 108
Per Head, United Kingdom = 100											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	94.6	95.9	93.5	91.3	92.9	90.7	91.0	89.1	87.0	89.0	91.1
Yorkshire and Humberside	93.8	94.9	93.6	92.1	94.3	94.6	94.4	92.2	92.7	92.4	93.0
East Midlands	96.0	96.4	95.7	95.1	95.6	95.3	95.9	94.1	95.5	94.2	95.9
East Anglia	94.4	93.9	94.5	98.6	98.2	96.8	97.4	98.0	98.8	97.8	98.2
South East	114.4	113.1	114.2	114.0	113.9	114.7	114.0	117.0	117.4	117.0	113.7
Greater London	126.4	125.2	124.2	123.7	123.7	125.3	125.0	125.6	130.5	132.8	128.4
Rest of South East	106.4	105.0	107.7	107.7	107.5	107.8	106.9	111.6	109.1	107.0	104.5
South West	97.9	98.5	98.8	99.0	100.4	102.1	101.0	98.2	97.6	95.5	94.9
West Midlands	90.6	91.0	90.9	91.4	91.7	90.9	92.0	92.1	92.0	93.1	91.8
North West	94.6	94.9	94.1	94.5	93.7	92.1	92.4	92.1	92.1	92.6	95.4
England	101.7	101.6	101.6	101.4	101.8	101.8	101.7	102.0	102.2	102.0	101.3
Wales	89.3	90.5	88.7	89.2	86.7	85.9	87.2	86.8	86.0	83.2	85.6
Scotland	95.3	95.6	96.3	96.8	94.8	95.4	95.8	92.9	91.6	95.9	100.3
Northern Ireland	84.8	84.1	85.7	86.4	85.9	86.1	85.8	85.6	87.0	84.8	86.4

1. Provisional
2. Community charge replaced domestic rates in Scotland from 1989 and in England and Wales from 1990. Rates were included in consumers' expenditure where as community charge is not hence there are discontinuities in these and the UK series.

3 Consumers' Expenditure

	1981	1982	1983	1984	1985	1986	1987	1988	1989[1]	1990[1]	1991[1,2]
£ million											
United Kingdom	155 412	170 650	187 028	200 261	218 947	243 030	267 523	302 057	330 532	350 411	367 853
North	7 845	8 559	9 145	9 489	10 411	11 746	12 676	13 977	15 248	16 092	16 864
Yorkshire and Humberside	12 067	13 190	14 451	15 555	16 809	18 388	20 334	23 078	25 363	26 412	27 643
East Midlands	9 969	10 955	12 065	12 822	13 692	14 874	16 440	18 778	21 355	23 216	23 946
East Anglia	4 966	5 592	6 190	6 684	7 583	8 602	9 390	10 733	11 849	12 615	13 373
South East	53 915	59 129	65 589	71 150	78 478	87 768	96 381	108 381	117 833	124 114	130 264
Greater London	23 568	25 861	28 558	30 108	32 375	36 558	40 475	45 822	49 685	52 137	54 249
Rest of South East	30 347	33 268	37 031	41 042	46 102	51 210	55 907	62 559	68 148	71 977	76 016
South West	12 013	13 339	14 428	15 511	17 307	19 760	22 301	25 103	27 224	29 165	30 945
West Midlands	13 473	14 688	15 960	16 844	18 067	19 730	21 865	25 024	27 850	29 481	31 023
North West	17 108	18 715	20 266	21 228	22 817	25 483	28 410	31 993	34 961	36 911	38 976
England	131 356	144 167	158 094	169 283	185 164	206 350	227 797	257 066	281 682	298 003	313 035
Wales	7 063	7 733	8 240	8 852	9 875	10 718	11 518	13 061	14 494	15 704	16 612
Scotland	13 479	14 961	16 513	17 715	19 001	20 411	22 189	25 114	26 840	28 548	29 685
Northern Ireland	3 514	3 789	4 181	4 411	4 907	5 550	6 019	6 816	7 515	8 156	8 521
% Share of the UK											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	5.0	5.0	4.9	4.7	4.8	4.8	4.7	4.6	4.6	4.6	4.6
Yorkshire and Humberside	7.8	7.7	7.7	7.8	7.7	7.6	7.6	7.6	7.7	7.5	7.5
East Midlands	6.4	6.4	6.5	6.4	6.3	6.1	6.1	6.2	6.5	6.6	6.5
East Anglia	3.2	3.3	3.3	3.3	3.5	3.5	3.5	3.6	3.6	3.6	3.6
South East	34.7	34.6	35.1	35.5	35.8	36.1	36.0	35.9	35.6	35.4	35.4
Greater London	15.2	15.2	15.3	15.0	14.8	15.0	15.1	15.2	15.0	14.9	14.7
Rest of South East	19.5	19.5	19.8	20.5	21.1	21.1	20.9	20.7	20.6	20.5	20.7
South West	7.7	7.8	7.7	7.7	7.9	8.1	8.3	8.3	8.2	8.3	8.4
West Midlands	8.7	8.6	8.5	8.4	8.3	8.1	8.2	8.3	8.4	8.4	8.4
North West	11.0	11.0	10.8	10.6	10.4	10.5	10.6	10.6	10.6	10.5	10.6
England	84.5	84.5	84.5	84.5	84.6	84.9	85.2	85.1	85.2	85.0	85.1
Wales	4.5	4.5	4.4	4.4	4.5	4.4	4.3	4.3	4.4	4.5	4.5
Scotland	8.7	8.8	8.8	8.8	8.7	8.4	8.3	8.3	8.1	8.1	8.1
Northern Ireland	2.3	2.2	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3
Per Head, £											
United Kingdom	2 758	3 031	3 319	3 547	3 867	4 281	4 699	5 293	5 775	6 104	6 381
North	2 517	2 755	2 950	3 068	3 374	3 813	4 120	4 551	4 962	5 232	5 468
Yorkshire and Humberside	2 453	2 686	2 944	3 172	3 429	3 753	4 150	4 698	5 134	5 334	5 580
East Midlands	2 588	2 844	3 126	3 309	3 513	3 794	4 170	4 730	5 340	5 777	5 948
East Anglia	2 621	2 926	3 216	3 446	3 859	4 319	4 663	5 276	5 795	6 127	6 395
South East	3 169	3 477	3 849	4 158	4 565	5 084	5 566	6 249	6 778	7 109	7 419
Greater London	3 463	3 822	4 228	4 457	4 784	5 396	5 978	6 803	7 354	7 674	7 974
Rest of South East	2 974	3 249	3 600	3 963	4 423	4 882	5 301	5 897	6 412	6 750	7 068
South West	2 742	3 034	3 261	3 477	3 845	4 349	4 860	5 417	5 852	6 250	6 552
West Midlands	2 598	2 836	3 083	3 254	3 486	3 808	4 207	4 806	5 339	5 648	5 904
North West	2 649	2 910	3 161	3 319	3 573	3 998	4 460	5 028	5 480	5 778	6 112
England	2 805	3 081	3 375	3 605	3 930	4 367	4 805	5 408	5 907	6 230	6 512
Wales	2 510	2 755	2 935	3 153	3 512	3 800	4 061	4 572	5 045	5 450	5 755
Scotland	2 602	2 896	3 206	3 443	3 699	3 986	4 340	4 930	5 272	5 595	5 821
Northern Ireland	2 285	2 464	2 709	2 845	3 150	3 542	3 821	4 319	4 747	5 133	5 349
Per Head, United Kingdom = 100											
United Kingdom	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
North	91.3	90.9	88.9	86.5	87.2	89.1	87.7	86.0	85.9	85.7	85.7
Yorkshire and Humberside	89.0	88.6	88.7	89.4	88.7	87.7	88.3	88.7	88.9	87.4	87.4
East Midlands	93.8	93.8	94.2	93.3	90.8	88.6	88.7	89.4	92.5	94.6	93.2
East Anglia	95.0	96.5	96.9	97.1	99.8	100.9	99.2	99.7	100.4	100.4	100.2
South East	114.9	114.7	116.0	117.2	118.0	118.7	118.4	118.1	117.4	116.5	116.3
Greater London	125.6	126.1	127.4	125.6	123.7	126.0	127.2	128.5	127.3	125.7	125.0
Rest of South East	107.8	107.2	108.5	11.7	114.4	114.0	112.8	111.4	111.0	110.6	110.8
South West	99.4	100.1	98.3	98.0	99.4	101.6	103.4	102.3	101.3	102.4	102.7
West Midlands	94.2	93.6	92.9	91.8	90.1	88.9	89.5	90.8	92.5	92.5	92.5
North West	96.0	96.0	95.2	93.6	92.4	93.4	94.9	95.0	94.9	94.7	95.8
England	101.7	101.7	101.7	101.6	101.6	102.0	102.3	102.2	102.3	102.1	102.1
Wales	91.0	90.9	88.4	88.9	90.8	88.7	86.4	86.4	87.4	89.3	90.2
Scotland	94.3	95.5	96.6	97.1	95.7	93.1	92.4	93.1	91.3	91.7	91.2
Northern Ireland	82.9	81.3	81.6	80.2	81.4	82.7	81.3	81.6	82.2	84.1	83.8

1. Community charge replaced domestic rates in Scotland from 1989 and in England and Wales from 1990. Rates were included in consumers' expenditure where as community charge is not hence there are discontinuities in these and the UK series.
2. Provisional

4 Consumers' expenditure by broad function

£ million

	Food, drink and tobacco	Housing and fuel	Other	Consumers' expenditure in the UK[1]	Total consumers' expenditure[2]
1988					
United Kingdom	63 286	55 665	174 454	293 405	302 057
North	3 189	2 581	7 590	13 360	13 977
Yorkshire and Humberside	5 111	4 090	12 871	22 072	23 078
East Midlands	4 166	3 630	10 328	18 123	18 778
East Anglia	2 133	2 018	6 338	10 489	10 733
South East	20 419	20 529	66 205	107 153	108 381
Greater London	8 559	8 572	29 167	46 299	45 822
Rest of South East	11 860	11 957	37 038	60 854	62 559
South West	5 007	4 613	14 772	24 393	25 103
West Midlands	5 464	4 889	13 662	24 015	25 024
North West	7 194	6 024	17 576	30 794	31 993
England	52 683	48 374	149 341	250 398	257 066
Wales	3 048	2 305	7 173	12 526	13 061
Scotland	5 996	3 958	14 152	24 106	25 114
Northern Ireland	1 559	1 028	3 788	6 375	6 816
1989[3]					
United Kingdom	67 248	60 388	192 677	320 313	330 532
North	3 416	2 789	8 271	14 476	15 248
Yorkshire and Humberside	5 414	4 435	14 330	24 179	25 363
East Midlands	4 609	4 085	11 806	20 500	21 355
East Anglia	2 278	2 240	7 065	11 582	11 849
South East	21 499	22 296	72 414	116 209	117 833
Greater London	8 988	9 385	31 920	50 293	49 685
Rest of South East	12 511	12 911	40 494	65 916	68 148
South West	5 453	5 077	15 931	26 461	27 224
West Midlands	5 805	5 438	15 359	26 602	27 850
North West	7 567	6 558	19 498	33 622	34 961
England	56 041	52 918	164 674	273 632	281 682
Wales	3 244	2 569	8 037	13 851	14 494
Scotland	6 316	3 789	15 707	25 812	26 840
Northern Ireland	1 647	1 112	4 259	7 018	7 515
1990[3]					
United Kingdom	72 290	59 914	207 140	339 344	350 411
North	3 717	2 676	8 858	15 251	16 092
Yorkshire and Humberside	5 836	4 351	14 941	25 128	26 412
East Midlands	5 015	4 181	13 070	22 266	23 216
East Anglia	2 447	2 252	7 675	12 374	12 615
South East	23 019	22 020	77 410	122 450	124 114
Greater London	9 648	9 345	33 867	52 860	52 137
Rest of South East	13 371	12 675	43 543	69 589	71 977
South West	5 892	5 314	17 167	28 372	29 165
West Midlands	6 292	5 386	16 456	28 134	29 481
North West	8 204	6 267	20 996	35 467	36 911
England	60 423	52 447	176 572	289 442	298 003
Wales	3 473	2 629	8 908	15 009	15 704
Scotland	6 635	3 676	16 996	27 308	28 548
Northern Ireland	1 760	1 162	4 664	7 585	8 156
1991[3,4]					
United Kingdom	77 354	65 886	212 326	355 566	367 853
North	3 862	2 896	9 227	15 984	16 864
Yorkshire and Humberside	6 280	4 984	15 054	26 317	27 643
East Midlands	5 196	4 479	13 296	22 971	23 946
East Anglia	2 618	2 482	8 000	13 100	13 373
South East	24 682	24 218	78 801	127 701	130 264
Greater London	10 307	10 255	33 690	54 252	54 249
Rest of South East	14 375	13 963	45 111	73 449	76 016
South West	6 299	5 875	17 867	30 041	30 945
West Midlands	6 810	5 962	16 827	29 600	31 023
North West	8 982	6 821	21 706	37 509	38 976
England	64 729	57 717	180 777	303 223	313 035
Wales	3 729	2 922	9 247	15 897	16 612
Scotland	7 021	4 028	17 485	28 534	29 685
Northern Ireland	1 875	1 219	4 817	7 911	8 521

1. Expenditure by UK households and foreign residents in the UK.
2. Expenditure by UK consumers, including private non-profit-making bodies serving persons and UK households abroad but excluding expenditure in the UK by foreign residents in the UK.
3 Community charge replaced domestic rates in Scotland from 1989 and in England and Wales from 1990. Rates were included in consumers' expenditure where as community charge is not hence there are discontinuities in these and the UK series.
4. Provisional.

