

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.

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

Articles on international economic indicators and the final expenditure prices index appear monthly and an article on regional economic indicators appears every January, April, July and October. Occasional articles comment on and analyse economic statistics and introduce new series, new analyses and new methodology.

Quarterly information on the national accounts and the balance of payments appears in *UK Economic Accounts* which is published every January, April, July and October by The Stationery Office.

The main section is based on information available to the ONS on the date printed in note 1 below 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.

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

Notes on the tables

1. All data in the tables and accompanying charts is current, as far as possible, to 29 January 1998.
2. The four letter identification code at the top of each column of data (eg, DJDD) is ONS's own reference to this series of data on our database. Please quote the relevant code if you contact us requiring any further information about the data.

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

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

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

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

7. 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.

8. 'Billion' denotes one thousand million.

9. There is no single correct definition of *money*. The most widely used aggregates are:

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

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.

10. 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 T77
 - † 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.

If you have any comments or suggestions about *Economic Trends*, please write to Uzair Rizki, ONS, Zone D4/19, 1 Drummond Gate, London, SW1V 2QQ or e-mail uzair.rizki@ons.gov.uk

Office for National Statistics
February 1998

Articles

This month we feature two articles. Ole Black introduces the new Inter-Departmental Business Register, which brings important improvements in quality to business surveys. This new comprehensive database will improve the coverage of inquiries and bring greater consistency to the estimates. The article describes the implementation of the change and discusses the impact on the results of the surveys (*page 23*).

Henry Neuburger and David Caplan describe the background to a project National Statistics is undertaking, designed to introduce new measures of output for public sector non-market production. The article surveys the international guidance and explains the approach which National Statistics is adopting. It also describes some of the new data sources which may be used to derive new measures (*page 29*).

Gross Domestic Product: Output methodological guide

GSS Methodology series no. 5, Gross Domestic Product: Output methodological guide. Government Statistical Service, ISBN 1 85774 250 8, price £20.

A guide to the concepts employed in measuring GDP through the output approach is now available. It sets out, for the first time, a fully comprehensive list of both the indicator and deflator series used in the compilation of the output-based estimates.

Members of the GSS may obtain copies free of charge from the National Statistics library, tel 0171 533 6257. Customers outside the GSS may obtain copies from the National Statistics Sales Office, Zone B1/06, 1 Drummond Gate, London, SW1V 2QQ. Telephone 0171 533 5678 or fax 0171 533 5689.

Recent National Statistics economic publications

The Retail Prices Index Technical Manual. The Stationery Office, ISBN 0 11 621002 8, price £49.50. An explanation on how the Retail Prices Index is produced.

Annual Abstract of Statistics 1998. The Stationery Office, ISBN 0 11 620965 8, price £39.50. Compendium of key information about the United Kingdom including employment and earnings, production, national accounts, balance of payments and home finance.

UK Economic Accounts: 1997 quarter 3. The Stationery Office, ISBN 0 11 621016 8, price £25.

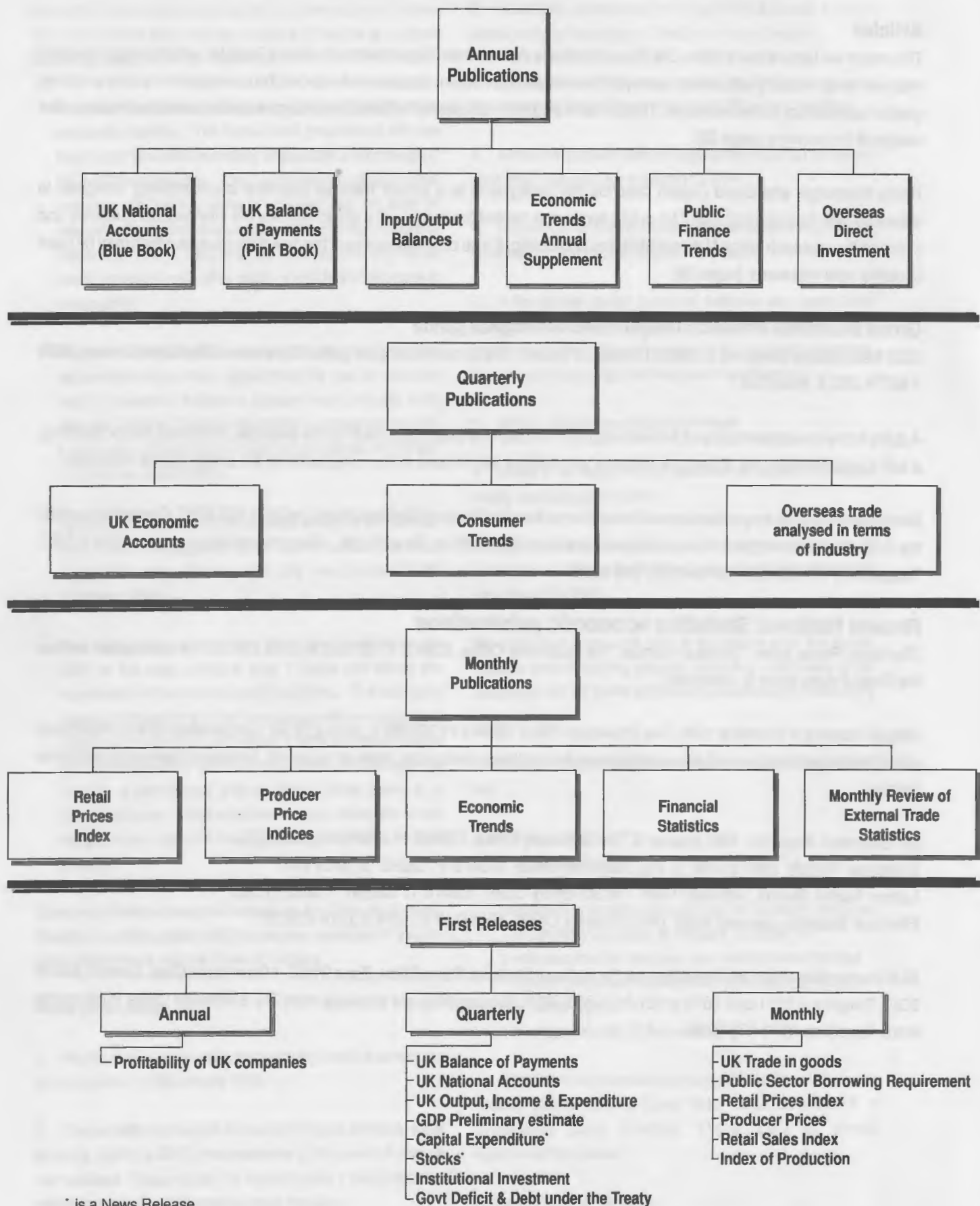
Consumer Trends: 1997 quarter 3. The Stationery Office, ISBN 0 11 620927 5, price £45.

Labour Market Trends, February 1998. The Stationery Office, ISBN 0 11 620991 7, price £7.50.

Financial Statistics, January 1998. The Stationery Office, ISBN 0 11 621004 8, price £22.50.

All of these publications are available from the National Statistics Sales Office, Zone B1/06, 1 Drummond Gate, London, SW1V 2QQ. Telephone 0171-533 5678 or fax 0171-533 5689. Subscriptions are available from The Stationery Office Publications entre, telephone 0171-873 9090.

United Kingdom Macro-Economic Statistics Publications



* is a News Release

Other publications: - Retail Prices 1914-1990 - Input/Output Tables - Labour Market Statistics - Family Spending - Sector Classification Guide - Share Ownership - Financial Statistics Explanatory Handbook

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Articles published in *Economic Trends*

Regular Articles

International economic indicators. Commentary, figures and charts are published monthly.

Final expenditure prices index. Commentary and figures are published monthly.

Regional economic indicators. Commentary, figures and charts are published every January, April, July and October.

United Kingdom national accounts and balance of payments quarterly figures are published in *UK Economic Accounts* every January, April, July and October.

Other Articles

1997

<i>March</i>	Employment in the public and private sectors. The effects of taxes and benefits upon household income 1995-1996. Quarterly integrated economic accounts: the United Kingdom approach. International comparisons of GDP per head over time.
<i>April</i>	Methodology series for United Kingdom national accounts. Deflation of trade in goods statistics.
<i>June</i>	Regional Accounts 1995: Part 2. Competitiveness in manufactures.
<i>August</i>	Research and experimental development (R & D) statistics 1995. The Budget: 2 July 1997. The economy: developments and prospects.
<i>September</i>	Geographical breakdown of the balance of payments current account. Development of a final expenditure prices index. Overseas trade in services: publication of monthly estimates.
<i>October</i>	Environmental input-output tables for the United Kingdom. Implications of the US Boskin report for the UK retail prices index. A household satellite account for the United Kingdom.
<i>November</i>	Quarterly alignment adjustments in the UK National Accounts. Globalisation: scope, issues and statistics. The ABI respondents database: a new resource for industrial economics research.
<i>December</i>	How should economic statistics respond to information technology?

1998

<i>January</i>	Regional Accounts 1996: Part 1. Geographical breakdown of exports and imports of UK trade in services by component. International comparisons of productivity and wages.
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For articles published in earlier issues see the list in issue 509 (March 1996) of *Economic Trends*. Copies of articles may be obtained from the National Statistics Library, Room 1.001, Government Buildings, Cardiff Road, Newport, NP9 1XG, telephone 01633 812973. The cost is £5.00 per copy inclusive of postage and handling. A cheque for the appropriate remittance should accompany each order, made payable to 'Office for National Statistics'. Credit card transactions can be made by phone; invoices cannot be issued.

ECONOMIC UPDATE - February 1998

By Adrian Richards, Economic Assessment - Office for National Statistics

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Overview

GDP growth slowed in the fourth quarter, with output of services remaining fairly strong, but production output falling in the first two months of the quarter. Retail sales volumes remained stable between November and December and price movements remained subdued, although underlying average earnings growth picked up to 4.75 per cent in the 12 months to November. The labour market continued to tighten in the fourth quarter, but the pattern of recent movements in unemployment is harder to discern as a result of the introduction of the Job Seekers' Allowance.

