

# **Economic Trends**

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# 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.

'Latest developments' presents the most up-to-date statistical information available during the month. It is important to note that data included in this section may not be wholly consistent with other sections which have gone to press earlier. All data in this section are seasonally adjusted unless otherwise stated. In most cases estimates are provisional and subject to revision.

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.

In addition, quarterly articles on the national accounts appear in the January, April, July and October issues, and on the balance of payments in the March, June, September and December issues. Occasional articles comment on and analyse economic statistics and introduce new series, new analyses and new methodology.

*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 80
- † 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, 10 February 1993

## Correction

In the 'International Economic Indicators' article which appeared in the January 1993 edition of *Economic Trends*, two tables appeared numbered 10 'short term interest rates: per cent per annum' and 11 'gdp at current prices' on pages 140 and 141. These tables are superfluous to the article and should not have been published. We apologise for any confusion that may have been caused.

## CSO Databank

Virtually all the series in *Economic Trends* and the Quarterly Articles may be obtained as part of the CSO Databank Service on tape or disk. The appropriate four digit identifier is included at the top of the column or start of a row of figures. This enables users to obtain (in computer-readable form) a much more comprehensive and up-to-date set of long run macro-economic time series data than can be included in this publication. The tape format, unlabelled EBCDIC, is the same for all datasets. The disks, either 3½" or 5¼" are written in ASCII text which can be loaded as spreadsheets and viewed using standard spreadsheet packages, such as LOTUS or SMART.

Details of the service offered and the schedule of charges may be obtained from the Databank Manager, CSO Information Systems Branch, Room 52/4, Government Offices, Great George Street, London, SW1P 3AQ (telephone 071-270 6386). 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 CSO.

# Latest developments in the economy

*Data available at 12 February 1993*

## DATA PUBLISHED BY CSO

### Output

In the three months to November, the output of the production industries was 1.1 per cent higher than the previous quarter, and 0.2 per cent higher than the same period a year earlier. The provisional index of production for November is 106.3 (1985=100). The index covers the manufacturing and energy industries, and all figures are seasonally adjusted.

Manufacturing output fell by 0.5 per cent in the three months to November compared with the previous three months, and by 0.1 per cent on the same period a year earlier. Within manufacturing, between the latest three month periods, the output of the metals industry fell by 4.3 per cent, chemicals were unchanged, engineering and allied industries fell by 0.2 per cent, "other manufacturing" fell by 0.2 per cent, "other minerals" fell by 2.5 per cent, food, drink and tobacco fell by 1 per cent, and textiles and clothing rose by 0.8 per cent.

The output of the oil and gas extraction industries was 8.9 per cent higher than in the preceding three months, and 3 per cent higher than in the same period a year earlier. Other energy and water supply industries rose by 2.5 per cent compared with the previous three months, and fell by 1.3 per cent on the same quarter last year.

By market sector, between the latest three month periods, the output of the investment goods industries were unchanged, the output of the consumer goods industries fell by 0.5 per cent, and the output of the intermediate goods industries rose by 2.4 per cent.

### Producer prices

The input price index for materials and fuel purchased by manufacturing industry rose by 7.2 per cent in the twelve months to January, compared with a rise of 5.4 per cent in the twelve months to December. Between December and January, the unadjusted index rose by 1.5 per cent, and the seasonally adjusted index also rose by 1.5 per cent.

The increase over twelve months in the output price index for home sales of manufactured products was 3.5 per cent in January, unchanged from the increase in the year to December. The index rose by 0.8 per cent between December and January.

### Retail prices

The general index of retail prices for 12 January was 137.9 (January 1987=100), 0.9 per cent lower than in December and 1.7 per cent higher than in January 1992.

Between December and January mortgage interest rates continued to fall and there were sharp reductions in the January sales for clothing, footwear and household goods. Motor vehicles and petrol were cheaper although there were some increase in other motoring costs. There were some higher prices for food, alcoholic drinks and dearer rail fares as well as increased charges for household services such as contents insurance.

The tax and price index for January was 128.7 (January 1987=100), an increase of 0.5 per cent over the previous twelve months.

### Retail sales

The provisional, seasonally adjusted estimate of retail sales volume in December was 120.7 (1985=100), little below the October and November figures. In the three months October to December, the volume of sales was 0.25 per cent higher than in the previous three months, and 1.25 per cent higher than in the same period a year earlier.

Sales by food retailers rose by 1.5 per cent compared with the previous three months, those by mixed businesses rose by 2.5 per cent, and those of specialist non-food retailers fell by 1 per cent.

Based on non-seasonally adjusted data, retail sales value in current prices in December was 4 per cent higher than in December 1991.

### Balance of payments

Information on visible trade in December and recent trends in invisibles imply a current account deficit of £1.5 billion, £0.3 billion larger than in November. In the latest three months the implied deficit was £3.7 billion, £1.5 billion larger than in the previous three months.

The visible deficit in December was £1.7 billion, compared with £1.4 billion in November. In the three months to December the visible deficit was £4.3 billion, £1.1 billion more than the preceding three months.

In December the value of exports was £9.2 billion, 0.5 per cent lower than in November. In the three months to December, the value of exports was 4 per cent higher than the previous three months, and 5 per cent higher than a year earlier. On a volume basis, excluding oil and the erratic items, exports in the three months to December were 4 per cent higher than the previous three months, and 5.5 per cent higher than a year earlier.

Imports in December were valued at £10.9 billion, 3 per cent higher than in November. In the three months to December, the value of imports was 7.5 per cent higher than in the previous three months and 10 per cent higher than a year earlier. Excluding oil and erratics, import volume in the three months to December was 0.5 per cent higher than in the previous three months, and 7.5 per cent higher than a year earlier.

Estimates of invisibles are not available monthly. Based on recent trends and limited information on EC transfers, invisibles in November are projected to be in surplus by £0.2 billion. Revisions to these projections can be substantial.

The CSO has announced that, following publication of the December 1992 figures, there will be a delay in the publication

of monthly trade figures while a new statistical system measuring trade within the European Single Market becomes fully established. For some time it will not be possible to publish monthly figures for the current balance of the balance of payments (given in Tables 1 and 27), for exports, imports and the visible balance (Table 27) or the volume and unit value indices for visible trade (Table 25). Information on the value of trade with countries outside the European community will continue to be available from the CSO on a monthly basis but it is unlikely that any information on trade as a whole in 1993 will be published before the middle of the year and a continuous monthly series may not become available until some time later. A fuller note on this delay in the provision of statistics is available from the CSO.

#### **Public sector borrowing requirement**

Provisional estimates put the public sector borrowing requirement in December was £3.4 billion. In the first nine months of 1992-93 the PSBR was £25.7 billion compared with £10.3 billion in the same period a year earlier. Privatisation proceeds were £1.3 billion in December, from the sale of central Government holdings of British Telecom and electricity generating companies' debt.

### **DATA PUBLISHED BY OTHER DEPARTMENTS**

#### **Official reserves**

The overall level of the UK's official reserves rose by \$902 million in January, bringing the end of January reserves to \$42,556 million (£28,590 million), compared with \$41,654 million (£27,494 million) at the end of December.

The underlying change in the reserves during January was a rise of \$38 million.

The underlying change excludes a number of factors that are included in the total change. Proceeds from this month's tender of UK ECU Treasury Bills and sales into the secondary market amounted to \$1,553 million and maturing UK ECU Treasury Bills were \$1,206 million. The underlying change also excludes repayments of borrowing under the exchange cover scheme of \$13 million.

#### **Exchange rate**

The sterling exchange rate index (1985=100) was 80.6 in January, compared with 80.1 in December.

#### **Unemployment and vacancies**

In December, the seasonally adjusted level of claimant unemployment in the UK increased by 60,800 to 2.974 million, 10.5 per cent of the workforce. Over the past six months, unemployment has risen by 41,500 per month on average.

The stock of unfilled vacancies at jobcentres increased by 8,300 to a seasonally adjusted 109,100 in the month to December. Over the three months to December, vacancies have increased on average by 3,000 a month.

#### **Employment**

The number of employees in employment in manufacturing industries in Great Britain stood at 4,344,000 in November, a

fall of 31,000 since October. Employment has fallen by 253,000 since November 1991, compared with a fall of 373,000 in the previous year.

The UK workforce in employment (employees in employment, the self-employed, HM Forces and participants in work related government training programmes) stood at 24,933,000 in September 1992, a fall of 409,000 in the quarter. Employment over the year to September fell by 877,000.

#### **Earnings**

The underlying increase in average weekly earnings in the year to November was about 5 per cent, 0.25 per cent below the increase in the year to October. The actual increase in the year to November, at 4.7 per cent, is below the underlying increase because of timing adjustments for bonuses paid in November last year but in different months in 1992.

In the production industries, the underlying increase in average weekly earnings in the year to November was about 5.25 per cent, the same as the increase in the year to October. Within this sector, the underlying increase in manufacturing industries in the year to November was about 5.75 per cent, the same as the increase in the year to October. The actual seasonally adjusted increases for production and manufacturing in the year to November were 5.5 per cent and 5.6 per cent respectively.

In the service industries, the underlying increase in average weekly earnings in the year to November was about 5 per cent, 0.25 per cent lower than the increase in the year to October. The actual increase in the service industries in November was 4.2 per cent.

#### **Productivity**

Manufacturing output per head in the three months to November was 1.6 per cent higher than in the three months ending August, and was 5.4 per cent higher than in the same period a year earlier. Output per head in the whole economy was 1.4 per cent higher, in the third quarter of 1992, than in the previous quarter, and 2.4 per cent higher than in the same quarter a year earlier.

#### **Unit wage and salary costs**

In the three months ending November 1992, wages and salaries per unit of output in manufacturing were 0.5 per cent above the corresponding period a year earlier. This increase was below the rise in average earnings in manufacturing as there was a rise of 5.4 per cent in productivity over this period. In the third quarter of 1992, wages and salaries per unit of output in the whole economy were 3.0 per cent above the corresponding period a year earlier. This increase was below the rise in average earnings because of the rise of about 2.4 per cent in productivity over this period.

#### **Monetary aggregates**

Provisional information suggests that in the 12 months to December, and before seasonal adjustment, M0 increased by 2.6 per cent, and M4 by 3.7 per cent. In December, again before seasonal adjustment, M0 increased by 6.7 per cent, and M4 increased by 0.3 per cent. After seasonal adjustment, M0 rose by 0.2 per cent, and M4 decreased by 0.1 per cent.

# INTERNATIONAL ECONOMIC INDICATORS

## INTRODUCTION

The series presented here are a collection of some of the most important series from the Organisation of Economic Co-operation and Development's (OECD) Main Economic Indicators. 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. This will, inevitably, not be a presentation of the most up to date statistics of each economy except for the United Kingdom where the data is that most recently published. The coverage and presentation may vary from month to month.

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 time period should be treated with caution.

## COMMENTARY

3. No new data of substance is available this month for Gross domestic product (GDP). The figures show that

GDP grew in the USA, France and Canada in the third quarter of 1992. It was almost flat in the United Kingdom but fell in Germany and Japan.

4. Indices of industrial production show that in the three months to October production fell by ½ per cent in the Major 7 economies. It also fell within the EC as a whole - by 1 ¼ per cent.

5. The average rate of consumer price inflation in the Major 7 economies rose slightly to 2.8 per cent in December but remained lower than the rates recorded earlier in 1992. The rate in the USA was 2.9 per cent in December. The EC average inflation rate was 3.7 per cent in the same month: the rate was the same in Germany. The rates for France and the United Kingdom were lower than this at 2.0 per cent and 2.6 per cent respectively.

6. The standardised unemployment rate for the Major 7 economies, as a whole, remained unchanged at 6.9 per cent in November of last year. The rate for the United States fell to 7.1 per cent - it was some ½ per cent below the rates of mid 1992. Rates within the EC were generally higher save for Germany.

## 1 Gross domestic product at constant market prices: index numbers

1985 = 100

	United Kingdom	Germany <sup>1,2</sup>	France	Italy	EC	United States	Japan <sup>1</sup>	Canada	Major 7	OECD
	FNAO	GABI	GABH	GABJ	GAEK	GAEH	GAEI	GAEG	GAEO	GAEJ
1980	90.5	94.4	92.7	93.3	93.0	88.2	82.9	86.7	88.7	88.8
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	107.2	109.5	110.5	110.2	110.3	113.8	113.0	110.9	110.9
1989	116.4	111.5	114.0	113.7	114.1	113.0	119.3	115.6	114.5	114.5
1990	117.0	117.2	116.6	116.2	117.2	114.0	125.5	115.0	116.8	117.2
1991	114.4	121.4	118.0	117.9	118.5	112.6	131.0	113.1	117.5	117.8
1990 Q1	117.6	115.0	116.5	115.7	116.8	114.3	122.6	116.2	116.4	116.9
Q2	118.2	116.2	116.3	115.7	117.0	114.6	124.6	115.6	116.9	117.4
Q3	116.6	118.2	117.0	116.8	117.5	114.1	125.9	114.9	117.1	117.5
Q4	115.5	119.2	116.7	116.7	117.6	112.9	127.1	113.6	116.7	117.2
1991 Q1	114.9	121.7	116.8	117.2	118.2	112.1	129.1	111.9	116.7	117.3
Q2	114.0	121.6	117.5	117.8	118.4	112.6	129.9	113.4	117.2	117.7
Q3	114.3	121.4	118.7	118.1	118.8	112.9	130.5	113.5	117.6	118.1
Q4	114.2	120.8	118.9	118.6	118.9	113.1	131.1	113.5	117.8	118.3
1992 Q1	113.4	123.1	119.9	119.3	119.7	113.9	132.5	113.8	118.7	119.2
Q2	113.1	122.9	120.2	119.5	119.7	114.3	132.5	113.9	118.9	119.5
Q3	113.2	121.3	120.7	..	..	115.3	132.0	114.3	..	..
Percentage change, latest quarter on corresponding quarter of previous year										
1992 Q2	-0.8	1.1	2.3	1.4	1.1	1.5	2.0	0.4	1.5	1.5
Q3	-1.0	-0.1	1.7	..	..	2.1	1.1	0.7	..	..
Percentage change, latest quarter on previous quarter										
1992 Q2	-0.2	-0.2	0.3	0.2	0.0	0.4	0.0	0.1	0.2	0.3
Q3	0.1	-1.3	0.4	..	..	0.9	-0.4	0.4	..	..

1 GNP

2 Western Germany (Federal Republic of Germany before unification)



## 2 Consumer prices<sup>1</sup> Percentage change on year earlier

	United Kingdom	Germany <sup>2</sup>	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	12.6	13.5
1985	6.1	2.2	5.8	8.6	6.2	3.5	2.0	4.0	4.0	4.9
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	4.9	5.8
1991	5.9	3.5	3.2	6.5	5.1	4.2	3.3	5.6	4.4	5.2
1992	3.7	4.0	2.8	5.4	4.3	3.0	1.7	1.5	3.1	..
1991 Q1	8.7	2.7	3.4	6.7	5.6	5.3	3.8	6.4	5.0	5.8
Q2	6.0	3.1	3.2	6.7	5.1	4.9	3.4	6.2	4.6	5.4
Q3	4.8	4.2	3.0	6.3	5.0	3.8	3.2	5.7	4.1	5.0
Q4	4.2	4.0	2.9	6.1	4.7	3.0	2.8	4.1	3.4	4.4
1992 Q1	4.1	4.3	3.0	5.6	4.7	2.9	1.8	1.7	3.2	4.4
Q2	4.2	4.5	3.1	5.5	4.7	3.1	2.3	1.4	3.3	4.5
Q3	3.6	3.4	2.7	5.3	4.1	3.1	1.6	1.3	3.0	4.2
Q4	3.1	3.7	2.2	4.9	3.8	3.0	1.0	1.8	2.8	..
1992 Jan	4.1	4.0	3.0	6.1	4.6	2.6	1.8	1.5	3.0	4.2
Feb	4.1	4.3	3.0	5.3	4.6	2.8	2.0	1.6	3.0	4.3
Mar	4.0	4.8	3.2	5.5	4.8	3.2	2.0	1.6	3.3	4.5
Apr	4.3	4.6	3.1	5.4	4.8	3.2	2.4	1.7	3.4	4.6
May	4.3	4.6	3.2	5.6	4.9	3.0	2.0	1.3	3.2	4.5
Jun	3.9	4.3	3.0	5.4	4.5	3.1	2.3	1.1	3.2	4.4
Jul	3.7	3.3	2.9	5.5	4.1	3.2	1.7	1.3	3.1	4.2
Aug	3.6	3.5	2.7	5.3	4.1	3.1	1.7	1.2	3.0	4.2
Sep	3.6	3.6	2.6	5.2	4.1	3.0	2.0	1.3	3.0	4.3
Oct	3.6	3.7	2.4	5.0	4.0	3.2	1.1	1.6	2.9	4.2
Nov	3.0	3.7	2.1	4.9	3.8	3.0	0.7	1.7	2.7	4.1
Dec	2.6	3.7	2.0	4.8	3.7	2.9	1.2	2.1	2.8	..

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<sup>1</sup>

	United Kingdom	Germany <sup>2</sup>	France	Italy	EC <sup>3</sup>	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	9.0	10.3	8.4	5.4	2.1	8.1	5.6	6.1
1991	8.7	4.3	9.5	9.9	8.7	6.6	2.1	10.2	6.3	6.8
1992	..	..	..	..	..	7.3	..	11.2	..	..
1991 Q1	7.8	4.4	9.1	9.9	8.4	6.4	2.0	10.1	6.1	6.5
Q2	8.6	4.3	9.4	10.0	8.6	6.7	2.1	10.3	6.3	6.8
Q3	9.1	4.3	9.7	9.6	8.8	6.7	2.1	10.3	6.4	6.9
Q4	9.3	4.3	9.9	9.9	8.9	6.9	2.1	10.3	6.5	7.0
1992 Q1	9.5	4.3	10.1	9.9	9.1	7.1	2.0	10.6	6.6	7.2
Q2	9.7	4.5	10.3	9.9	9.2	7.4	2.1	11.2	6.8	7.4
Q3	10.1	4.7	10.3	9.9	9.5	7.5	2.2	11.5	6.9	7.5
Q4	..	..	..	..	..	7.2	..	11.5	..	..
1991 Nov	9.3	4.3	10.0	—	8.9	6.8	2.1	10.3	6.4	7.0
Dec	9.4	4.3	10.0	—	9.0	7.0	2.1	10.3	6.5	7.1
1992 Jan	9.5	4.3	10.1	9.9	9.0	7.0	2.1	10.3	6.6	7.1
Feb	9.6	4.3	10.2	—	9.1	7.2	2.0	10.5	6.6	7.2
Mar	9.5	4.4	10.1	—	9.1	7.2	2.0	11.0	6.7	7.2
Apr	9.6	4.5	10.3	9.9	9.2	7.1	2.0	11.0	6.7	7.2
May	9.7	4.5	10.3	—	9.2	7.4	2.1	11.1	6.8	7.4
Jun	9.8	4.6	10.3	—	9.3	7.7	2.1	11.5	7.0	7.6
Jul	10.0	4.6	10.3	9.9	9.4	7.6	2.2	11.6	7.0	7.5
Aug	10.2	4.8	10.2	—	9.4	7.5	2.2	11.6	7.0	7.6
Sep	10.3	4.9	10.3	—	9.5	7.4	2.2	11.3	6.9	7.5
Oct	10.3	5.0	10.4	9.9	9.6	7.3	2.3	11.2	6.9	7.5
Nov	10.5	5.1	10.5	..	..	7.1	2.3	11.8	6.9	..
Dec	..	..	..	..	..	7.2	..	11.4	..	..

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 <sup>1,2</sup>	France	Italy	United States <sup>1</sup>	Japan <sup>1</sup>	Canada
1980	1.2	-1.9	-0.6	-2.3	0.1	-1.0	-0.4
1985	0.8	2.6	-0.1	-0.9	-2.9	3.6	-0.4
1986	-	4.4	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	4.8	-0.5	-1.2	-2.0	2.0	-3.2
1990	-3.1	3.1	-0.8	-1.3	-1.7	1.2	-3.8
1991	-1.1	-1.2	-0.5	..	-0.1	2.1	-4.3
1990 Q3	-2.7	0.6	-0.2	0.1	-1.7	1.0	-2.5
Q4	-0.8	0.5	-0.2	-0.3	-1.7	1.0	-3.5
1991 Q1	-2.6	-0.3	-0.4	-0.6	0.9	1.2	-5.3
Q2	-0.6	-0.4	-0.1	..	0.2	2.3	-3.7
Q3	-1.5	-0.4	-	..	-0.8	2.3	-3.5
Q4	0.2	-0.1	-	..	-0.5	2.7	-4.9
1992 Q1	-2.4	-0.3	-0.2	..	-0.4	3.0	-5.6
Q2	-2.5	-0.4	..	..	-1.2	3.2	-3.8
Q3	-2.4	-0.5	..	..	..	..	..