5 Household income and disposable income by region

£ million

	Income from employment	Income from self-employment	Income from investment	Occupational & state pensions	Social security benefits	Other income	Total household income	Disposable h'hold income
1988								
United Kingdom	223 753	41 458	29 984	50 458	22 840	9 667	378 160	304 681
North	10 712	1 443	928	2 724	1 466	578	17 852	14 842
Yorkshire & Humberside	17 513	3 070	2 075	4 230	2 022	860	29 770	24 342
East Midlands	14 822	2 854	1 953	3 324	1 456	609	25 018	20 030
East Anglia	7 513	2 029	1 461	1 868	613	302	13 785	11 131
South East	81 560	15 116	12 416	16 030	6 020	2 845	133 987	105 238
South West	16 812	4 224	3 123	4 887	1 576	677	31 299	25 538
West Midlands	19 001	3 243	2 088	4 152	2 119	869	31 473	25 385
North West	22 976	3 438	2 455	5 375	2 915	1 128	38 287	31 295
England	190 910	35 417	26 498	42 592	18 187	7 867	321 471	257 801
Wales	8 967	1 825	1 114	2 496	1 338	502	16 241	13 587
Scotland	19 158	3 032	1 923	4 277	2 359	1 028	31 777	26 000
Northern Ireland	4 718	1 184	449	1 094	956	270	8 671	7 293
1989								
United Kingdom	248 568	45 968	40 014	55 524	23 391	9 774	423 239	341 778
North	11 892	1 632	1 339	2 889	1 487	576	19 815	16 508
Yorkshire & Humberside	19 404	3 502	2 868	4 668	2 075	857	33 375	27 426
East Midlands	16 621	3 317	2 599	3 636	1 498	592	28 264	23 022
East Anglia	8 459	2 267	1 794	2 036	625	297	15 478	12 588
South East	91 106	16 325	15 893	17 735	6 112	2 974	150 146	118 090
South West	18 617	4 823	3 991	5 304	1 606	660	35 002	28 881
West Midlands	20 986	3 579	2 843	4 635	2 168	859	35 070	28 581
North West	25 203	3 758	3 609	5 929	2 985	1 134	42 618	34 986
England	212 287	39 203	34 936	46 833	18 558	7 950	359 767	290 082
Wales	9 962	2 067	1 641	2 809	1 365	499	18 344	14 827
Scotland	21 104	3 405	2 765	4 675	2 413	1 068	35 429	28 743
Northern Ireland	5 215	1 293	672	1 207	1 056	257	9 699	8 126
1990								
United Kingdom	274 903	50 421	47 977	62 977	25 603	10 239	472 120	381 864
North	13 111	1 839	1 734	3 251	1 631	607	22 174	18 451
Yorkshire & Humberside	21 398	3 899	3 525	5 266	2 277	892	37 256	30 812
East Midlands	18 178	3 647	3 034	4 163	1 648	631	31 301	25 684
East Anglia	9 408	2 453	2 064	2 360	687	334	17 306	14 097
South East	100 582	17 834	18 398	20 003	6 732	2 925	166 475	130 014
South West	20 447	5 080	4 687	6 070	1 760	704	38 748	31 716
West Midlands	23 432	3 982	3 638	5 206	2 374	884	39 516	32 269
North West	27 796	4 265	4 358	6 690	3 273	1 244	47 625	39 140
England	234 351	42 999	41 439	53 010	20 382	8 221	400 402	322 183
Wales	10 952	2 297	2 000	3 272	1 475	547	20 544	17 237
Scotland	23 832	3 835	3 774	5 360	2 574	1 199	40 574	33 442
Northern Ireland	5 767	1 290	764	1 335	1 173	272	10 601	9 003
1991[1]								
United Kingdom	289 741	49 190	45 766	70 318	31 179	11 253	497 447	403 999
North	14 018	1 860	1 645	3 608	1 972	619	23 723	19 920
Yorkshire & Humberside	22 464	3 910	3 332	5 883	2 764	962	39 314	32 717
East Midlands	19 365	3 608	3 033	4 665	2 011	659	33 340	27 365
East Anglia	9 962	2 479	2 073	2 636	848	373	18 370	15 042
South East	104 048	16 924	17 602	22 137	8 315	3 302	172 328	134 692
South West	21 642	4 860	4 586	6 802	2 186	799	40 875	33 847
West Midlands	24 331	3 766	3 589	5 928	2 894	944	41 453	33 964
North West	29 998	4 153	3 900	7 486	3 980	1 307	50 824	41 991
England	245 827	41 560	39 761	59 144	24 970	8 965	420 228	339 539
Wales	11 727	2 333	1 840	3 673	1 784	619	21 976	18 457
Scotland	25 975	3 997	3 477	6 002	3 122	1 364	43 938	36 345
Northern Ireland	6 211	1 299	689	1 499	1 302	305	11 305	9 659

1. Provisional

6 Household income by county

Household disposable income by county

£ millions

	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
UNITED KINGDOM	315 063	342 520	378 160	423 239	472 120	253 052	276 135	304 681	341 778	381 864
Cleveland	2 788	2 976	3 110	3 390	3 888	2 250	2 423	2 577	2 873	3 312
Cumbria	2 755	3 049	3 354	3 684	4 096	2 227	2 511	2 765	3 035	3 348
Durham	2 801	3 011	3 275	3 691	4 083	2 241	2 474	2 707	3 059	3 403
Northumberland	1 617	1 694	1 782	2 040	2 299	1 249	1 357	1 454	1 669	1 861
Tyne and Wear	5 508	5 870	6 331	7 011	7 808	4 646	4 987	5 339	5 873	6 527
NORTH	15 469	16 600	17 852	19 815	22 174	12 614	13 752	14 842	16 508	18 451
Humberside	4 278	4 619	5 077	5 739	6 479	3 450	3 758	4 096	4 639	5 344
North Yorkshire	4 343	4 639	4 903	5 513	6 294	3 498	3 774	4 001	4 498	5 207
South Yorkshire	6 407	6 950	7 500	8 333	9 243	5 344	5 786	6 196	6 925	7 834
West Yorkshire	10 516	11 422	12 290	13 791	15 241	8 425	9 239	10 048	11 364	12 427
YORKS AND HUMBERSIDE	25 544	27 630	29 770	33 375	37 256	20 717	22 556	24 342	27 426	30 812
Derbyshire	4 688	5 129	5 552	6 302	7 054	3 651	4 161	4 486	5 144	5 750
Leicestershire	4 881	5 359	5 822	6 568	7 155	3 885	4 303	4 573	5 266	5 809
Lincolnshire	3 006	3 335	3 656	4 227	4 715	2 456	2 741	2 984	3 512	3 929
Northamptonshire	3 043	3 308	3 689	4 199	4 729	2 437	2 681	2 934	3 355	3 831
Nottinghamshire	5 376	5 857	6 299	6 969	7 648	4 366	4 768	5 054	5 745	6 365
EAST MIDLANDS	20 994	22 989	25 018	28 264	31 301	16 795	18 654	20 030	23 022	25 684
Cambridgeshire	3 752	4 018	4 468	5 128	5 894	2 986	3 201	3 594	4 145	4 774
Norfolk	4 176	4 706	5 202	5 639	6 212	3 413	3 795	4 226	4 624	5 104
Suffolk	3 360	3 611	4 116	4 710	5 200	2 691	2 885	3 312	3 819	4 219
EAST ANGLIA	11 288	12 336	13 785	15 478	17 306	9 090	9 881	11 131	12 588	14 097
Greater London	44 301	47 781	52 414	60 387	67 609	36 214	38 483	42 659	47 243	52 343
Bedfordshire	2 961	3 223	3 703	4 242	4 674	2 320	2 506	2 840	3 369	3 768
Berkshire	4 604	5 014	5 909	6 470	7 183	3 555	3 892	4 545	5 010	5 539
Buckinghamshire	3 847	4 205	5 001	5 626	6 261	2 871	3 216	3 793	4 286	4 780
East Sussex	4 047	4 412	5 130	5 506	6 169	3 295	3 583	4 091	4 417	4 978
Essex	9 012	10 010	11 273	12 526	14 076	6 906	7 673	8 612	9 992	11 057
Hampshire	8 938	9 814	11 180	12 370	13 712	7 121	7 771	8 891	9 996	10 923
Hertfordshire	6 489	7 278	8 791	9 510	10 014	4 986	5 498	6 405	7 402	7 721
Isle of Wight	652	741	831	940	1 036	542	635	709	795	872
Kent	8 710	9 371	10 576	11 686	12 879	6 864	7 320	8 243	9 452	10 255
Oxfordshire	3 274	3 511	3 990	4 429	4 963	2 525	2 762	3 167	3 555	3 980
Surrey	7 448	8 069	9 534	10 340	11 314	5 442	6 128	6 900	7 873	8 586
West Sussex	4 349	4 834	5 654	6 113	6 585	3 401	3 876	4 382	4 700	5 213
SOUTH EAST	108 629	118 262	133 987	150 146	166 475	86 043	93 342	105 238	118 090	130 014
Avon	5 415	5 833	6 313	7 076	7 869	4 401	4 741	5 165	5 826	6 403
Cornwall	2 310	2 494	2 736	3 100	3 406	1 930	2 068	2 267	2 612	2 840
Devon	5 592	6 197	6 841	7 484	8 161	4 702	5 186	5 667	6 277	6 789
Dorset	4 003	4 242	4 467	5 011	5 576	3 218	3 438	3 671	4 182	4 615
Gloucestershire	3 257	3 573	3 866	4 345	4 809	2 480	2 738	2 944	3 400	3 813
Somerset	2 520	2 775	3 032	3 436	3 771	2 052	2 279	2 490	2 838	3 085
Wiltshire	3 390	3 694	4 043	4 549	5 156	2 741	3 031	3 335	3 745	4 170
SOUTH WEST	26 485	28 808	31 299	35 002	38 748	21 523	23 481	25 538	28 881	31 716
Hereford and Worcestershire	3 636	4 093	4 595	5 024	5 665	2 813	3 191	3 645	4 053	4 612
Shropshire	2 087	2 336	2 488	2 776	3 158	1 703	1 894	1 982	2 229	2 568
Staffordshire	5 048	5 537	6 214	7 004	7 853	4 063	4 494	5 033	5 674	6 396
Warwickshire	2 649	3 018	3 377	3 727	4 165	2 070	2 338	2 594	2 904	3 294
West Midlands	12 368	13 491	14 799	16 538	18 676	10 081	11 102	12 131	13 722	15 399
WEST MIDLANDS	25 786	28 476	31 473	35 070	39 516	20 731	23 020	25 385	28 581	32 269
Cheshire	5 193	5 725	6 327	7 125	7 945	4 054	4 446	4 945	5 620	6 303
Greater Manchester	12 984	14 032	15 208	16 951	18 903	10 379	11 420	12 620	14 035	15 552
Lancashire	7 268	7 865	8 575	9 557	10 837	5 764	6 336	6 919	7 813	8 965
Merseyside	7 087	7 431	8 176	8 986	9 939	5 815	6 122	6 811	7 518	8 320
NORTH WEST	32 531	35 054	38 287	42 618	47 625	26 012	28 324	31 295	34 986	39 140
Clwyd	2 002	2 205	2 461	2 753	3 077	1 579	1 784	2 025	2 202	2 566
Dyfed and Powys	2 200	2 416	2 641	3 008	3 359	1 887	2 078	2 214	2 321	2 776
Gwent	2 071	2 269	2 507	2 801	3 123	1 715	1 873	2 076	2 257	2 618
Gwynedd	1 166	1 279	1 393	1 569	1 775	969	1 069	1 174	1 297	1 517
Mid Glamorgan	2 232	2 504	2 771	3 155	3 451	1 805	2 061	2 318	2 577	2 886
South Glamorgan	2 029	2 216	2 380	2 697	3 084	1 649	1 839	1 996	2 201	2 585
West Glamorgan	1 767	1 913	2 087	2 360	2 674	1 449	1 596	1 785	1 971	2 289
WALES	13 466	14 802	16 241	18 344	20 544	11 053	12 301	13 587	14 827	17 237
Borders	519	593	667	715	807	426	493	541	592	666
Central	1 437	1 522	1 645	1 835	2 116	1 194	1 268	1 343	1 491	1 732
Dumfries and Galloway	783	871	914	995	1 116	679	738	759	818	942
Fife	1 913	2 052	2 183	2 407	2 802	1 580	1 702	1 787	1 963	2 304
Grampian	3 018	3 218	3 393	3 889	4 582	2 397	2 607	2 731	3 127	3 741
Highlands and Islands	1 368	1 486	1 591	1 749	1 969	1 115	1 238	1 316	1 457	1 639
Lothian	4 440	4 834	5 238	5 866	6 742	3 620	3 912	4 121	4 658	5 446
Strathclyde	11 909	12 794	13 658	15 133	17 103	9 600	10 362	11 349	12 260	14 176
Tayside	2 241	2 366	2 488	2 839	3 335	1 805	1 934	2 054	2 375	2 797
SCOTLAND	27 629	29 737	31 777	35 429	40 574	22 415	24 252	26 000	28 743	33 442
NORTHERN IRELAND	7 243	7 828	8 671	9 699	10 601	6 062	6 573	7 293	8 126	9 003

7 Household income by county

Household disposable income by county

	£ per head					£ per head				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
UNITED KINGDOM	5 550	6 016	6 627	7 395	8 224	4 458	4 850	5 339	5 971	6 651
Cleveland	5 000	5 367	5 622	6 132	7 041	4 035	4 369	4 659	5 197	5 998
Cumbria	5 662	6 263	6 856	7 494	8 324	4 576	5 158	5 653	6 173	6 804
Durham	4 672	5 029	5 488	6 183	6 812	3 739	4 133	4 536	5 124	5 677
Northumberland	5 370	5 629	5 912	6 718	7 534	4 150	4 508	4 824	5 497	6 098
Tyne and Wear	4 851	5 168	5 600	6 215	6 931	4 092	4 391	4 722	5 206	5 793
NORTH	5 022	5 395	5 813	6 448	7 210	4 095	4 470	4 833	5 372	6 000
Humberside	5 042	5 456	5 969	6 702	7 542	4 066	4 439	4 816	5 418	6 220
North Yorkshire	6 206	6 574	6 876	7 633	8 664	4 999	5 347	5 611	6 228	7 168
South Yorkshire	4 936	5 364	5 802	6 433	7 130	4 117	4 466	4 793	5 347	6 044
West Yorkshire	5 122	5 565	5 976	6 673	7 362	4 104	4 501	4 886	5 499	6 003
YORKSHIRE AND HUMBERSIDE	5 214	5 639	6 060	6 756	7 524	4 229	4 603	4 955	5 552	6 222
Derbyshire	5 114	5 583	6 007	6 780	7 561	3 982	4 530	4 853	5 535	6 162
Leicestershire	5 578	6 094	6 575	7 363	7 971	4 441	4 893	5 164	5 904	6 471
Lincolnshire	5 299	5 804	6 276	7 202	7 974	4 329	4 770	5 123	5 985	6 645
Northamptonshire	5 489	5 888	6 468	7 289	8 151	4 396	4 772	5 145	5 824	6 603
Nottinghamshire	5 341	5 812	6 251	6 868	7 524	4 338	4 731	5 015	5 661	6 262
EAST MIDLANDS	5 356	5 831	6 301	7 068	7 789	4 285	4 732	5 045	5 757	6 391
Cambridgeshire	5 907	6 255	6 857	7 828	8 870	4 700	4 982	5 515	6 328	7 185
Norfolk	5 738	6 392	6 989	7 534	8 275	4 690	5 155	5 677	6 177	6 799
Suffolk	5 346	5 687	6 445	7 348	8 077	4 281	4 543	5 187	5 957	6 553
EAST ANGLIA	5 668	6 126	6 776	7 570	8 405	4 564	4 907	5 472	6 157	6 847
Greater London	6 539	7 057	7 782	8 938	9 951	5 345	5 684	6 334	6 992	7 704
Bedfordshire	5 683	6 129	6 977	7 986	8 728	4 454	4 765	5 352	6 342	7 037
Berkshire	6 271	6 770	7 909	8 644	9 507	4 843	5 255	6 084	6 694	7 332
Buckinghamshire	6 277	6 769	7 973	8 868	9 761	4 684	5 176	6 047	6 757	7 452
East Sussex	5 867	6 321	7 197	7 735	8 662	4 777	5 133	5 739	6 205	6 989
Essex	5 960	6 578	7 370	8 176	9 179	4 567	5 042	5 631	6 522	7 210
Hampshire	5 851	6 385	7 246	8 002	8 864	4 662	5 056	5 763	6 466	7 061
Hertfordshire	6 583	7 375	8 916	9 632	10 129	5 058	5 571	6 496	7 497	7 809
Isle of Wight	5 234	5 837	6 405	7 208	7 982	4 355	5 002	5 459	6 094	6 722
Kent	5 803	6 204	6 956	7 669	8 442	4 573	4 846	5 422	6 203	6 722
Oxfordshire	5 696	6 075	6 892	7 668	8 459	4 393	4 779	5 470	6 155	6 784
Surrey	7 363	8 066	9 536	10 340	11 282	5 381	6 126	6 902	7 873	8 561
West Sussex	6 260	6 906	8 038	8 673	9 342	4 895	5 537	6 229	6 668	7 395
SOUTH EAST	6 292	6 829	7 725	8 637	9 536	4 984	5 390	6 068	6 793	7 447
Avon	5 720	6 132	6 615	7 427	8 266	4 649	4 984	5 412	6 115	6 726
Cornwall	5 153	5 505	5 941	6 679	7 285	4 305	4 564	4 922	5 629	6 074
Devon	5 598	6 136	6 700	7 267	7 920	4 707	5 134	5 551	6 095	6 588
Dorset	6 272	6 540	6 814	7 630	8 471	5 043	5 301	5 599	6 367	7 011
Gloucestershire	6 298	6 841	7 329	8 205	9 050	4 796	5 243	5 581	6 421	7 176
Somerset	5 613	6 135	6 624	7 456	8 111	4 571	5 038	5 441	6 157	6 636
Wiltshire	6 217	6 705	7 259	8 147	9 176	5 026	5 502	5 986	6 707	7 422
SOUTH WEST	5 830	6 278	6 754	7 523	8 304	4 737	5 117	5 511	6 208	6 796
Hereford and Worcestershire	5 555	6 154	6 848	7 440	8 377	4 298	4 797	5 433	6 002	6 821
Shropshire	5 315	5 891	6 208	6 883	7 796	4 337	4 777	4 945	5 529	6 338
Staffordshire	4 944	5 389	6 017	6 741	7 545	3 980	4 374	4 873	5 461	6 145
Warwickshire	5 509	6 233	6 968	7 716	8 629	4 306	4 829	5 351	6 011	6 825
West Midlands	4 698	5 141	5 654	6 323	7 143	3 830	4 231	4 635	5 246	5 890
WEST MIDLANDS	4 977	5 479	6 045	6 724	7 571	4 001	4 429	4 876	5 480	6 183
Cheshire	5 486	6 015	6 620	7 433	8 285	4 283	4 671	5 174	5 863	6 572
Greater Manchester	5 033	5 439	5 900	6 564	7 297	4 024	4 426	4 896	5 435	6 003
Lancashire	5 264	5 694	6 205	6 871	7 767	4 174	4 587	5 007	5 618	6 425
Merseyside	4 829	5 101	5 646	6 206	6 885	3 962	4 202	4 703	5 192	5 763
NORTH WEST	5 103	5 503	6 017	6 680	7 455	4 081	4 446	4 918	5 484	6 127
Clwyd	5 010	5 473	6 046	6 697	7 473	3 951	4 428	4 975	5 357	6 230
Dyfed and Powys	4 873	5 293	5 701	6 409	7 124	4 181	4 552	4 779	4 945	5 888
Gwent	4 686	5 120	5 629	6 268	6 978	3 881	4 226	4 660	5 050	5 850
Gwynedd	4 970	5 413	5 829	6 517	7 364	4 131	4 524	4 911	5 387	6 292
Mid Glamorgan	4 175	4 682	5 170	5 863	6 395	3 377	3 855	4 324	4 790	5 348
South Glamorgan	5 128	5 547	5 901	6 676	7 582	4 168	4 604	4 947	5 448	6 355
West Glamorgan	4 862	5 267	5 751	6 504	7 363	3 988	4 395	4 918	5 432	6 302
WALES	4 773	5 219	5 685	6 385	7 130	3 918	4 337	4 756	5 161	5 982
Borders	5 096	5 806	6 501	6 963	7 797	4 188	4 829	5 272	5 768	6 437
Central	5 287	5 595	6 058	6 763	7 824	4 392	4 660	4 947	5 494	6 366
Dumfries and Galloway	5 333	5 925	6 200	6 742	7 522	4 625	5 017	5 145	5 544	6 346
Fife	5 563	5 955	6 333	6 981	8 101	4 595	4 938	5 185	5 694	6 660
Grampian	6 002	6 399	6 767	7 724	9 054	4 766	5 183	5 448	6 210	7 391
Highlands and Islands	4 974	5 436	5 794	6 381	7 115	4 054	4 529	4 789	5 317	5 920
Lothian	5 985	6 500	7 067	7 896	8 995	4 879	5 260	5 560	6 270	7 265
Strathclyde	5 079	5 485	5 895	6 548	7 417	4 094	4 442	4 899	5 305	6 147
Tayside	5 711	6 008	6 320	7 234	8 464	4 601	4 911	5 216	6 052	7 099
SCOTLAND	5 395	5 817	6 238	6 960	7 952	4 377	4 744	5 104	5 646	6 554
NORTHERN IRELAND	4 623	4 969	5 495	6 127	6 670	3 869	4 173	4 622	5 133	5 664