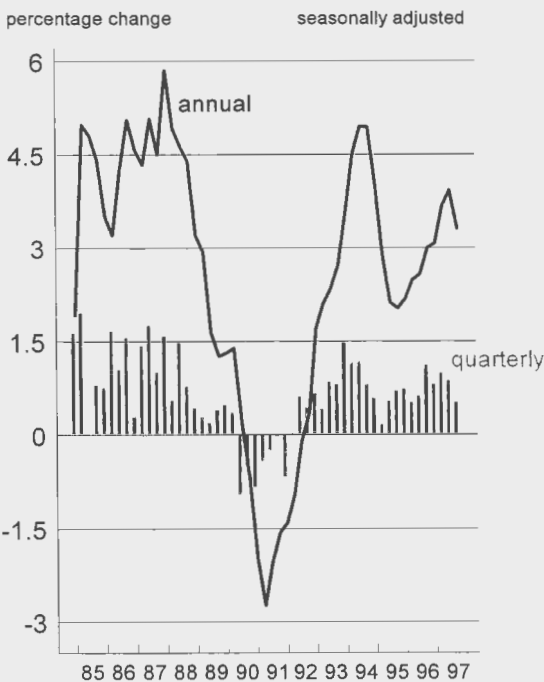
The trade deficit continued to widen in November, with the deficit in trade on goods narrowing slightly with EU countries, but widening significantly with non-EU countries.

GDP Activity

The economy showed signs of a slowdown in the fourth quarter, compared with both the previous quarter and the same quarter a year ago. As Chart 1 shows, GDP grew by 0.5 per cent in the latest quarter - the slowest growth rate since the second quarter of 1996 - and by 3.3 per cent on the previous year. Growth fell despite a rebound in retail sales growth, following the shock to demand in September.

Chart 1

GDP at constant factor cost

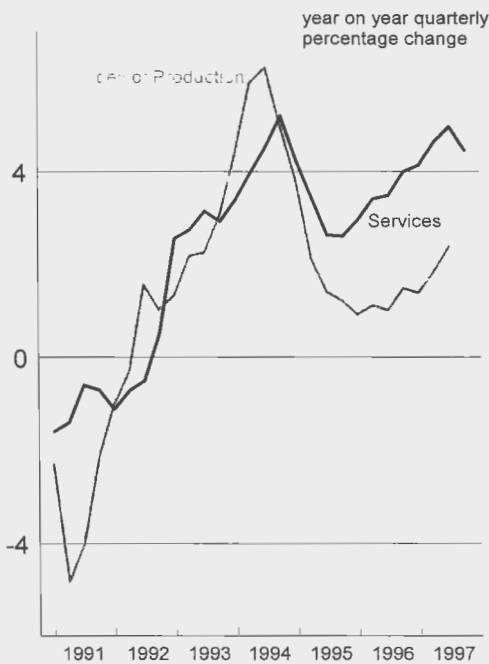


Output

The recent divergence of performance between industrial sectors, illustrated below, remains a feature of the fourth quarter. While growth in services remained relatively strong, up 1.0 per cent quarter on quarter, the monthly data for production show output falling in the first two months of quarter four.

Chart 2

Output Growth



The main reason for the decrease in production output was a fall in electricity, gas and water supply of over 5%. This follows on

from substantial increases in quarters two and three and is due, in part, to unseasonably warm temperatures reducing demand in the fourth quarter. Output across other categories of production also fell below the levels reached in the third quarter. Growth of production of non-durable goods has been particularly weak since the recent peak in May 1995. In October and November production of durable goods grew strongly, but output of other categories fell.

The CBI Monthly Trends Inquiry for December provided some evidence of improvement in manufacturing: total new orders showed its first positive balance for over two years and export orders, although still negative, improved slightly. However, prospects for the next four months appear gloomy: except for last month, output growth is expected to be the lowest for two years and output prices are expected to remain subdued.

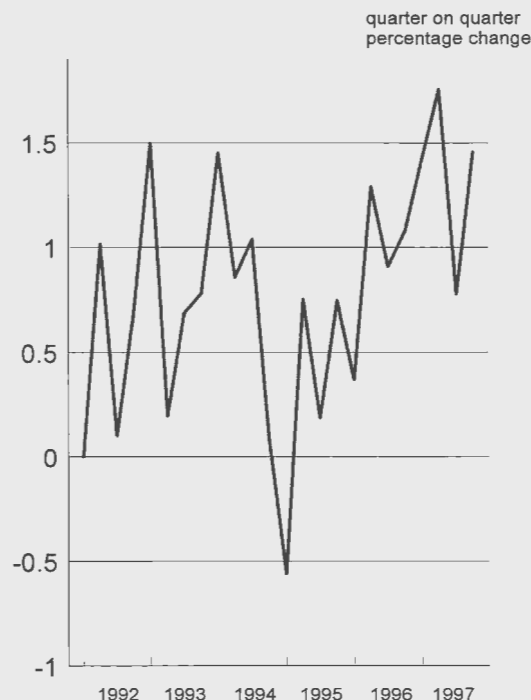
After a fall in the previous month, demand for construction grew in November, with demand for private new housing leading the way. Care should be taken when interpreting monthly construction data, as orders are exceptionally erratic and can give a misleading impression of the general position of the sector. Between September and November, the volume of all new work, seasonally adjusted, rose by 9 per cent. The main areas of growth were private new housing, up 9 per cent on the previous three months, and private commercial, up 27 per cent on the same period.

Domestic demand

Retail sales continue to be difficult to interpret, as recent monthly movements have been erratic. Volumes remained stable between November and December. This lack of growth is despite a substantial increase in sales of household goods, up 1.7 per cent month on month, possibly linked to the use of windfall monies for large item purchases. This was counteracted by a small fall in the volume of sales by textile, clothing and footwear stores and a fall of 2.9 per cent in sales volumes of other specialist stores.

Due to the distortion of normal sales patterns in September and October following the death of the Princess of Wales, quarterly movements are difficult to interpret and may overstate the underlying strength of demand in the fourth quarter. As shown below, the growth rate of retail sales remains below the 1.8 per cent rate seen in the second quarter, which appears to have been the peak period for windfall induced expenditure.

Chart 3
Retail sales



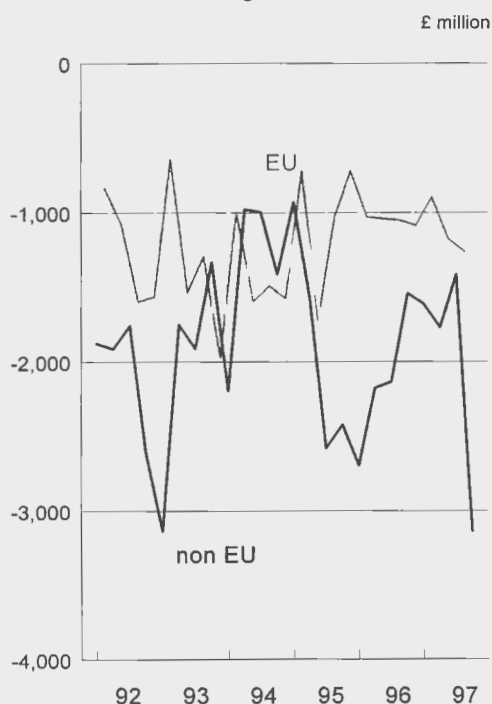
New car registrations, seasonally adjusted, rose by 3.5 per cent in the three months to December, and were 12 per cent above the level in December 1996. Windfall payments may have contributed to the buoyancy of demand for motor vehicles, as private rather than business customers increased their spending.

The latest EC/Gfk survey shows consumer confidence picked up slightly in January, with the balance for attitudes to major purchases being the major contributor, rising to +19, from +4 in December.

External demand and supply

The trade deficit continued to widen in November. The deficit on trade in goods fell slightly with EU countries, but increased by over £200 million with non-EU countries. In December, the balance on trade in goods with non-EU countries remained virtually unchanged. The total increase in the non-EU deficit in the fourth quarter was £1.5bn, as shown in Chart 4.

The trade deficit in goods and services increased by £270 million, as exports fell faster than imports. Exports of goods decreased by 4.3%, due mainly to a fall in manufactures, while imports of goods fell by 2.7%, with decreases across all categories. The trade surplus in services, which make up approximately 25 per cent of total exports and imports, fell by £70 million, as imports rose faster than exports.

Chart 4**Balance of trade in goods**

Volumes of exports of goods in the three months to November were 2.3 per cent down on the previous three months, but 5.8 per cent up on the same period a year ago. Volumes of imports over the same period were up 0.8 per cent on the previous three months, and up 8.9 per cent on the same period in 1996.

Non-EU data for December show no change in the balance of trade in goods, as both exports and imports increased by £800 million. This represents an increase of 13.5% on the previous month's exports, and is largely accounted for by the export of four warships to Qatar, together with a rebound in exports of semi-manufactures and capital goods. The 10.9 per cent month on month increase in imports is largely due to erratic items - aircraft from the US and diamonds from Russia.

Monetary & Sectoral indicators

Money supply has grown rapidly in 1997. As illustrated in Chart 5, the annual growth rate of narrow money (M0), seasonally adjusted, rose from 6.8 per cent in November to 6.9 per cent in December. Since September, there has been an acceleration in the demand for notes and coins with particularly strong growth in December. Meanwhile, annual growth of broad money (M4), seasonally adjusted, accelerated from 10.5 per cent in November to 11.2 per cent in December.