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 <sup>1</sup>	France	Italy	EC	United States	Japan <sup>2</sup>	Canada <sup>3</sup>	Major 7	OECD <sup>4</sup>
	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	107.6	114.1	109.0	111.6	112.8	109.6	110.9	110.7
1989	109.9	111.4	112.0	117.6	113.1	114.5	119.6	109.2	114.6	114.6
1990	109.3	117.2	114.1	117.6	115.2	115.7	125.3	104.6	116.8	116.7
1991	106.1	120.7	114.3	115.4	115.1	113.4	128.2	100.3	116.1	116.1
1991 Q1	106.7	121.2	113.5	117.0	115.1	112.0	128.9	99.4	115.8	115.8
Q2	105.2	121.9	114.1	114.7	115.0	112.7	128.2	100.4	115.8	115.9
Q3	106.3	120.6	115.4	114.3	114.9	114.6	128.5	101.2	116.8	116.6
Q4	106.2	119.1	114.2	115.6	114.8	114.4	127.3	100.3	116.2	116.2
1992 Q1	105.3	122.1	113.7	118.6	116.0	113.5	123.9	100.1	115.7	115.8
Q2	104.9	119.9	114.2	115.2	114.5	114.9	121.0	100.6	115.2	115.3
Q3	105.7	118.4	..	112.3	113.7	115.6	121.6	101.3	115.3	115.5
1991 Nov	106.2	120.8	113.5	120.2	115.9	114.5	127.9	100.6	117.0	116.8
Dec	105.8	116.1	112.6	112.8	113.1	113.8	126.0	99.2	115.0	115.1
1992 Jan	104.7	122.0	113.7	116.9	115.4	112.9	125.5	99.5	115.6	115.6
Feb	106.1	123.1	113.2	119.6	116.8	113.6	124.7	100.3	116.1	116.2
Mar	105.1	121.3	112.8	119.2	115.9	114.0	121.6	100.5	115.4	115.6
Apr	105.6	120.5	114.7	112.6	114.4	114.5	121.5	100.8	115.2	115.3
May	104.5	120.5	113.0	117.7	114.7	115.4	119.4	100.5	115.3	115.3
Jun	104.5	118.8	113.3	115.4	114.3	114.9	122.0	100.4	115.3	115.4
Jul	105.6	118.5	113.1	116.1	114.8	115.9	122.9	100.0	115.9	116.2
Aug	105.5	118.4	113.1	110.6	112.8	115.6	118.2	101.9	114.5	114.6
Sep	105.9	118.4	113.4	110.2	113.5	115.3	123.7	101.9	115.5	115.6
Oct	107.0	115.5	114.3	..	112.9	115.8	120.6	101.8	114.8	115.1
Nov	106.3	..	..	..	..	116.2	..	..	..	..

Percentage change: average of latest three months on that of corresponding period of previous year

1992 Oct	0.1	-2.2	-0.3	..	-1.6	0.8	-5.3	0.7	-1.4	-1.1
Nov	0.2	..	..	..	..	0.9	..	..	..	..

Percentage change: average of latest three months on previous three months

1992 Oct	1.2	-1.5	0.4	..	-1.3	0.1	-0.5	1.6	-0.5	-0.5
Nov	1.1	..	..	..	..	0.3	..	..	..	..

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 <sup>1</sup>	France <sup>2</sup>	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	14.1	7.1	9.2	..	..	13.5	14.7	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	4.2	2.5	3.5
1989	5.1	3.4	5.4	5.9	5.0	5.1	2.1	2.1	4.3	5.4
1990	5.9	1.5	-1.1	4.2	2.4	5.0	1.6	0.3	3.4	3.9
1991	5.6	2.0	-1.3	3.3	2.2	2.1	1.7	-1.1	2.0	2.6
1992	3.8	..	..	..	..	..	..	..	..	..
1991 Q1	6.1	2.3	0.7	4.2	3.1	3.5	2.7	1.2	3.2	3.7
Q2	5.9	2.0	-0.7	3.8	2.6	3.5	2.3	-0.5	2.8	3.4
Q3	5.6	2.3	-1.5	3.1	2.1	1.9	1.7	-1.6	1.9	2.5
Q4	5.0	1.6	-3.6	2.0	1.1	-0.3	0.0	-3.2	0.2	0.9
1992 Q1	4.5	1.7	-3.0	1.4	1.1	0.4	-0.6	-2.3	0.3	1.4
Q2	3.6	2.4	-1.1	2.1	1.8	1.3	-0.7	-0.2	1.1	2.0
Q3	3.4	1.4	-0.9	1.9	1.4	1.5	-0.8	1.6	1.1	2.1
Q4	3.3	..	..	..	..	..	..	..	..	..
1992 Jan	4.5	1.1	..	1.3	0.9	-0.4	-0.6	-3.6	-0.2	0.9
Feb	4.4	1.6	..	1.5	1.1	0.6	-0.6	-2.2	0.4	1.5
Mar	4.5	2.3	..	1.4	1.3	1.1	-0.7	-1.4	0.7	1.8
Apr	3.8	2.2	..	1.8	1.8	1.1	-0.7	-0.9	0.9	1.9
May	3.5	2.5	..	2.1	1.8	1.1	-0.7	0.0	1.0	2.0
Jun	3.6	2.5	..	2.1	1.8	1.6	-0.7	0.4	1.2	2.1
Jul	3.6	1.6	..	1.9	1.5	1.7	-0.7	0.8	1.2	2.1
Aug	3.4	1.5	..	1.9	1.3	1.5	-0.8	1.6	1.1	2.1
Sep	3.4	1.2	..	1.9	1.2	1.6	-0.7	2.2	1.2	2.1
Oct	3.3	1.0	..	..	1.4	1.7	-0.8	2.9	1.2	2.4
Nov	3.3	1.0	..	..	..	1.3	-0.9	..	..	..
Dec	3.5	..	..	..	..	..	..	..	..	..
1993 Jan	3.5	..	..	..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification).

2 Producer prices in intermediate goods

# 7 Total employment: index numbers<sup>1</sup>

1985 = 100

	United Kingdom	Germany <sup>2,3</sup>	France <sup>3</sup>	Italy	EC	United States <sup>3</sup>	Japan	Canada <sup>3</sup>	Major 7	OECD
	DMBC	GAAR	GAAU	GAAS	GADW	GADT	GADU	GADS	GAEU	GADV
1980	103.5	102	101	100	..	93	95	95	..	..
1985	100.0	100	100	100	100	100	100	100	100	100
1986	100.1	101	100	101	101	102	101	103	101	101
1987	101.9	102	101	100	102	105	102	106	103	103
1988	105.2	103	101	102	104	107	104	109	105	105
1989	107.8	104	103	101	106	109	106	111	107	107
1990	108.5	107	104	103	107	110	108	112	108	109
1991	105.4	109	104	104	107	109	110	110	108	108
1991 Q1	106.9	108	104	103	107	108	107	107	107	107
Q2	105.8	109	104	104	108	109	111	111	109	109
Q3	104.9	109	105	105	108	110	111	113	109	109
Q4	104.0	110	104	104	107	109	110	109	108	108
1992 Q1	103.5	108	104	103	106	108	109	106	107	107
Q2	103.0	109	104	105	107	110	112	109	109	109
Q3	101.7	110	..	104	106	111	112	112	109	109
1992 Jan	..	108	..	103	106	107	108	106	107	107
Feb	..	108	..	..	106	108	109	106	107	107
Mar	..	109	104	..	106	108	109	106	107	107
Apr	..	109	..	105	107	109	111	106	108	108
May	..	109	..	..	107	110	112	110	109	109
Jun	..	109	104	..	107	111	112	112	109	109
Jul	..	109	..	104	106	112	112	113	109	109
Aug	..	109	..	..	106	111	111	113	109	109
Sep	..	110	..	..	106	110	112	110	109	109
Oct	..	110	..	..	107	110	112	110	109	109
Nov	..	..	..	..	..	110	112	109	..	..
Percentage change, latest quarter on that of corresponding period of previous year										
1992 Q2	-2.6	0.0	0.0	1.0	-0.9	0.9	0.9	-1.8	0.0	0.0
Q3	-3.1	0.9	..	-1.0	-1.9	0.9	0.9	-0.9	0.0	0.0
Percentage change latest quarter on previous quarter										
1992 Q2	-0.5	0.9	0.0	1.9	0.9	1.9	2.8	2.8	1.9	1.9
Q3	-1.3	0.9	..	-1.0	-0.9	0.9	0.0	2.8	0.0	0.0

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<sup>1</sup> Percentage change on a year earlier

	United Kingdom <sup>2</sup>	Germany <sup>3</sup>	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
1980	17.8	6.5	15.2	18.7	12.1	8.6	7.5	10.9	10.4	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	3.6	4.9	4.9	4.8
1991 Q1	8.8	6.7	4.7	8.1	7.0	3.6	3.8	5.8	5.3	5.2
Q2	8.5	6.5	4.2	9.8	7.6	3.5	4.3	4.9	5.0	4.9
Q3	7.8	6.4	4.3	10.7	8.2	3.5	3.3	4.9	4.8	4.7
Q4	7.7	6.3	4.1	10.6	7.2	3.5	3.2	4.0	4.5	4.5
1992 Q1	8.6	..	3.6	9.2	7.2	2.6	2.5	3.9	4.2	4.9
Q2	6.0	..	3.8	6.0	5.6	2.6	2.4	3.9	4.0	4.7
Q3	6.2	..	3.5	3.8	4.8	1.7	1.0	3.1	3.1	..
1992 Jan	7.6	..	3.6	9.4	6.5	1.7	4.6	4.0	5.0	5.7
Feb	7.8	..	..	9.1	7.2	3.5	1.2	3.9	4.2	4.1
Mar	10.3	..	..	9.1	8.0	2.6	1.7	3.9	4.2	4.9
Apr	5.0	..	3.8	8.8	6.4	3.4	1.3	3.9	4.2	4.0
May	6.9	..	..	4.6	5.6	2.6	1.1	3.9	3.3	4.0
Jun	5.9	..	..	4.7	5.6	2.6	3.8	3.1	3.6	4.3
Jul	6.2	..	3.5	4.0	4.8	1.7	2.3	3.1	2.8	..
Aug	6.5	..	..	3.5	5.6	2.6	-1.5	3.9	2.4	..
Sep	5.7	..	..	3.7	4.8	2.5	1.4	3.1	3.3	..
Oct	6.3	..	..	4.1	..	1.7	1.5	..	..	..
Nov	5.7	..	..	..	..	1.7	..	..	..	..

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 Kingdom	Germany <sup>1</sup>	France	Italy	EC	United States	Japan	Canada	Major 7	OECD
	FAAM	GADD	GADC	GADE	GADH	GADA	GADB	GACZ	GAEW	GADG
1980	85.8	103	101.0	83.1	94.6	83.3	103.2	83.6	89.5	90.4
1985	100.0	100	100.0	100.0	99.9	100.0	99.9	100.0	100.0	99.9
1986	105.3	104	102.4	108.0	104.6	105.7	101.5	104.6	104.7	104.5
1987	110.7	107	104.6	113.9	108.9	108.3	107.1	110.3	108.4	108.1
1988	117.7	111	108.0	111.4	112.1	112.3	112.2	114.6	112.1	111.8
1989	119.9	114	109.5	118.9	116.3	115.1	116.0	114.5	115.2	115.1
1990	120.4	124	110.1	115.3	119.3	115.4	121.8	112.0	116.9	116.9
1991	119.5	131	109.7	114.8	120.9	113.5	123.3	100.4	116.0	116.3
1992	120.4	..	..	..	..	..	..	..	..	..
1991 Q3	119.7	130	109.6	116.1	121.1	113.9	124.2	100.4	116.5	116.7
Q4	119.6	128	110.5	122.7	122.2	113.4	121.3	100.7	116.2	116.5
1992 Q1	119.5	130	108.5	..	120.1	116.3	122.4	100.2	117.0	117.2
Q2	120.0	126	109.1	..	118.2	116.0	120.3	100.6	115.7	116.1
Q3	120.8	127	109.3	..	118.5	117.4	..	101.8	116.6	116.7
Q4	121.2	..	..	..	..	..	..	..	..	..
1992 Jan	119.7	132	111.2	..	122.1	116.2	124.3	100.5	117.9	118.1
Feb	120.1	129	111.4	..	121.7	117.2	124.6	100.5	118.4	118.4
Mar	118.9	127	102.8	..	116.6	115.4	118.1	99.6	114.7	114.9
Apr	119.7	128	112.6	..	118.2	115.8	120.9	100.6	115.6	116.2
May	120.0	127	107.6	..	117.7	116.1	119.6	100.1	115.5	115.8
Jun	120.3	125	107.0	..	118.6	116.0	120.4	101.1	116.1	116.3
Jul	119.9	127	109.9	..	119.1	117.3	121.5	101.2	117.0	117.2
Aug	121.0	126	108.6	..	118.8	117.2	119.4	102.0	116.6	116.6
Sep	121.3	128	109.6	..	117.6	117.7	..	102.1	116.2	116.4
Oct	121.5	127	112.2	..	..	118.6	..	102.3	..	..
Nov	121.5	..	103.1	..	..	..	..	..	..	..
Dec	120.7	..	..	..	..	..	..	..	..	..

Percentage change average of latest three months on that of corresponding period of previous year

1992 Oct	1.6	-1.6	0.7	..	..	3.6	..	2.1	..	..
Nov	1.4	..	-1.5	..	..	..	..	..	..	..
Dec	1.3	..	..	..	..	..	..	..	..	..

Percentage change average of latest three months on previous three months

1992 Oct	0.9	0.5	1.8	..	..	1.2	..	1.3	..	..
Nov	0.7	..	-0.2	..	..	..	..	..	..	..
Dec	0.3	..	..	..	..	..	..	..	..	..

1 Western Germany (Federal Republic of Germany before unification)

Chart I: Gross Domestic Product

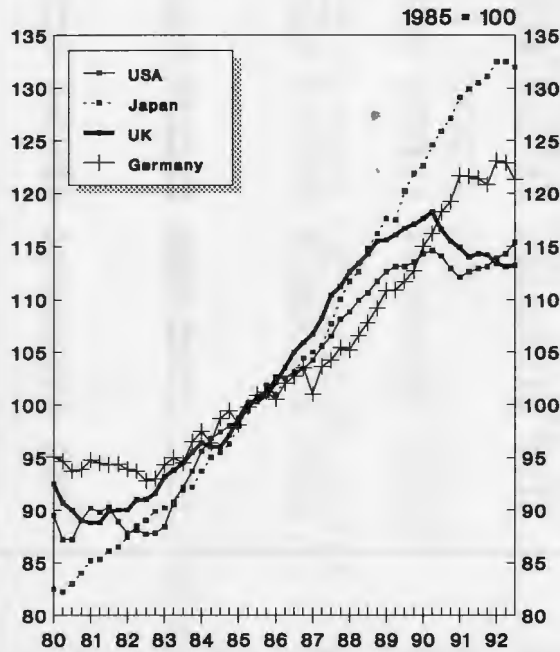


Chart II: Consumer price inflation

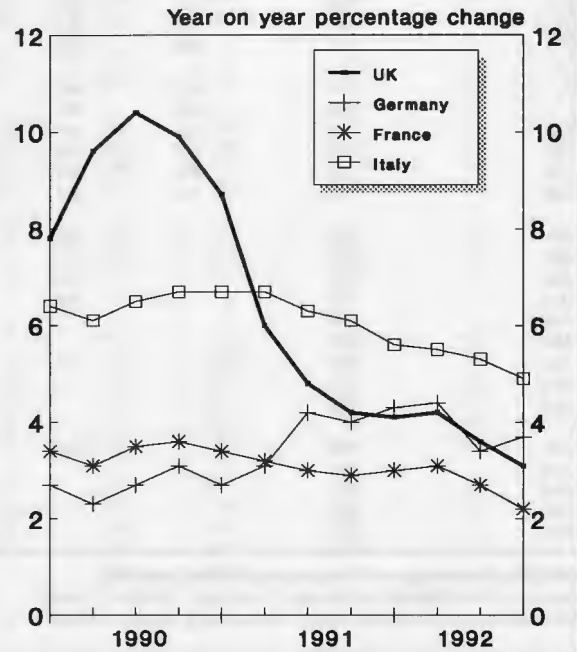
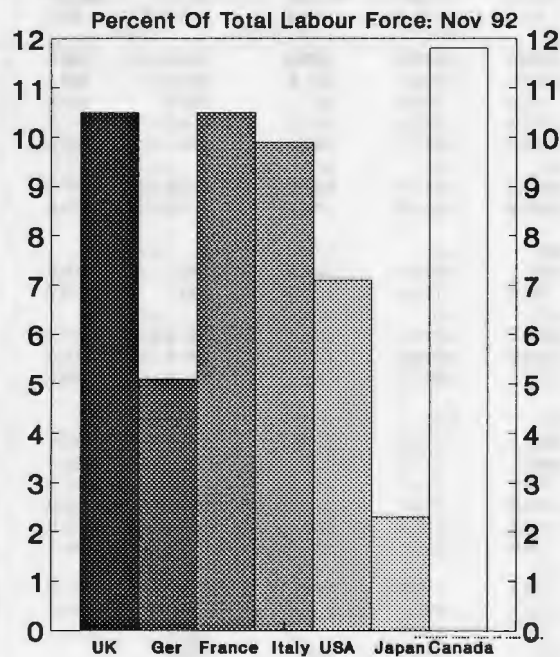


Chart III: Standardised unemployment



Italy refers to October.

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

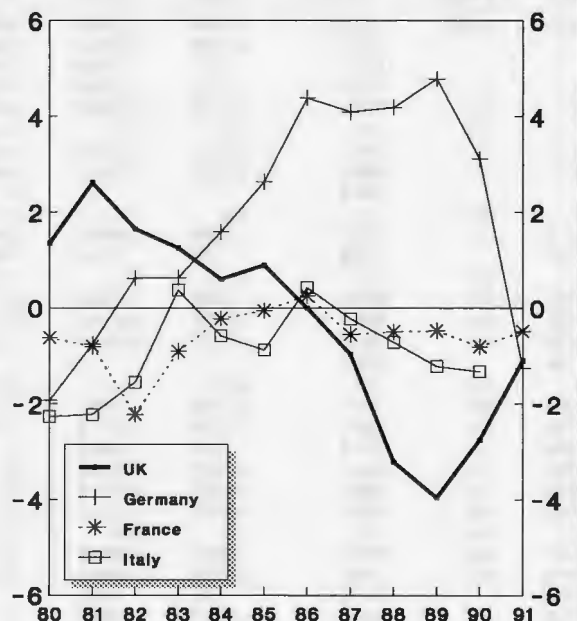


Chart V: Industrial Production

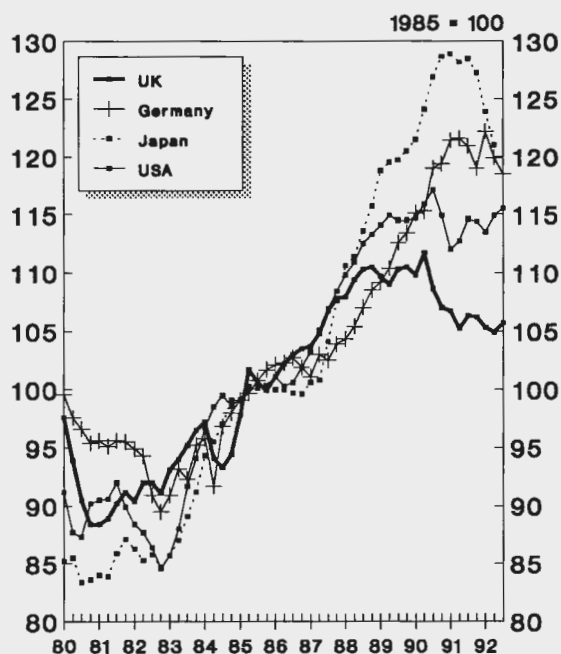


Chart VI: Producer price inflation

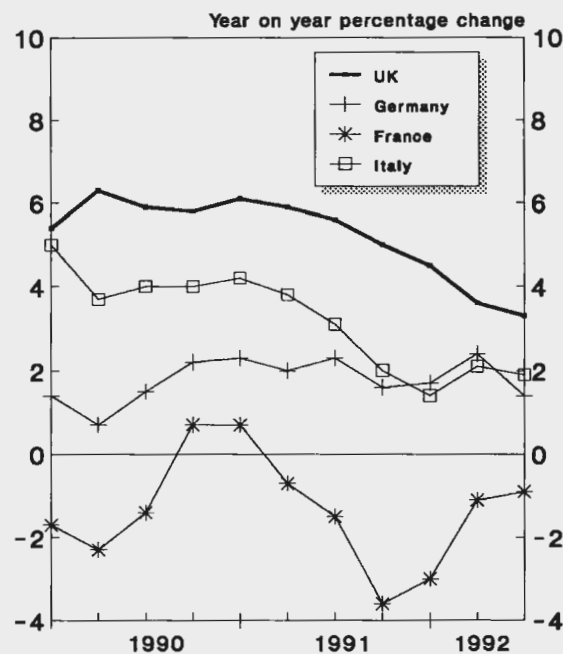


Chart VII: Employment

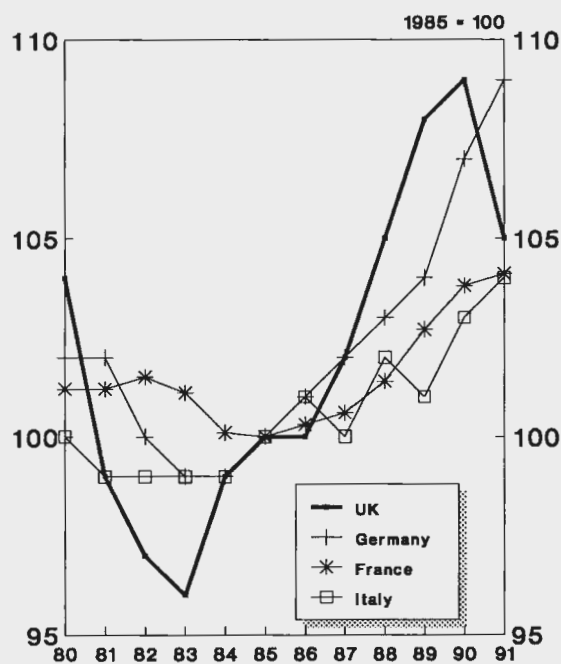
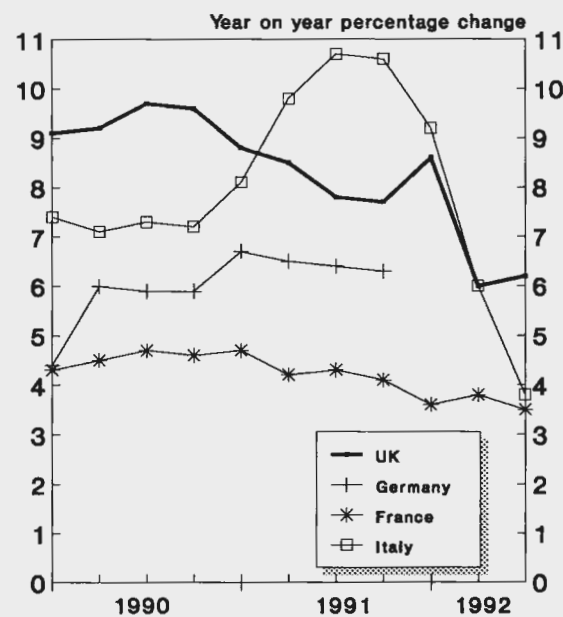