8 Household income by county

Household disposable income by county

	£ per head UK=100					£ per head UK=100				
	1986	1987	1988	1989	1990	1986	1987	1988	1989	1990
UNITED KINGDOM	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Cleveland	90.1	89.2	84.8	82.9	85.6	90.5	90.1	87.3	87.0	90.2
Cumbria	102.0	104.1	103.5	101.3	101.2	102.7	106.3	105.9	103.4	102.3
Durham	84.2	83.6	82.8	83.6	82.8	83.9	85.2	85.0	85.8	85.4
Northumberland	96.8	93.6	89.2	90.8	91.6	93.1	92.9	90.3	92.1	91.7
Tyne and Wear	87.4	85.9	84.5	84.0	84.3	91.8	90.5	88.4	87.2	87.1
NORTH	90.5	89.7	87.7	87.2	87.7	91.9	92.1	90.5	90.0	90.2
Humberside	90.8	90.7	90.1	90.6	91.7	91.2	91.5	90.2	90.7	93.5
North Yorkshire	111.8	109.3	103.8	103.2	105.4	112.1	110.2	105.1	104.3	107.8
South Yorkshire	88.9	89.2	87.6	87.0	86.7	92.4	92.1	89.8	89.5	90.9
West Yorkshire	92.3	92.5	90.2	90.2	89.5	92.0	92.8	91.5	92.1	90.3
YORKSHIRE AND HUMBERSIDE	93.9	93.7	91.4	91.4	91.5	94.9	94.9	92.8	93.0	93.5
Derbyshire	92.1	92.8	90.6	91.7	91.9	89.3	93.4	90.9	92.7	92.6
Leicestershire	100.5	101.3	99.2	99.6	96.9	99.6	100.9	96.7	98.9	97.3
Lincolnshire	95.5	96.5	94.7	97.4	97.0	97.1	98.3	95.9	100.2	99.9
Northamptonshire	98.9	97.9	97.6	98.6	99.1	98.6	98.4	96.4	97.5	99.2
Nottinghamshire	96.2	96.6	94.3	92.9	91.5	97.3	97.5	93.9	94.8	94.1
EAST MIDLANDS	96.5	96.9	95.1	95.6	94.7	96.1	97.6	94.5	96.4	96.1
Cambridgeshire	106.4	104.0	103.5	105.9	107.9	105.4	102.7	103.3	106.0	108.0
Norfolk	103.4	106.2	105.5	101.9	100.6	105.2	106.3	106.3	103.4	102.2
Suffolk	96.3	94.5	97.3	99.4	98.2	96.0	93.7	97.2	99.8	98.5
EAST ANGLIA	102.1	101.8	102.3	102.4	102.2	102.4	101.2	102.5	103.1	102.9
Greater London	117.8	117.3	117.4	120.9	121.0	119.9	117.2	118.6	117.1	115.8
Bedfordshire	102.4	101.9	105.3	108.0	106.1	99.9	98.2	100.2	106.2	105.8
Berkshire	113.0	112.5	119.4	116.9	115.6	108.6	108.3	114.0	112.1	110.2
Buckinghamshire	113.1	112.5	120.3	119.9	118.7	105.1	106.7	113.3	113.2	112.0
East Sussex	105.7	105.1	108.6	104.6	105.3	107.2	105.8	107.5	103.9	105.1
Essex	107.4	109.3	111.2	110.6	111.6	102.4	104.0	105.5	109.2	108.4
Hampshire	105.4	106.1	109.3	108.2	107.8	104.6	104.2	107.9	108.3	106.2
Hertfordshire	118.6	122.6	134.6	130.3	123.2	113.5	114.9	121.7	125.5	117.4
Isle of Wight	94.3	97.0	96.6	97.5	97.1	97.7	103.1	102.2	102.1	101.1
Kent	104.5	103.1	105.0	103.7	102.7	102.6	99.9	101.6	103.9	101.1
Oxfordshire	102.6	101.0	104.0	103.7	102.9	98.5	98.5	102.4	103.1	102.0
Surrey	132.7	134.1	143.9	139.8	137.2	120.7	126.3	129.3	131.8	128.7
West Sussex	112.8	114.8	121.3	117.3	113.6	109.8	114.1	116.7	111.7	111.2
SOUTH EAST	113.4	113.5	116.6	116.8	116.0	111.8	111.1	113.6	113.8	112.0
Avon	103.1	101.9	99.8	100.4	100.5	104.3	102.8	101.4	102.4	101.1
Cornwall	92.8	91.5	89.6	90.3	88.6	96.6	94.1	92.2	94.3	91.3
Devon	100.9	102.0	101.1	98.3	96.3	105.6	105.9	104.0	102.1	99.0
Dorset	113.0	108.7	102.8	103.2	103.0	113.1	109.3	104.9	106.6	105.4
Gloucestershire	113.5	113.7	110.6	111.0	110.1	107.6	108.1	104.5	107.5	107.9
Somerset	101.1	102.0	100.0	100.8	98.6	102.5	103.9	101.9	103.1	99.8
Wiltshire	112.0	111.4	109.5	110.2	111.6	112.7	113.4	112.1	112.3	111.6
SOUTH WEST	105.0	104.4	101.9	101.7	101.0	106.3	105.5	103.2	104.0	102.2
Hereford and Worcestershire	100.1	102.3	103.3	100.6	101.9	96.4	98.9	101.8	100.5	102.5
Shropshire	95.8	97.9	93.7	93.1	94.8	97.3	98.5	92.6	92.6	95.3
Staffordshire	89.1	89.6	90.8	91.2	91.8	89.3	90.2	91.3	91.4	92.4
Warwickshire	99.3	103.6	105.1	104.3	104.9	96.6	99.6	100.2	100.7	102.6
West Midlands	84.6	85.4	85.3	85.5	86.9	85.9	87.2	86.8	87.9	88.5
WEST MIDLANDS	89.7	91.1	91.2	90.9	92.1	89.8	91.3	91.3	91.8	93.0
Cheshire	98.8	100.0	99.9	100.5	100.7	96.1	96.3	96.9	98.2	98.8
Greater Manchester	90.7	90.4	89.0	88.8	88.7	90.3	91.3	91.7	91.0	90.3
Lancashire	94.8	94.6	93.6	92.9	94.4	93.6	94.6	93.8	94.1	96.6
Merseyside	87.0	84.8	85.2	83.9	83.7	88.9	86.6	88.1	86.9	86.6
NORTH WEST	91.9	91.5	90.8	90.3	90.7	91.5	91.7	92.1	91.8	92.1
Clwyd	90.3	91.0	91.2	90.6	90.9	88.6	91.3	93.2	89.7	93.7
Dyfed and Powys	87.8	88.0	86.0	86.7	86.8	93.8	93.8	89.5	82.8	88.7
Gwent	84.4	85.1	84.9	84.8	84.9	87.0	87.1	87.3	84.6	88.0
Gwynedd	89.5	90.0	88.0	88.1	89.5	92.7	93.3	92.0	90.2	94.6
Mid Glamorgan	75.2	77.8	78.0	79.3	77.8	75.7	79.5	81.0	80.2	80.4
South Glamorgan	92.4	92.2	89.1	90.3	92.2	93.5	94.9	92.7	91.2	95.6
West Glamorgan	87.6	87.5	86.8	88.0	89.5	89.5	90.6	92.1	91.0	94.7
WALES	86.0	86.7	85.8	86.3	86.7	87.9	89.4	89.1	86.4	89.9
Borders	91.8	96.5	98.1	94.2	94.8	94.0	99.6	98.7	96.6	96.8
Central	95.3	93.0	91.4	91.5	94.6	98.5	96.1	92.7	92.0	95.7
Dumfries and Galloway	96.1	98.5	93.6	91.2	91.5	103.7	103.4	96.4	92.8	95.4
Fife	100.2	99.0	95.6	94.4	98.5	103.1	101.8	97.1	95.4	100.1
Grampian	108.1	106.4	102.1	104.4	110.1	106.9	106.9	102.0	104.0	111.1
Highlands and Islands	89.6	90.4	87.4	86.3	86.5	90.9	93.4	89.7	89.0	89.0
Lothian	107.8	108.0	106.6	106.8	109.4	109.4	108.4	104.1	105.0	109.2
Strathclyde	91.5	91.2	89.0	88.5	90.2	91.8	91.6	91.8	88.8	92.4
Tayside	102.9	99.9	95.4	97.8	102.9	103.2	101.2	97.7	101.3	106.7
SCOTLAND	97.2	96.7	94.1	94.1	96.7	98.2	97.8	95.6	94.6	98.5
NORTHERN IRELAND	83.3	82.6	83.0	82.9	81.1	86.8	86.0	86.6	86.0	85.2

MEASURING THE CONTRIBUTION OF FINANCIAL INSTITUTIONS TO GROSS DOMESTIC PRODUCT

By Iain Begg, Martin Weale and Stephen Wright
Department of Applied Economics, University of Cambridge

Introduction

This article presents the findings of a research project carried out by the Department of Applied Economics, University of Cambridge (DAE) for the Central Statistical Office (CSO) to measure the contribution of financial institutions to gross domestic product[1].

In the national accounts, banks and other financial institutions are assumed to earn some of their income from charging higher interest rates to borrowers and paying lower rates to depositors than they would need to if they charged explicitly for all their services. This 'hidden' charge is known as the imputed service charge. Under proposals discussed in the review of the UN System of National Accounts (SNA), this imputed service charge would be allocated to sectors of the economy deemed to be paying the charge, in order to arrive at a measure of the contribution of intermediation services to final demand. The objective of the research was to devise a method for doing this.

For simplicity, the acronym most commonly used to denote the imputed charge is used throughout this article. This is IFISC, derived from *imputation for financial intermediation service charges*.

In the current (1968) SNA, the convention adopted is that all of the imputed intermediation earnings in the interest spread are treated, like the remainder of interest payments, as transfers, with no impact on final demand. This treatment means that *IFISC* has no impact on the level of GDP. In the production accounts, accordingly, intermediation earnings are allocated exclusively to intermediate demand. The services are not allocated out by industry, but are allocated to a dummy industry which is effectively deemed to purchase the entire output from intermediation as intermediate demand, with an equivalent negative value added. In table 2.1 of the *Blue Book* this allocation is dealt with by showing it as a single line in the accounts labelled 'Adjustment for Financial Services' (CSO variable code GIJI).

The proposed revised treatment of *IFISC* under the SNA would abandon the convention that all of *IFISC* should be allocated to intermediate demand. Where intermediation services are provided as a component of final demand this element of *IFISC* would represent an upward adjustment to the expenditure measure of GDP. The counterpart adjustment on the income side would add to the operating profits of financial institutions - in contrast with the present system, in which UK financial institutions are deemed to make continuous losses at the operating level, since their revenues are incompletely measured, whilst their costs are measured in full. That part of *IFISC* which does not feed into final demand would continue to be treated as intermediate consumption; but the new treatment also proposes an allocation of intermediate consumption by industry.

The existing 'Adjustment for Financial Services' includes income flows to all financial intermediaries from securitised assets (such as dividends and bond interest) in addition to the net interest earned on bank and building society lending activities. It was however agreed between CSO and DAE at the outset that this study would focus on the 'M4 sector' of financial services - ie, the lending and deposits of banks and building societies - and would therefore exclude all securitised instruments. This was justified on the grounds that the imputation is concerned, at heart, with the interest payments associated with lending and borrowing activities of financial intermediaries, rather than with investment activity or dealing in securitised assets. In addition, much of the profit gained by financial intermediaries in dealing with securitised assets arises from capital gains which the new SNA rules out of the calculation of *IFISC*.

Main Results and Conclusions

The research suggests that the proposals for *IFISC* discussed as part of the SNA review could, by and large, be applied in the UK in the main context in which it is thought relevant, that is, to the non-securitised lending and borrowing of banks and building societies. Despite the trend towards securitisation by financial intermediaries[2], the categories of financial assets covered in this article represent a sufficiently large share of the activity of banks and building societies to warrant efforts to measure *IFISC* better.

DAE estimates of the impact of the proposed reforms on the GDP figures for 1991 are shown in the Table below.

Estimated Allocation of *IFISC* in 1991 (£ billions)

Adjustment to GDP	10.5
of which:	
Consumers' Expenditure	9.9
Net Exports	0.6
plus	
Net intermediate output of Banking & Finance Industry	13.6
equals	
Total Adjustment for *IFISC*	24.1

[1] The DAE wishes to record its thanks to the members of the Steering Group constituted to guide the research, to CSO and Bank of England staff who have helped by providing advice and supplying data, and to others who have been consulted in the course of the work. The recommendations put forward in this article are the responsibility of the authors and do not necessarily reflect the views of CSO, who are considering what actions to take in the light of this study.