Chart 5**Growth in money supply**

The public sector's financial position continued to improve in December. The Public Sector Borrowing Requirement (PSBR) was £1.4 billion for December 1997, £1.0 billion less than in the same month of 1996. Receipts were boosted by £2.6 billion from the first of two installments of the windfall tax on privatised utilities and by £3.5 billion from early payment of tobacco duty - £0.4 billion higher than in 1996. However, payment of interest on gilts was £1 billion higher than in 1996, as June and December are increasingly becoming the dates for payments. For the first nine months of the financial year 1997-98, the PSBR was £6.1 billion, significantly lower than the £16.3 billion recorded in the same period of the financial year 1996-97. The improvement in the cumulative PSBR is mainly due to higher tax receipts and lack of growth in net departmental outlays, in spite of lower privatisation proceeds - £2.5 billion lower than in 1996-97.

Prices and wages

Price movements remain subdued, although retail price inflation is still above the government's target of two and a half percent.

Both input and output prices show little sign of inflationary pressure. Input prices, seasonally adjusted, fell further in the 12 months to December, with prices below the level recorded in 1990. Prices fell across all major categories, with particularly sharp falls for crude oil and home produced food materials. The annual growth in seasonally adjusted output prices, excluding

excise duties, remained relatively steady, up only 0.2 per cent on a year earlier. Producer output prices are historically low, showing little signs of inflationary pressure at the initial stage of the supply chain.

Between November and December annual retail price inflation was down 0.1 percentage points on both the RPI (all item) and RPIX (excluding interest payments) bases. In large part, the falls were the result of lower motoring costs, stemming from a combination of petrol duty increases in November 1996 falling out of the comparison and small petrol price falls in December. The other main effects were lower price rises for clothing and footwear, and foreign holidays, offset by larger increases in housing costs. House price rises increased depreciation on houses and mortgage lending rates rose, following the increase in base rates in November. An additional effect was the largest pre-Christmas monthly rise in household goods prices since 1974. This reflects an emerging pattern of higher price rises prior to Christmas and larger discounting in January. Excluding indirect taxes, RPIY rose by 0.1 percentage points, as the above mentioned removal of petrol duty increases does not affect this measure.

The CBI Monthly Trends Inquiry (seasonally adjusted by the ONS) also shows little expectation of much movement in manufacturing prices. Manufacturers continue to expect prices to fall slightly, with a balance for the four months from December of 2% of manufacturers expecting to reduce prices. The balance has remained within 2 percentage points of zero for the last 6 months.

Underlying average earnings growth jumped a quarter point to 4¾ per cent in the 12 months to November. Revisions now show that underlying earnings growth also accelerated in October - raising concerns that firms may be reacting to labour supply constraints by increasing wage and salaries. The main sector where earnings have accelerated is manufacturing, with rises in both October and November. In the latter month a proportion of the increase can be attributed to increased bonuses and overtime. Earnings growth in services accelerated in November only.

External business surveys are continuing to show an increase in pay settlements, but more evidence will become available after the January wage rounds.

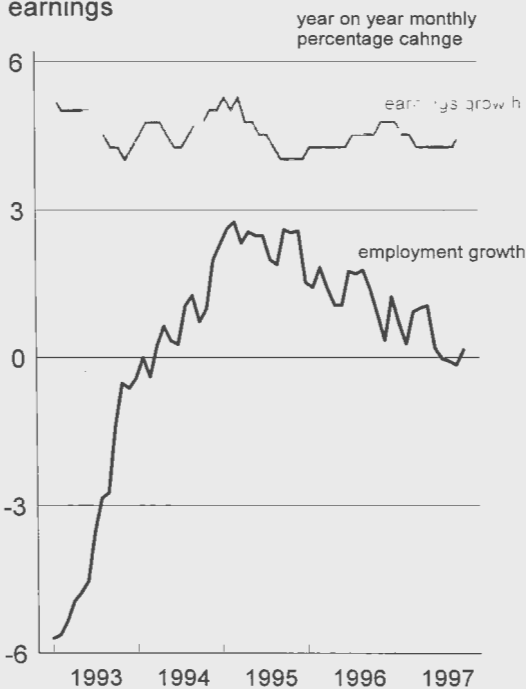
Labour Market

The labour market continued to tighten in the fourth quarter. The seasonally adjusted claimant count fell by 28,700 in December, down to 5 per cent of the workforce.

The Labour Force Survey of Great Britain, in the Autumn (September to November 1997), showed a more rapid increase in employment than the third quarter workforce in employment figures. The main difference between the results has been in full-time employment. A comparison of the two estimates appeared in the December 1997 issue of Labour Market Trends. Total hours worked rose by 0.6 per cent on the previous quarter, slightly higher than employment growth, reflecting an increase in average actual time spent at work. Since the trough in autumn 1993, total hours have risen by 6.9%, while output has increased approximately twice as fast over the period. Private sector services have been the area of employment growth between Autumn 1996 and Autumn 1997. Within this construction, banking, finance and insurance, and transport & communication have seen the strongest growth. The latter two categories reflect the main areas where growth in output has been most rapid.

Employees in Employment data for production industries to November shows small growth in employment in manufacturing in October and November and small falls in mining, energy and water supply industries. The increases in employment and earnings in manufacturing, illustrated below, have resulted in falls

Chart 6
Manufacturing: employment and average earnings



in productivity growth and an increase in unit wage costs in the year to October and November.

ILO unemployment fell in the autumn by 150,000 to 1.847 million. The ILO unemployment rates fell to 7.3 per cent of the workforce for men and 5.6 per cent for women to give a combined figure of 6.6 per cent. Claimant unemployment continued to fall in December, down 28,700. Comparisons with months prior to November are difficult, as the records appear to have been affected by fewer students claiming benefit, which will have boosted the seasonally adjusted falls in July and August and reduced the fall in October. Added to this, the pattern of recent movements is harder to discern because the introduction of the Job Seekers' Allowance between October 1996 and May 1997 will have led to a larger outflow of claimants. Both inflows and outflows increased in December. Despite the level of employment remaining below its previous peak in 1990, the rate of claimant unemployment has fallen to 5.0 per cent, the lowest rate since July 1980.

Forecast for the UK Economy

A comparison of independent forecasts, January 1998

The tables below are extracted from HM Treasury's "FORECASTS FOR THE UK ECONOMY" and summarise the average and range of independent forecasts for 1998 and 1999, updated monthly.

	Independent Forecasts for 1997		
	Average	Lowest	Highest
GDP growth (per cent)	2.4	1.5	3.2
Inflation rate (Q4)			
- RPI	3.1	2.0	4.3
- RPI excl MIPS	2.8	2.2	3.7
Unemployment (Q4,mn)	1.31	0.99	1.5
Current Account (£,bn)	-6.2	-12.0	0.5
PSBR (1998-99,£ ,bn)	3.2	-3.2	10.0

	Independent Forecasts for 1998		
	Average	Lowest	Highest
GDP growth (per cent)	2.0	1.2	3.4
Inflation rate (Q4)			
- RPI	2.6	1.5	4.5
- RPI excl MIPS	2.8	2.0	4.6
Unemployment (Q4, mn)	1.37	1.08	1.6
Current Account (£,bn)	-6.7	-17.5	6.6
PSBR (1999-00,£,bn)	3.4	-5.9	17.0

NOTE: "FORECASTS FOR THE UK ECONOMY" gives more detailed forecasts, covering 24 variables and is published monthly by HM Treasury, available on annual subscription, price £75. Subscription enquiries should be addressed to Miss C T Coast-Smith, Public Enquiry Unit, HM Treasury, Room 110/2, Parliament Street, London SW1P 3AG (Tel: 0171-270 4558). It is also available at the Treasury's internet site: <http://www.hm-treasury.gov.uk>.

International Economic Indicators - February 1998

by Sue Holloway, Economic Assessment - Office for National Statistics

Address: D4/20, 1 Drummond Gate, London SW1V 2QQ

Tel: 0171 533 5975

Overview

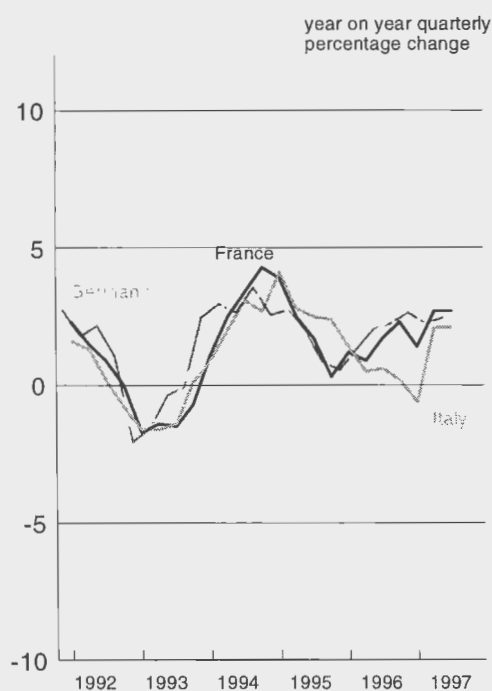
Recovery in continental Europe continued with strong growth in GDP in Q3. Retail sales volumes grew strongly in the US in the same quarter. Latest monthly data show subdued price inflation, with US producer prices continuing to fall. Total employment continued to fall in Germany in Q3, compared with a year earlier, while employment growth picked up slightly in France. Unemployment remained steady in both countries in October, but fell to an 24 year low in the US in November.

Activity

Gross domestic product (GDP) continued to grow strongly in continental Europe in Q3, with year on year quarterly growth of 2.3% in Germany, 2.7% in France and 2.1% in Italy, as illustrated below. All three countries continued to experience strong export growth - over 12% year on year in Q3. In Japan, GDP grew by 0.8% quarter on quarter, after negative growth in Q2 - private final consumption picked up slightly, but growth of government final consumption remained negative for the second successive quarter and export growth decelerated from its peak in Q2.