Chart VIII: Wage earnings (manufacturing)



# TRANSITION TO THE NEW STANDARD INDUSTRIAL CLASSIFICATION (SIC(92))

Caron Walker, Central Statistical Office

## INTRODUCTION

An article appeared in the October 1992 issue of *Economic Trends* describing a change to the existing United Kingdom Standard Industrial Classification (SIC(80)). Ken Mears of the Central Statistical Office explained that, on 9 October 1990, the European Communities' Internal Market Council of Ministers passed a regulation to introduce a new statistical classification of economic activities in the European Communities (NACE Rev 1).

A regulation is directly applicable in all member states: it does not have to be confirmed by national parliaments in order to have binding effect. The NACE regulation therefore made it obligatory for the UK to introduce a new Standard Industrial Classification, SIC(92), based on NACE Rev 1, and to use this in all cases where the UK transmits to the European Commission statistics broken down by economic activity.

The article also explained that the change from SIC(80) to SIC(92) is not something that can be easily achieved. The widespread use of the new SIC for UK statistics and data collection will depend on various factors, such as the re-coding of the main business register and the needs of the National Accounts.

The CSO and other government departments have been considering the implications of the change in classification, and determining the best time to make a full transition to SIC(92). This article gives details of the latest plans for the transition and for the compilation of back data on the new classification.

## THE NEW CLASSIFICATION

The October *Economic Trends* article gave details of the structure of the new SIC. Briefly, SIC(92) is a hierarchical 5 digit system. It comprises 17 Sections (denoted by a single letter from A to Q), 16 Sub-Sections (each denoted by the addition of a second letter), 60 Divisions (denoted by 2 digits), 222 Groups (3 digits), 503 Classes (4 digits) and 142 Sub-Classes (5 digits). Annex A shows the broad structure to Sub-Section level.

NACE Rev 1 extends only to the 4 digit level. The 5 digit level has been added to the new SIC for UK purposes only. The fifth digit was added to form Sub-Classes of the NACE Rev 1 four digit Classes in cases where it was considered necessary or potentially helpful. Consideration is currently being given to the extent that information at the five digit level ought to be collected and published.

There are some major differences between the SIC(80) and SIC(92) classifications. For example, there has been a change in the definition of manufacturing industry. Under SIC(92), coke ovens, mineral oil processing and nuclear fuel production (all previously classified as energy industries) become part of manufacturing industry (Section D). On the other hand, the repair and maintenance of computers moves from manufacturing under SIC(80) to the services sector under SIC(92).

There are many more differences at the lower levels of aggregation. A major problem is that, where activities previously covered by one code are now covered by more than one code, it is not possible to convert automatically from one classification to the other.

## CSO'S PLANS FOR THE TRANSITION

The previous United Kingdom practice has been to make the transition to a new industrial classification at the same time as the five-yearly rebasing of the national accounts onto the prices of a new base year. For example, SIC(80) was introduced in 1983 at the same time as the rebasing onto 1980 prices. Such a strategy had the advantage that it minimised the costs of the transition, but it is not considered satisfactory for the transition to SIC(92).

The next change of base year for the national accounts will take place later this year when the accounts, and associated economic series, will be rebased on the prices of 1990. With the existing pattern of five-yearly rebasing, the accounts would not be rebased again until 1998 (when they would be based on the prices of 1995). It is not practicable to make a full transition to SIC(92) this year, coincident with the rebasing on 1990. However, to delay the full transition of classification to 1998 would have serious disadvantages:

- the new SIC was published in 1992: a six year lag before its full adoption would be difficult to justify, and special exercises would be needed to provide to the Statistical Office of the European Communities (EUROSTAT) statistical data required on NACE Rev 1;
- the new system of manufacturers' product sales inquiries (PRODCOM), required by a European Community regulation to begin in 1993, have to be based on SIC(92). This points towards earlier transition;
- a late transition coupled with the need to meet EUROSTAT requirements would impose costs through the lengthy maintenance of the two classifications in statistical inquiry and business register work. It would also become increasingly difficult to maintain the SIC(80) classification.

These considerations, combined with the intention to consider moving away from five yearly rebasing (possibly to "chain linking" year to year changes), led CSO to conclude that an earlier transition to the adoption of the new SIC was desirable. Plans have therefore been drawn up on that basis. Such an approach is practicable in part since the transition will be aided by the construction of the Inter-Departmental Business Register (IDBR). This will permit CSO inquiries, from the start of 1994, to draw on classifications consistent with SIC(92) created by Employment Department and Inland Revenue. This faster transition will enable the benefits of harmonised classifications within the European Community, such as increased ease of comparison with other member states' statistics, to be gained earlier.

## Changes in 1993

The CSO's statistical series vary in the degree of industrial detail shown. The United Kingdom National Accounts (CSO *Blue Book*) shows relatively little: the index of production and various series within manufacturing industry rather more. The transition will clearly be easier for those data presented as broad aggregates where differences between SIC(80) and the new SIC are either small or can be dealt with by moving broad blocks from one category to another.

The CSO therefore plans to make initial presentational changes in the industrial analyses in this year's *Blue Book*. The most detailed analyses shown will be as set out in Annex B. The categories will be at Section and Sub-Section level of SIC(92). These can be adequately approximated by regrouping the 2 digit Classes of SIC(80). These reaggregations will be used for all tables of the CSO *Blue Book* with an industrial dimension and will be carried back into earlier years' data.

Most of CSO's industrial series due for publication around this time will also reflect the new SIC through a similar regrouping. For example, the index of production (IOP) press notice scheduled for release in September 1993 will be presented in this format. The net sector price indices in the producer price index (PPI) press notice to be published in August will also reflect the new SIC. A supplement to the Summary Volume (PA 1002) for the annual census of production for 1991 will provide data re-analysed to Section and Sub-Section level of SIC(92).

## Full transition in 1995

The full transition of more detailed industrial aggregates and inquiries depends critically on the business register. The necessary reclassification of businesses will be achieved by the creation of the IDBR which is planned to be available for operational use at the start of 1994. In late 1993 and during 1994 the IDBR will be able to make use of SIC(92) classifications from Employment Department work. It is also expected that from late 1994 the IDBR will start receiving VAT registrations on a classification consistent with SIC(92) from HM Customs and Excise.

The most difficult and lengthy transition is for the producer price index. Careful examination of the procedures involved led to the conclusion that it would be practicable to provide the necessary deflators for a complete transition in the 1995 CSO *Blue Book*; ie, three years earlier than if past practice had been followed. The 1995 CSO *Blue Book*, scheduled for publication in the summer of that year, will thus contain the industrial detail for the national accounts on SIC(92). Amongst the series which will appear in the CSO *Blue Book* on the new basis will be the output components of Gross Domestic Product (GDP).

The inter-related nature of CSO's industrial statistics system, coupled with the need to provide users with consistently classified estimates, pointed to the need for an orderly and, so far as possible, coincident transition for all CSO's industrial series. The decision on the timing of the PPI reclassification therefore dictated the timing of the full transition for all CSO's individual inquiries and detailed indicators.

The transition for the calculation and compilation of the index of production will be made in summer 1995. The transition to SIC(92) for the PPI will not merely encompass the provision of required deflators but will also permit the publication of full net sector PPIs in late summer 1995. A key stage in the transition for most individual inquiries is the point at which samples are selected on a

design which relates to the new classification. The family of monthly sales inquiries will make the transition for selection and estimation for January 1995. Other short period inquiries in the production area will make the selection transition for January 1995 or the first quarter of 1995 as appropriate. The annual census of production (ACOP) will be selected on an SIC(92) basis for 1993 and the results will be published in 1995.

There are additional problems for inquiries in the distribution and services sector. The annual inquiries are conducted on a sample basis, drawn independently year to year, and provide more limited information to reclassify the register. While the IDBR will provide one source of SIC(92) classifications it will not be complete. Furthermore, the transition of the VAT trade classification will only provide SIC(92) information on births of firms from late 1994.

The approach adopted for this sector will therefore be to delay full transition, in the sense of selection, until the inquiries for 1995. In the interim, SIC(92) estimates will be obtained from classification questions in inquiries selected on the existing basis. Short period inquiries such as the retail sales inquiry, with constant panels year to year, can more easily provide for reclassification of samples and the transition will take place early in 1995.

## Back data

The provision of back data when the transition to the new classification is made is important for users, and CSO intends to meet their needs as far as practicable. The regrouping of data in 1993 to the Sections and Sub-Sections of SIC(92) can, in general, be carried back relatively easily since it usually represents the regrouping of existing series. Where, as for the net sector price indices in the producer price index family and the enterprise group analyses from the annual census of production, it requires a re-analysis (still in SIC(80) terms) of basic data, work will be carried out to meet main needs.

The full transition planned for 1995 for the more detailed industrial aggregates poses more problems. Complete re-analysis of individual returns to inquiries in terms of the new classification is impracticable because of the resources it would demand and the difficulty of assigning new classifications to individual firms which may no longer exist. The approach adopted in inquiries will vary but every effort will be made to ease the problems of transition for users. Further material on the transition will be provided in relevant publications nearer the time of the change. CSO will, in addition, be happy to provide users with advice on the most appropriate methods of linking series where reworking in detail is impracticable.

Annex C outlines the current plans for the full transition. At this stage, not all the detailed decisions have been taken and the CSO would welcome comments from users on their priorities for the provision of back data.

## OTHER DEPARTMENTS' PLANS

The Department of Employment (ED) intend to introduce SIC(92) for the Labour Force Survey during 1993. The transition for all other ED series will take place in 1995. This timing is determined by the full Census of Employment in 1993, due to be completed in late summer 1995. At present ED has no plans to dual code back series.

The Department of Trade and Industry is planning to introduce the new SIC in its statistical collection systems in respect of energy data relating to 1993. Data will be collected for that year on both the old and new bases. Full implementation of SIC(92) will take place in

1995. The 1993 and 1994 data will then be available under the new SIC and historical data (back to 1990) will be reclassified. Details will be published in the *Digest of UK Energy Statistics*.

Inland Revenue plan to make a full transition to a classification index compatible with SIC(92) in time for the 1994 CSO *Blue Book*. HM Customs and Excise will convert its VAT trade classification system to the new SIC during 1994. The Ministry of Agriculture, Fisheries and Food, the Welsh Office, the Scottish Office and the Northern Ireland Departments all plan to follow a similar timetable to the CSO and will make the full transition in 1995. The Department of the Environment does not publish any information using SIC(80) so the introduction of SIC(92) should not lead to any discontinuities in its time series.

## SUMMARY

This article has outlined plans within the CSO, and to a lesser extent other departments, for the transition to the new Standard Industrial Classification. Briefly:

- i. CSO plans to make presentational changes for the 1993 *Blue Book*, in which the SIC(80) Classes will be regrouped to form SIC(92) Sections or Sub-Sections, and these reaggregations will be carried back into earlier years' data. CSO's main industrial indicators will also be regrouped in this way;
- ii. CSO will make the full transition to SIC(92) in 1995. This is the earliest possible date because of the lengthy and complex tasks involved in putting the producer price index onto the new SIC;
- iii. CSO has formulated plans for constructing back data on the new SIC: these plans vary depending on the series concerned;
- iv. Other departments are also planning for the changeover to the new SIC. The details vary but all departments intend to make the full transition before or during 1995.

Comments from users of industrial statistics on the plans outlined in this article would be welcome. They should be addressed to:

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NP9 1XG



**BROAD STRUCTURE OF SIC(92) TO SUB-SECTION LEVEL**

<b>SECTION A</b>	<b>AGRICULTURE, HUNTING AND FORESTRY</b>
<b>SECTION B</b>	<b>FISHING</b>
<b>SECTION C</b>	<b>MINING AND QUARRYING</b>
Sub-section CA	Mining and quarrying of energy producing materials
Sub-section CB	Mining and quarrying except energy producing materials
<b>SECTION D</b>	<b>MANUFACTURING</b>
Sub-section DA	Manufacture of food products; beverages and tobacco
Sub-section DB	Manufacture of textiles and textile products
Sub-section DC	Manufacture of leather and leather products
Sub-section DD	Manufacture of wood and wood products
Sub-section DE	Manufacture of pulp, paper and paper products; publishing and printing
Sub-section DF	Manufacture of coke, refined petroleum products and nuclear fuel
Sub-section DG	Manufacture of chemicals, chemical products and man-made fibres
Sub-section DH	Manufacture of rubber and plastic products
Sub-section DI	Manufacture of other non-metallic mineral products
Sub-section DJ	Manufacture of basic metals and fabricated metal products
Sub-section DK	Manufacture of machinery and equipment not elsewhere classified
Sub-section DL	Manufacture of electrical and optical equipment
Sub-section DM	Manufacture of transport equipment
Sub-section DN	Manufacturing not elsewhere classified
<b>SECTION E</b>	<b>ELECTRICITY, GAS AND WATER SUPPLY</b>
<b>SECTION F</b>	<b>CONSTRUCTION</b>
<b>SECTION G</b>	<b>WHOLESALE AND RETAIL TRADE; REPAIR OF MOTOR VEHICLES, MOTORCYCLES AND PERSONAL AND HOUSEHOLD GOODS</b>
<b>SECTION H</b>	<b>HOTELS AND RESTAURANTS</b>
<b>SECTION I</b>	<b>TRANSPORT, STORAGE AND COMMUNICATION</b>
<b>SECTION J</b>	<b>FINANCIAL INTERMEDIATION</b>
<b>SECTION K</b>	<b>REAL ESTATE, RENTING AND BUSINESS ACTIVITIES</b>
<b>SECTION L</b>	<b>PUBLIC ADMINISTRATION AND DEFENCE; COMPULSORY SOCIAL SECURITY</b>
<b>SECTION M</b>	<b>EDUCATION</b>
<b>SECTION N</b>	<b>HEALTH AND SOCIAL WORK</b>
<b>SECTION O</b>	<b>OTHER COMMUNITY, SOCIAL AND PERSONAL SERVICE ACTIVITIES</b>
<b>SECTION P</b>	<b>PRIVATE HOUSEHOLDS WITH EMPLOYED PERSONS</b>
<b>SECTION Q</b>	<b>EXTRA-TERRITORIAL ORGANISATIONS AND BODIES</b>

Annex B  
PROPOSED INDUSTRIAL ANALYSIS FOR CSO BLUE BOOK FROM 1993

	NEW CSO BLUE BOOK HEADINGS	SIC(92) SECTION OR SUB-SECTION	SIC(80) CLASSES
1	Agriculture, Hunting, Forestry and Fishing	A & B	01,02,03
2	Oil and Gas	Part CA	13
3	Other Mining and Quarrying	Part CA and CB	11,21,23
4	Manufacture of Food Products; Beverages and Tobacco	DA	41 & 42
5	Manufacture of Textiles and Textile Products	DB	43 & 45
6	Manufacture of Leather and Leather products	DC	44
7	Manufacture of Wood and Wood Products	DD	46
8	Manufacture of Pulp, Paper & Paper Products; Publishing and Printing	DE	47
9	Manufacture of Coke, Refined Petroleum Products & Nuclear Fuel	DF	12,14,15
10	Manufacture of Chemicals Chemical Products and Man-made Fibres	DG	25 & 26
11	Manufacture of Rubber and Plastic Products	DH	48
12	Manufacture of Other Non-Metallic Mineral Products	DI	24
13	Manufacture of Basic Metals & Fabricated Metal Products	DJ	22 & 31
14	Manufacture of Machinery and Equipment not elsewhere classified	DK	32
15	Manufacture of Electrical & Optical Equipment	DL	33,34,37
16	Manufacture of Transport Equipment	DM	35 & 36

NEW CSO BLUE BOOK HEADINGS			SIC(92) SECTION OR SUB-SECTION	SIC(80) CLASSES
17	Manufacturing not elsewhere classified	) )	DN	49
18	Electricity, Gas and Water Supply	) )	E	16 & 17
19	Construction		F	50
20	Wholesale & Retail Trade; Repair of Motor Vehicles, Motorcycles & Household Goods	) ) ) )	G	61, 62, 63, 64 65 & 67
21	Hotels & Restaurants		H	66
22	Transport, Storage and Communication	) ) )		71,72,74 75,76,77 & 79
23	Financial Intermediation		J	81 & 82
24	Real Estate, Renting and Business Activities	) )	K	83,84,85 & 94
25	Public Administration & Defence; Compulsory Social Security	) ) )	L	91
26	Education		M	93
27	Health and Social Work		N	95
28	Other Community, Social and Personal Service Activities	) ) )	O	92,96,97, 98,99,00

Note: SIC(92) Sections P (Private households with employed persons) and Q (Extra-territorial organisations and bodies) will not be shown separately. They will be included with Section O.

**Annex C**  
**CSO PLANS FOR PROVISION OF BACK DATA ON FULL TRANSITION**  
**TO SIC(92) IN 1995**

SERIES	PLANS FOR BACK DATA
Product Sales Inquiries	A back series for 1990 to 1992 will be provided. However, because of changes in the product descriptions, method of calculation and disclosure constraints the back series may, in some cases, be aggregated above the full product level.
Producer Price Index	A back series from January 1989 onwards will be provided. In addition, CSO will be willing to give advice to users on request (and without any responsibility for the financial implications of the choice) as to which index on SIC(80) most closely approximates to an index on SIC(92).
Index of Production	Back data will be constructed for the full span of years existing prior to reclassification.
Monthly Manufacturers' Sales Inquiries	Extent of reclassification of back data still under consideration within CSO.
Censuses of Production and Construction	Results for 1993 will be produced on both SIC (80) and SIC (92). No reworking planned for earlier years but the availability of dual classified 1993 data will provide a link.
Monthly & Quarterly Inquiries into Stockbuilding	Extent of reclassification of back data still under consideration within CSO.
Quarterly Capital Expenditure Inquiries	Extent of reclassification of back data still under consideration within CSO.
Stocks and Gross Domestic Fixed Capital Formation (Whole Economy Estimates)	The aim is to provide long-run series, but the full extent of the reclassification of back data is still under consideration.
Gross Domestic Product (Output)	The aim is to provide long-run series, but the full extent of the reclassification of back data is still under consideration.
Input-Output	The first Input-Output balance on SIC(92) will be published in the 1995 CSO <i>Blue Book</i> . Earlier balances will not be converted to the new SIC.
Annual Distribution and Services Inquiries	Results for 1992 will be reworked and published at the same time as the 1993 results in 1995.
Retail Sales Inquiry	For months back to the beginning of 1986, linking factors will be used to approximate the new classification at the 4 digit level.
Quarterly Turnover Inquiries to the Service Trades	Back data will be provided for the full span of quarters existing prior to reclassification (ie Quarter 1 1991 for some inquiries, Quarter 1 1992 for others).