Copies of the full report, which includes estimates of quarterly data, are available on request from Elizabeth Hofmann [071 270 6181] at CSO.

[2] See, for example, OECD (1992)

The estimates imply an adjustment to gross domestic product which rises from 1.5% of GDP at current factor cost in 1980 to 2.1% in 1991 (detailed figures are given in Table 1). By the new measure, GDP at constant prices has grown an additional 0.07% p.a. over the period 1980-1991. The bulk of the change is, as the table above shows for 1991, due to the adjustment to consumers' expenditure.

The main difficulties in producing the estimates related to the calculation of net exports of *IFISC*, especially on the import side, because of a lack of detailed data; and to the industrial allocation of intermediate consumption. Extending the methodology to other financial intermediaries or other classes of financial assets and liabilities would raise additional problems, and would be likely to be a much more demanding exercise.

The project raised some doubts about the availability and quality of data to make the adjustment at the level of detail needed for the *Blue Book*. Although some potential difficulties are likely to be diminished as new data already in the pipeline become available, full implementation of the SNA revisions will require some additional data collection. In addition, because it only proved possible to construct new estimates from 1979 onwards, there may be general questions of continuity of data series which might affect users' views on the desirability of any change. Furthermore, it would not be sensible for the UK to change before there is an agreed European system of methodology.

For all these reasons, a satellite account presentation of *IFISC* may be preferable until the data and methodology have been sufficiently developed, rather than an immediate move to implement the new proposals on *IFISC* in full.

Proposed Reforms to the Treatment of *IFISC* in the new SNA

The proposal on how to treat *IFISC* in the draft revised SNA is clearly stated in paragraphs 133 and 134 of Chapter 6 of the new draft:

> *The total output of financial intermediaries for which no explicit charge is made is measured in the System as their total property income receivable* ***minus*** *their total interest payable,* ***excluding*** *the value of any property income receivable from the investment of* ***their own*** *funds, as such income does not arise from financial intermediation.*
>
> *In principle, the total output should be allocated among uses of the services for which no explicit charge is made. When the requisite information is available, it is recommended that estimates of the following should be calculated and used to allocate the total output:*
>
> *(1) For those to whom the intermediaries lend funds, both resident and non-resident, the difference between the interest actually charged on loans, etc. and the amount that would be paid if a reference rate were used;*
>
> *(2) For those from whom the intermediaries borrow funds, both resident and non-resident, the difference between the interest rate they would receive if a reference rate were used and the interest they actually receive.*

The reference rate is intended to be a so-called 'pure' cost of borrowing, with no allowance for any risk premium or for intermediation services (see Mamalakis, 1987). The draft SNA text does not stipulate which interest rate to use, although the inter-bank rate or the central bank lending rate are suggested. It is also stated that if the information to make the necessary calculation is not available, different measures, such as proportions of assets and liabilities of various users of financial services, might be used to allocate the total *IFISC*.[3]

As paragraph 137 of Chapter 6 explains, the effect will be 'equivalent to reclassifying certain parts of interest payments as payments for services'. This will 'affect the values added of particular sectors and industries, and also gross domestic product (GDP). There are also implications for the flows of interest recorded in the Primary Distribution of Income Accounts. However, the savings of all the units concerned, including the financial intermediaries themselves, are not affected. Nor is the Financial Account affected.' At the time of writing, objections voiced from a number of sources have led the Inter-Secretariat Working Group on National Accounts (ISWGNA) to propose that the change should not, at least for the time being, be mandatory and that the 1968 SNA methodology can continue to be used until further studies of the new methodology have been completed.

The main visible effect of the proposed change would be to reclassify what was previously defined as a transfer between sectors as the sale of a service. Because sales to the overseas sector and the personal sector represent an increase in final demand, the change to the method of dealing with *IFISC* will increase GDP.

Issues to be addressed in implementation of the new SNA

Although the aims of the proposed SNA revisions in the treatment of *IFISC* are clear enough, there are several issues which need to be addressed in order to arrive at a practical methodology for implementing the changes. These include the coverage within banking and finance (both in terms of institutions, and in terms of financial instruments); the choice of reference rate; how to estimate exports and imports; the separation of price and volume components in *IFISC*; and the availability and reliability of suitable data and possible alternatives to the approach embodied in the SNA revisions[4].

Coverage

As noted above, the analysis presented here is limited to the 'M4 sector'. The question of treatment of 'own funds' of financial intermediaries is, however, one that could cause difficulties (Pettigrew, 1989; Bournay, 1991; and Bournay et al 1992). In principle, any interest earned on lending of these should be regarded as property income rather than an implicit charge for a service. Similar questions arise about the treatment of dividends paid by them. However, it can equally be argued (for example, by Pettigrew, 1989) that own funds have in fact been obtained by raising capital and this can also be portrayed as intermediation. Bournay et al. (1992), while agreeing in principle with the proposed SNA revision, argue 'that a distinction should be drawn between the function of financial intermediation performed by financial intermediaries and

[3] The DAE study did however identify difficulties with alternative allocation methodologies. These essentially stem from problems relating to the treatment of sectors of the economy which are net debtors, or net creditors, of the banking system. However, once allowance is made for the costs to the banks of providing intermediated funds to net debtors, or the opportunity for intermediation earnings from onlending the net deposits of creditors, these alternative allocation methodologies can be shown to be identical to the reference rate approach.

[4] For a description of other approaches to measuring the contribution of financial intermediaries to GDP interested readers are referred to the papers by Triplett (1991) and Pettigrew (1989), and the work by Berger and Humphrey (1992).

the function of production of services of financial intermediaries (currently called bank services). Both functions are closely related but they do not strictly cover each other'.

Choice of reference rate

The gap between the reference rate and the rate either charged to borrowers, or paid out to depositors, reflects two components: the level of service provided (including risk-bearing services); and a profit margin. In practical implementations, the questions about the reference rate are whether to adopt a single rate or multiple rates, and how to choose an appropriate rate. Any reference rate should ideally be regularly and consistently measured, bear a reasonably close relationship to market rates, and be characterised by there being unconstrained borrowing and lending activity at spreads close to it, since such a rate will approximate most closely to the notional 'pure' market interest rate. As the draft SNA notes, the three-month sterling interbank rate meets these criteria, and is used in the empirical work which follows as the reference rate for most of the components of the *IFISC*.

For the UK, however, this measure of the reference rate was felt to be inappropriate in two important areas. First, because interest rates differ for different currencies, it is more appropriate, in the case of foreign currency transactions between banks and both domestic and overseas residents, to use an average of currency-specific short-term market rates, weighted by the currency composition of the asset or liability in question.

The second problem area was the building societies sector. In principle, and also in practice over the longer term, the societies are subject to the same competitive pressures as the banks, implying an identical reference rate. However, they are to a considerable extent insulated from the necessity to match market-related rates *in the short term*, by virtue of the structure of their balance sheets.[5] This relative insulation of the societies is reflected in the fact that there have been a number of instances of negative interest margins between the societies' mortgage or deposit rates and the interbank rate. In constructing the reference rate used for the empirical estimates which follow, it was accordingly assumed that, whilst, *on average*, the reference rate for building societies should equal the reference rate used for other sterling activities, short-term changes in the intermediation margin should reflect the actual margin between deposit and mortgage rates. Thus, the reference rate for building societies was constructed as a weighted average of societies' own mortgage and deposit rates, such that the weight implied that *on average* the rate so constructed should equal the average three-month inter-bank rate. Using this approach implies that, on average, 40% of societies' intermediation earnings are made on deposits, and 60% on mortgage lending, relative to the 'true' market reference rate.

Exports and imports

Disentangling the export and import elements of *IFISC* poses particular problems. Luxembourg, which has had to confront these questions because a high proportion of economic activity is in the financial services sector, has made particular efforts to devise new approaches to the measurement of output (see Als, 1988). The main problem that arises is that although it is generally possible to obtain information on 'exports' of *IFISC* based on data submitted by indigenous financial intermediaries, the corresponding 'imports' need, in principle, to be summed across all partner countries.

[5] At the end of 1992, wholesale funding, with market related interest rates, represented around 18% of societies' balance sheets; however since they also held some 16% of their assets in market related instruments, their *net* exposure to short-term market forces is limited. Until 1982, indeed, the societies had no wholesale funding at all.

Constant Price Estimates

Of the various possible ways of producing estimates in constant prices, the conclusion of the DAE project was that the most appropriate is to adopt a treatment similar to that currently used for the CSO'S constant price measure of the 'Adjustment for Financial Services'. Changes in interest-rate differentials are assumed to represent a change in the price, rather than volume of intermediation services. Volume movements are assumed to be proportional to changes in the real value of the relevant stocks of assets or liabilities. Given that base-year values are given by the interest differential multiplied by the relevant stock variable, the constant price measure is equivalent to multiplying stocks, expressed in constant prices, by the base-year interest differential.

Data availability and sources

Even if the merits of the approach to the *IFISC* proposed in the draft SNA are accepted, the case for implementing the SNA revisions is bound to be contingent on data availability and reliability (Pitzer, 1992). For the UK, this is not an insuperable problem in most areas. The data sources used in the empirical work which follows were mainly drawn from CSO series for banks' and building societies' interest payments and receipts, which currently feed into the dividends and interest matrix (for a description, see McIntyre, 1992). Additional data on banks' overseas activities were obtained from published series, and from the Bank of England.

Illustrative estimates of the adjustments to components of final demand

The total adjustment to final demand and its major components are shown in table 1.

Consumers' expenditure

The bulk of the intermediation services to the personal sector were assumed to be provided to final demand, and hence to represent a component of consumers' expenditure. Intermediation on loans for house purchase, and on loans to the unincorporated business sector, were excluded, however, as representing intermediate consumption.

In the reference rate approach, the wider the margin between the reference rate and the rate of interest paid or charged to lenders and borrowers, the greater is the 'hidden' service implicitly provided by financial intermediaries to their depositors and borrowers. These margins and the stocks of the different components of personal sector assets and liabilities with M4 institutions determine the relative contribution of each class of imputed service to the aggregate adjustment to consumers expenditure. Chart 1 shows the implied interest margins - as measured by the gap between the relevant interest rate and the reference rate - on the major components of the adjustment to consumers' expenditure.

The largest contribution to the *IFISC* for consumers' expenditure (averaging at between a third and a half of the total adjustment) comes from bank sight deposits. Because the margin on sight deposits tends to widen as interest rates rise - particularly where such accounts pay no interest, it is, as expected, closely correlated with the nominal interest rate. This is not the case for any of the other margins. Some narrowing, over time, of the sight deposit margin has been offset by a widening of the time deposit margin, reflecting the

advent of interest-bearing current accounts. The stability of the margin on bank lending in recent years reflects an assumption made by the CSO in the absence of superior information. The building society margin (on deposits) is quite low - averaging around 0.8% over the period since 1984. This low margin is to some extent offset by the sheer size of the societies' deposit base; nonetheless the building societies' component averages only just over one tenth of the total adjustment to consumers' expenditure in recent years.

The calculations of the adjustment to consumers' expenditure at constant prices were produced by multiplying the base period margins by the relevant stock variable, converted into constant 1985 prices using the consumers' expenditure deflator, in line with the rationale outlined above.

Chart 2 shows the total adjustment, as a share of total consumers' expenditure, in current and constant prices. The current price share is considerably more volatile than the constant price share, reflecting movements in intermediation margins, which, as noted above, are treated as a change in price rather than volume. The constant price share displays a long-term upward trend reflecting the rise in M4 aggregates relative to GDP. This upward trend was particularly evident during the period of rapid growth of broad monetary aggregates in the late 1980s; whilst with the slowdown in growth of lending and deposits in the recent past the share has fallen back somewhat. The upward trend is broadly matched by the current price share, suggesting no long-run trend movement in the implied 'price' of financial intermediation.

Public Consumption

The adjustment to Public Authorities' current expenditure is estimated in the same way as the adjustment to consumers' expenditure. Since public consumption is calculated by adding up components of cost, no adjustment is made to the industries which produce public consumption; the whole of the imputed charge is seen as an extra input bought in. The amounts involved are very small, amounting to £53m in 1991.

Net Trade

The adjustment to net trade is dominated by intermediation flows between UK banks and the overseas sector. Financial intermediaries in the UK provide services to overseas residents, part of which constitute exports of *IFISC*, while services provided by overseas intermediaries to UK residents similarly constitute imports. The 'exports' add to final demand, whereas the 'imports' subtract from it. If, as in Luxembourg, there is a large net export (see Als, 1988), the new approach to *IFISC* will result in an increase in GDP. However any impact on GDP will be precisely offset by a fall in property income from abroad, thus leaving GNP unchanged.

The breakdown of the *net* exports of the UK banking sector into imports and exports presented some problems. Following the reasoning of Fixler and Zieschang (1992), the logic of the reference rate approach is that both the magnitude and the *direction* of any intermediation service can be inferred from the margin between rates banks actually pay, and the relevant reference rate. Thus if banks routinely paid *less* than the reference rate on their overseas liabilities, it would be inferred that an intermediation service was being provided to overseas agents (as occurs with banks' domestic liabilities). However, it was found that, almost all of the time, banks appear to pay out a higher rate than the reference rate on their liabilities, implying that the intermediation flow on liabilities is actually *towards* the banks, and accordingly these were deemed to be an import. However, the *net* export figure (ie exports *less* imports) is unaffected by the treatment of the gross flows.

The resulting figures show a total adjustment made up of an adjustment on foreign currency activities on average around twice to three times as large as the adjustment on sterling, but with some considerable degree of volatility in the overall total.

The treatment of banks' net overseas intermediation earnings in this article differs from the measures of banks' intermediation earnings provided in the 'City' table linked to the balance of payments (in the *Pink Book* up to 1990 and subsequently in the press notice issued by *British Invisibles*). There are two differences. The City table looks only at 'exports' of intermediation earnings, i.e. those arising from lending to overseas residents. This is taken to be 'overseas interest receipts less that part of interest payments overseas corresponding to the same level of overseas liabilities as that of assets (assuming an average cost of funds)'. This gives a single net export figure, whereas the use of a reference interest rate as in this article would distinguish between an 'export' and a partly offsetting 'import' (although the net figure would be identical). However, this article also covers an element of intermediation services affecting overseas residents which is not covered in the City table (whose emphasis is on exports, not imports), that is, the element of intermediation services arising from UK banks' borrowing from abroad for on-lending to UK residents. Here the banks' receipts from these intermediation services from UK borrowers are domestic transactions, whereas the payments to those overseas providing the funds (including the intermediation element) appear as overseas transactions (that is, imports). Once this conceptual difference is recognised, it can be seen that the approach set out in this article complements that in the City table.

The only available information which can be used in constructing an adjustment to imports other than those to banks themselves is data on transactions by the UK non-bank private sector with overseas banks, which originates from data collected by the Bank for International Settlements and the IMF. The available information on the composition of the stocks involved was not sufficient to construct a reliable adjustment for other imports. An explanation for this can be drawn out of an examination of the most recent data: in 1991, UK non-banks had total net earnings of £316 million, on net *liabilities* of £9.2 billion. This feature of the data is only consistent with the non-bank financial institutions *providing*, rather than receiving, intermediation services to overseas banks (analogous to the way that, as noted above, UK banks appear to *receive* intermediation services on their liabilities).

Because of data inadequacies, the estimate of this element of the imports adjustment was of necessity very crude. Those non-bank property income flows not attributable to non-bank financial intermediaries, which were assumed not to relate to *provision* of intermediation services, were scaled by the estimated proportion of intermediation margin in *banking* flows for UK banks. Given the relatively low level of the initial flows, and the low estimated proportion of intermediation (averaging at 10% over all data, and significantly less in the recent past), the resulting figures are not very large: averaging around £500 million per annum in recent years.