Chart 1

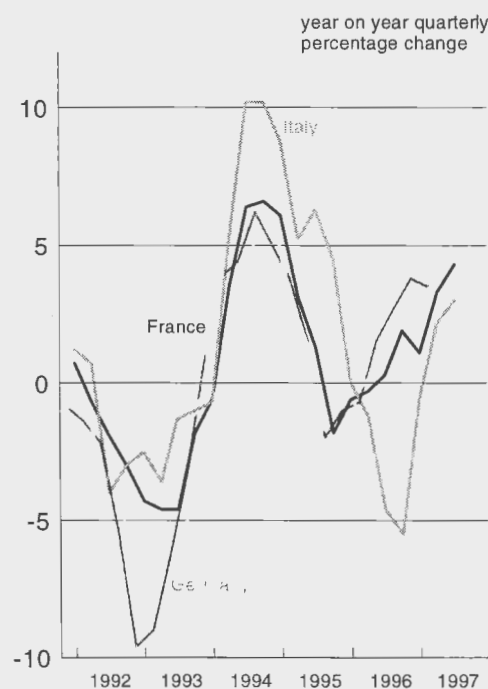
German, French & Italian GDP



Industrial production grew strongly in Germany, France and Italy in October, with month on month growth of 2.1%, 3.3% and 1.2% respectively. As shown below, changes in the growth rate of industrial production in these three countries largely mirror changes in the growth rate of GDP, shown in Chart 1. In November month on month growth was 0.8% in the United States, but minus 3.9% in Japan, where October growth was revised up to minus 0.1%. In all cases the monthly series is very volatile.

Chart 2

German, French & Italian Industrial Production



Demand

Figures for Q3 **retail sales volumes** in the US, show strong quarter on quarter growth of 2.1%, and year on year growth of

4.7% - the highest growth rate since the end of 1994. Monthly figures show volumes increasing in Germany in October, but slipping back in the UK, France and Japan in November. As with industrial production, the monthly series are very volatile.

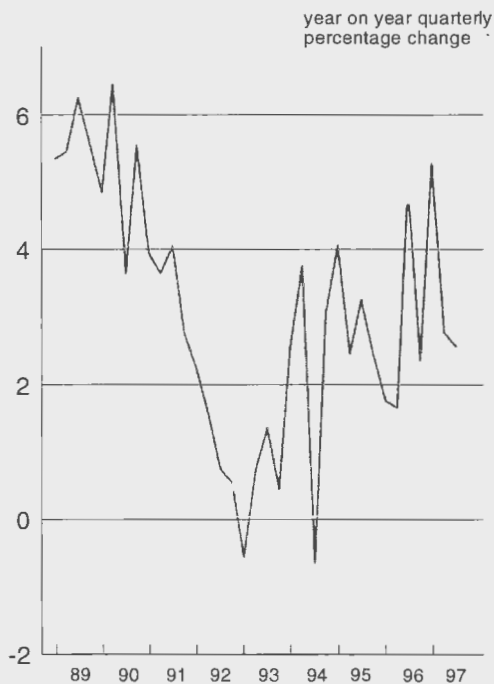
Inflation

Producer price inflation remained steady in France, Germany and Italy in October and November. The fall in producer prices in the US, which started in June, accelerated in November, with deflation of 0.6%. In the same month Japanese producer price inflation eased back slightly to 1.3%. **Consumer price inflation** also changed little in continental Europe in November, but decelerated in the US, Japan and Canada to 1.8%, 2.1% and 0.9% respectively.

Labour Market

In November **average earnings growth** picked up in the UK to 4.75% year on year, but fell back in the US and Japan to 3.4% and -0.8% respectively. Japanese earnings growth was last negative at the beginning of 1996, and last peaked in January 1997 at 9.8%. Quarterly growth rates are shown opposite. **Unemployment** remained steady in France and Germany and Japan in October at 12.6%, 10% and 3.4% respectively. In the UK it fell back again to 7%. The November figure for the US shows a further fall to 4.6% - the lowest monthly rate since October 1973. **Total employment** continued to fall in Germany in Q3, when compared with the same quarter in 1996. Growth in employment on this basis has been negative since the beginning of 1992. French employment growth, on the same basis, was 0.4% in Q3.

Chart 3
Japanese earnings growth



Notes

The series presented here are taken from the OECD's Main Economic Indicators, except for the United Kingdom. They are shown for each of the G7 economies and for the European Union (EU) and OECD countries in aggregate.

Comparisons of indicators over the same period should be treated with caution, as the length and timing of the economic cycles varies across countries.

Next month we plan to make some changes to this article and the tables which accompany it, and would welcome any comments on the following proposals:

In addition to GDP growth, we would show growth in expenditure on GDP - private final consumption, government final consumption, changes in stocks, exports and imports.

We would no longer produce Table 9 - Balance of payments current account as percentage of GDP.

We would no longer supply data on Canada, and the Major 7 countries as an aggregate.

We would include data, subject to availability, on other European countries which are major trading partners with the UK

1 Gross domestic product at constant market prices

	United Kingdom	Germany ¹	France	Italy	EU	United States	Japan	Canada	Major 7	OECD
Percentage change on a year earlier										
	ILFX	ILFY	ILFZ	ILGA	ILGB	ILGC	ILGD	ILGE	ILGF	ILGG
1989	2.2	..	4.3	2.9	3.5	3.4	4.8	2.5	3.5	3.5
1990	0.4	..	2.5	2.2	3.0	1.3	5.2	-0.2	2.4	2.6
1991	-2.0	..	0.8	1.1	3.0	-0.9	3.8	-1.8	1.4	1.4
1992	-0.5	1.8	1.2	0.6	0.9	2.7	1.0	0.9	1.7	1.8
1993	2.1	-1.2	-1.3	-1.2	-0.5	2.3	0.3	2.5	1.0	1.1
1994	4.3	2.8	2.8	2.2	3.0	3.5	0.7	3.9	2.8	2.8
1995	2.7	1.9	2.1	2.9	2.5	2.0	1.4	2.2	2.0	1.9
1996	2.3	1.4	1.5	0.7	1.7	2.8	4.1	1.2	2.5	2.6
1996 Q3	2.2	1.9	1.7	0.6	1.9	2.7	3.1	1.7	2.5	2.7
Q4	2.8	2.1	2.3	0.2	2.2	3.3	3.4	2.0	2.7	3.0
1997 Q1	3.3	2.5	1.4	-0.6	1.9	4.0	2.8	2.8	2.9	3.0
Q2	3.7	2.1	2.7	2.1	2.7	3.4	-0.2	4.0	2.4	2.8
Q3	4.0	2.3	2.7	2.1	..	3.9	1.0	4.0	..	..
Percentage change, latest quarter on previous quarter										
	ILGH	ILGI	ILGJ	ILGK	ILGL	ILGM	ILGN	ILGO	ILGP	ILGQ
1995 Q3	0.5	-0.1	0.1	0.4	0.3	0.8	0.7	0.2	0.5	0.6
Q4	0.5	-	-0.3	0.4	0.1	0.6	0.7	0.3	0.5	0.5
1996 Q1	0.6	-0.1	1.3	0.6	0.6	0.4	2.7	0.2	0.7	0.9
Q2	0.5	1.4	-0.1	-0.9	0.4	1.5	0.1	0.2	0.8	0.7
Q3	0.6	0.5	0.8	0.5	0.7	0.3	-0.4	1.0	0.4	0.5
Q4	1.0	0.2	0.3	-	0.4	1.1	1.1	0.6	0.8	0.8
1997 Q1	1.1	0.3	0.3	-0.2	0.3	1.2	2.0	1.0	0.9	0.9
Q2	0.8	1.0	1.1	1.9	1.2	0.8	-2.8	1.3	0.3	0.6
Q3	0.9	0.8	0.9	0.4	..	0.8	0.8	1.0	..	..

1 Data available for unified Germany since 1991

2 Total industrial production

	United Kingdom	Germany ¹	France	Italy	EU	United States	Japan ²	Canada ³	Major 7	OECD ⁴
Percentage change on a year earlier										
	ILGR	ILGS	ILGT	ILGU	ILGV	ILGW	ILGX	ILGY	ILGZ	ILHA
1989	2.1	4.7	3.7	3.8	4.0	1.8	5.7	-0.2	3.2	3.5
1990	-0.3	5.3	1.5	-0.5	2.0	-0.2	4.3	-3.3	1.3	1.6
1991	-3.4	3.6	-1.2	-0.9	-0.1	-2.0	1.9	-4.2	-0.5	-0.4
1992	0.4	-2.6	-1.2	-1.3	-1.4	3.2	-5.7	1.1	-0.5	-0.3
1993	2.2	-7.2	-3.8	-2.1	-3.1	3.6	-4.3	4.4	-0.5	-0.6
1994	5.3	3.6	3.9	6.3	5.0	5.3	1.2	7.0	4.4	4.6
1995	2.2	2.0	2.0	6.1	3.7	5.0	3.3	3.4	4.0	3.7
1996	1.1	0.5	0.3	-2.9	0.4	3.5	2.7	1.7	2.0	2.2
1997 Q2	1.9	3.4	3.3	2.2	3.6	4.3	6.5	5.3	4.2	4.6
Q3	2.4	4.2	4.3	3.0	4.5	5.0	4.1	4.9	4.4	4.7
Percentage change, latest quarter on previous quarter										
	ILHB	ILHC	ILHD	ILHE	ILHF	ILHG	ILHH	ILHI	ILHJ	ILHK
1996 Q1	0.2	0.3	1.3	-3.7	-0.6	0.4	0.7	0.6	0.2	0.3
Q2	0.3	1.2	0.1	-0.5	0.6	1.9	-0.4	0.2	0.8	0.8
Q3	0.7	1.3	0.6	-0.3	0.7	0.8	1.8	2.1	1.0	1.1
Q4	0.4	-0.3	-0.1	-1.0	0.3	1.0	2.2	0.5	0.8	0.9
1997 Q1	0.1	1.4	0.5	1.4	0.6	1.3	2.3	0.9	1.4	1.2
Q2	0.7	1.0	2.3	2.2	2.0	1.1	-	1.7	1.0	1.3
Q3	1.2	2.0	1.6	0.5	1.6	1.5	-0.4	1.7	1.1	1.2
Percentage change: latest month on previous month										
	ILKB	ILKC	ILKD	ILKE	ILKF	ILKG	ILKH	ILKI	ILKJ	ILKK
1997 Aug	-0.8	-4.4	-	1.0	-1.4	0.6	-2.8	-0.4	-0.8	-0.9
Sep	-0.1	-0.8	-1.0	-0.9	-0.5	0.3	2.6	-0.3	0.4	0.4
Oct	-0.2	2.1	3.3	1.2	1.7	0.6	-0.1	..	0.8	0.8
Nov	-0.6	..	..	..	..	0.8	-3.9	..	..	..