# Rebasing the national accounts: The reasons and the likely effects

David Caplan, Central Statistical Office

## Introduction

The UK national accounts and other economic statistics will be rebased on the year 1990 in August 1993. This article explains what is meant by rebasing and why it is needed, describes the process involved in rebasing and gives early estimates of the effects of this year's rebasing on published national accounts estimates.

## Volume measures

Estimates of the volume of gross domestic product (GDP) are among the most important economic indicators. Movements in series at "current" or "nominal" prices reflect changes in both activity and prices. However, comparisons over time are often required with the effects of price changes eliminated. "Volume" or "constant" price measures have the effects of such price changes removed.

By convention, volume measures are expressed in terms of either the average prices prevailing in a fixed reference period or as an index based on a convenient year. The units used to express constant price measures are immaterial for the purpose of measuring changes. However, the choice of reference period or the base for the index series is significant and will be discussed further.

At present, volume measures for United Kingdom national accounts statistics are expressed in average 1985 prices or as index series based on 1985. This year, all these estimates will be rebased on the year 1990. This means that all the expenditure components of GDP will be expressed in terms of average 1990 prices and new aggregate measures calculated. In addition, the detailed components of output, which are at present indexed on 1985 will be indexed on 1990. These components, which are at present weighted together using values for net output in 1985, will be reweighted according to the values of net output in 1990. In rebasing on 1990, the UK is following internationally recommended practice.

The rebased annual estimates will be published in a press notice in August 1993. They will then appear in the *United Kingdom National Accounts*, 1993 Edition (the CSO Blue Book) which will be published in September. Quarterly estimates on the new basis will be published in the GDP press notice in September and in the new quarterly national accounts supplement to *Economic Trends* in early October.

## The need for rebasing

Constant price estimates are produced to measure changes in the volume of goods and services produced or sold. Where a single type of article of unvarying specification is produced, changes in volume can, in principle, be measured perfectly and directly in terms of the number of units. When two or more different articles are produced, changes in the volume of total production can only be measured if a relative value is assigned to the output of each article in each period. In practice, this is done by valuing the output at the prices of a single period, normally a year known as the base year. For example, output in the years 1983 to 1986 is valued at 1985 prices. Values of total output of a combination of articles at constant 1985 prices in different periods can then be compared.

The choice of base year can have a significant effect on the derived changes over time in constant price aggregates. The relative prices of the various goods and services, which determine the weights in aggregate measures, can vary. This variation can result from a range of factors including technological change, commodity prices and exchange rates. Different relative price movements can result in different measures of volume change. Ideally, for each comparison that is made over time, a specific base period should be used. The base period would be chosen so that it most closely reflects the price structure of the period of comparison. In practice, this cannot easily be done. So, to reflect changing price structures, a sequence of base years is chosen. Each base year is used for volume comparisons over defined periods surrounding that base year. Rebasing, therefore, becomes necessary to ensure that volume comparisons made over recent periods are not distorted by the use of a price structure from an earlier period.

## Linking of a series on different bases

Rebasing does not mean that whole series of constant price estimates are recalculated using the relative weights of the new base year. This would mean imposing inappropriate weights on estimates for earlier periods. Developments in the 1960s, for example, cannot be measured satisfactorily in terms of 1990 relative prices. Therefore, the relative price structure in a base year is used over a limited period where that structure is appropriate. For example, relative prices in the current base year, 1985, are used to generate volume estimates at 1985 prices only as far back as 1983. From 1978 to 1982, relative prices in 1980 are used. The two periods are linked by scaling or rereferencing the earlier period, at the component level, using the ratio

$$\frac{1983 \text{ value at } 1985 \text{ prices}}{1983 \text{ value at } 1980 \text{ prices}}$$

The year 1983 is called the link year. A similar process is carried out around earlier base years. This means that although the constant price estimates are referred to as being 'at 1985 prices', the estimates prior to 1983 are all calculated using relative prices more closely related to the periods in question. In other words, each series has several weighting bases, but only a single 'reference base'. Each volume series is in the form of a chain-linked index with the typical length of each link being five years. The latest price base can, however, immediately prior to rebasing, span periods in excess of ten years, with the more recent years being revised on rebasing. For example, the 1985 weighting base is currently used for estimates from 1983 to 1992. On rebasing, the estimates from 1986 onwards will be recalculated on a 1990 base. The advantage of this chain linking is that it approximates to the ideal of making comparisons using the most typical set of relative prices for the period concerned. For comparisons over longer periods, no single price structure is allowed to dominate and account is taken of the changes in the relative prices of the components.

An important result of this approach is that rebasing only affects comparisons over periods as far back as the link year. Comparisons made over earlier periods are unaffected and still made on the basis

of the most appropriate relative prices for the period. However, prior to the latest link year, subtotals and totals of expenditure components rereferenced to the new price base will no longer equal the sum of their components which have been linked separately. Additivity could only be preserved by changing the assessment of growth in either components or aggregates, which would clearly be inappropriate. Non-additivity is also present in output components but, since the series are shown only as index numbers, is less visible.

### Choice of link year

It will be clear that the choice of link year is significant. When choosing the link year, it is important to find a period where relative prices are as stable as possible. The latest link year is 1983. In the period since 1985 the most significant price change has been the sharp fall in the price of oil in 1986 and its subsequent stability. Therefore the relative prices in 1986 and subsequent years are thought to match more closely those in 1990 than those in 1985. It is, therefore, thought appropriate to measure growth in the period 1983 to 1986 using 1985 prices, and for 1986 onwards using 1990 prices. As a result, 1986 has been chosen as the link year for the 1990 based series.

### The nature of rebasing

Before describing the rebasing process, it is necessary to explain how constant price estimates are derived. In theory, constant price estimates of expenditure components are calculated by valuing the volume of expenditure at the average price in the base year. In practice, pure volume measures are rarely available. Most constant price estimates are, therefore, estimated indirectly from changes in value deflated using appropriate price indices.

Theoretically, to obtain the reweighted base-weighted volume series the values expressed in current prices should be divided by current-weighted price indices. In practice, however, the information on weights needed to derive such price indices is not usually available with such frequency and the individual price indices used for deflation are mostly base weighted. The effect of this weakness in the constant price estimates is minimised by carrying out the deflation at the most detailed level possible. Therefore, the incorrect weighting only occurs within the categories of expenditure to which the base weighted deflators are applied. It can be shown that the correct weighting between these categories is achieved by simple addition of the deflated series. Previous analyses have shown that the use of base-weighted deflators is not a serious deficiency in the methods of estimation, given the level of disaggregation that is used.

For output components, the aim is to measure changes in the real net output or "value added" of each industry. These changes are then weighted together according to the relative values of value added, in the base year. The value added by each industry is its contribution to the domestic product - that is, the value of its total output less the cost of goods and services bought from other industries or imported. In other words, the value added by industry consists of the value of the factors of production used in that industry and equals the sum of factor incomes (income from employment, profits and rent) earned in the industry.

Ideally, value added at constant prices would be measured by taking the difference between constant price gross outputs and constant price inputs. This process is called double deflation as it involves separately deflating the value of inputs and outputs in the production process. In practice, there are severe practical constraints in applying this technique. Therefore, for most industries, proxy indicators for changes in real output are used. These are usually indicators of gross output and are physical indicators or values of output deflated by appropriate price indices.

Using gross output indicators in this way implies the assumption that the ratio of net output to gross output, at constant prices, is stable. In

practice, this assumption is fairly robust because of the detailed level at which industries and activities within industries are identified. In addition, adjustments can be made if there is evidence of changes in net to gross output ratios.

Where the value of gross output is deflated to constant prices, the price indices used are base weighted. As with expenditure components, the detailed level of disaggregation at which deflation is carried out avoids serious distortions.

The operations in rebasing can be summarised as follows.

a) from the link year (1986) onwards

For expenditure components:

- i) Producing reweighted price indices for deflating the individual components of expenditure where these are used, and
- ii) Reweighting the deflated components of expenditure and those produced from volume measures according to the value of expenditure in the new base year and calculating new aggregate series.

For output components:

- i) Producing reweighted price indices for deflating the individual measures of the value of gross output, and
- ii) Reweighting the deflated indicators (and the direct volume indicators) according to the value of net output in the base year and calculating new aggregate indices.

The weights used will be derived from the input-output tables for 1990, together with further disaggregations.

b) For periods prior to the latest link year:

Rereferencing all component and aggregate series to 1990 prices or to a 1990=100 index base by multiplying the existing series by the ratio:

$$\frac{1986 \text{ value on } 1990 \text{ base}}{1986 \text{ value on } 1985 \text{ base}}$$

### The effects of rebasing

The effects of rebasing on 1985 were described in an article in the January 1989 edition of *Economic Trends* (No 423). The effects of rebasing on expenditure components are summarised in Table 1.

Table 1  
Expenditure on the gross domestic product: the effect of rebasing on 1985  
Percentage increases 1983 - 1987<sup>1</sup>

	At 1980 prices	At 1985 prices	Differ- ence
Consumers' expenditure	18.1	16.7	-1.4
General government final consumption	3.9	3.8	-0.1
Gross domestic fixed capital formation	16.7	18.2	+1.5
Total domestic expenditure	14.8	14.1	-0.7
Export of goods & services	23.3	23.5	+0.2
Total final expenditure	16.6	16.1	-0.5
Imports of goods & services	28.8	28.6	-0.2
GDP at market prices	13.5	12.9	-0.6
Adjustment to factor cost	17.8	17.5	-0.3
GDP at factor cost	12.8	12.1	-0.7

<sup>1</sup> Based on data consistent with the CSO Blue Book 1987 edition

For most types of expenditure the theoretical effect of rebasing is to reduce the estimated growth in volume slightly. This reflects normal price elasticities: the growth in demand is likely to be greatest for those goods and services whose unit prices have grown the least. So, on rebasing, the weight given to products for which growth in demand has been greater than average will tend to be reduced and the weight given to products for which growth in demand has been smaller than average will tend to be increased. A similar principle holds for the output components. Rebasing also gives us the opportunity to review component series and to improve coverage, sources and methodology. These changes, along with other routine revisions made to the estimates, can in practice have larger effects than those of rebasing itself.

As Table 1 shows, rebasing on 1985 reduced the estimate of growth in total domestic expenditure between 1983 and 1987 by 0.7 per cent. There were small changes in growth rates for imports, exports and the factor cost adjustment. This resulted in the growth rate in GDP at factor cost over the period being revised down by 0.7 per cent. In the previous rebasing, onto 1980, the effect of rebasing was to change the estimate of growth between 1978 to 1982 from a fall of ¾ per cent to an increase of ¼ per cent.

For the weighted total of components of output, rebasing on 1985 reduced the estimate of growth. For the 1980 rebasing, there was an increase in the growth estimate. That is to say, rebasing had similar effects on the totals of expenditure and output components.

### Early estimates of 1990 based series

At this stage, only an incomplete and approximate estimate can be made of the effects of rebasing onto 1990. Most components of expenditure and output require reweighted price deflators which are not yet available. However, it is possible to make an early estimate of the effects of rebasing from 1985 to 1990 prices. This early assessment has been made by reweighting together the main components of each type of expenditure. The effects of this partial rebasing are shown in Table 2.

Table 2  
Expenditure on the gross domestic product: the effect of rebasing on 1990  
Percentage increases 1986-1991

	At 1985 prices	At 1990 prices	Differ- ence <sup>1</sup>
Consumers' expenditure	15.5	15.6	+0.1
General government final consumption	8.9	7.6	-1.4
Gross domestic fixed capital formation	17.0	14.1	-2.9
Total domestic expenditure	13.3	12.6	-0.7
Export of goods & services	15.1	17.9	+2.7
Total final expenditure	13.7	13.6	-0.1
Imports of goods & services	27.2	26.0	-1.2
GDP at market price	9.8	10.7	+0.9
Adjustment to factor cost	11.6	13.7	+2.1
GDP at factor cost	9.5	10.2	+0.7

<sup>1</sup>Differences shown may not equal the differences between the growth rates due to rounding

As the table shows, it is expected that there will be a fall of around ½ per cent in the estimate of growth in total domestic expenditure between 1986 and 1991. This fall is more than offset by an increase in the estimate of growth of exports of goods and services and a

decline in the growth of the volume of imports. The result of these changes is that rebasing is expected to add around ½ per cent to the estimate of growth of GDP at factor cost between 1986 and 1991.

Among components of domestic expenditure, the most significant changes are to gross domestic fixed capital formation and general government final consumption. Within fixed capital formation, this reflects higher rates of growth in plant and machinery than in dwellings. The price of plant and machinery has increased less than that of dwellings. The largest contribution to the change in the growth of exports and imports results from a fall in the price of oil between 1985 and 1990. This means that the reduction in the tonnage of oil exports since the mid-1980s, and the accompanying increase in the tonnage of exports, will both have less impact in constant price series following rebasing.

A similar analysis has been carried out for output components. The result suggests that around ½ per cent will be added to the estimate of growth of the total of output components between 1986 and 1991. As with expenditure, much of this change is explicable in terms of the changing weight of oil in aggregate measures.

### Annual chain linking

As mentioned before, the current UK practice of rebasing every five years is in line with international recommendations. These require rebasing at five yearly intervals, taking years ending in 0 or 5 as base years. However, there are known deficiencies in this approach. For example, it has been recognised since 1986 that there could be a significant effect on estimates of aggregate growth rates in the rebasing onto 1990 resulting from the fall in oil prices in 1986.

After the current rebasing on 1990, the CSO will consider the possibility of annual rebasing. This would give estimates of growth which would not be revised simply as a result of the rebasing exercise. A review will be carried out to consider the practicality of annual rebasing and to examine advantages and disadvantages.

### Summary

The constant price estimates in the national accounts will be rebased this year on 1990. This rebasing is expected to increase the estimates of growth of output between 1986 and 1991 but the revision will be small. The new fully rebased series will be published in August. A further article in *Economic Trends* will include an assessment of the actual effects of rebasing, drawing on the published component and aggregate results. The CSO will also undertake a study which may lead annual rebasing which could result in less revision to growth rates.



# TESTING FOR BIAS IN INITIAL ESTIMATES OF THE COMPONENTS OF GDP

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## Introduction

An earlier article published in the May 1992 issue of *Economic Trends* suggested that quarterly estimates of year on year growth rates of gross domestic product (GDP) published in the 10 years ending Q4 1991, showed some evidence of bias in initial estimates produced three years earlier. The present article analyses the revisions to growth rates of the components of GDP, when examined in terms of incomes, expenditures, and output, in order to identify which of the individual components contributed to the bias in the aggregated measure of GDP.

It should, however, be stressed that since this article is looking at long term revisions the latest figures which can be covered relate to estimates of growth rates into 1988. The analysis in this article, therefore, could not take account of some significant recent improvements made particularly to the methodology and in the identification of new data sources, incorporated into the initial estimates of quarterly growths from 1989 onwards.

Estimates of the components of expenditure, income and output are published in a quarterly article on national accounts in *Economic Trends*. The data for the first to the thirteenth estimates of each item and for each of the 40 quarters, analyzed in this article, have been taken from successive quarterly issues. The analysis covers published data for the 10 years from 1982 to end 1991, as in the earlier article. The dates refer to the publication of the thirteenth estimate, as before.

## Method of Testing for Bias

The methods used for the present analysis are the same as described in the article published in the May 1992 issue of *Economic Trends*. Revisions series for each item were arrived at by taking the difference between the first and the thirteenth estimates of percentage growth rates over four quarters. The same definition of bias is used here as in the last article; an indicator is considered to be biased if its mean revision is different from zero.

- a) In the first instance a Student's *t*-test was applied to each series. However, this test is applicable only if the revisions follow a normal (Gaussian) distribution. The Wilcoxon signed-rank test, which is a non parametric test and which requires no assumption about the underlying distribution, was also applied to all the series. Strictly speaking this test examines whether the median (rather than the mean) is different from zero.
- b) All series were tested for serial correlation. Where a significant coefficient for correlation was found, a Cochrane-Orcutt transformation was performed before re-applying the *t*-test.
- c) As in the last article, all the series were examined for the effect of business cycles. The series of revisions were

regressed on a dummy variable with 1 denoting the expansion and -1 denoting the contraction phase of the economy. Where a significant phase effect was observed the residuals of those series were tested for the presence of serial correlation. The Cochrane-Orcutt regression procedure was then used to test the effect of business cycles again.

## Results and Discussion of individual items

The results are summarised in Tables 1 to 6 in the annex. First the total of the relevant components is examined, e.g. the total of the components of GDP when analyzed into categories of expenditure. Then the components were examined separately. Also included in the annex are separate graphs for each indicator, showing the magnitude of individual revisions over the whole ten year period.

## Components of Total Expenditure

Mean revision to the growth rate of **Total Final Expenditure less Imports less Factor Cost Adjustment** in current prices was an increase of 1.1 per cent over the 10 year and 1.30 per cent in the latter 5 year period. The corresponding figures in constant prices were 0.78 and 1.08. The *t*-values for all four means were highly significant. However, the serial correlations were also significant and after Cochrane-Orcutt transformation on the 10 year data the *t*-values were reduced; falling just below the 5% significance level at current prices but remaining significant at constant prices.

A regression on the business cycle variable showed no phase effect for the first 5 year period (publication dates: 1982 to 1986) but a significant downward bias in the initial estimates during the expansion phase of the second 5 year period (publication dates: 1987 to 1991).

The components which contributed most to the revisions to the total expenditure were **Consumers' expenditure** and **Gross Domestic Fixed Capital Formation (GDFCF)**. These two items together account for more than 60% of total final expenditure. The *t*-values for the mean revisions over the 10 year period were highly significant in both current and constant prices. The same results were obtained by the Wilcoxon test. In all cases these revisions increased the initial estimates. The main reason for these significantly upward mean revisions were some very large and consistently positive changes to consumers' expenditure, and higher revisions still to GDFCF during the last three years of the 10 year period.

The mean revision to consumers' expenditure in current prices was an increase of 0.5 percentage points in the first 5 year period compared to 1.06 per cent in the second 5 year span. At constant prices these upward revisions were 0.10 and 0.98 percentage points respectively. The corresponding figures for GDFCF were 1.31 and 3.14 at current prices and 0.70 and 3.43 percentage points at constant prices. The serial correlation was significant for both consumers' expenditure and GDFCF. A Cochrane-Orcutt transformation reduced

the t-values but while the mean revisions to GDFCF became non-significant the mean revisions to consumers' expenditure remained significant in all cases.

A regression on the business cycle variable showed a non-significant effect of the phase of the cycle for consumers' expenditure for the 10 year and the first 5 year periods in both price measures. However, there were highly significant phase effects for consumers' expenditure in the second 5 year period and for all periods and in both prices for GDFCF. The main contributing factor to the significant effects in the later 5 years is the high positive revisions to both consumers' expenditure and GDFCF in this period. Of the 20 observations of the revisions to consumers' expenditure in this 5 year period, which contains 8 contraction and 12 expansion quarters of the economic cycles, only 1 revision in current prices and 2 in constant prices were negative and the other 19 and 18 respectively were positive. For GDFCF, which was prone to very high revisions, the range of revisions in this period was -4.24 to 9.73 per cent (5 negative and 15 positive) in current prices and -3.69 to 8.88 per cent (4 negative and 16 positive) in constant prices.

**General Government Final Consumption (GGFC)** represents the total of Local Authority and Central Government current expenditure on goods and services. The mean revisions to the year on year growth of GGFC were increases of 0.65 and 0.53 percentage points for the 10 year and the latter 5 year periods respectively. The corresponding revisions in constant prices were -0.11 and 0.11. The t-values in all four cases were not significant. A regression on the business cycle variable showed a non-significant effect of the phase of the cycle in each case.

**Exports** are added to the total domestic expenditure to get total final expenditure, while **Imports** are subtracted from the final expenditure to arrive at the GDP estimate at market prices. The t-values for the mean revisions to the growth rates of both exports and imports were not significant for the current and the constant price measures. However, a regression on the business cycle variable showed a slightly significant phase effect for the current price measure of exports in the first 5 years of the 10 year period.

### Components of Factor Incomes

The mean revision to the year on year growth rate of **total domestic income (less stock appreciation)** was an increase of .35 percentage points over the 10 year period and an increase of 0.36 per cent in the latter 5 year period. The t-values were not significant in either period. There was no business cycle effect in any period.

The components which contribute most to the overall mean revision were **Other Income (sum of income from self employment and rent)** and **Gross Trading Profits of Companies**. However, the t-values were significant only for the revisions to other incomes and not for company profits. The non-significant t-value in the latter case was due to a high standard deviation which was in turn the result of a very wide range of revisions, most made in the latter 5 years of the ten year period. The 80% range of revisions in this second 5 year period was between -5.18 and 9.27 (7 negative and 9 positive).