This component of the imports adjustment was assumed to represent an intermediation service provided to intermediate, rather than final consumption. This needs to be borne in mind since, in principle, to the extent that intermediation services are provided to the personal sector by overseas banks, they should also be added to the consumers' expenditure adjustment (which only records the domestically provided component of the adjustment rather than the total), and hence have no impact on GDP. Only when these services represent *intermediate* consumption of non-banks will they have any impact on GDP.

The approach to converting both export and import adjustments into constant price terms differed from the approach used for the adjustment to consumers' expenditure. The current price adjustment was simply divided by the deflator for total final expenditure. The impact of using alternative deflators - for imports, and total GDP - was also examined; but compared to the volatility that arises in the current price measure due to the causes outlined above, the differences due to different deflators were relatively minor. The approach to deflation of trade flows was chosen for its simplicity, and for its similarity to the current treatment of net property income from abroad. It should be noted, however, that it is not consistent with the approach used for the adjustment to consumers' expenditure, whereby the real series was derived from real stocks, multiplied by the base year spread. Such an approach could, in principle, be applied to trade flows, but would require a breakdown of all flows into component currencies in order to convert stocks correctly into constant (local currency) prices. As noted above this breakdown was only partially available.

Estimates of the Adjustments to Intermediate Demand

The adjustments to final demand must be complemented by estimates of adjustments to intermediate demand in order to give a full picture of the magnitude of *IFISC* and in order to assess the importance of each industry in GDP as a whole. Adjustments to intermediate demand arise from imputed purchases of intermediation by the business sectors of the economy (unincorporated businesses, companies and public corporations) from the monetary sector institutions. An imputed charge is also made on the provision of mortgages, because the provision of housing services is treated in the national accounts as a business activity involving households. The imputed charge on mortgages is accordingly a debit against the conventional estimate of value added arising from ownership of dwellings.

The calculation of the adjustments to intermediate demand follows straightforwardly from the basic principles applied to final demand:

- an imputation is made only for transactions made by monetary sector institutions, and
- no imputed intermediation takes place on funds borrowed or lent through marketed securities, even if the rate of return on investments in some particular market security is different from the reference rate.

As in the calculation of the adjustments on sterling final demand, the 3-month interbank rate was used as the reference rate on sterling lending. The only exceptions to this were building society (but not bank) mortgages where the special building society reference rate was used; and foreign currency transactions for which the relevant foreign currency rate was used.

The full details of the adjustments calculated by sector on an annual basis are shown in table 2.

The adjustments to intermediate and final demand can now be brought together to calculate IFISC on the new basis. This measure is net of intermediation bought in by the financial services industry from its own suppliers in the M4 sector and from abroad.

Table 3 shows the financial adjustment as calculated on the new basis and the extent to which it is associated with an increase in final demand. The financial adjustment is calculated as the net supply by the banking and finance sector. This is the sum of total supply to final demand shown in table 1 and the total intermediate adjustment shown in table 2. From this is deducted the imputed intermediation bought in by the non-monetary financial institutions (shown in table 2) from domestic supply. This yields the total net supply of imputed intermediation by the banking and finance sector. The component of this which is sold to final demand and leads to an increase in GDP is also shown. The absence of information on imports and exports before 1979 means that estimates of the total *IFISC* cannot be calculated before 1979.

Table 4 shows estimates of industrial value added, calculated on the new basis. For each industry, value added is first shown on the present *Blue Book* basis. The intermediation bought in by each industry is shown broken down to intermediation associated with bank deposits, bank lending and the total attributed to public corporations on both borrowing and lending.

The amounts associated with the public corporations are small and are allocated between the four industries in which the public corporations operate (Energy, Manufacturing, Transport and Other Services) in equal proportions for want of better information.

The imputed charge associated with bank deposits was calculated by allocating the total for unincorporated businesses and industrial and commercial companies taken together in the proportions given by the stocks of cash in hand and bank deposits shown in the *Business Monitor MA3*. Since MA3 was discontinued after 1990, the 1990 proportions were used for 1991. This allocation probably puts too much adjustment in manufacturing at the expense of the other sectors.

The imputed charge associated with borrowing by unincorporated businesses and industrial and commercial companies is allocated in proportion to stocks of bank lending given in table 6.7 of *Financial Statistics*.

The adjustment to value added through ownership of dwellings assumes that all mortgage lending is used for house purchase. This assumption is manifestly not tenable, but is probably a tolerable approximation and it is difficult to envisage a more satisfactory approach.

The treatment of Banking, Finance, Insurance etc. is slightly more complicated. The industry is both a supplier and a user of intermediation. The supply represents additional value added, but the use of intermediation by non-monetary sector institutions must be debited. The balance is the estimate of *IFISC* or the new financial adjustment shown in table 3. It represents the net value added imputed to this industry as a consequence of financial intermediation.

The total for all industries shows the adjustment in aggregate. To the *Blue Book* figure is added the extra net value added supplied by Banking, Finance, Insurance etc. However, there is a deduction for the intemediation consumption of other industries. The balance is shown as the contribution to value added made by the margin on financial services.

Table 5 shows how the relative importance of the value added in the different industries is changed by the new definition. *IFISC* is not shown explicitly in the calculation of the new weights because it is fully allocated across the industries.

Although the new treatment appears to give a lower weight to Banking, Finance, Insurance etc. in total value added, this is only true because the *Blue Book* figures are presented gross of *IFISC*. Net of

IFISC, the share of this industry rises from 12.7% to 17.2% of total value added, with offsetting reductions in the shares of the other industries.

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Chart 1. Implied margins vs reference rates

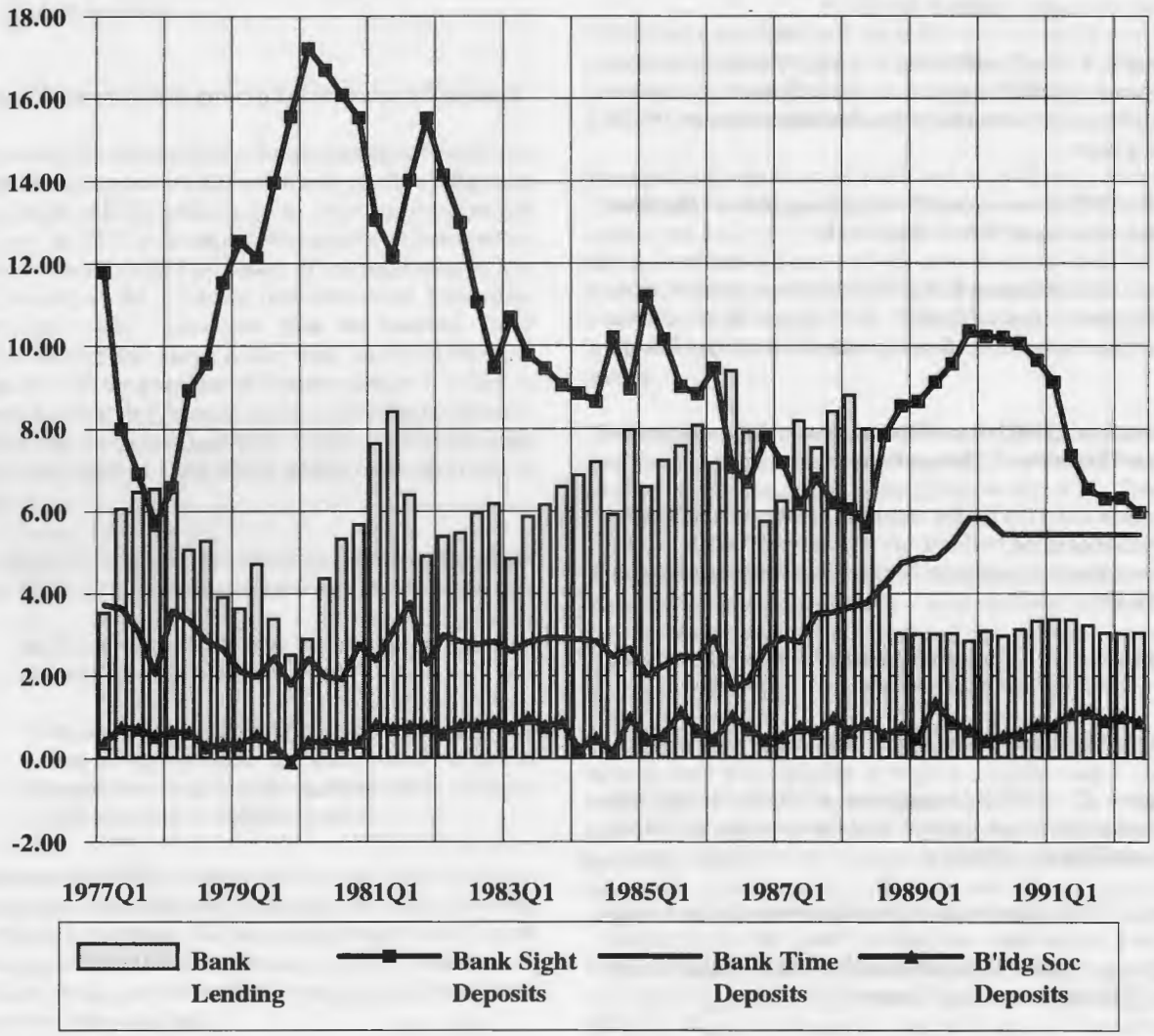


Chart 2. Adjustment for intermediation services as % of total consumers' expenditure, at constant and current prices

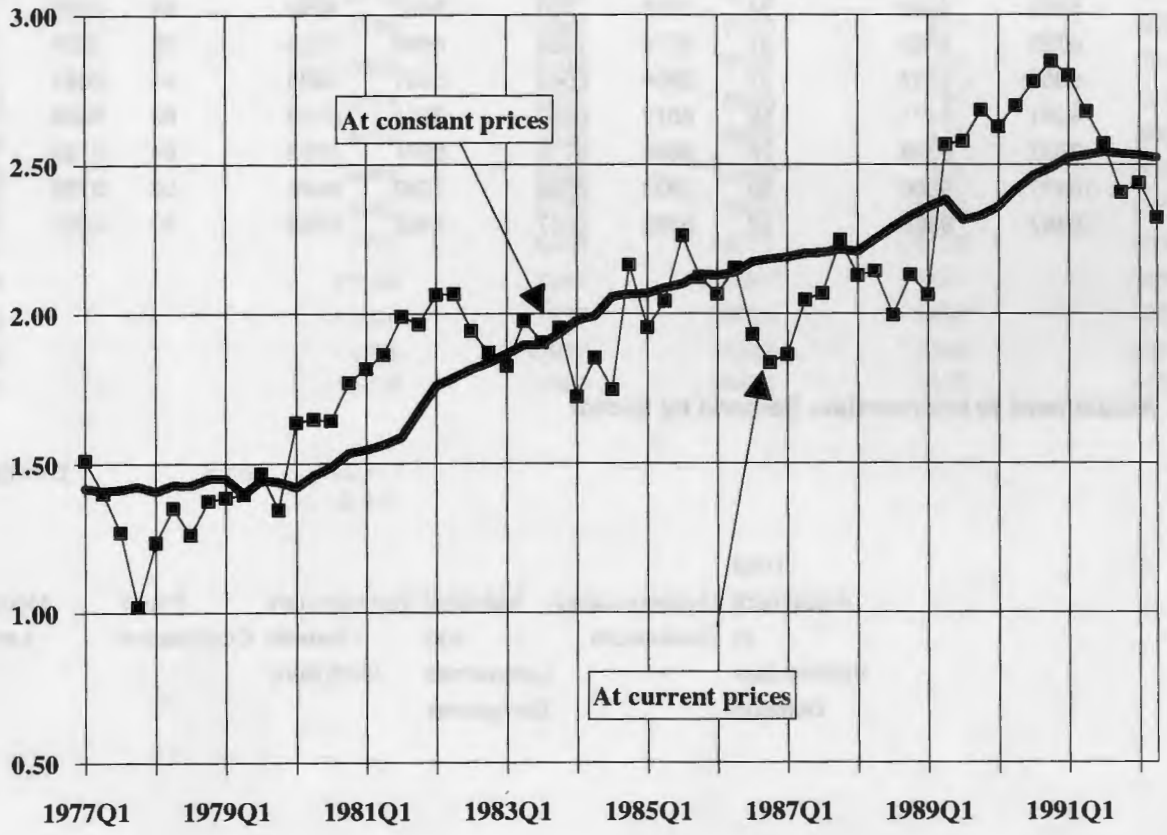


Table 1. Adjustments to Expenditure Measure of GDP

£ millions

	At current prices					At constant prices				
	Total of which, to:					Total of which, to:				
	Adjustment	Private Consumption	Public Consumption	Exports	Imports	Adjustment	Private Consumption	Public Consumption	Exports	Imports
1979	1426	1699	16	963	1253	2414	2840	26	1566	2018
1980	2932	2378	22	819	288	3679	2930	31	1183	465
1981	3961	3027	24	5828	4918	4347	3173	31	7340	6197
1982	4609	3451	40	3817	2699	4982	3627	47	4456	3149
1983	5032	3651	31	4631	3280	5540	4005	34	5148	3647
1984	5636	3810	24	6370	4567	6270	4341	25	6698	4795
1985	6632	4688	34	2268	358	6632	4688	34	2268	358
1986	6725	4943	37	3574	1828	6889	5133	36	3505	1786
1987	5986	5627	47	2854	2543	5881	5536	44	2687	2387
1988	6261	6471	59	6017	6287	5941	6129	53	5389	5629
1989	7837	8393	76	6084	6716	6077	6553	64	5130	5669
1990	10927	9860	63	3933	2929	7689	6846	50	3128	2335
1991	10487	9858	53	5592	5017	7462	6992	40	4261	3831

Table 2. Adjustment to Intermediate Demand by Sector

£ millions

	Total Adjustment to Intermediate Demand	Unincorporated Businesses	Industrial and Commercial Companies	Non-monetary Financial Institutions	Public Coporations	Mortgage Lending
1977	1724	400	1095	107	9	113
1978	1994	528	1212	182	8	64
1979	2541	815	1487	277	8	-45
1980	2747	984	1367	370	11	15
1981	3189	1019	1380	427	9	354
1982	3528	1078	1689	393	18	349
1983	3474	1182	1410	451	14	417
1984	4053	1410	1712	433	19	479
1985	5667	1942	2205	622	33	864
1986	6965	2215	2634	1073	21	1023
1987	7791	2332	2912	1136	19	1393
1988	10086	3010	3979	1477	24	1597
1989	13036	4127	5260	1904	18	1727
1990	14678	4871	6215	2249	15	1328
1991	15714	4620	6284	2119	12	2679

Table 3 The Net Supply of Financial Intermediation by the Banking and Finance Industry

£ million

	Total Adjustment to Intermediate Demand	Total Adjustment to GDP	Total Supply by Monetary Sector Institutions	Input to Non-monetary Financial Institutions	IFISC Net supply by Banking and Finance Industry
	1	2	3	4	5
1979	2541	1426	3967	277	3690
1980	2747	2932	5679	370	5309
1981	3189	3961	7150	427	6723
1982	3528	4609	8137	393	7743
1983	3474	5032	8506	451	8055
1984	4053	5636	9689	433	9256
1985	5667	6632	12299	622	11677
1986	6965	6725	13690	1073	12617
1987	7791	5986	13777	1136	12642
1988	10086	6261	16347	1477	14870
1989	13036	7837	20873	1904	18969
1990	14678	10927	25605	2249	23356
1991	15714	10487	26201	2119	24083

Note 1+2 = 3
3-4=5

Table 4 IFISC and Total Value-Added by Industry (£ millions)