1 Data available for Unified Germany from 1991

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

3 Retail Sales (volume)

	United Kingdom	Germany	France	Italy	EU	United States	Japan	Canada	Major 7	OECD
Percentage change on a year earlier										
	ILHL	ILHM	ILHN	ILHO	ILHP	ILHQ	ILHR	ILHS	ILHT	ILHU
1989	2.1	3.5	1.5	8.4	3.7	2.2	3.9	-0.4	2.8	2.9
1990	0.7	8.0	0.7	-2.2	2.3	0.6	4.9	-1.9	1.5	1.6
1991	-1.3	5.8	-0.2	0.3	1.5	-2.5	2.3	-4.4	-0.5	-0.3
1992	0.7	-2.3	0.3	1.8	-	3.2	-1.0	2.5	1.6	1.3
1993	3.0	-4.2	0.2	-3.0	-1.3	4.5	-3.0	3.4	1.3	1.2
1994	3.7	-1.3	-0.2	-5.9	-0.4	5.7	0.2	6.3	3.0	2.7
1995	1.2	1.1	0.1	-5.1	-0.3	2.6	0.2	0.1	1.1	1.3
1996	2.9	-	-0.3	-2.0	0.7	3.7	1.0	0.8	2.3	2.1
1997 Q2	5.3	1.0	0.9	4.6	2.6	2.9	-5.1	6.3	1.8	1.8
Q3	5.1	-1.3	1.7	..	2.6	4.7	-3.7	6.6	2.5	2.8
Percentage change, latest quarter on previous quarter										
	ILHV	ILHW	ILHX	ILHY	ILHZ	ILIA	ILIB	ILIC	ILID	ILIE
1995 Q4	0.7	-1.0	-3.1	-8.2	-1.3	0.7	-	-0.8	-0.7	-0.7
1996 Q1	0.4	1.4	2.7	7.3	1.6	1.4	2.0	0.2	2.3	1.6
Q2	1.3	1.6	-1.8	-1.5	0.4	1.0	-1.7	-0.2	0.3	0.3
Q3	0.9	-1.0	-0.2	-2.3	-	0.4	-0.7	1.2	-	0.4
Q4	1.1	-2.0	0.4	-	-0.4	0.8	1.7	1.5	0.3	0.3
1997 Q1	1.4	1.0	0.3	7.4	2.4	2.2	6.0	2.0	2.7	2.8
Q2	1.8	3.1	0.4	-0.3	0.6	-0.5	-11.3	1.4	-1.2	-1.5
Q3	0.8	-3.3	0.6	..	-	2.1	0.7	1.6	0.6	1.3
Percentage change, latest month on previous month										
	ILKL	ILKM	ILKN	ILKO	ILKP	ILKQ	ILKR	ILKS	ILKT	ILKU
1997 Sep	-1.7	-	-2.3	..	-1.0	-0.2	-2.1	0.1	-0.9	-0.9
Oct	2.8	2.1	6.1	..	..	..	1.1	..	..	..
Nov	-0.5	..	-5.5	..	..	..	-1.1	..	..	..

4 Consumer prices¹

	United Kingdom	Germany ²	France	Italy	EU	United States	Japan	Canada	Major 7	OECD ³
Percentage change on a year earlier										
	FRAN	HVLL	HXAA	HYAA	HYAB	ILAA	ILAB	ILAC	ILAD	ILAE
1989	7.8	2.8	3.5	6.5	5.3	4.8	2.3	5.0	4.4	6.3
1990	9.5	2.8	3.5	6.1	5.7	5.4	3.1	4.8	5.0	6.8
1991	5.9	3.7	3.2	6.5	5.2	4.2	3.2	5.6	4.3	6.1
1992	3.7	5.0	2.4	5.3	4.5	3.1	1.7	1.5	3.2	5.0
1993	1.6	4.4	2.1	4.2	3.5	3.0	1.2	1.9	2.7	4.3
1994	2.4	2.7	1.7	3.9	3.0	2.5	0.8	0.2	2.3	4.4
1995	3.5	1.9	1.7	5.4	3.2	2.8	-0.1	2.2	2.4	5.5
1996	2.4	1.5	2.1	3.8	2.5	3.0	0.1	1.5	2.2	5.1
1995 Q4	3.2	1.8	1.9	5.9	3.0	2.7	-0.6	2.0	2.2	5.7
1996 Q1	2.8	1.5	2.1	5.0	2.8	2.8	-0.4	1.4	2.3	5.5
Q2	2.2	1.5	2.4	4.2	2.6	2.8	0.1	1.5	2.2	5.0
Q3	2.1	1.5	1.8	3.5	2.3	3.0	0.2	1.3	2.2	4.8
Q4	2.6	1.4	1.7	2.7	2.3	3.1	0.5	2.0	2.4	4.8
1997 Q1	2.7	1.7	1.5	2.4	2.1	2.9	0.6	2.1	2.2	4.5
Q2	2.7	1.6	0.9	1.6	1.7	2.3	2.1	1.6	2.0	4.2
Q3	3.5	1.9	1.3	1.5	2.0	2.2	2.1	1.8	2.1	4.3
1997 May	2.6	1.7	0.9	1.6	1.8	2.2	2.0	1.5	1.9	4.1
Jun	2.9	1.7	1.0	1.4	1.8	2.3	2.2	1.8	2.1	4.2
Jul	3.3	1.8	1.0	1.6	1.9	2.2	1.9	1.8	2.0	4.2
Aug	3.5	2.0	1.5	1.5	2.1	2.2	2.1	1.8	2.1	4.3
Sep	3.6	1.9	1.3	1.4	2.1	2.2	2.4	1.6	2.2	4.3
Oct	3.7	1.8	1.0	1.6	2.0	2.1	2.5	1.5	2.1	4.4
Nov	3.7	1.9	1.3	1.6	2.2	1.8	2.1	0.9	1.9	4.3

1 Components and coverage not uniform across countries

2 Data available for Unified Germany from 1991

3 OECD data includes 'higher inflation' countries (Mexico and Turkey)

5 Producer prices (manufacturing)

	United Kingdom	Germany ¹	France ²	Italy	EU	United States	Japan	Canada	Major 7	OECD ³
Percentage change on a year earlier										
	EUAA	ILAF	ILAG	ILAH	ILAI	ILAJ	ILAK	ILAL	ILAM	ILAN
1989	5.0	3.5	5.0	5.8	4.9	5.2	2.1	1.8	4.3	5.8
1990	5.8	1.4	-0.9	4.2	2.5	4.9	1.6	0.3	3.3	4.7
1991	4.8	2.2	-1.2	3.3	2.2	2.1	1.1	-1.0	1.9	3.3
1992	2.3	1.6	-1.1	1.9	1.4	1.3	-1.0	0.5	0.9	2.3
1993	2.6	0.1	-2.1	3.7	1.3	1.3	-1.6	3.3	0.8	2.1
1994	2.3	0.8	1.2	3.8	2.2	0.6	-1.7	5.6	0.8	3.3
1995	4.4	2.1	5.2	7.9	4.5	2.0	-0.7	8.1	2.5	6.1
1996	2.0	0.2	-2.7	1.9	0.7	2.6	-0.7	0.4	1.3	3.9
1995 Q4	4.6	1.6	2.4	7.2	3.6	2.2	-0.7	5.1	2.3	5.8
1996 Q1	3.5	0.8	-0.8	4.8	1.9	2.2	-0.9	0.9	1.6	4.7
Q2	2.4	0.1	-2.7	1.6	0.6	2.4	-0.9	0.5	1.1	3.7
Q3	1.2	-0.2	-3.8	0.4	-0.1	2.8	-0.7	0.2	1.0	3.6
Q4	0.8	0.2	-3.1	0.8	0.2	3.1	-0.6	-	1.2	3.7
1997 Q1	0.5	0.3	-2.3	0.9	0.3	2.0	-0.3	0.5	0.8	3.1
Q2	..	0.7	-0.9	1.2	0.7	0.4	1.8	1.3	0.7	2.8
Q3	..	1.0	0.3	1.7	1.4	-0.1	1.7	0.7	0.6	2.9
1997 Aug	0.7	1.2	0.4	1.6	1.6	-0.2	1.7	0.8	0.6	2.9
Sep	0.6	1.0	0.5	1.6	1.3	-	1.7	0.4	0.6	2.9
Oct	0.7	0.9	0.6	1.5	1.3	-0.3	1.5	0.7	0.6	2.8
Nov	0.7	1.0	0.7	..	1.3	-0.6	1.3	1.4	0.4	2.7