Both components showed high serial correlation. A Cochrane-Orcutt analysis reduced the t-value for other income to a non-significant level.

A regression on the business cycle variable over the 10 year data showed a significant phase effect for other income but not for company profits.

The mean revision to **Income from Employment** over the 10 year period was only just below the 5% significance level. The Wilcoxon signed-rank test made it just significant at 5%. However, the mean revision in the latter 5 years was very small and non-significant. There was an economic cycle effect over the first 5 year period when the mean revision to the annual growth rate was an increase of 0.88 (s.e. 0.22) percentage points.

The other components of factor incomes are **gross trading surpluses of public corporations and general government** and **non trading capital consumption** along with **stock appreciation** which is a negative item. These components have not been included in this study.

### Components of Output

Output by industry is measured and published only as index numbers, at constant prices. The mean revision over the 10 years to the annual growth rates of the **aggregate output** of all industries was an increase of 0.63 percentage points. The t-value was highly significant and this was confirmed by the Wilcoxon test.

The t-value for the mean over the latter 5 year period was not significant. Serial correlation was just above the 5% significance level over the 10 year period and not significant for the latter 5 years. A Cochrane-Orcutt analysis reduced the 10 year t-value to a non-significant level.

There was no phase effect for the business cycles in any period.

The components of output which contributed most to the overall mean revision were **Agriculture, Forestry and Fishing, Manufacturing and Other Services (including Finance)**. Taking account of their weights these industries contributed 80% and 40% to the overall mean in the 10 year and the second 5 year period respectively. The t-values for these components were highly significant and so were the serial correlation coefficients. A Cochrane-Orcutt analysis reduced the t-values for all three components; the t-value for manufacturing still remained significant but became non-significant for the other two components.

A regression of all 10 years of data on the business cycle variable showed a non significant effect of the phase of the cycle for all the components of output. However, when the 10 year period is split into its two halves, the figures showed a significant phase effect for the output of **Distribution, Hotels and Catering** in both the first as well as in the second span of 5 years, but in the opposite direction to each other. However, the t-values for the mean revisions for distribution hotel and catering were non-significant for all periods. There was also a small phase effect in the first 5 year span for the output of other services.

The other components of output, **Construction and Transport** showed small mean revisions for all periods. The t-values in all cases were non-significant and there were no serial correlation found. There was no phase effect of the economic cycles in either case for any period.

### Conclusion

This study has shown that the items which contributed most to the bias in the estimates of four quarter growth rate of GDP were consumers' expenditure and gross domestic fixed capital formation (GDFCF) among the expenditure components, other income (self employment income and rent) among the factor incomes and the output for manufacturing and other services (including finance) for the output measure.

The average revisions to consumers' expenditure and GDFCF were high and consistently positive during recent years both in current and constant prices. The average revision to the four quarter growth rate of consumers' expenditure in constant prices in the recent 5 years (1987-1991) was more than eight times as much as in the first 5 year span. Similarly the average revision to the four-quarter growth rate of GDFCF at constant prices was nearly five times as much in the recent 5 years compared to the first 5 year span of the 10 year period.

Of the components of factor incomes, other income (self employment income and rent) showed the highest average revision over the 10 year period. There were large revisions to gross company profits over the 10 year period and also in the two halves of 5 years. But there were equal numbers and of similar magnitude of both negative and positive revisions (21 negative and 19 positive) and therefore, the mean revision for company profit was small and its t-value insignificant.

The mean revision to the four-quarter growth rate of the output of manufacturing showed a slight decline in the magnitude of the bias in the recent years. The picture for the revisions to the growth rate of the output of other services also changed from a highly significant t-value for the mean over the 10 year period to a non-significant t-value and a small average revision in the most recent years.

When tested for the effect of the phase of the economic cycle, the study found no phase effect on the initial estimates of consumers' expenditure, but a strong phase effect for GDFCF over the 10 year period and in the first 5 year period in both current and constant prices. The second 5 year period contains two expansion phases - one before Q3 1984 and the second, a very strong one, from Q1 86 to Q3 1988. Spanned by these two expansion phases was a contraction phase which was too weak to have any significant influence on the estimates of any of the GDP items. It may not, therefore, be proper to draw any conclusion about the effect of the economic cycle on revisions for this period. The only two income components where phase effects were found over the 10 year period were income from employment and other income.

The average revision to the growth rate of the output of agriculture, food and fisheries over the 10 year period was also significant but only slightly. However, the contribution of its mean revision to the overall mean for the total output was negligible.

Apart from these components, all other items tested showed no indication of bias.

The analysis covered historical data up to 1988. The recent improvements made to the methodology of compiling the national accounts should reduce these biases. Further monitoring to verify this will be reported in due course in an update to this article. In addition an analysis which will update the results of the article published in May 1992 will be published in the May 1993 issue of *Economic Trends*.

I. TABLE: REVISIONS ANALYSIS: EXPENDITURE COMPONENTS AT CURRENT MARKET PRICES

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
Total GDP Expenditure Components	Three years after the first publication	10	40	1.07	1.85	0.29	3.61 **	3.37 **	75.0	25.0	0.64 **	5.00 to -2.86
Current Factor Cost		5	20	1.29	1.60	0.36	3.51 **		90.0	10.0	0.53 **	4.76 to -2.86
Year on Year growth Annual growth %												
Consumer Expenditure	Three years after the first publication	10	40	0.84	1.12	0.18	4.64 **	3.89 **	70.0	30.0	0.50 **	3.47 to -0.83
Year on Year growth Annual growth %		5	20	1.17	0.95	0.21	5.39 **		85.0	15.0	0.38	2.98 to -0.44
General Govmnt Final Consumption	Three years after the first publication	10	40	0.44	1.50	0.24	1.85	1.94	57.5	42.5	0.28	3.01 to -3.84
Year on Year growth Annual growth %		5	20	0.53	1.34	0.30	1.74		60.0	40.0	0.29	3.01 to -1.85
Gross Domestic Fixed Capital Formation	Three years after the first publication	10	40	2.23	3.88	0.61	3.59 **	3.08 **	67.5	32.5	0.63 **	9.73 to -4.24
Year on Year growth Annual growth %		5	20	3.14	3.86	0.86	3.55 **		75.0	25.0	0.48 *	9.73 to -4.24
Imports	Three years after the first publication	10	40	0.25	1.34	0.21	1.15	1.10	55.0	45.0	-0.10	3.95 to -3.42
Year on Year growth Annual growth %		5	20	0.18	1.04	0.23	0.74		60.0	40.0	0.01	2.08 to -2.56
Exports	Three years after the first publication	10	40	0.10	1.00	0.16	0.63	0.17	47.5	52.5	0.25	3.13 to -1.54
Year on Year growth Annual growth %		5	20	-0.26	0.83	0.19	-1.38		35.0	65.0	-0.10	1.51 to -1.54

NOTE: Ten year period runs from April '82 to Jan '92.  
Five year period runs from April '87 to Jan '92.  
These dates relate to the publication dates; e.g. revision published in Q4 1991 for GDP(E) would relate to Q3 1991.

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

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

II. TABLE: REVISIONS ANALYSIS: EXPENDITURE COMPONENTS AT CONSTANT MARKET PRICES

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
Total GDP Expenditure Components	Three years after the first publication	10	40	0.78	1.34	0.21	3.67 **	3.35 **	75.0	25.0	0.39 *	4.39 to -1.96
Constant Factor Cost		5	20	1.08	1.21	0.27	3.87 **		85.0	15.0	0.28	4.39 to -0.98
Year on Year growth	Three years after the first publication	10	40	0.47	0.94	0.15	3.12 **	2.83 **	65.0	32.5	0.45 **	2.85 to -1.20
Annual growth %		5	20	0.84	0.82	0.18	4.49 **		85.0	10.0	0.17	2.85 to -0.22
General Government Final Consumption	Three years after the first publication	10	40	-0.11	1.06	0.17	-0.67	0.77	37.5	62.5	0.08	2.56 to -2.06
Year on Year growth		5	20	0.11	1.22	0.27	0.39		45.0	55.0	0.09	2.56 to -2.06
Annual growth %	Three years after the first publication	10	40	2.07	4.04	0.64	3.20 **	2.84 **	67.5	32.5	0.65 **	8.88 to -5.09
Gross Domestic Fixed Capital Formation		5	20	3.43	3.71	0.83	4.04 **		80.0	20.0	0.43	8.88 to -3.69
Year on Year growth	Three years after the first publication	10	40	-0.24	1.80	0.28	-0.82	0.69	45.0	55.0	0.26	3.69 to -4.20
Annual growth %		5	20	0.20	1.27	0.28	0.67		50.0	50.0	0.22	2.46 to -2.87
Imports	Three years after the first publication	10	40	0.07	1.20	0.19	0.37	0.07	50.0	50.0	0.26	3.17 to -2.37
Year on Year growth		5	20	0.07	1.18	0.26	0.25		50.0	50.0	0.31	3.17 to -2.29
Annual growth %												

NOTE: Ten year period runs from April '82 to Jan '92.  
Five year period runs from April '87 to Jan '92.  
These dates relate to the publication dates; e.g. revision published in Q4 1991 for GDP(E) would relate to Q3 1991.

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

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

III. TABLE: REVISIONS ANALYSIS : INCOME COMPONENTS AT CURRENT FACTOR COST

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
Total GDP Income Components	Three years after the first publication	10	40	0.33	1.62	0.26	1.28	1.11	52.5	47.5	0.56 **	3.27 to -3.20
Year on Year growth Annual growth %		5	20	0.33	1.30	0.29	1.10		85.0	15.0	0.66 **	2.72 to -2.01
Income from Employment	Three years after the first publication	10	40	0.28	0.92	0.15	1.90	1.69	57.5	42.5	0.70 **	1.95 to -1.47
Year on Year growth Annual growth %		5	20	0.03	0.97	0.22	0.15		35.0	65.0	0.78 **	1.95 to -1.47
Gross Trading Profits of Companies	Three years after the first publication	10	40	0.68	7.89	1.25	0.54	0.37	47.5	52.5	0.32 *	22.82 to -18.72
Year on Year growth Annual growth %		5	20	2.00	7.15	1.60	1.22		55.0	45.0	0.51 *	19.47 to -8.82
Other Income	Three years after the first publication	10	40	1.88	3.19	0.50	3.68 **	3.29 **	70.0	30.0	0.72 **	11.15 to -3.26
Year on Year growth Annual growth %		5	20	1.63	2.48	0.56	2.86 **		75.0	25.0	0.72 **	6.89 to -3.26

NOTE: Ten year period runs from April '82 to Jan '92.  
Five year period runs from April '87 to Jan '92.  
These dates relate to the publication dates; e.g. revision published in Q4 1991 for GDP(I) would relate to Q3 1991.  
Wilcoxon Z is the equivalent normal score of the Wilcoxon test.

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

IV. TABLE: REVISIONS ANALYSIS : OUTPUT COMPONENTS AT CONSTANT FACTOR COST

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
Total GDP Output Components Year on Year growth Annual growth %	Three years after the first publication	10	40	0.51	0.63	0.10	5.08 **	4.11 **	82.5	17.5	0.69 **	1.39 to -1.24
		5	20	0.29	0.67	0.15	1.87		75.0	25.0	0.60 **	1.36 to -1.24
Agriculture, Forestry And Fishing Year on Year growth Annual growth %	Three years after the first publication	10	40	1.95	5.73	0.91	2.13 *	1.84	60.0	40.0	0.77 **	16.96 to -8.33
		5	20	0.73	6.91	1.55	0.46		45.0	55.0	0.89 **	16.96 to -8.33
Manufacturing Year on Year growth Annual growth %	Three years after the first publication	10	40	0.58	1.03	0.16	3.52 **	3.40 **	75.0	25.0	0.25	2.76 to -2.35
		5	20	0.58	1.21	0.27	2.08		70.0	30.0	0.22	2.62 to -2.35
Construction Year on Year growth Annual growth %	Three years after the first publication	10	40	0.18	1.78	0.28	0.64	0.56	55.0	45.0	0.20	3.88 to -4.23
		5	20	-0.52	1.79	0.40	-1.27		30.0	70.0	0.18	3.78 to -4.23
Distribution Year on Year growth Annual growth %	Three years after the first publication	10	40	-0.60	2.16	0.34	-1.73	1.14	47.5	50.0	0.70 **	2.83 to -7.57
		5	20	0.09	1.29	0.29	0.31		60.0	35.0	0.34	1.90 to -2.54
Transport Year on Year growth Annual growth %	Three years after the first publication	10	40	0.16	2.11	0.33	0.47	0.58	55.0	42.5	0.28	5.72 to -5.34
		5	20	0.24	1.99	0.44	0.53		60.0	40.0	0.02	3.33 to -3.61
Other Services Year on Year growth Annual growth %	Three years after the first publication	10	40	0.92	1.22	0.19	4.75 **	4.16 **	82.5	17.5	0.67 **	3.86 to -1.87
		5	20	0.16	0.93	0.21	0.76		65.0	35.0	0.54 *	1.90 to -1.87

NOTE: Ten year period runs from April '82 to Jan '92.  
Five year period runs from April '87 to Jan '92.  
These dates relate to the publication dates; e.g. revisions published in Q4 1991 for GDP(O) would relate to Q3 1991.  
Wilcoxon Z is the equivalent normal score of the Wilcoxon test.

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



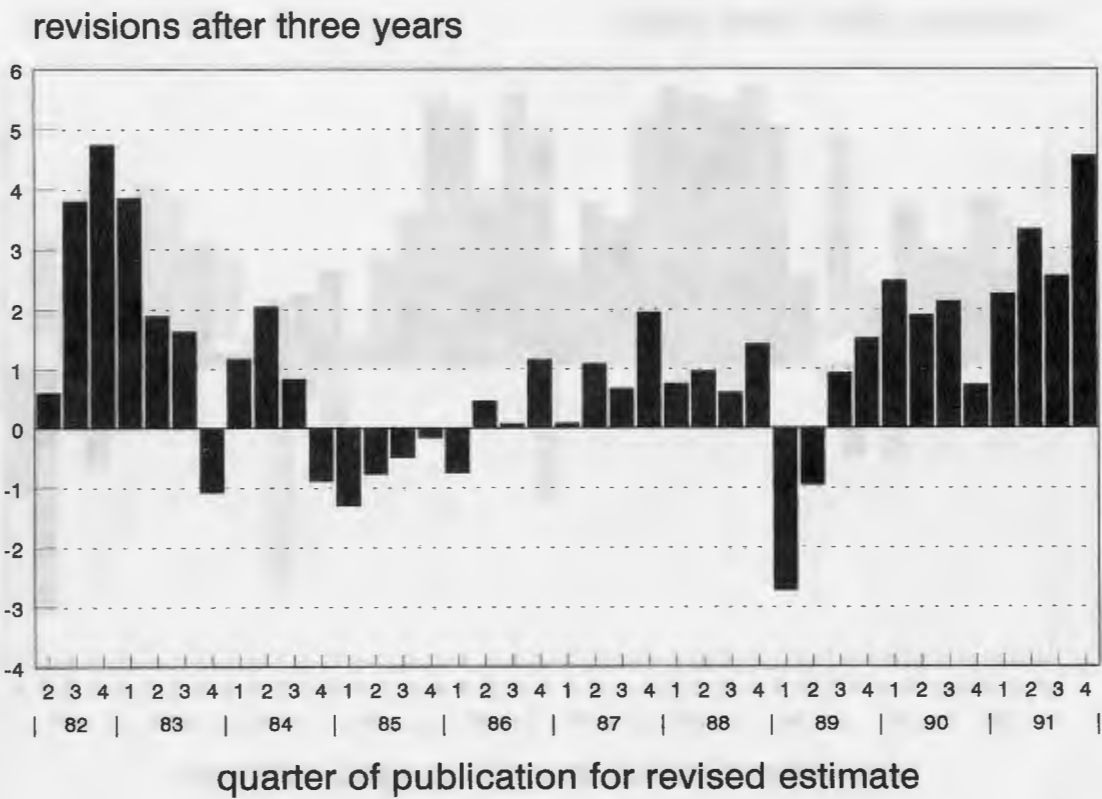
V. TABLE: RESULTS OF STUDENT’S T-TEST AFTER COCHRANE-ORCUTT TRANSFORMATION  
(Revisions after 3 Years to Growth Rates - 1982 to 1991)

	Before Transformation		After Transformation	
	t-value	ρ	t-value	ρ
<u>Expenditure (Current Prices)</u>				
Total	3.61	0.64	1.95	0.11
Consumer Expenditure	4.64	0.50	2.83	-0.02
Gross Domestic Fixed Capital Formation	3.59	0.63	1.87	0.06
<u>Expenditure (Constant Prices)</u>				
Total	3.67	0.36	2.71	0.05
Consumer Expenditure	3.12	0.45	2.25	0.05
Gross Domestic Fixed Capital Formation	3.20	0.65	1.70	-0.01
<u>Income (Current Prices)</u>				
Other Income	3.68	0.72	1.37	0.01
<u>Output (Constant Prices)</u>				
Total	5.08	0.69	1.87	-0.08
Agriculture, Forestry and Fishing	2.13	0.77	0.53	0.11
Manufacturing	3.52	0.25	2.64	-0.03
Other Services	4.75	0.67	1.75	-0.01

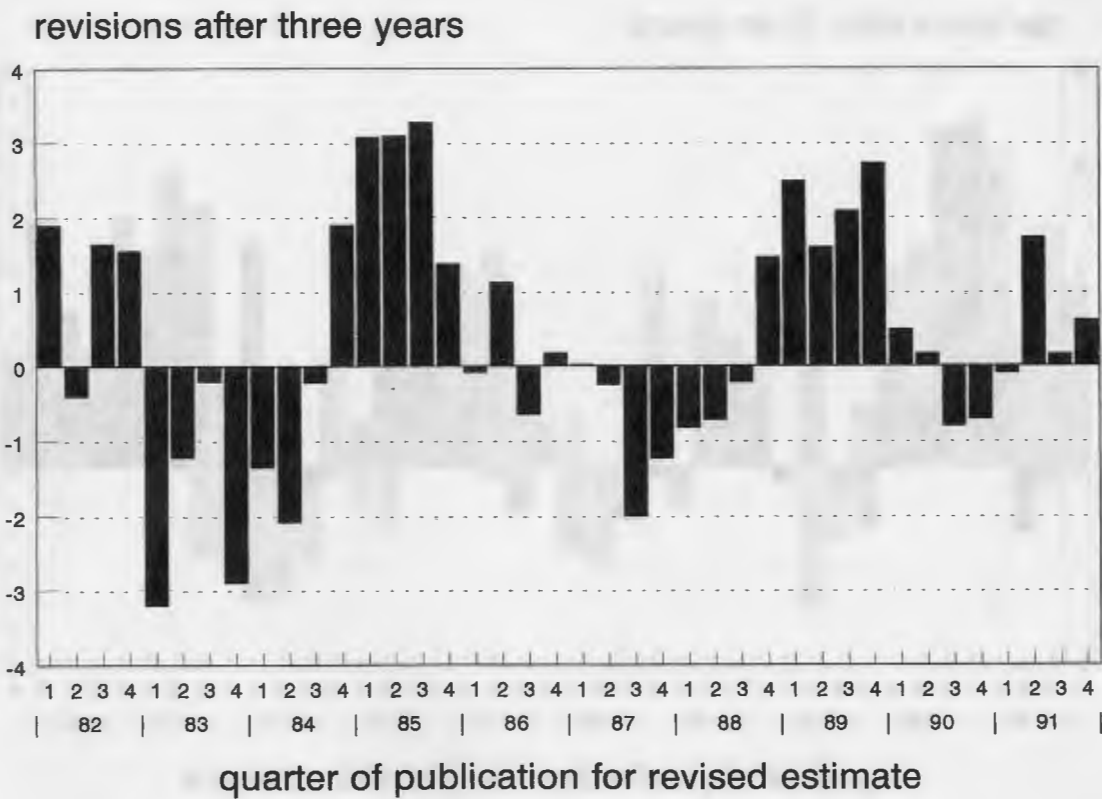
VI. TABLE: SUMMARY OF TESTS FOR CYCLICAL VARIATION