	1989	1990	1991
Agriculture			
Value Added (Blue Book Definition)	**8139**	**8753**	**8772**
Imputed Charge on Bank Lending to Private Sector	-154	-168	-184
Imputed Charge on Bank Deposits to Private Sector	n/a	n/a	n/a
Value Added (after Adjustment for IFISC)	**7985**	**8585**	**8588**
Energy and Water Supply			
Value Added (Blue Book Definition)	**23771**	**25456**	**28273**
Intermediation charged to Public Corporations	-5	-4	-3
Imputed Charge on Bank Lending to Private Sector	-95	-104	-138
Imputed Charge on Bank Deposits to Private Sector	-282	-403	-368
Value Added (after Adjustment for IFISC)	**23389**	**24946**	**27764**
Manufacturing			
Value Added (Blue Book Definition)	**99702**	**105808**	**104283**
Intermediation charged to Public Corporations	-5	-4	-3
Imputed Charge on Bank Lending to Private Sector	-947	-1125	-1208
Imputed Charge on Bank Deposits to Private Sector	-4570	-5451	-4986
Value Added (after Adjustment for IFISC)	**94180**	**99229**	**98086**
Construction			
Value Added (Blue Book Definition)	**32084**	**35616**	**33686**
Imputed Charge on Bank Lending to Private Sector	-308	-388	-433
Imputed Charge on Bank Deposits to Private Sector	-182	-254	-232
Value Added (after Adjustment for IFISC)	**31594**	**34974**	**33021**
Distribution, Hotels and Catering			
Value Added (Blue Book Definition)	**64651**	**71865**	**73024**
Imputed Charge on Bank Lending to Private Sector	-816	-933	-1074
Imputed Charge on Bank Deposits to Private Sector	-817	-942	-862
Value Added (after Adjustment for IFISC)	**63019**	**69990**	**71088**
Transport and Communication			
Value Added (Blue Book Definition)	**31073**	**33487**	**34755**
Imputed charge to Public Corporations	-5	-4	-3
Imputed Charge on Bank Lending to Private Sector	-136	-165	-216
Imputed Charge on Bank Deposits to Private Sector	-432	-323	-295
Value Added (after Adjustment for IFISC)	**30500**	**32995**	**34241**
Ownership of Dwellings			
Value Added (Blue Book Definition)	**25915**	**30254**	**34839**
Imputed Intermediation on Mortages	-1727	-1328	-2679
Value Added (after Adjustment for IFISC)	**24188**	**28926**	**32160**
Banking and Finance			
Value Added (Blue Book Definition)	**82776**	**87151**	**88179**
Less Adjustment for Financial Services (Blue Book Definition)	-26052	-26159	-27171
Value Added excluding Intermediation Earnings	**56724**	**60992**	**61008**
Gross Intermediation Margin of Financial Sector	27589	28534	31217
less Imputed Intermediation to non-M4 Financial Institutions	-1904	-2249	-2119
less Imports of Intermediation Services (see note (1))	-6716	-2930	-5017
equals Adjustment for Financial Services (New Definition)	18969	23356	24082
Value Added (after Adjustment for IFISC)	**75693**	**84348**	**85090**
Public Administration and Defence			
Value Added (as Blue Book Definition: see note (2))	**28447**	**31647**	**34786**
Education and Health			
Value Added (as Blue Book Definition: see note (3))	**41156**	**44815**	**49643**
Other Services			
Value Added (Blue Book Definition)	**29474**	**30431**	**33915**
Imputed Charge to Public Corporations	-5	-4	-3
Imputed Charge on Bank Lending to Private Sector	-649	-830	-910
Imputed Charge on Bank Deposits to Private Sector	n/a	n/a	n/a
Value Added (after Adjustment for IFISC)	**28821**	**29597**	**33003**
All Industries			
Value Added (Blue Book Definition)	**441136**	**479124**	**496984**
Adjustment for Financial Services (New Definition)	18969	23356	24082
less Net Intermediate Output of Banking & Finance	-11132	-12429	-13595
equals Adjustment to GDP	7837	10927	10487
Value Added (after Adjustment for IFISC)	**448973**	**490051**	**507471**

Notes

(1) All imports are debited here, since most can be attributed to this industry and the remainder cannot be allocated.
(2) No adjustment is made here since value added is calculated as the sum of income from employment and imputed rent
(3) It has not been possible to calculate an adjustment to private sector value-added for this industry

Table 5 Value Added in 1990 on the Current and Revised Basis

	Blue Book £ million	New Definition £ million	Blue Book Weight	New Weight
Agriculture	8753	8585	18.27	17.52
Energy and Water Supply	25456	24946	53.13	50.90
Manufacturing	105808	99229	220.84	202.49
Construction	35616	34974	74.34	71.37
Distribution, Hotels and Catering	71865	69990	149.99	142.82
Transport and Communication	33487	32995	69.89	67.33
Ownership of Dwellings	30254	28926	63.14	59.03
Banking, Finance and Insurance	87151	84348	181.90	172.12
PAD	31647	31647	66.05	64.58
Education and Health	44815	44815	93.54	91.45
Other Services	30431	29597	63.51	60.40
Financial Adjustment	-26159		-54.60	
All Industries (income measure)	479124	490051	1000	1000

TESTING FOR BIAS IN INITIAL ESTIMATES OF KEY ECONOMIC INDICATORS

U M Rizki, Central Statistical Office

For the CSO, reducing the frequency and the magnitude of revisions is a key element in improving the quality of UK economic statistics. Reflecting this the CSO's agency framework document includes, in addition to targets for limiting the revisions of a set of key indicators, a requirement to test regularly all the revision indicators for evidence of bias.

Following the establishment of the enlarged CSO in mid 1989 and work on other recommendations in the Pickford report[1] the CSO launched an extensive programme of improvements to data sources and methodology. These were designed to reduce the need for revisions to early estimates and in particular to ensure that the early estimates do not consistently understate or overstate the growth rate.

An article in the May 1992 issue of *Economic Trends* reported the results of the first analysis of potential bias, covering 10 years of data up to the end of 1991. This article updates this analysis by shifting the 10-year data span to the end of 1992.

Methodology

The same methods have been used here as in the May 1992 article. A simple definition of bias is used; an indicator is considered to be biased if in the long run its mean revision is different from zero. But we have to allow for the fact that average revision over some period may be non-zero simply through random effects. Therefore, we need to test whether an observed mean differs from zero by more than could be expected due to random effects; in statistical terminology, whether the mean revision is significantly different from zero.

As before, the t-test was first applied to test the significance of mean revisions. However, this statistical test requires the assumptions of normality and the independence of successive revision values. Therefore a non-parametric test known as the Wilcoxon signed rank test was used, since it requires no assumption about the underlying distribution. In case of any serial correlation between the successive revision values, the Cochrane-Orcutt regression was applied, which is a procedure that allows for such correlation in a t-test. The revisions series were also tested for the effects of economic cycles by regressing the revision values on a dummy variable of +1 for the expansion phase and -1 for the contraction phase.

The periods covered for this analysis in all cases are 10 years from 1983 to 1992, 5 years from 1988 to 1992 and 3 years from 1990 to 1992 inclusive. The dating here refers to publication of the revised data. For example with the long term revision to GDP, where the revision taken is three years after the first publication, the final value included relates to Q3 1989, the twelfth revision of which appeared in the quarterly GDP Press Notice in December 1992.

The tests for bias were carried out over the 10 year, 5 year and 3 year periods. Where ten years data were not available, the first period covered the longest possible span; all series covered at least five years.

[1] Government Economic Statistics: A scrutiny report

Conclusions

The main purpose of this article is to update last year's analysis by adding the data for 1992 and to examine the results to see if any improvements have been made to the revision practices. Although results based on just one year of new data cannot be conclusive, the analysis in this article shows that the average revisions have been reduced in 27 out of the 33 cases examined for the 11 economic indicators, over all three periods ending in December 1992.

Despite the lowering of the average revisions, the t- values for GDP in both constant and current prices remained significant[2] for all three periods, showing that a tendency to bias still exists in the initial estimates of these two economic indicators which on average are revised upwards. The areas where the t-values have changed from significant to non-significant levels are GDP (total output) for the 10 year period, PPI for the latest 3 year period and current balance (long term) for the 10 year period. On the other hand, the t-value for current balance (long term) changed from a non-significant to a significant level for the latest 3 year period. For the rest the t-values remained non-significant. Wilcoxon tests, which were done only on 10 years data, confirmed the findings of the t-tests.

Significant serial correlation was observed in PPI and GDP at constant prices. A Cochrane- Orcutt regression reduced the significant t-value for PPI to a non-significant level. For GDP the t-value is reduced, but remains significant.

The regression of initial estimates on economic cycles shows that during the ten year period to 1989, when there were two expansion and two contraction periods, the phase of business cycles has no detectable effect on the overestimation or underestimation of the growth rates.

The detailed results are shown in the table and are discussed below in the sections relating to each indicator.

Visible trade

The visible trade balance is the difference between the values of exports and imports on a balance of payments basis. Monthly estimates are published in *Monthly Digest* and in *Economic Trends*. The revisions over three months are taken as a percentage of total trade (exports+imports). All three periods covered end in December 1992, the publication date of the revised estimates for August 1992.

The t-values for all three periods are non-significant. The Wilcoxon test is also not significant. There were more negative than positive revisions, particularly in the latest 3 year period. The mean revision over the 10 year period ending December 1992 is lower than that over the 10 year period ending in December 1991, but the mean revisions in the latest 5 and 3 year periods are higher.

Index of production

The index of production is for all industries other than construction

[2] The significance level of a test for bias is a measure of how unlikely the test results would be if the process were really unbiased. For example when we say that the 10 year mean revision to GDP (0.43) is highly significantly different from zero we mean that if the long-run average revision were really zero, the chance that a sample of 40 revisions would have a mean differing from zero by 0.43 or more is 1% or less.

(SIC Divisions 1-4). The monthly index is published in *Monthly Digest*. Revisions to the three months on three months growth rate are taken as the difference between the fourth and the first estimate. The figure published in the December 1992 issue, consequently, relates to the third revised estimate for July 1992.

The mean revisions in all three periods ending in December 1992 are down compared to the same periods ending in 1991. The t-values for all three periods are non-significant, as is the Wilcoxon test.

Producer Price Index (PPI)

The revisions relate to the index numbers of producer prices for the output of manufactured products (SIC Division 2-4). The index is published in Table 18.6 of *Monthly Digest*. Revisions over two months to percentage annual growth are taken and the figures published in December 1992 refer to the revisions of growth in September 1992.

Absolute mean revisions for the three periods ending in December 1992 were lower than for the corresponding three periods ending in 1991. The t-values, which were significant at a 1% level for all three periods ending in 1991, were reduced to a 5% significance level for the 10 and 5 year periods and to a non-significant level for the latest 3 year period ending in December 1992. This was due to a predominance of negative or no revisions in 1992. In addition the three years from 1990 to 1992 included only half of the unusually high revisions spanning 1989 and 1990 which were mentioned in the previous article. Some improvements have also been made in the procedure for the collection of data by making the PPI inquiry a statutory requirement.

Retail sales

The index of retail sales volume is published in *Monthly Digest*. The revision analysis is based on three months on three months percentage growth as revised three months after the first publication. The reading for December 1992 refers to the revisions made to the latest three month on three month percentage growth for August 1992.

The t-values for all three periods were not significant. The average revisions over all three periods ending December 1992 remained roughly the same as for the corresponding periods ending December 1991.

GDP (total output)

The revision taken for this analysis is the difference between 10 week estimates, published in quarterly GDP Press Notices and *Economic Trends*, and 6 week estimates, released through CSO's Press Notices, for the quarterly changes in total output. The last figure for Q4 1992 relates to the 10 week estimate for Q3 1992 published in the quarterly Press Notice in December 1992.

The mean revisions for all three periods ending in 1992 have been reduced compared to the corresponding periods ending in December 1991. The t-value over the 10 year period has changed from a 5% significance level to an non-significant level. The t-values for the other two periods have remained non-significant. Non-significant results were obtained by the Wilcoxon test for all three periods. The reduction in the mean revisions occurred due to a combination of small revisions in 1992 and corrections to 1991 data.

GDP (short term, constant prices)

Quarterly estimates are published in quarterly GDP Press Notices and in *Economic Trends*. Revisions for quarter on quarter growth in GDP is taken from the first estimate and the estimate six months later. Consequently the figure included for Q4 1992 relates to the second revision to Q1 1992 published in the quarterly GDP Press Notice in December 1992.

This analysis shows reductions in mean revisions in all three periods compared to the previous analysis, due to smaller positive and relatively large negative revisions in the quarters of 1992. The t-values for all three periods remained non-significant, which is also confirmed by the Wilcoxon test for the 10 year data.

GDP (longer term, constant prices)

Revisions to the four quarter growth of GDP are taken from the initial estimate and three years later. The last revision included in the analysis relates, therefore, to the twelfth revision to Q3 1989, published in the quarterly GDP Press Notice in December 1992.

The t-values for all three periods are still significant although the mean revision for the three year period ending in December 1992 is much lower than the mean in the previous three years ending in December 1991. Wilcoxon test remained at the same significance level as before.

A regression of the 10 year data and the two spans of five years on a business cycle variable showed a non-significant effect of the phase of the cycle in all three cases.

GDP (longer term, current prices)

Estimates for GDP in current prices are not available for the whole 10 year period. The longest period covered, therefore, is 7 years (31 observations) to end 1992 (the period covered for the last analysis was only 6 years to 1991). Revisions are taken over twelve quarters for the four quarter percentage growth rate. The last figure relates to the 12th revision to Q3 1989 published in the quarterly GDP Press Notice in December 1992.

The t-values for all three periods are highly significant as these were in the previous analysis for data series ending 1991. Although the mean revisions for the 10 and 5 year periods are slightly lower than before the 3 year average rose from 0.85 to 1.03.

Current balance (short term)

The current balance is the difference between exports and imports of visible trade and invisible (services, transfers, interest, profits and dividends). The figures are published in the balance of payments Press Notices. For the bias analyses, revisions over six months are taken for the current balance as a percentage of GDP at factor cost. The last reading for Q4 1992 relates to the second revision to Q1 1992, published in December 1992.

The t-values for all three periods are non-significant as in the previous analysis. The average revisions for the 10 and 3 year periods ending 1992 are lower than for the same periods ending in 1991. Negative and positive revisions were evenly distributed in 1992.

Current balance (longer term)

Longer term revisions to the current balance are taken as a percentage of GDP over three years. The last figure for Q4 1992, therefore, relates to the revisions to Q3 1989. Due to a civil service dispute the data for Q1,2,3 1984 (publication dates) are not available. The total number of observation over the ten years is, therefore, reduced to 37.

The t-value for the 10 year period changed from a significant level in 1991 to non-significant in the period ending 1992. However, while the t-value for the 5 year period remained non-significant the average revision increased and the t-value became significant for the three year period ending in December 1992 compared with a non-significant t-value for the same period ending in 1991.

Public Sector Borrowing Requirement (PSBR)

Monthly estimates of PSBR are published in Press Notices and *Financial Statistics*. Revisions over three months are taken for PSBR (not seasonally adjusted) as a percentage or GDP at market prices. The last figure published in December 1992, therefore, relates to the third revision to August 1992. Monthly figures for PSBR have been published only since late 1983 and, therefore, the analysis is based on 107 observations (revisions published from Feb 1984 to December 1992).

The t-values for all three periods remained non-significant. There have been no changes to the average revisions for the 10 year and 5 year periods but the mean of the 3 year period ending December 1992 is reduced compared to the same period ending December 1991.

Future articles

Two articles are planned for publication in 1994. The first will be an update of the February 1993 article on the testing for bias in the initial estimates of the expenditure, income and output components of GDP. The second article will be the update of the present article taking in the revision in 1993 to the initial estimates of the key economic indicators. These articles are expected to be published respectively in the February 1994 and May 1994 issues of *Economic Trends*.