1 Data available for Unified Germany from 1991

2 Producer prices in intermediate goods

3 OECD includes 'higher inflation' countries (Mexico and Turkey)

6 Average wage earnings in manufacturing¹

	United Kingdom ²	Germany ³	France	Italy	EU	United States	Japan ⁴	Canada	Major 7	OECD
Percentage change on a year earlier										
	ILAY	ILAO	ILAP	ILAQ	ILAR	ILAS	ILAT	ILAU	ILAV	ILAW
1990	9.50	4.2	4.9	7.3	7.0	3.2	5.1	4.7	4.7	5.2
1991	7.75	6.6	4.7	9.8	6.8	3.3	3.5	4.8	4.8	5.2
1992	5.50	7.1	4.0	5.4	5.8	2.4	1.3	3.4	3.3	3.6
1993	4.25	5.4	2.5	3.7	4.7	2.4	0.4	2.1	3.0	2.9
1994	5.00	2.9	1.9	3.3	3.8	2.8	2.2	1.6	2.7	3.1
1995	4.00	3.3	2.4	3.1	3.7	2.7	3.0	1.4	3.1	3.3
1996	4.75	5.2	2.4	1.8	3.7	3.1	2.6	3.2	3.0	3.3
1997	..	..	2.8	..	..	..	..	..	..	..
1995 Q4	4.00	5.2	2.5	3.9	4.0	2.7	2.4	2.0	3.4	3.4
1996 Q1	4.25	7.1	2.3	1.9	4.0	2.9	1.7	1.8	3.4	3.4
Q2	4.25	6.7	2.3	2.1	4.0	3.2	1.6	3.0	2.5	3.4
Q3	4.50	4.3	2.6	1.7	3.1	3.1	4.9	3.8	3.4	3.3
Q4	4.75	2.9	2.6	1.6	3.8	3.5	2.3	4.1	2.5	3.3
1997 Q1	4.50	0.8	3.0	4.0	3.8	3.4	5.2	3.3	3.3	3.3
Q2	4.25	1.5	2.7	3.8	3.1	2.8	2.7	1.7	3.3	3.3
Q3	4.25	1.6	2.8	3.4	..	2.5	2.5	-1.2	2.5	3.2
Q4	..	..	2.8	..	..	..	..	..	..	..
1997 Jul	4.25	1.6	2.8	3.4	..	2.5	3.3	-0.1	..	..
Aug	4.25	..	..	3.4	..	2.5	3.1	-0.8	..	..
Sep	4.25	..	..	3.4	..	2.5	1.5	-2.5	..	..
Oct	4.50	..	2.8	..	..	4.2	0.5	-1.5	..	..
Nov	4.75	..	..	..	..	3.4	-0.8	..	..	..

1 Definitions of coverage and treatment vary among countries

2 Figures for Great Britain refer to underlying weekly earnings; others hourly

3 Western Germany (Federal Republic of Germany before unification)

4 Figures for Japan monthly and seasonally adjusted

7 Total employment ¹

	United Kingdom	Germany ^{2,3}	France ³	Italy	EU	United States ³	Japan	Canada ³	Major 7	OECD
Percentage change on a year earlier										
	ILIF	ILIG	ILIH	ILII	ILIJ	ILIK	ILIL	ILIM	ILIN	ILIO
1989	2.9	1.5	1.6	-0.5	1.7	2.1	2.0	2.1	1.8	1.9
1990	0.6	2.8	0.8	1.4	1.6	0.5	1.9	0.6	1.2	1.2
1991	-2.9	2.0	0.1	1.3	0.1	-0.9	1.9	-1.9	-	-
1992	-2.6	-1.4	-0.6	-1.1	-1.7	0.6	1.1	-0.6	-	-0.4
1993	-1.1	-1.1	-1.3	-4.2	-2.0	1.5	0.2	1.3	-	-0.2
1994	0.9	-0.4	0.1	-1.6	-0.2	3.2	-	2.2	1.3	1.2
1995	0.8	-0.3	1.0	-0.6	0.5	1.4	0.1	1.6	0.8	0.9
1996	1.2	-1.2	-	0.4	0.2	1.5	0.5	1.3	0.7	0.9
1997 Q1	1.8	-1.5	-0.1	-0.1	0.3	2.5	1.6	1.0	1.3	1.3
Q2	1.9	-1.5	0.1	0.1	0.4	2.4	1.4	1.8	1.4	1.4
Q3	1.6	-1.3	0.4	-	0.4	2.1	0.7	2.4	1.1	1.2
Percentage change, latest quarter on quarter										
	ILIP	ILIQ	ILIR	ILIS	ILIT	ILIU	ILIV	ILIW	ILIX	ILIY
1995 Q4	0.4	0.1	-0.1	-0.7	-	-0.3	-1.2	-2.4	-0.4	-0.4
1996 Q1	0.2	-2.0	-	-1.3	-1.0	-1.2	-1.6	-1.9	-1.3	-1.2
Q2	0.2	0.6	-	1.2	0.8	2.0	3.1	3.5	1.8	1.7
Q3	0.6	0.2	-0.2	1.2	0.6	1.2	0.5	2.0	0.9	0.9
Q4	0.5	-0.2	0.1	-0.8	-0.2	0.1	-1.0	-2.3	-0.3	-0.3
1997 Q1	0.4	-2.1	-	-1.6	-0.9	-0.8	-0.9	-2.1	-1.1	-1.0
Q2	0.3	0.6	0.2	1.4	0.9	1.9	2.9	4.3	1.9	1.8
Q3	0.3	0.4	0.1	1.1	0.6	0.9	-0.3	2.6	0.6	0.7
Percentage change, latest month on previous month										
	ILKV	ILKW	ILKX	ILKY	ILKZ	ILLA	ILLB	ILLC	ILLD	ILLE
1997 Aug	..	..	..	..	..	-0.4	-0.9	0.3	..	..
Sep	..	..	..	..	..	-0.7	0.1	-1.9	..	..
Oct	..	..	..	..	..	0.5	0.1	-0.6	..	..
Nov	..	..	..	..	..	0.3	-1.0	-0.7	..	..

1 Not seasonally adjusted except for the United Kingdom

2 Data available for Unified Germany from 1991

3 Excludes members of armed forces

8 Standardised unemployment rates: percentage of total labour force¹

	United Kingdom	Germany ²	France	Italy	EU	United States	Japan	Canada	Major 7	OECD
	GABF	GABD	GABC	GABE	GADR	GADO	GADP	GADN	GAEQ	GADQ
1989	7.3	..	9.3	10.0	8.7	5.3	2.3	7.5	5.7	6.3
1990	7.0	..	9.0	9.1	8.1	5.6	2.1	8.1	5.6	6.1
1991	8.8	..	9.5	8.8	8.4	6.9	2.1	10.4	6.4	6.8
1992	10.1	..	10.4	9.0	9.1	7.5	2.2	11.3	6.9	7.4
1993	10.5	7.9	11.7	10.3	10.8	6.9	2.5	11.2	7.2	8.0
1994	9.6	8.4	12.3	11.4	11.1	6.1	2.9	10.4	7.1	7.9
1995	8.8	8.2	11.7	11.9	10.7	5.6	3.1	9.5	6.8	7.6
1996	8.2	8.8	12.4	12.0	10.9	5.4	3.3	9.7	6.8	7.6
1995 Q4	8.5	8.4	12.0	11.9	10.8	5.6	3.3	9.4	6.8	7.6
1996 Q1	8.4	8.7	12.3	12.0	10.9	5.6	3.3	9.5	6.9	7.6
Q2	8.3	8.7	12.4	12.0	10.9	5.4	3.5	9.6	6.8	7.6
Q3	8.2	8.8	12.5	12.0	10.9	5.3	3.3	9.8	6.8	7.5
Q4	7.8	9.1	12.6	12.0	10.8	5.3	3.3	9.9	6.8	7.5
1997 Q1	7.5	9.4	12.5	12.2	10.8	5.3	3.3	9.6	6.8	7.5
Q2	7.2	9.6	12.6	12.1	10.8	4.9	3.5	9.4	6.6	7.3
Q3	7.1	9.9	12.6	..	10.7	4.9	3.4	9.0	6.6	7.3
1997 Jul	7.2	9.7	12.6	12.1	10.7	4.8	3.4	9.0	6.6	7.3
Aug	7.0	9.9	12.6	..	10.7	4.9	3.4	9.0	6.6	7.3
Sep	7.2	10.0	12.6	..	10.7	4.9	3.4	9.0	6.7	7.3
Oct	7.0	10.0	12.6	..	10.7	4.7	3.4	9.1	6.6	7.2
Nov	..	..	..	..	..	4.6	..	..	..	..

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 Data available on Unified Germany from January 1993

9 Balance of payments current account as percentage of GDP

	United Kingdom	Germany ^{1,2}	France	Italy	United States ¹	Japan ¹	Canada
	ILAZ	ILBA	ILBB	ILBC	ILBD	ILBE	ILBF
1989	-4.3	1.2	-0.1	-0.4	-2.0	1.9	-4.1
1990	-3.4	3.2	-0.8	-1.5	-1.6	1.2	-3.4
1991	-1.4	-1.0	-0.5	-2.1	-0.1	2.1	-3.8
1992	-1.7	-0.9	0.3	-2.4	-1.0	3.0	-3.6
1993	-1.6	-0.8	0.7	1.0	-1.5	3.1	-3.9
1994	-0.2	-1.0	0.6	1.4	-2.1	2.8	-2.7
1995	-0.5	-1.0	0.7	2.5	-1.8	2.1	-0.9
1996	-0.3	-0.6	1.3	3.3	-1.9	1.4	0.5
1995 Q2	-0.9	-0.5	0.9	2.9	-2.0	2.3	-2.3
Q3	-0.8	-0.8	0.1	3.1	-1.8	2.2	-1.0
Q4	-0.7	-1.4	0.6	2.2	-1.4	1.9	0.3
1996 Q1	-0.8	-0.7	1.7	2.1	-1.8	1.4	0.2
Q2	-	-0.7	0.8	3.6	-1.9	1.4	1.2
Q3	-0.3	-0.4	1.4	4.7	-2.2	1.4	0.8
Q4	0.2	-0.5	1.4	3.0	-1.9	1.5	-0.3
1997 Q1	0.9	-1.2	2.8	3.0	-2.0	1.5	-0.4
Q2	0.7	0.3	3.2	2.4	-1.9	2.5	-1.5
Q3	0.2	..	..	..	-2.1	..	..