Series	1982 to 1991					1982 to 1986					1987 to 1991				
	Overall Mean	Expansion Phase		Contraction Phase		Overall Mean	Expansion Phase		Contraction Phase		Overall Mean	Expansion Phase		Contraction Phase	
		Mean	S.E.	Mean	S.E.		Mean	S.E.	Mean	S.E.		Mean	S.E.		
<u>Expenditure (Current Prices)</u>															
Total	1.07	1.35	0.42	0.61	0.42	0.86	0.78	0.71	1.00	0.71	1.29	1.96	0.45	0.27	0.45
Consumer Expenditure	0.84	0.94	0.26	0.66	0.26	0.50	0.57	0.41	0.37	0.41	1.17	1.34	0.31	0.91	0.31
Gross Domestic Fixed Capital Formation	2.23	3.74	0.78	-0.29	0.78	1.32	3.17	0.93	-2.12	0.93	3.14	4.35	1.17	1.32	1.17
General Government Final Consumption	0.44	0.71	0.34	-0.01	0.34	0.35	0.72	0.54	-0.33	0.54	0.53	0.70	0.44	0.28	0.44
Imports	0.25	0.49	0.30	-0.16	0.30	0.32	0.66	0.52	-0.32	0.52	0.18	0.31	0.34	-0.03	0.34
Exports	0.10	0.29	0.23	-0.21	0.23	0.46	0.78	0.32	-0.12	0.32	-0.26	-0.25	0.28	-0.28	0.28
<u>Expenditure (Constant Prices)</u>															
Total	0.78	1.03	0.30	0.37	0.30	0.49	0.74	0.47	0.04	0.47	1.08	1.35	0.38	0.66	0.38
Consumer Expenditure	0.47	0.58	0.22	0.28	0.22	0.10	0.34	0.29	-0.36	0.29	0.84	0.84	0.27	0.84	0.27
Gross Domestic Fixed Capital Formation	2.07	3.66	0.81	-0.58	0.81	0.71	2.79	0.93	-3.16	0.93	3.43	4.60	1.13	1.68	1.13
General Government Final Consumption	-0.11	-0.04	0.25	-0.23	0.25	-0.33	-0.22	0.28	-0.56	0.28	0.11	0.15	0.41	0.05	0.41
Imports	-0.24	0.17	0.40	-0.92	0.40	-0.67	-0.03	0.67	-1.85	0.67	0.20	0.40	0.41	-0.11	0.41
Exports	0.07	0.24	0.27	-0.21	0.27	0.08	0.55	0.36	-0.80	0.36	0.07	-0.09	0.38	0.30	0.38
<u>Income (Current Prices)</u>															
Total	0.33	0.59	0.37	-0.10	0.37	0.34	0.99	0.58	-0.88	0.58	0.33	0.17	0.43	0.57	0.43
Income from Employment	0.28	0.62	0.19	-0.28	0.19	0.53	0.88	0.22	-0.14	0.22	0.03	0.33	0.30	-0.41	0.30
Gross Trading Profits of Companies	0.68	0.42	1.84	1.12	1.84	-0.63	0.18	2.88	-2.14	2.88	2.00	0.67	2.31	3.98	2.31
Other Income	1.88	3.02	0.66	-0.02	0.66	2.12	3.11	1.21	0.30	1.21	1.63	2.92	0.62	-0.31	0.62
<u>Output (Constant Prices)</u>															
Total	0.51	0.52	0.15	0.50	0.15	0.74	0.87	0.16	0.51	0.16	0.29	0.15	0.21	0.50	0.21
Agriculture, Forestry and Fishing	1.95	2.40	1.33	1.21	1.33	3.17	2.42	1.33	4.58	1.33	0.73	2.37	2.19	-1.74	2.19
Construction	0.18	0.17	0.42	0.21	0.42	0.89	0.62	0.50	1.39	0.50	-0.52	-0.33	0.59	-0.82	0.59
Distribution, Hotels and Catering	-0.60	-0.16	0.49	-1.33	0.49	-1.29	0.02	0.64	-3.72	0.64	0.09	-0.35	0.39	0.75	0.39
Manufacturing	0.58	0.65	0.24	0.46	0.24	0.58	0.61	0.29	0.53	0.29	0.58	0.70	0.40	0.40	0.40
Transport and Communications	0.16	0.56	0.48	-0.51	0.48	0.08	0.48	0.75	-0.67	0.75	0.24	0.65	0.64	-0.36	0.64
Other Services	0.92	0.75	0.28	1.22	0.28	1.69	1.35	0.29	2.31	0.29	0.16	0.09	0.31	0.27	0.31

# Total GDP expenditure components in current prices four quarter per cent change

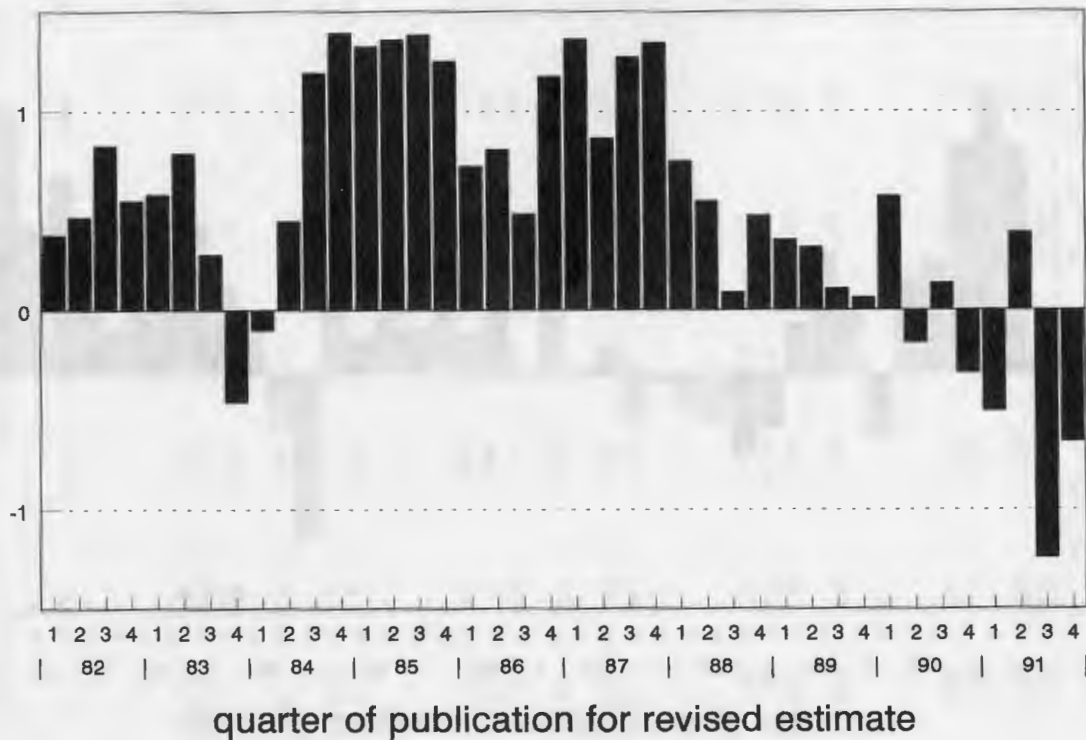


# Total GDP income components at current factor cost four quarter per cent change



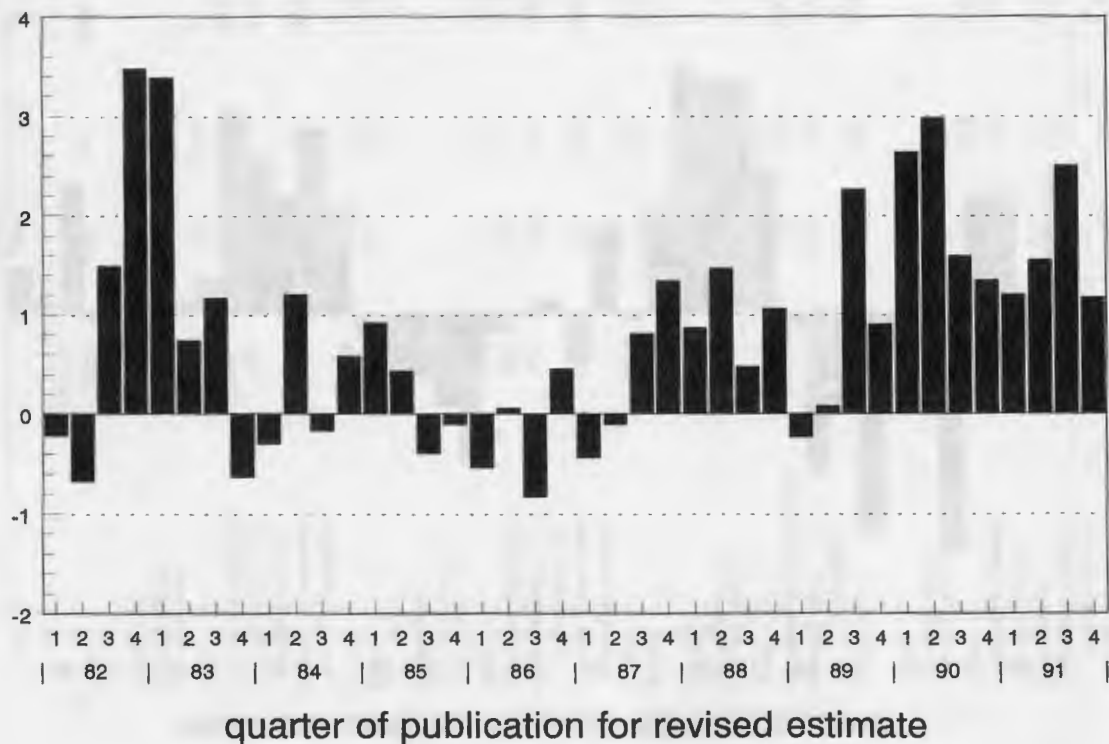
# Total GDP output components at constant factor cost four quarter per cent change

revisions after three years



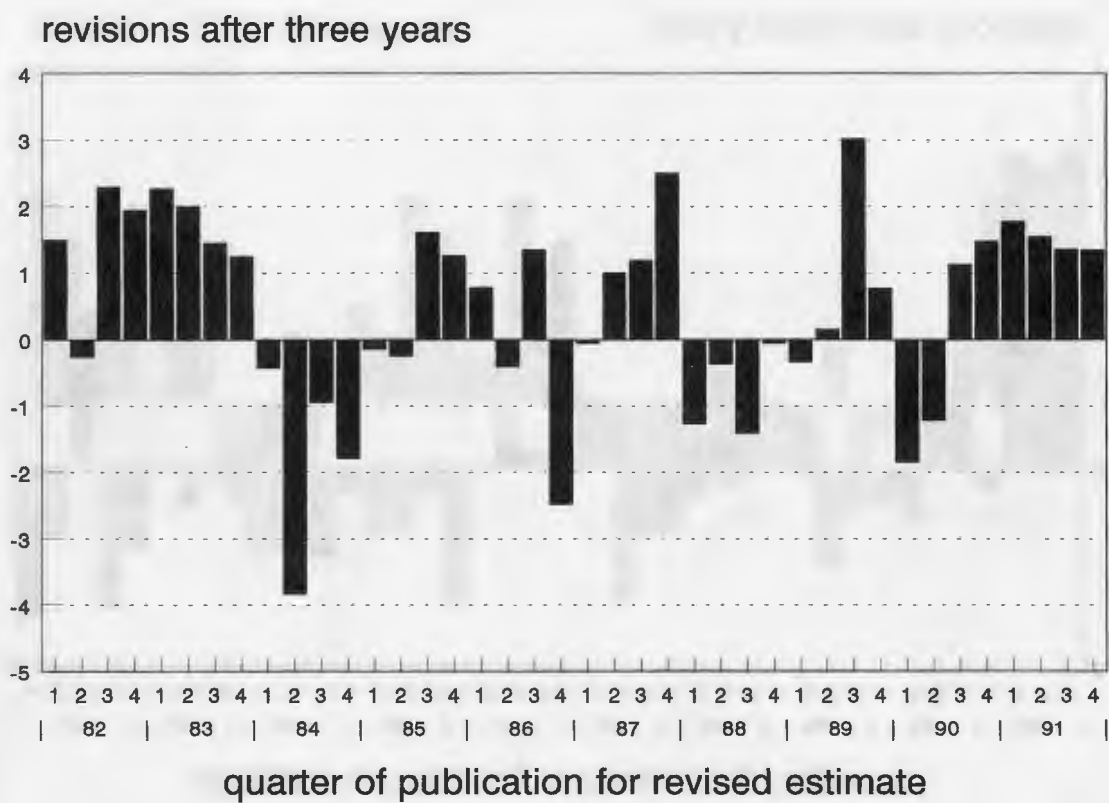
# Consumer expenditure at current Prices four quarter per cent change

revisions after three years



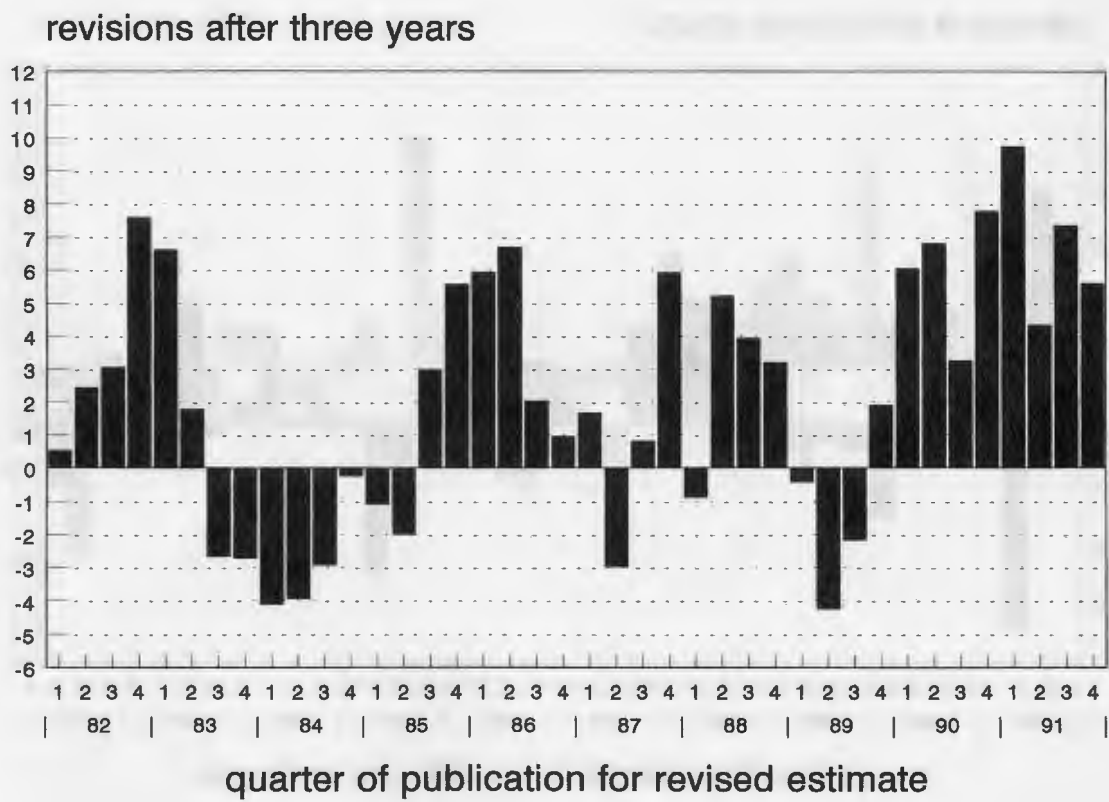
# Government final consumption at current prices

## four quarter per cent change



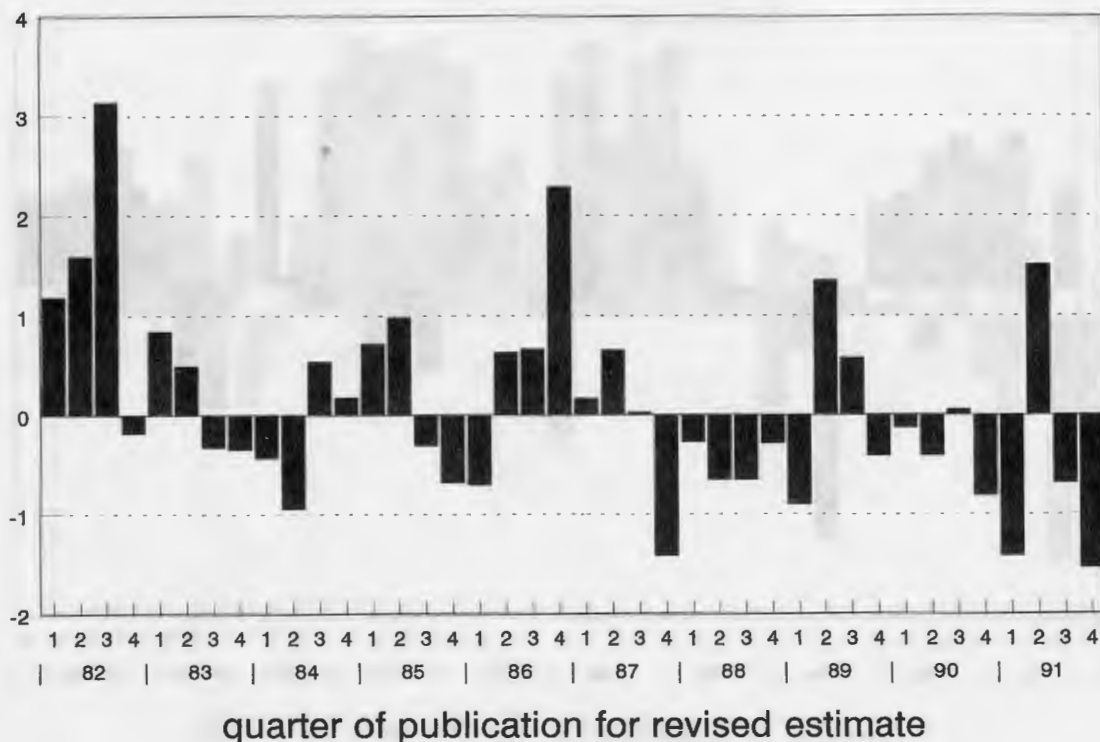
# GDFCF at current prices

## four quarter per cent change



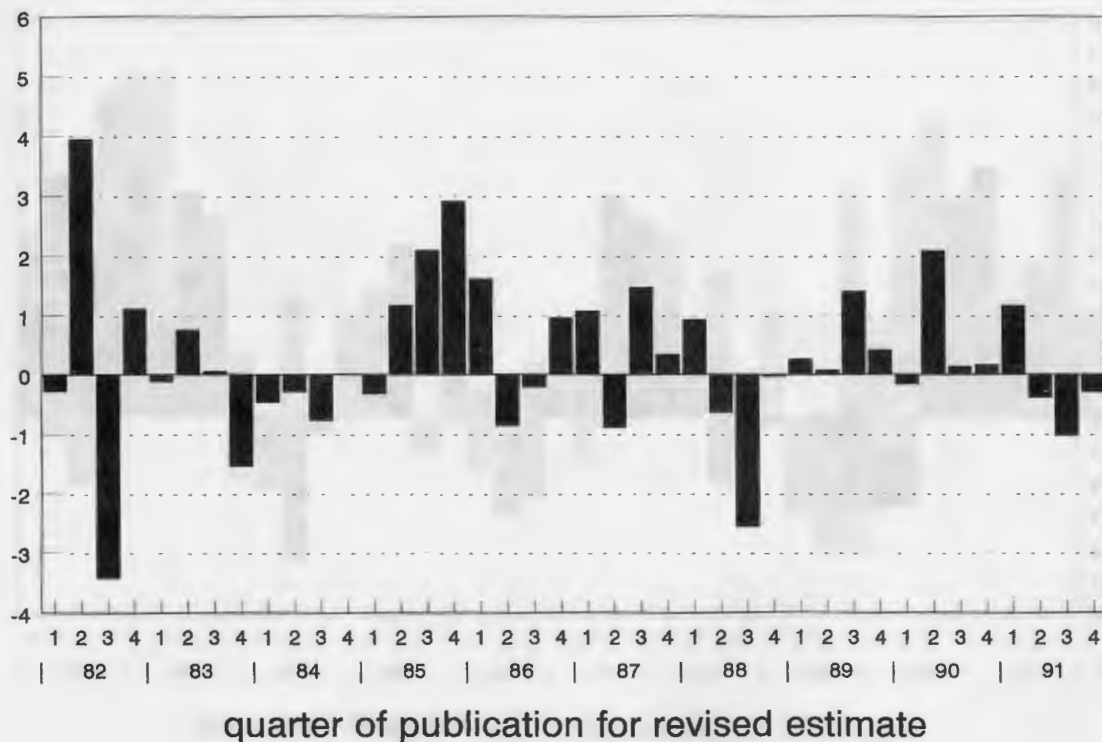
# Exports at current prices four quarter per cent change