TABLE: REVISIONS ANALYSIS (1983 - 1992)

Key Targets No.	Indicator	Revision reference	No. of yrs	No. of obs.	Mean rev.	Std dev.	SE of Mean	t-value	Wilcoxon Z	% of + rev	% of - rev	Coeff. of serial corr.	Range of revision values
2	Visible trade	Three months	10	120	0.00	0.65	0.06	0.01	0.76	48	52	0.05	2.34 to -1.5
	monthly balance as	after the first	5	60	-0.05	0.60	0.08	-0.68		40	60	-0.11	1.67 to -1.5
	% of total trade	publication	3	36	-0.08	0.54	0.09	-0.93		36	64	-0.37 *	1.62 to -1.5
3	Index of production	Three months	10	120	-0.01	0.38	0.03	-0.42	0.58	46	53	0.32 **	1.06 to -0.91
	3-month on 3-month	after the first	5	60	0.00	0.31	0.04	0.08		43	55	0.21	0.99 to -0.63
	% growth	publication	3	36	-0.02	0.27	0.05	-0.47		39	61	0.18	0.92 to -0.63
4	Producer Price Index	Two months	10	120	0.02	0.10	0.01	2.56 *	2.23 *	45	28	0.38 **	0.26 to -0.19
	percentage annual	after the first	5	60	0.04	0.11	0.01	2.75 **		53	25	0.48 **	0.26 to -0.19
	growth rate	publication	3	36	0.03	0.12	0.02	1.60		56	31	0.45 **	0.26 to -0.19
5	Retail sales	Three months	10	120	0.02	0.25	0.02	0.72	1.57	50	35	0.16	0.6 to -1.2
	3-month on 3-month	after the first	5	60	0.04	0.19	0.03	1.67		52	33	0.18	0.6 to -0.5
	% growth	publication	3	36	0.03	0.17	0.03	1.20		50	39	0.14	0.4 to -0.44
6(a)i	GDP (total output):	Ten weeks est.	10	40	0.07	0.24	0.04	1.93	1.83	58	38	0.01	0.52 to -0.44
	quarter on quarter	from six weeks	5	20	0.00	0.21	0.05	0.01		50	40	-0.05	0.35 to -0.44
	quarterly growth %	estimates	3	12	0.01	0.18	0.05	0.21		58	42	-0.16	0.26 to -0.43
6(a)ii	GDP at constant prices	Six months	10	40	0.04	0.39	0.06	0.69	0.40	53	47	-0.08	1.17 to -1.12
	quarter on quarter	after the first	5	20	-0.01	0.44	0.10	-0.07		55	45	-0.14	1.17 to -1.12
	quarterly growth %	publication	3	12	0.00	0.21	0.06	0.01		50	50	-0.30	0.33 to -0.3
6b	GDP at constant prices	Three years	10	40	0.43	0.69	0.11	3.89 **	3.70 **	83	17	0.30	1.67 to -1.8
	year on year growth	after the first	5	20	0.56	0.58	0.13	4.21 **		95	5	0.12	1.67 to -0.43
	annual growth %	publication	3	12	0.49	0.63	0.18	2.56 *		92	8	-0.01	1.67 to -0.43
6c	GDP at current prices	Three years	10	31	0.70	0.72	0.13	5.32 **	3.98 **	84	13	0.15	2.0 to -1.2
	year on year growth	after the first	5	20	0.71	0.85	0.19	3.62 **		80	20	0.25	2.0 to -1.2
	annual growth %	publication	3	12	1.03	0.73	0.21	4.70 **		92	8	-0.04	2.0 to -0.41
7(a)	Current balance	Six months	10	40	0.04	0.49	0.08	0.55	0.50	58	42	0.10	1.3 to -0.87
	quarterly balance as %	after the first	5	20	0.10	0.54	0.12	0.78		65	35	-0.05	1.3 to -0.87
	of GDP at factor cost	publication	3	12	0.17	0.66	0.19	0.85		67	33	-0.07	1.3 to -0.87
7(b)	Current balance	Three years	10	37	0.12	0.58	0.10	1.24	1.00	57	43	0.16	1.76 to -1.21
	quarterly balance as %	after the first	5	20	-0.13	0.41	0.09	-1.35		40	60	0.12	0.56 to -1.21
	of GDP at factor cost	publication	3	12	-0.28	0.42	0.12	-2.21 *		33	67	-0.03	0.24 to -1.21
8	PSBR	Three months	10	107	-0.02	0.44	0.04	-0.48	1.02	43	56	0.16	1.93 to -1.64
	monthly PSBR as 1/3rd	after the first	5	60	-0.04	0.28	0.04	-0.99		42	58	0.09	0.63 to -1.02
	of GDP at mkt prices	publication	3	36	-0.02	0.23	0.04	-0.52		42	58	0.14	0.5 to -0.6

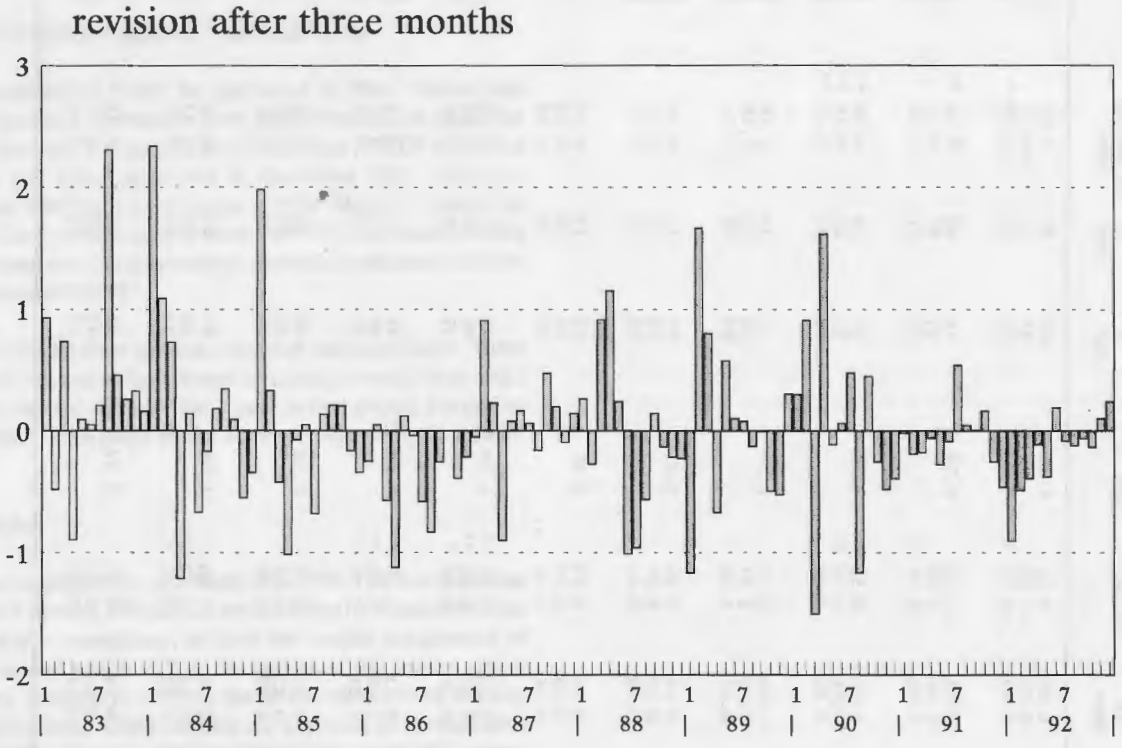
NOTE: All periods end in Dec (for monthly data) or in Q4 (for quarterly figures) of 1992.
Therefore 10 year period starts in Jan'83, 5 year in Jan '88 and 3 year in Jan '90.
These dates relate to the publication dates; e.g. revision published in Q4 1992 for GDP would relate to Q3 1992.

Wilcoxon Z is the equivalent normal score of the Wilcoxon test.

* = significant at the 5% level; ** = significant at the 1% level.

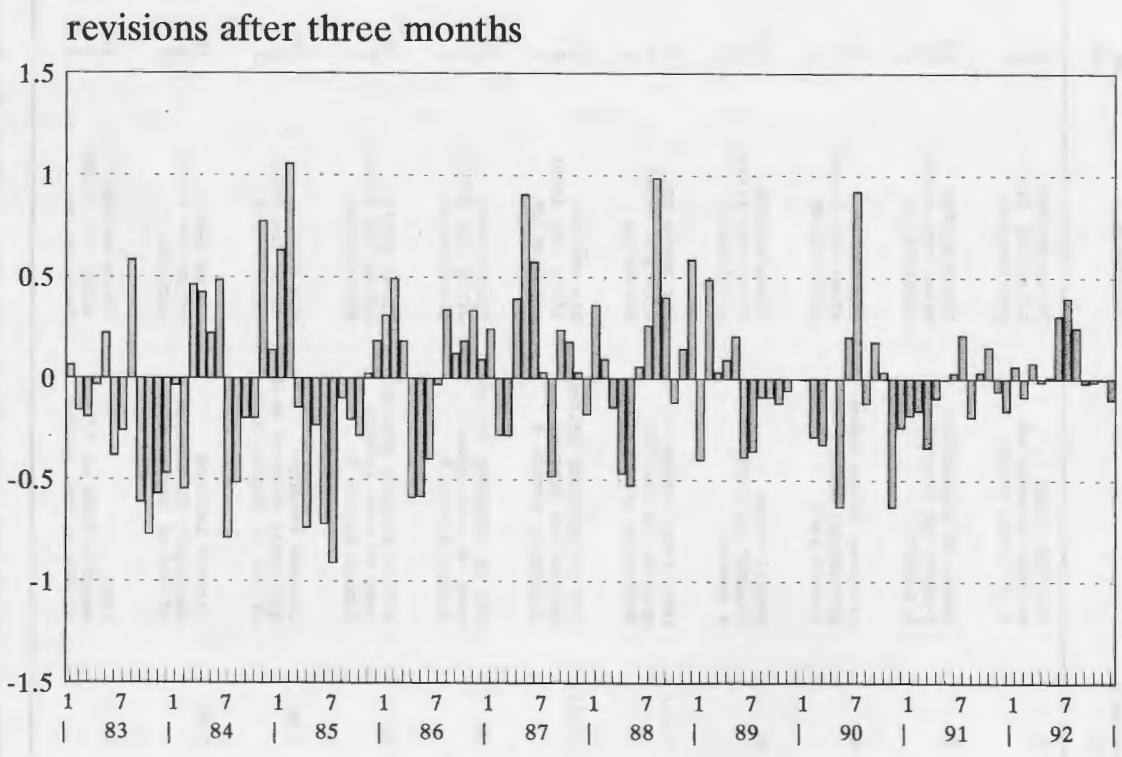
Visible trade balance

revision as percent of total trade



Index of Production

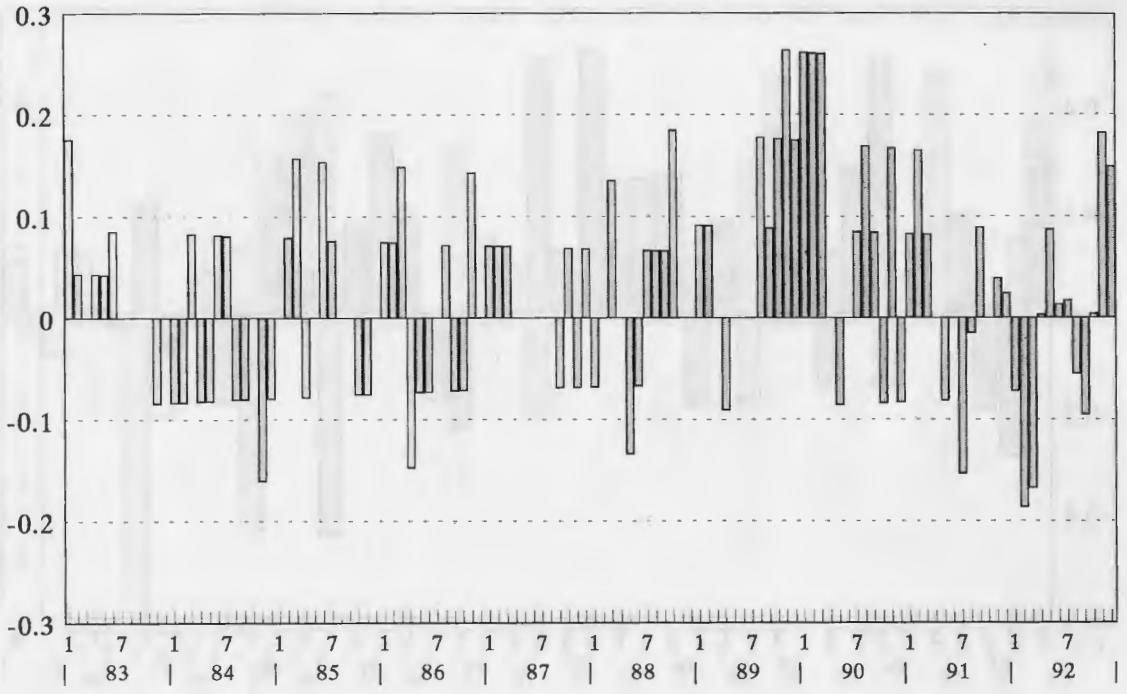
three month on three month percent change



Producer Price Index

12 month percent change

revisions after two months

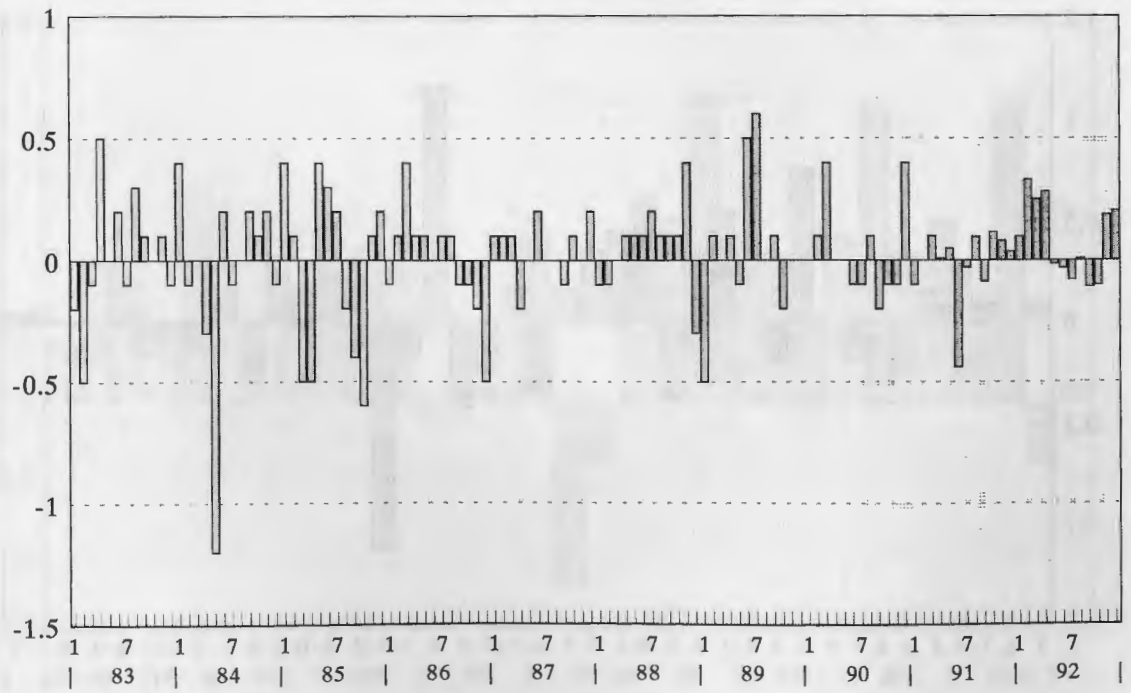


month of publication for revised estimate

Retail sales

three month on three month percent change

revisions after three months

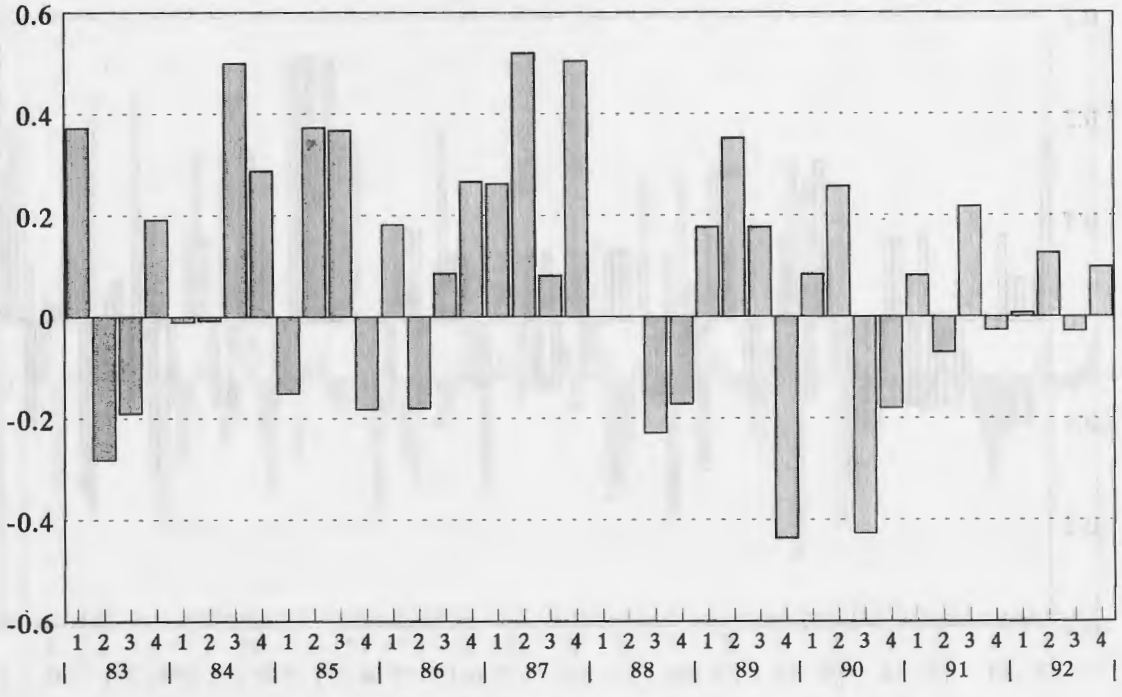


month of publication for revised estimate

GDP (Total output)