1 Balance as percentage of GNP

2 Data available for Unified Germany from July 1990

10 World trade in goods¹

	Export of manufactures			Import of manufactures			Export of goods			Import of goods			Total trade	
	Total	OECD	Other	Total	OECD	Other	Total	OECD	Other	Total	OECD	Other	manufactures	goods
Percentage change on a year earlier														
	ILIZ	ILJA	ILJB	ILJC	ILJD	ILJE	ILJF	ILJG	ILJH	ILJI	ILJJ	ILJK	ILJL	ILJM
1989	8.5	8.2	9.9	8.6	8.8	8.2	7.0	7.3	6.3	7.0	7.4	6.0	8.6	7.0
1990	4.9	5.1	4.0	6.0	5.6	7.1	4.2	5.1	1.8	5.0	5.2	4.4	5.5	4.6
1991	3.5	2.4	8.0	4.9	3.6	8.8	3.7	3.2	5.1	4.3	3.3	7.3	4.2	4.0
1992	3.8	3.3	5.7	4.7	4.5	5.2	4.2	3.6	5.8	4.5	4.2	5.5	4.2	4.4
1993	3.9	1.7	12.1	3.0	1.1	8.1	4.1	2.3	9.0	3.4	1.6	8.7	3.4	3.8
1994	11.5	10.2	15.9	12.3	12.1	12.8	9.9	9.1	11.6	10.7	10.2	11.9	11.9	10.3
1995	10.0	9.4	12.2	11.2	9.6	15.2	8.8	8.3	10.0	9.3	7.6	13.7	10.6	9.0
1996	5.7	6.8	2.3	5.2	6.6	1.7	5.0	6.2	2.3	4.5	5.6	2.1	5.4	4.8
1996 Q2	5.2	6.2	2.2	4.1	5.7	0.3	4.3	5.3	1.9	3.5	4.6	0.8	4.7	3.9
Q3	6.1	7.5	1.7	5.7	7.3	1.8	5.6	7.1	2.1	5.0	6.1	2.3	5.9	5.3
Q4	6.0	7.5	1.0	5.1	6.7	1.1	5.6	7.3	1.4	5.0	6.4	1.5	5.5	5.3
1997 Q1	7.6	8.1	5.8	..	..	..	..	..	..	..	..	..	..	..
Percentage change, latest quarter on previous quarter														
	ILJN	ILJO	ILJP	ILJQ	ILJR	ILJS	ILJT	ILJU	ILJV	ILJW	ILJX	ILJY	ILJZ	ILKA
1995 Q2	1.4	1.1	2.6	2.0	1.4	3.4	1.1	0.7	2.1	1.8	1.3	3.2	1.7	1.5
Q3	1.4	1.2	1.8	1.6	1.2	2.5	1.2	1.1	1.5	1.3	1.0	2.2	1.5	1.3
Q4	1.4	1.7	0.8	1.6	2.0	0.7	1.3	1.5	0.6	0.9	1.0	0.8	1.5	1.1
1996 Q1	1.2	1.8	-0.6	0.5	1.9	-2.9	1.0	1.6	-0.4	0.6	1.8	-2.4	0.9	0.8
Q2	1.1	1.4	0.2	0.4	0.5	0.1	0.7	1.0	0.2	0.6	0.8	0.2	0.7	0.7
Q3	2.2	2.5	1.4	3.1	2.8	4.0	2.5	2.9	1.7	2.7	2.4	3.7	2.7	2.6
Q4	1.3	1.7	-	1.1	1.5	-	1.3	1.7	-	0.9	1.3	-	1.2	1.1
1997 Q1	2.7	2.3	4.1	..	..	..	..	..	..	..	..	..	..	..

1 Data used in the World and OECD aggregates refer to Germany after unification

Final Expenditure Prices Index (Experimental) - December 1997

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Note that further development work, including the adjustment of the Index of Government Prices for productivity change, is ongoing and the FEPI will be available only as an experimental index until this work has been completed.

Summary

The Final Expenditure Prices Index (FEPI) for December shows an annual rate of 1.9 per cent, down from 2.1 per cent in November. The decrease in the annual rate of the FEPI reflects decreases in the annual rates of all three component indices: the Index of Consumer Prices (ICP), the Index of Investment Prices (IIP) and the Index of Government Prices (IGP).

The FEPI annual percentage change

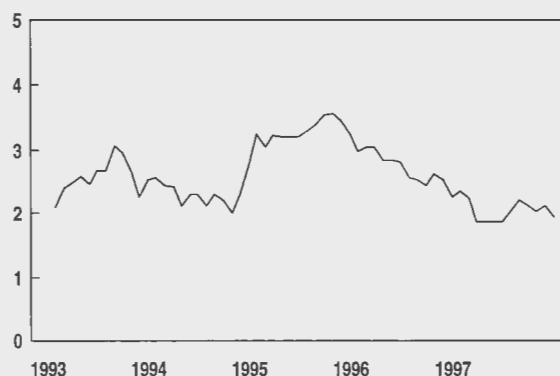


Table A

Final Expenditure Prices Index and components (January 1992=100 and annual percentage change)

		Index of Consumer Prices (ICP)		Index of Investment Prices (IIP)		Index of Government Prices (IGP)		Final Expenditure Prices Index (FEPI)	
		Index	Annual percentage change	Index	Annual percentage change	Index	Annual percentage change	Index	Annual percentage change
1997	Jul	116.7	2.5	111.1	0.9	114.4	1.9	115.0	2.0
	Aug	117.5	2.6	111.3	0.6	115.2	2.3	115.7	2.2
	Sep	117.9	2.3	111.5	1.0	114.9	2.3	115.9	2.1
	Oct	118.0	2.4	111.3	0.6	115.1	2.1	115.9	2.0
	Nov	117.9	2.3	111.2	1.4	115.6	2.2	116.0	2.1
	Dec	118.1	2.2	111.3	1.1	115.5	1.9	116.1	1.9

The Index of Consumer Prices (ICP)

Consumer price inflation, as measured by the ICP, was 2.2 per cent over the 12 months to December, down from 2.3 per cent in November.

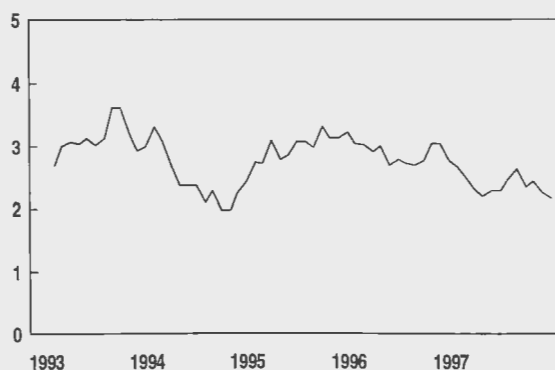
Downward pressure came mainly from prices for:

- Clothing and footwear, for which the 12-month rate fell from 0.6 per cent in November to 0.1 per cent in December;
- Fuel and power, whose 12-month rate fell from -5.1 per cent to -5.4 per cent;
- Transport and communication, whose 12-month rate fell from 3.4 per cent to 2.8 per cent.

Upward pressure came mainly from prices for:

- Food, for which the 12-month rate rose from 1.7 per cent in November to 1.8 per cent in December;
- Alcoholic drink, whose 12-month rate rose from 2.1 per cent to 2.2 per cent.

The ICP annual percentage change



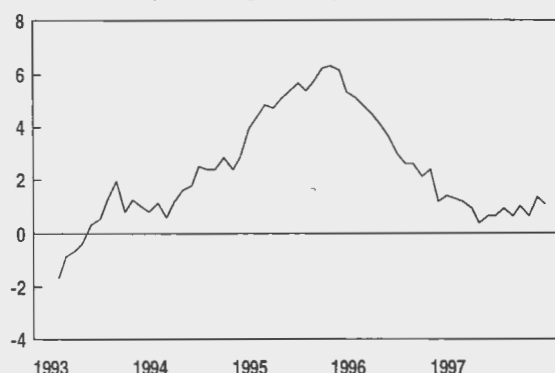
The Index of Investment Prices (IIP)

Investment price inflation, as measured by the IIP, was 1.1 per cent over the 12 months to December, down from 1.4 per cent in November. *(Please see note 9 regarding recent revisions to the IIP)*

Downward pressure on the 12-month rate came mainly from:

- Plant and machinery whose 12-month rate fell from -4.2 per cent in November to -4.7 per cent in December.
- Note, the annual rate has been negative since June 1996, reflecting the impact of Sterling's strength on import prices;
- Transfer costs of land and buildings whose 12-month rate fell from 9.4 per cent to 8.6 per cent;
- New dwellings whose 12-month rate fell from 7.7 per cent to 6.7 per cent.

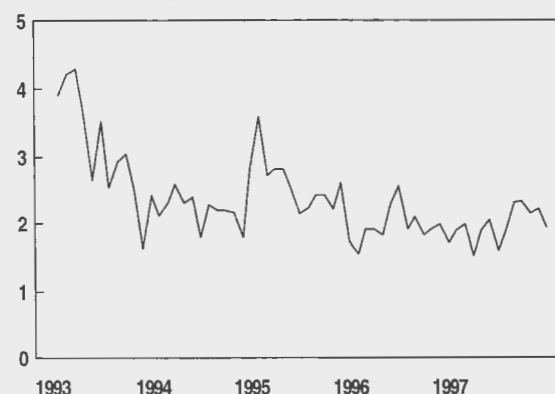
The IIP annual percentage change



The Index of Government Prices (IGP)

Inflation affecting Government expenditure, as measured by the IGP, was 1.9 per cent over the 12 months to December, down from 2.2 per cent in November. See note 7.