revisions after three years



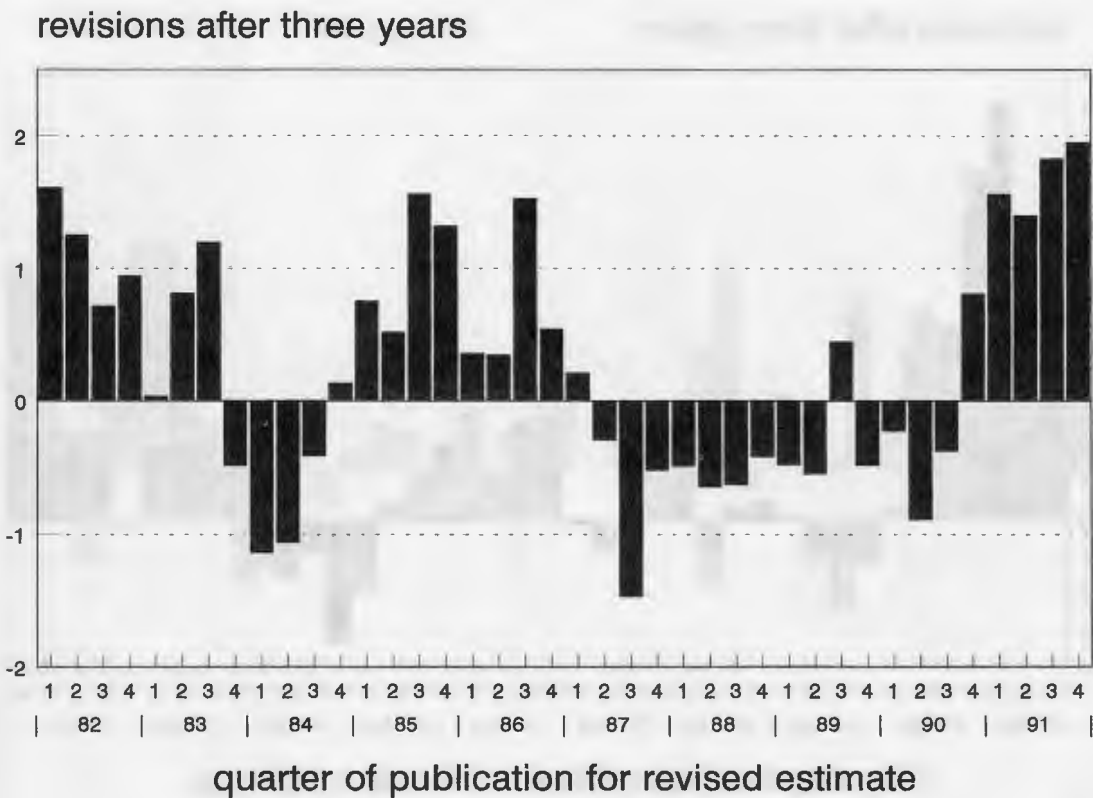
# Imports at current prices four quarter per cent change

revisions after three years



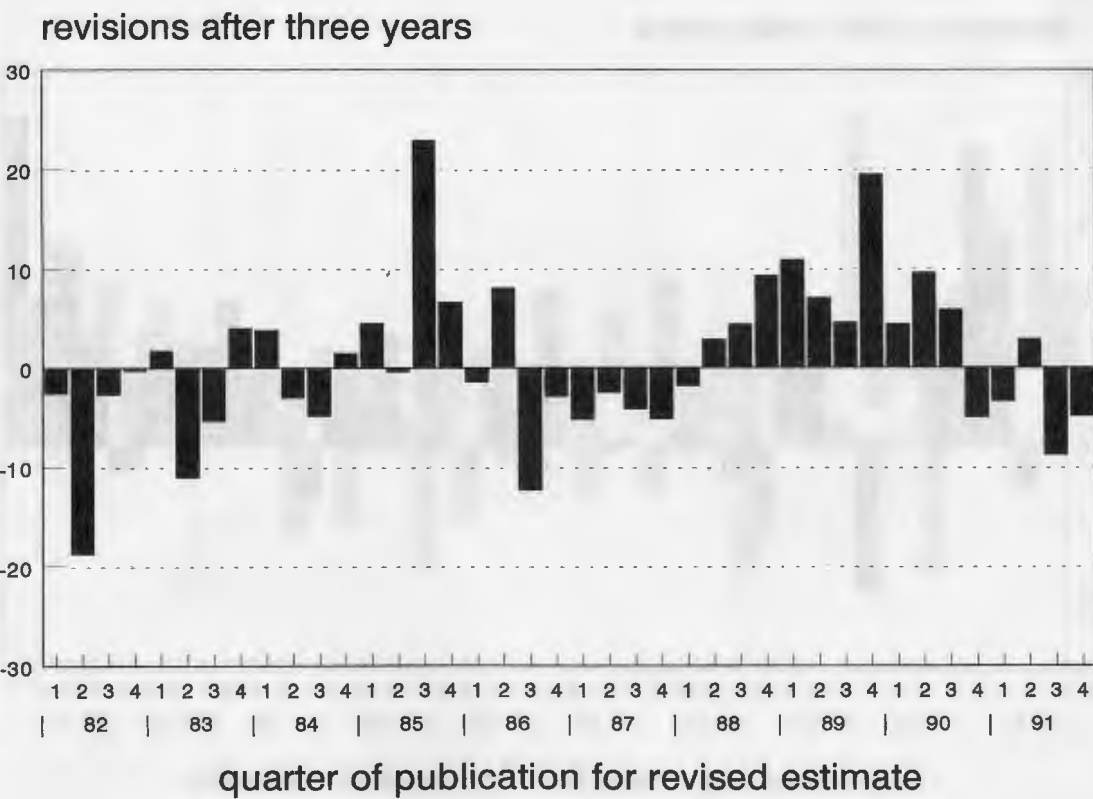
# Income from employment

## four quarter per cent change



# Gross trading profits of companies

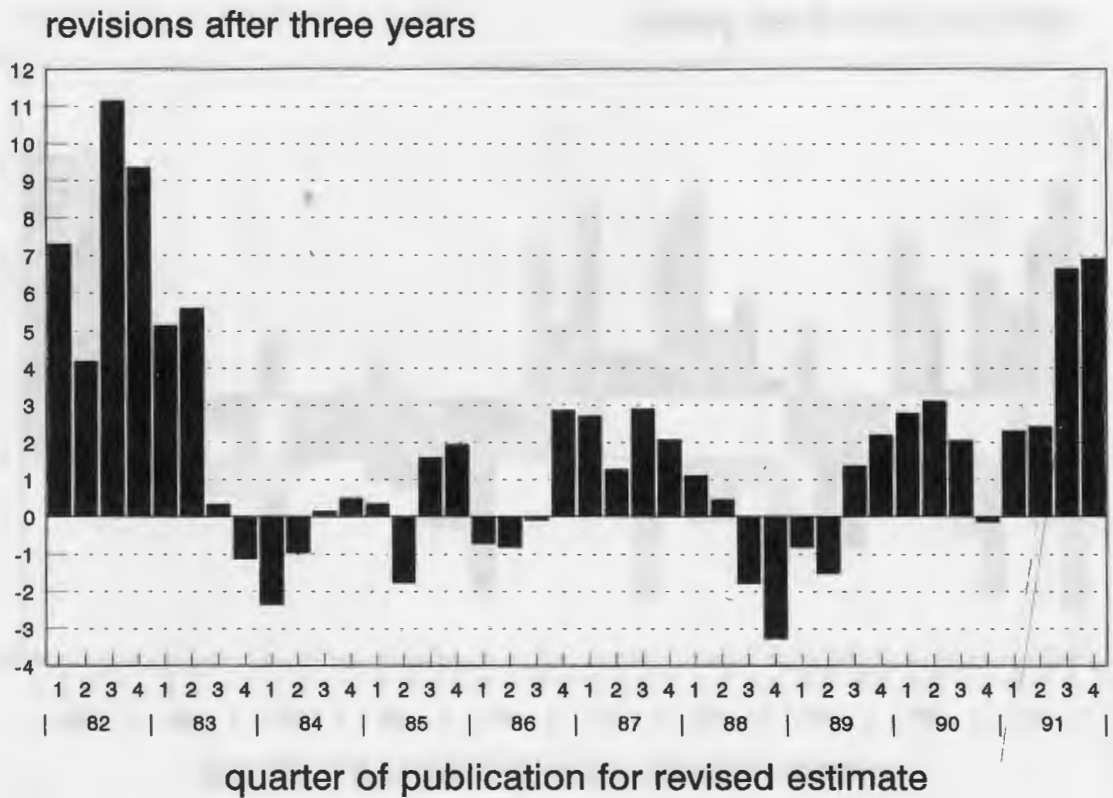
## four quarter per cent change





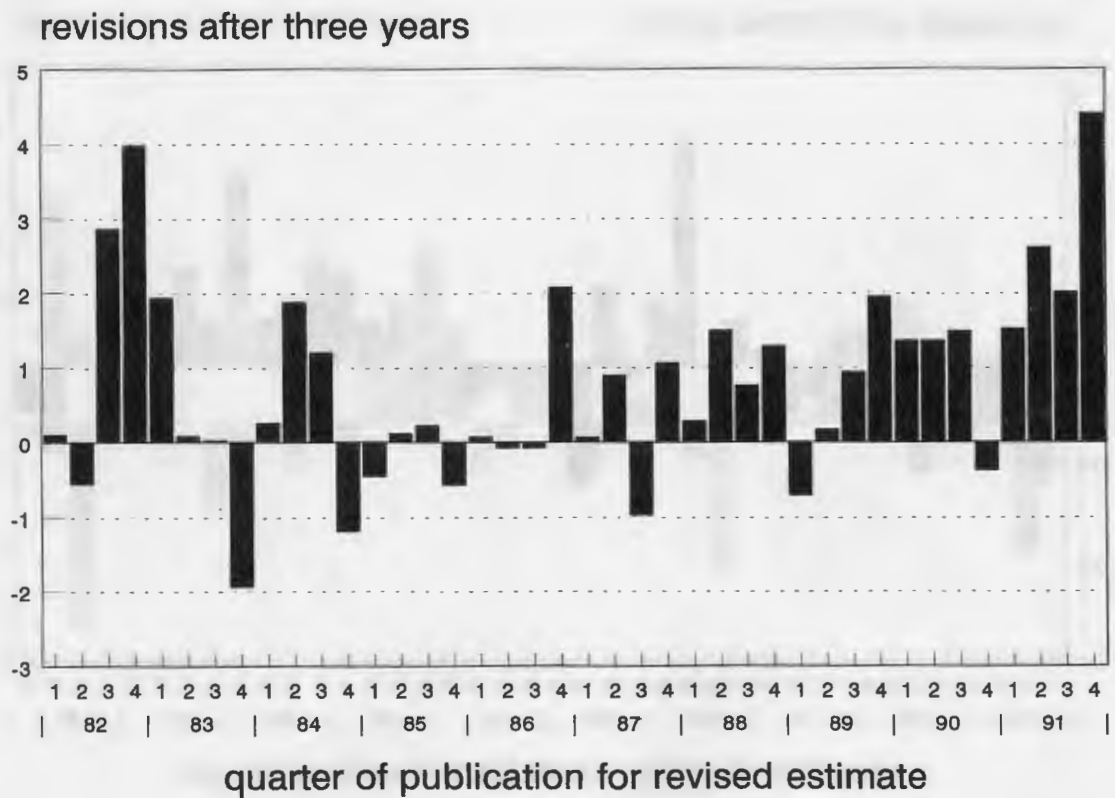
# Other Income

four quarter per cent change



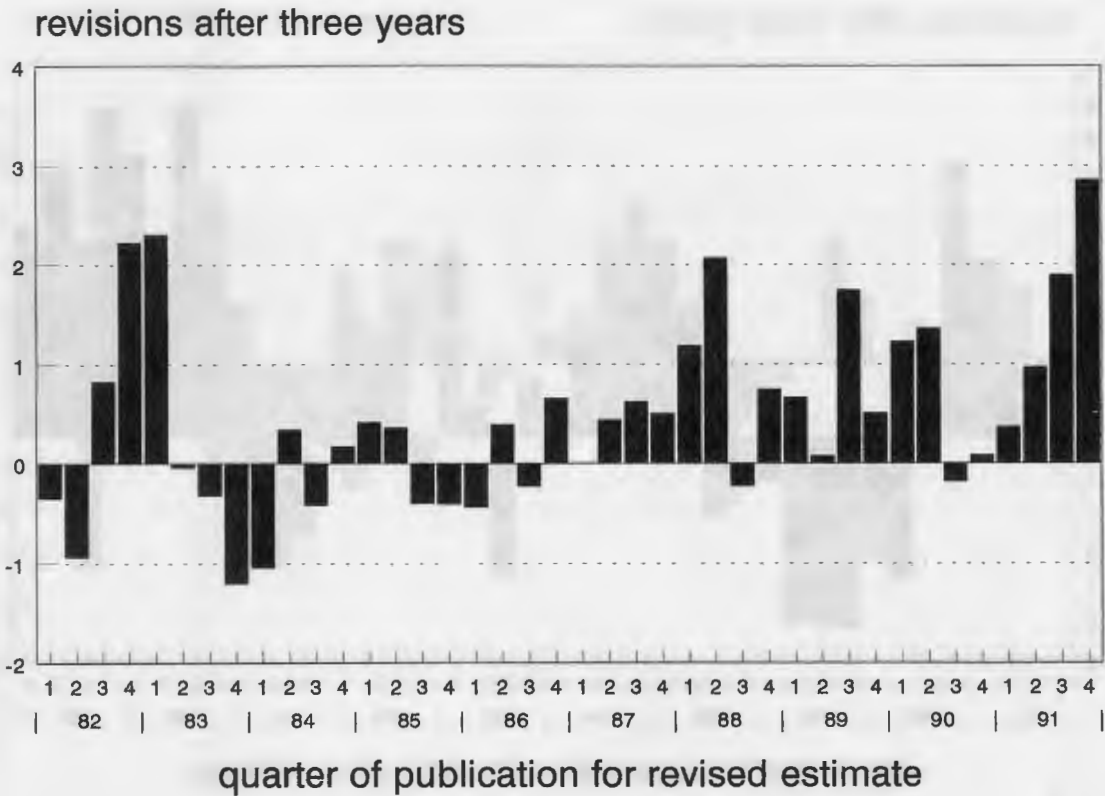
# Total GDP expenditure components at constant prices

four quarter per cent change



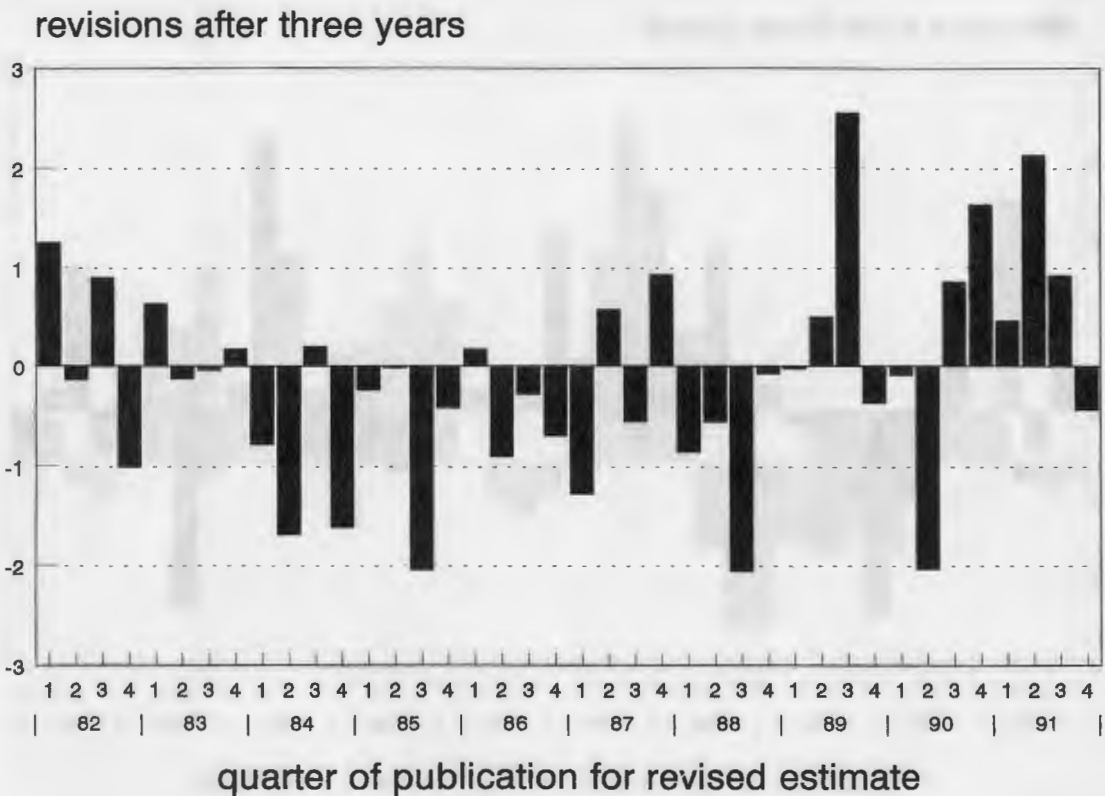
# Consumer expenditure at constant prices