quarter on quarter percent change

first revision to six weeks estimate

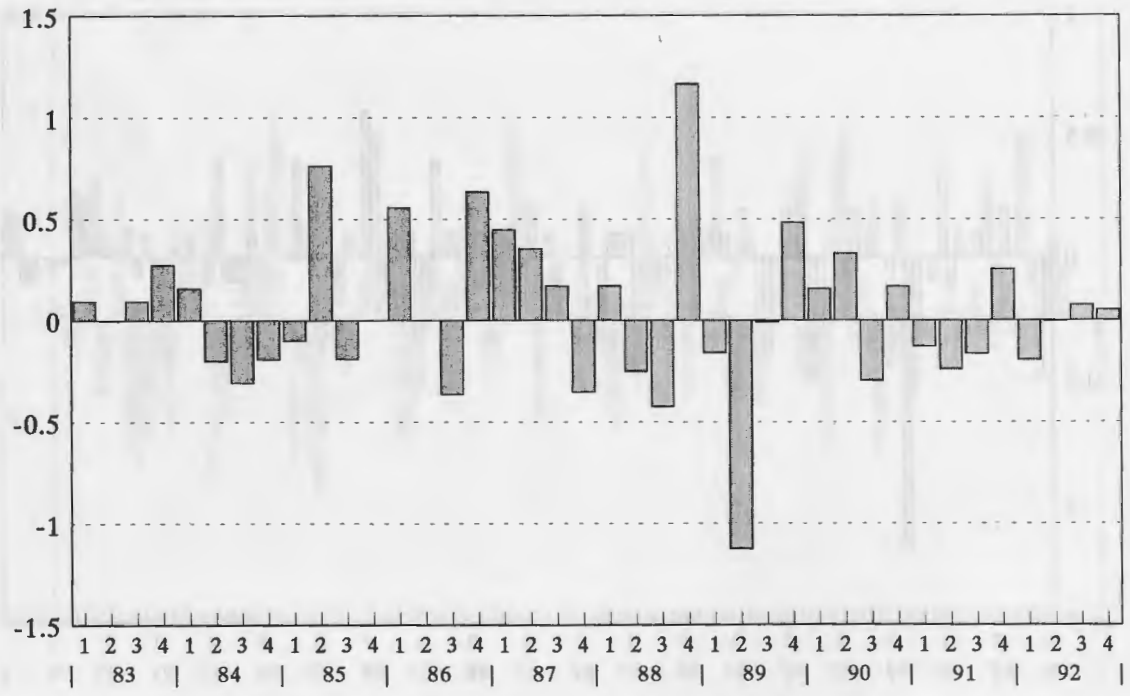


quarter of publication for revised estimate

GDP at constant prices

quarter on quarter percent change

revisions after three months

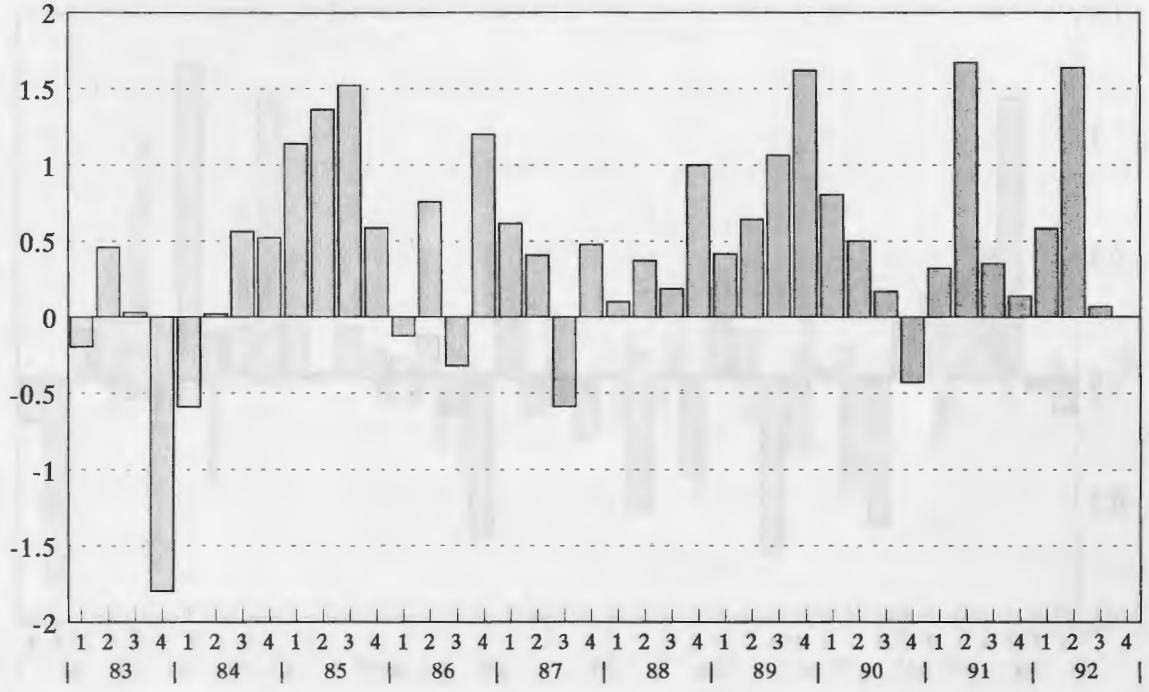


quarter of publication of revised estimate

GDP at constant prices

four quarter percent change

revisions after three years

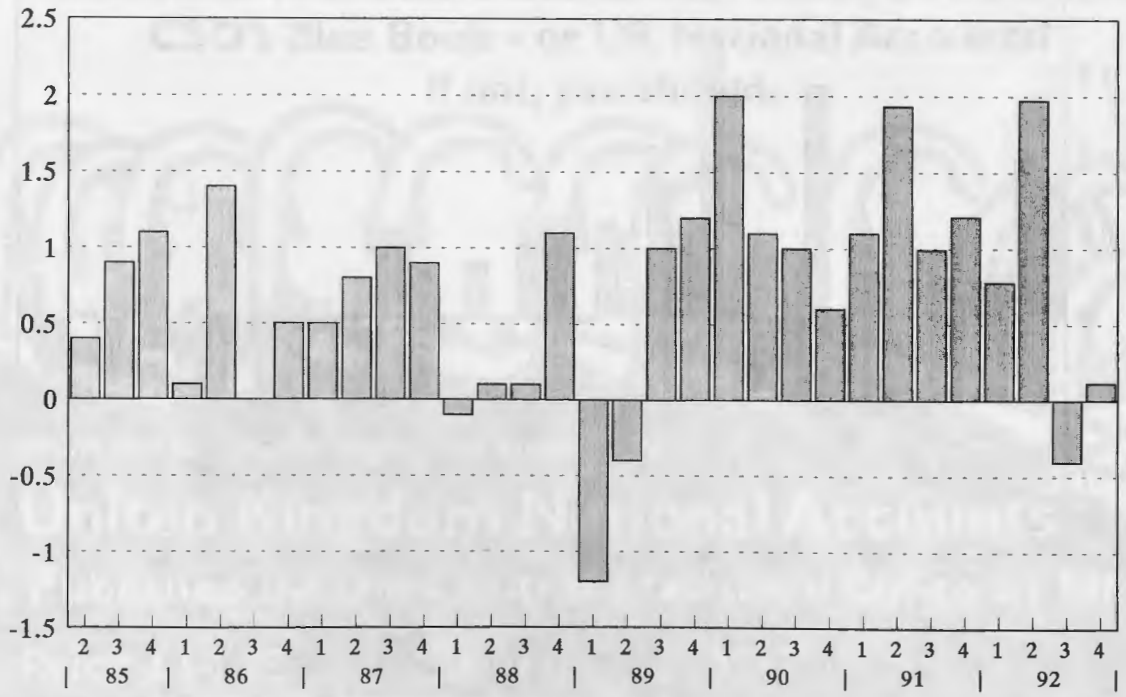


quarter of publication of revised estimate

GDP at current prices

four quarter percent change

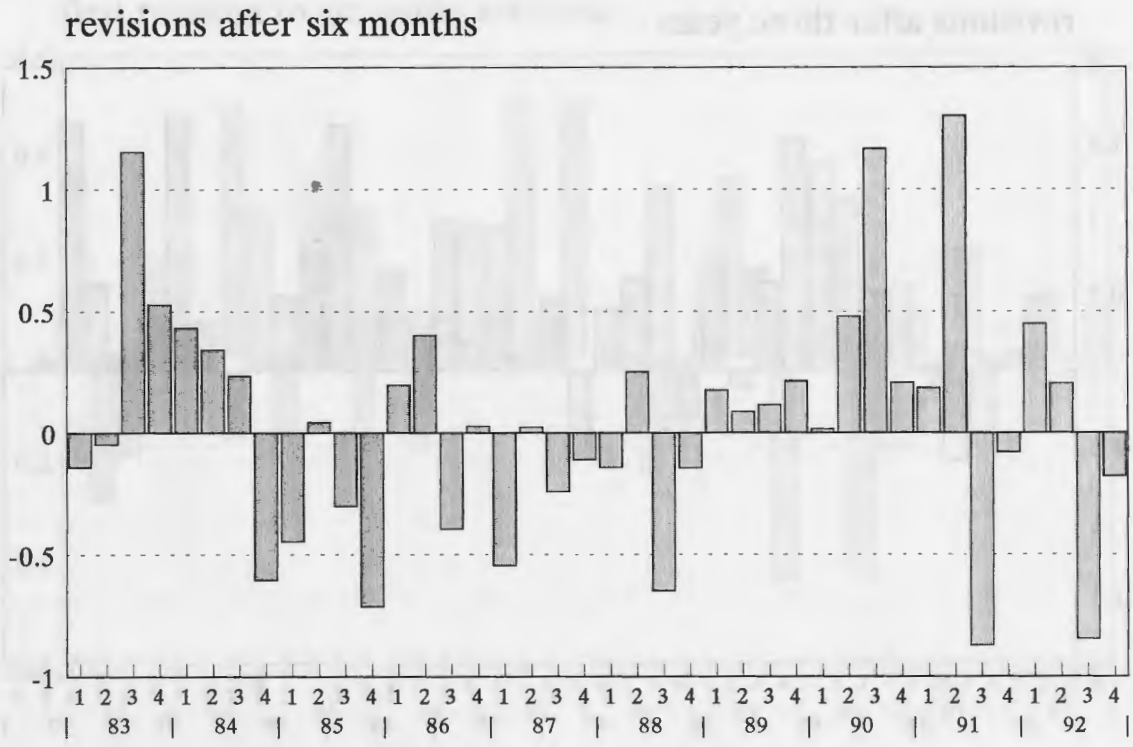
revisions after three years



quarter of publication of revised estimate

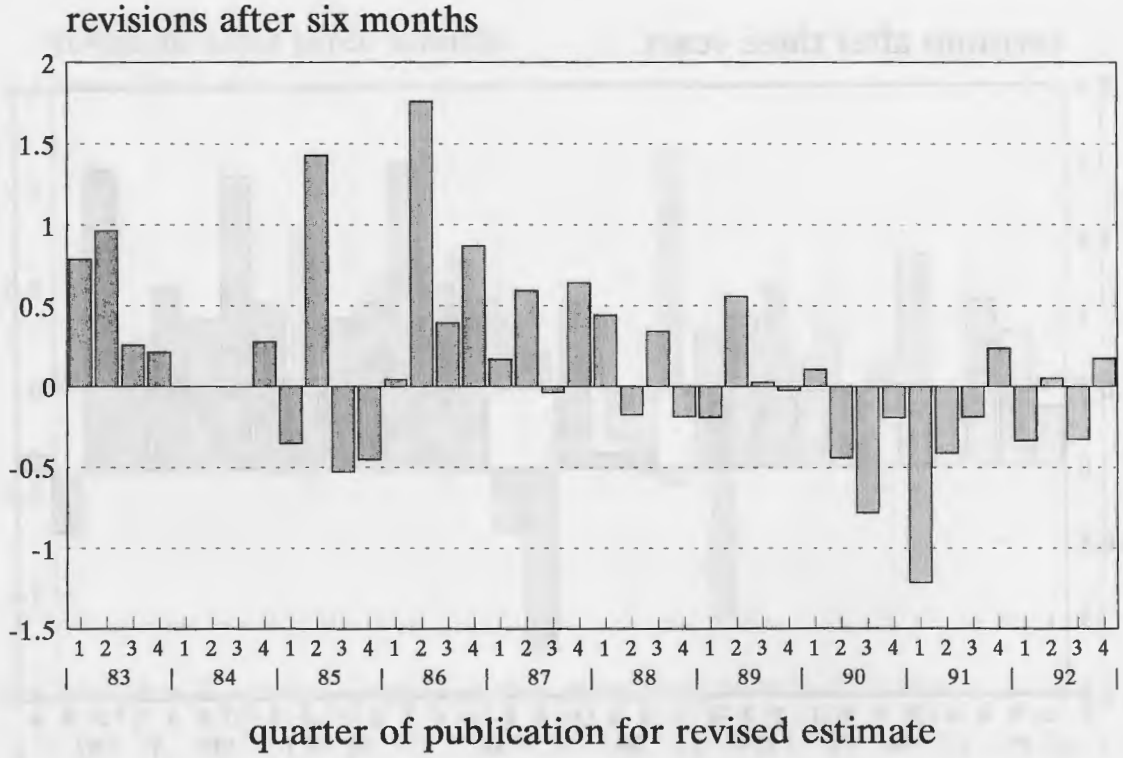
Overseas current balance (short term)

revision as per cent of GDP at factor cost



Overseas current balance (long term)

revision as per cent of GDP at factor cost



Note: data for Q1 to Q3 1984 are not available due to a civil service dispute

Public Sector Borrowing Requirement

revision as per cent of GDP at market prices