four quarter per cent change

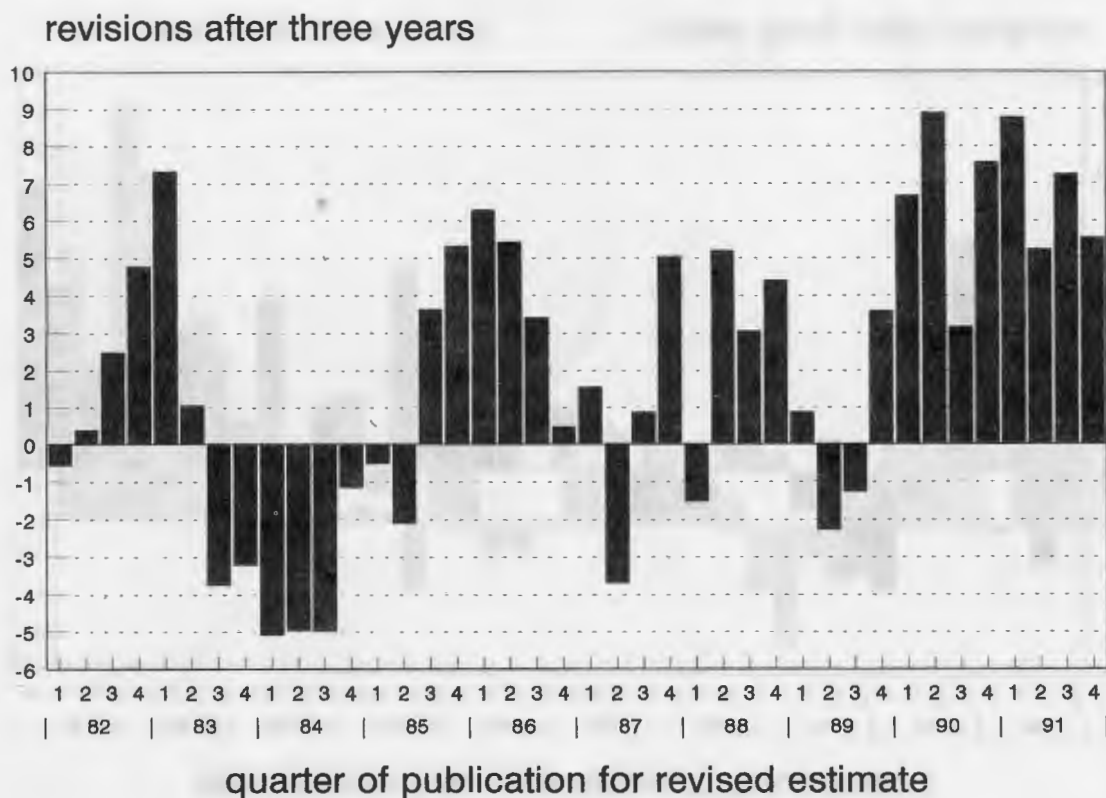


# Government final consumption at constant prices

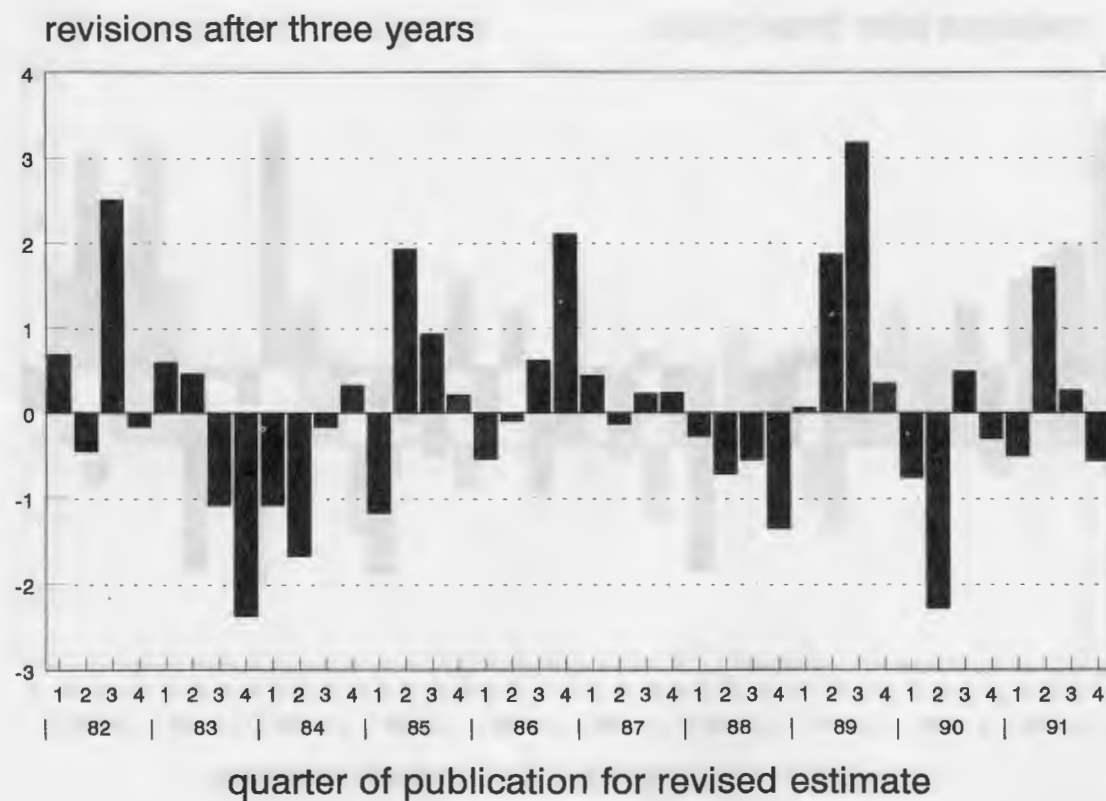
four quarter per cent change



# GDFCF at constant prices four quarter per cent change

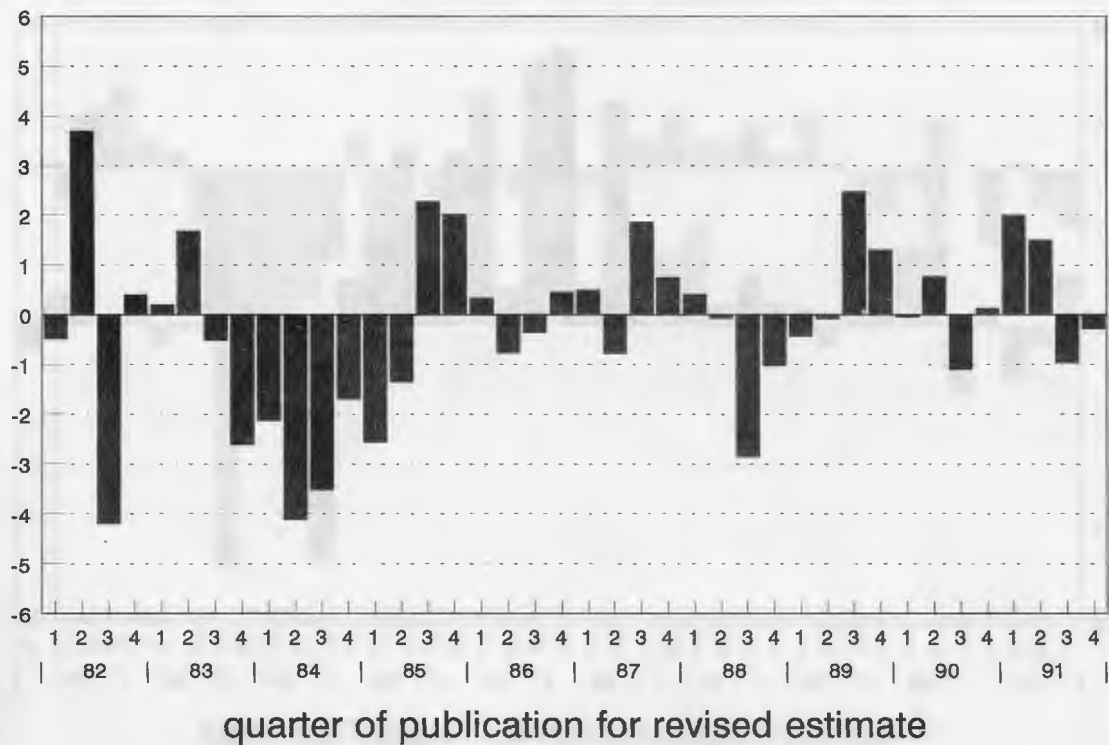


# Exports at constant prices four quarter per cent change



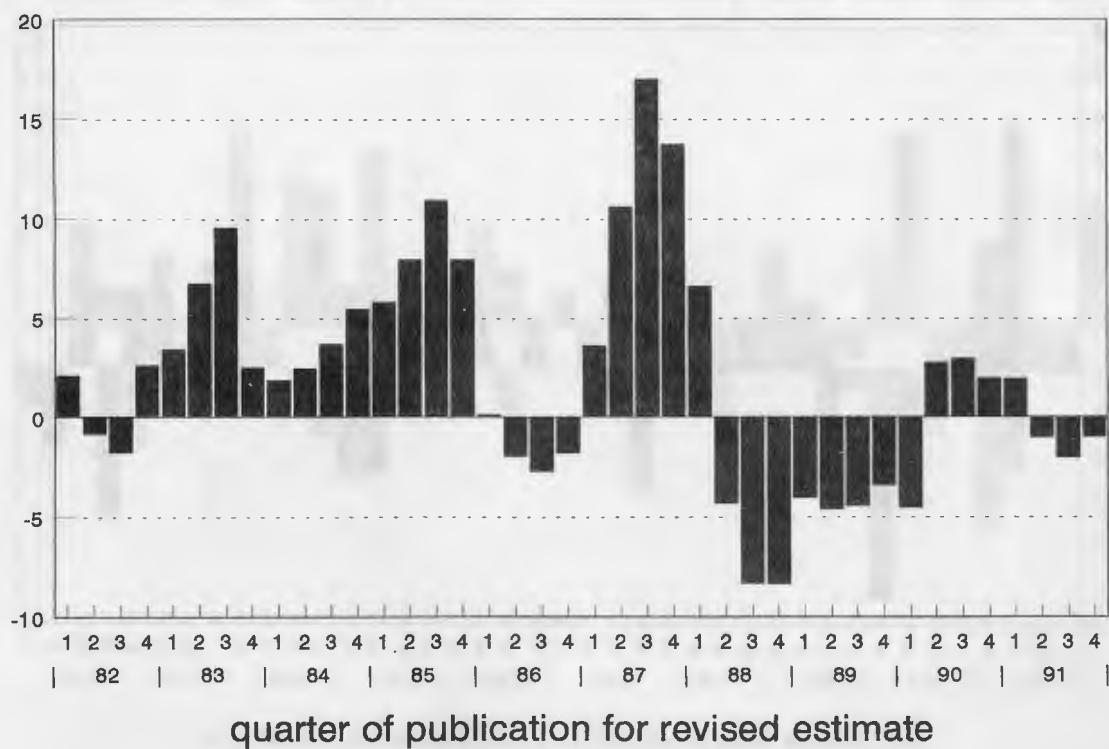
# Imports at constant prices four quarter per cent change

revisions after three years

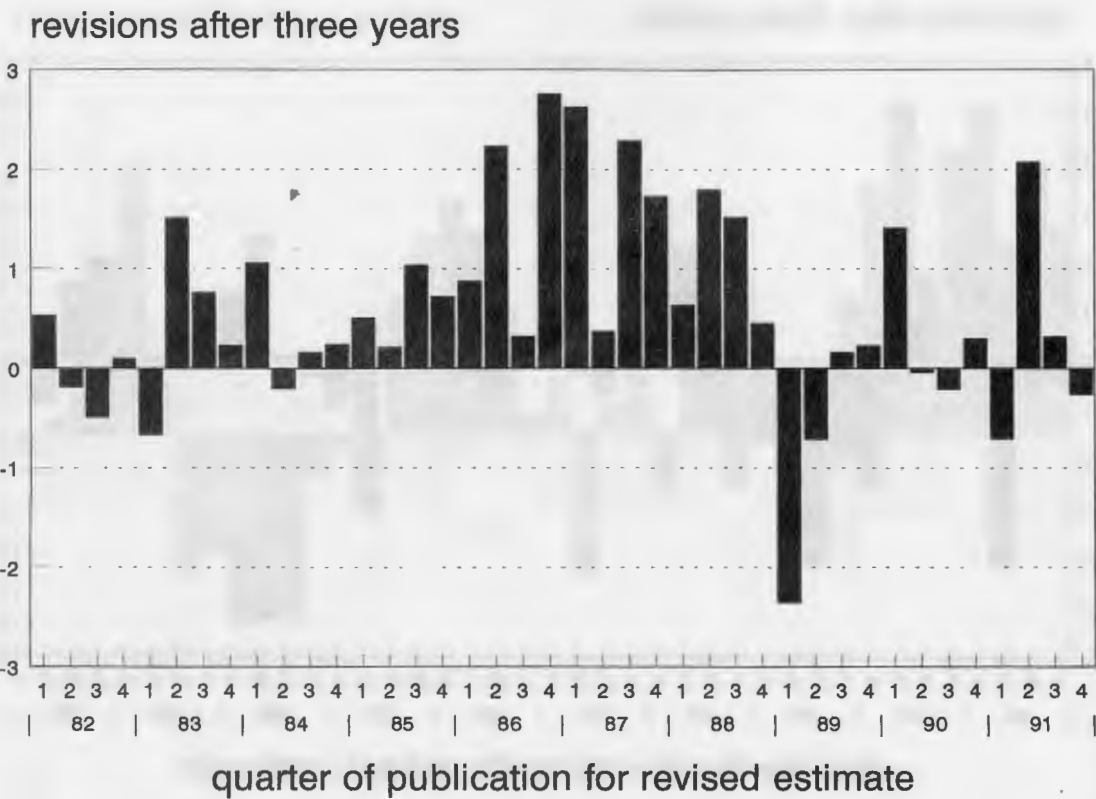


# Agriculture output four quarter per cent change

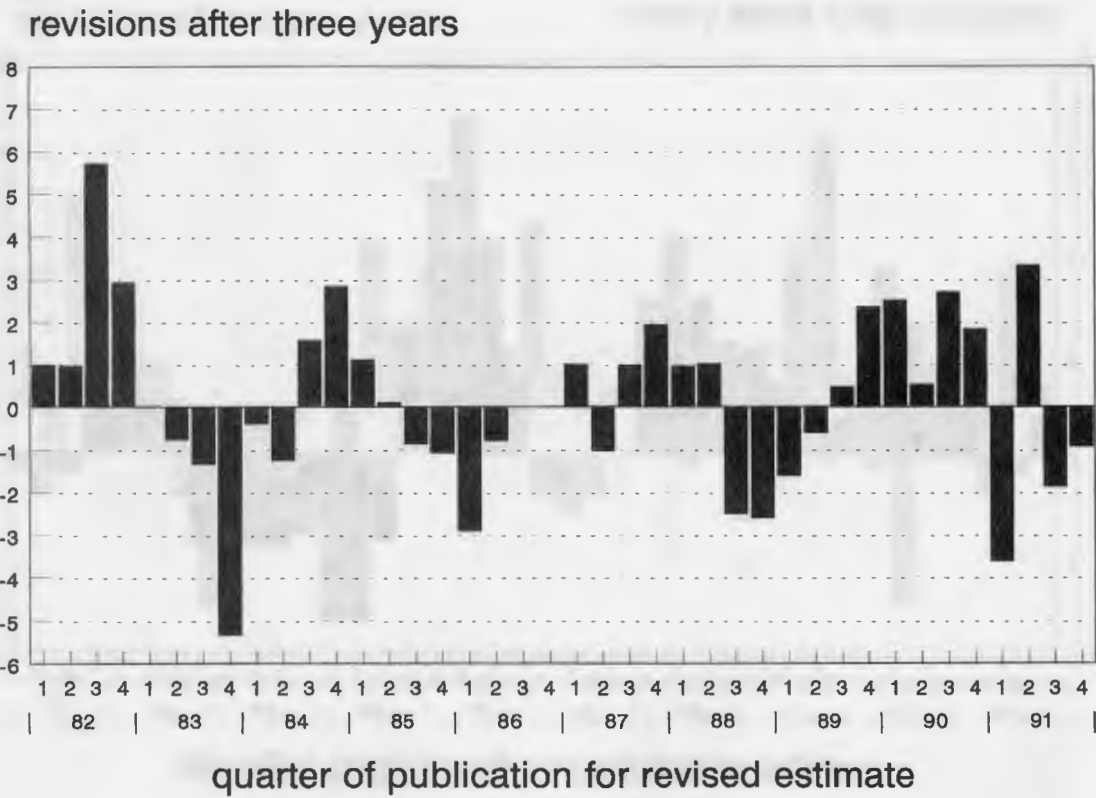
revisions after three years



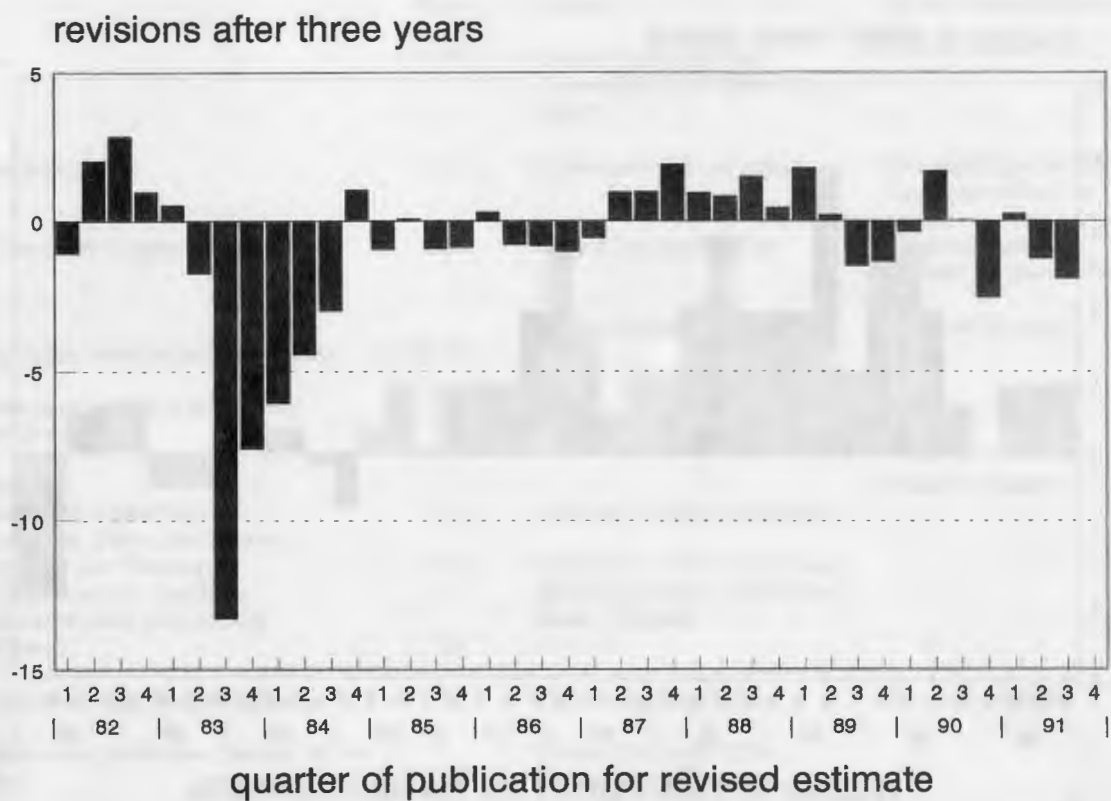
# Manufacturing output four quarter per cent change



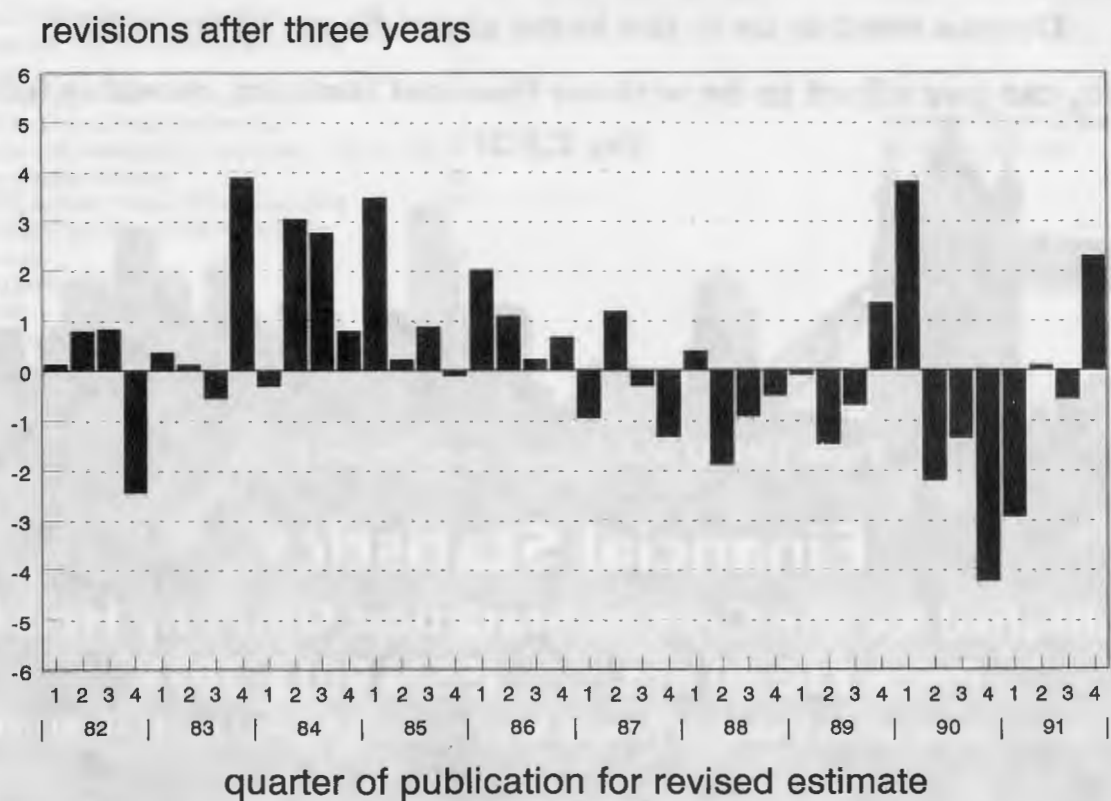
# Transport output four quarter per cent change



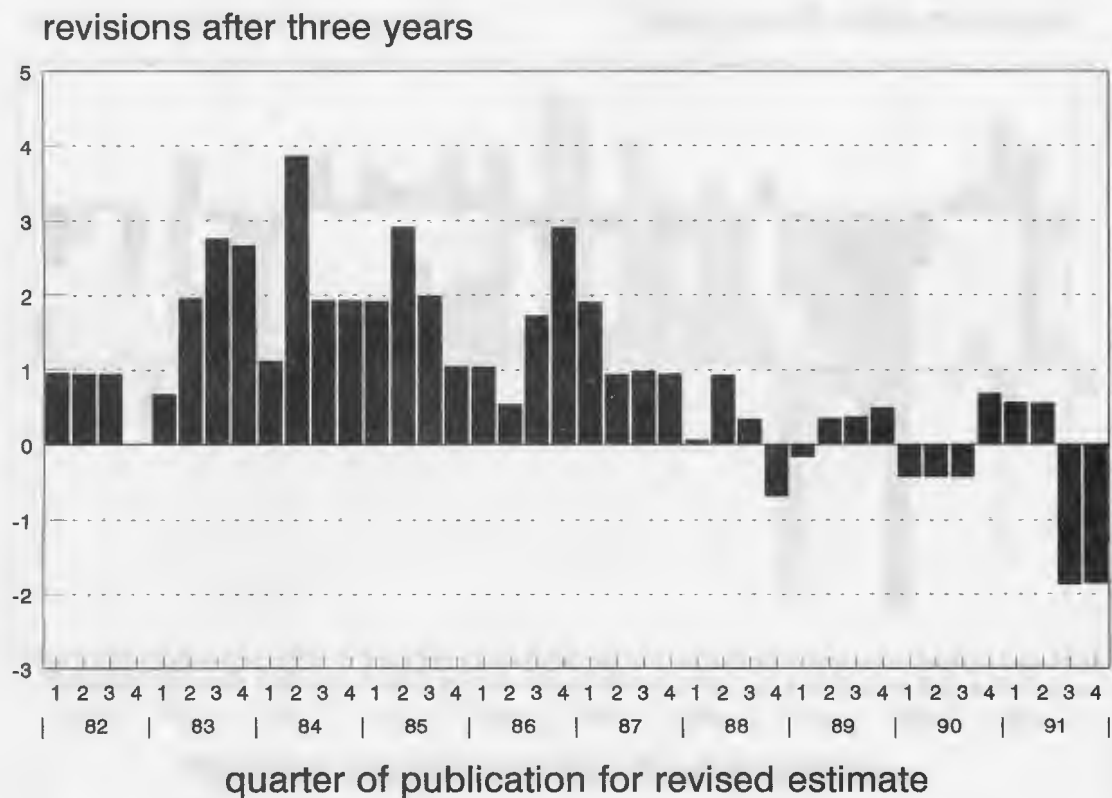
## Distribution output four quarter per cent change



## Construction output four quarter per cent change



# Other output four quarter per cent change



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