The IGP annual percentage change



Comparison between the FEPI and other inflation measures

Table B

Measures of Inflation (annual percentage changes)

		FEPI	RPIX	HICP	PPI
1997	Jul	2.0	3.0	2.0	1.3
	Aug	2.2	2.8	2.0	1.4
	Sep	2.1	2.7	1.8	1.2
	Oct	2.0	2.8	1.9	1.1
	Nov	2.1	2.8	2.0	0.9
	Dec	1.9	2.7	1.8	1.0

NOTES

1. The headline measure of inflation is the Retail Prices Index (RPI). The RPI should be used as the main indicator of inflation affecting average households.
2. The Final Expenditure Prices Index (FEPI) is a measure of the change in the prices paid by UK consumers, business and Government for final purchases of goods and services. Intermediate purchases by business are excluded. The FEPI is made up of three components:
 - The Index of Consumer Prices (ICP)
 - The Index of Investment Prices (IIP)
 - The Index of Government Prices (IGP).
3. The ICP measures inflation affecting all consumers in the UK. The price indicators used in the ICP are taken mainly from the Retail Prices Index (RPI).
4. The IIP is a measure of the change in the prices paid for capital goods by business and by Government. It also covers new construction projects and dwellings built for consumers, business and government. The price indicators used are mainly Producer Price Indices (PPIs), Construction Output Price Indices and an average house price indicator.
5. The IGP measures inflation affecting Government. It covers expenditure by Central and Local Government on pay and on procurement. The price indicators used are mainly Average Earnings Indices (to reflect labour costs), PPIs and RPIs (to reflect the cost of goods consumed by Government).
6. The FEPI and its components may be revised for up to six months after they are first published.
7. Care should be taken when interpreting monthly movements in the IGP. This index is particularly volatile on a month-to-month basis, so a fall one month is often offset by a rise the next and vice-versa. The data are of greatest value if trends rather than individual monthly movements are observed.
8. An article describing the development and composition of the FEPI is included in *Economic Trends*, No 526, September 1997. Longer runs of the FEPI back to January 1992, are available in computer readable form from the ONS Sales Office (telephone 0171 533 5670) or on paper from David Wall.
9. The first estimates of the IIP for August, September and October, were revised downwards one month later. This was due to the Import Adjustment Factor, the first estimate of which is based on the value of trade with the whole world excluding Europe. Subsequent estimates include trade with Europe. The methodology for calculating the first estimate has now been amended in order to minimise such revisions.

1 Final Expenditure Prices Index (Experimental)

	Index of Consumer Prices ICP	Index of Investment Prices IIP	Index of Government Prices IGP	Final Expenditure Prices Index FEPI	Annual percentage changes			
					ICP	IIP	IGP	FEPI
January 1992=100								
Weights								
1995	601	162	237	1000				
1996	604	164	232	1000				
1997	605	165	230	1000				
	CUSE	CUSK	CUSO	CUSP				
1995 Dec	112.5	108.6	111.4	111.4	3.2	5.3	1.7	3.2
1996 Jan	112.3	109.0	111.6	111.3	3.0	5.1	1.5	3.0
Feb	112.9	109.3	111.6	111.7	3.0	4.8	1.9	3.0
Mar	113.4	109.6	112.2	112.3	2.9	4.5	1.9	3.0
Apr	114.1	110.3	112.0	112.7	3.0	4.1	1.8	2.8
May	114.4	110.1	112.3	113.0	2.7	3.7	2.3	2.8
Jun	114.6	110.1	112.8	113.2	2.8	3.0	2.5	2.8
Jul	113.9	110.1	112.3	112.7	2.7	2.6	1.9	2.5
Aug	114.5	110.6	112.6	113.2	2.7	2.6	2.1	2.5
Sep	115.2	110.4	112.3	113.5	2.8	2.1	1.8	2.4
Oct	115.2	110.6	112.7	113.6	3.0	2.4	1.9	2.6
Nov	115.3	109.7	113.1	113.6	3.0	1.2	2.0	2.5
Dec	115.6	110.1	113.3	113.9	2.8	1.4	1.7	2.2
1997 Jan	115.3	110.4	113.7	113.9	2.7	1.3	1.9	2.3
Feb	115.7	110.6	113.8	114.2	2.5	1.2	2.0	2.2
Mar	116.0	110.6	113.9	114.4	2.3	0.9	1.5	1.9
Apr	116.6	110.7	114.1	114.8	2.2	0.4	1.9	1.9
May	117.0	110.8	114.6	115.1	2.3	0.6	2.0	1.9
Jun	117.2	110.8	114.6	115.3	2.3	0.6	1.6	1.9
Jul	116.7	111.1	114.4	115.0	2.5	0.9	1.9	2.0
Aug	117.5	111.3	115.2	115.7	2.6	0.6	2.3	2.2
Sep	117.9	111.5	114.9	115.9	2.3	1.0	2.3	2.1
Oct	118.0	111.3	115.1	115.9	2.4	0.6	2.1	2.0
Nov	117.9	111.2	115.6	116.0	2.3	1.4	2.2	2.1
Dec	118.1	111.3	115.5	116.1	2.2	1.1	1.9	1.9

2 FEPI - Index of Consumer Prices (Experimental)

	Food	Alcoholic Drink	Tobacco	Clothing and Footwear	Housing	Fuel and Power	Household Goods and Services	Transport and Communication	Recreation, Entertainment and Education	Other Goods and Services	Index of Consumer Prices ICP
January 1992=100											
Weights											
1995	132	69	31	66	84	42	73	185	111	207	1000
1996	128	70	30	67	85	40	72	190	113	205	1000
1997	126	68	30	67	90	39	71	189	119	201	1000
	CURU	CURV	CURW	CURX	CURY	CURZ	CUSA	CUSB	CUSC	CUSD	CUSE
1995 Dec	108.4	114.2	134.2	106.4	118.1	105.5	110.4	111.8	108.3	116.6	112.5
1996 Jan	109.0	115.2	136.8	100.3	118.5	105.6	107.1	112.8	108.2	116.7	112.3
Feb	110.1	116.0	137.4	101.3	118.6	105.6	108.8	113.0	108.6	117.3	112.9
Mar	111.1	116.3	137.5	102.7	118.7	105.7	110.3	113.2	108.8	117.7	113.4
Apr	111.2	116.8	138.7	104.2	120.8	105.7	109.7	113.9	109.3	118.4	114.1
May	112.1	117.2	139.6	104.4	121.0	105.6	110.5	114.3	109.3	118.7	114.4
Jun	112.1	117.8	139.8	104.3	121.3	105.8	110.6	114.4	109.3	118.9	114.6
Jul	110.7	118.4	139.6	99.2	121.9	105.9	108.8	114.3	108.9	118.9	113.9
Aug	111.8	118.3	139.8	100.5	122.0	105.7	110.1	115.1	109.2	119.4	114.5
Sep	110.8	118.5	140.1	105.4	122.1	105.8	110.8	116.3	109.6	119.9	115.2
Oct	110.1	118.8	140.2	105.5	122.2	105.6	110.4	116.4	109.8	120.3	115.2
Nov	109.7	118.6	140.0	106.6	122.4	105.0	111.4	116.0	110.1	120.4	115.3
Dec	109.7	118.0	142.8	106.6	122.5	104.8	112.3	116.7	110.1	120.7	115.6
1997 Jan	110.6	118.6	145.6	100.5	123.4	104.2	108.8	117.5	109.9	120.7	115.3
Feb	110.3	119.3	146.2	102.0	123.6	104.3	109.7	118.1	110.1	121.2	115.7
Mar	109.8	119.2	146.6	104.0	123.9	104.4	111.7	118.0	109.9	121.6	116.0
Apr	110.2	119.7	148.3	105.5	125.8	104.2	111.1	118.0	110.3	122.4	116.6
May	110.9	120.4	148.9	106.0	126.0	103.7	111.6	118.1	110.5	123.0	117.0
Jun	111.8	120.6	149.2	105.4	126.2	103.3	111.4	118.5	110.5	123.3	117.2
Jul	111.3	121.1	149.3	100.3	126.2	102.8	109.6	119.4	110.3	123.4	116.7
Aug	112.6	121.3	151.2	102.3	126.4	102.8	110.8	120.0	110.2	124.0	117.5
Sep	112.2	121.4	151.5	106.3	126.6	100.0	111.6	120.4	110.7	124.4	117.9
Oct	112.2	121.7	151.7	106.0	126.8	100.0	111.4	120.3	110.8	124.8	118.0
Nov	111.6	121.1	151.8	107.2	126.9	99.6	112.3	120.0	110.7	124.8	117.9
Dec	111.7	120.6	155.1	106.7	127.0	99.1	113.2	120.0	110.7	125.2	118.1
Annual Percentage Changes											
	Food	Alcoholic Drink	Tobacco	Clothing and Footwear	Housing	Fuel and Power	Household Goods and Services	Transport and Communication	Recreation Entertainment and Education	Other Goods and Services	Index of Consumer Prices ICP
1995 Dec	4.5	3.4	7.9	0.3	3.4	0.7	3.7	2.3	2.2	4.1	3.2
1996 Jan	4.1	2.8	7.0	-0.7	3.8	0.5	2.8	2.6	2.0	4.1	3.0
Feb	4.6	2.7	6.5	-1.0	3.7	0.4	2.9	2.4	2.2	4.3	3.0
Mar	4.9	2.6	6.5	-1.0	3.6	0.4	3.2	2.0	2.3	4.1	2.9
Apr	5.0	2.9	6.4	-1.0	2.7	0.2	2.7	2.2	2.4	4.0	3.0
May	4.2	2.7	6.6	-1.0	2.8	0.4	2.4	2.3	2.2	3.7	2.7
Jun	4.7	2.8	6.6	-0.9	2.9	0.6	2.7	2.0	2.1	3.8	2.8
Jul	3.9	2.9	6.5	-1.1	3.7	0.6	2.4	2.2	1.8	3.6	2.7
Aug	3.2	2.8	6.6	-1.3	3.4	0.4	2.4	3.0	1.9	3.6	2.7
Sep	2.1	2.7	6.9	-0.5	3.4	0.3	1.8	4.2	1.6	3.5	2.8
Oct	2.6	2.4	7.0	-0.2	3.6	0.2	1.9	5.0	1.8	3.8	3.0
Nov	2.0	2.9	6.9	0.3	3.6	-0.4	1.9	5.2	2.0	3.7	3.0
Dec	1.2	3.3	6.4	0.2	3.7	-0.7	1.7	4.4	1.7	3.5	2.8
1997 Jan	1.5	3.0	6.4	0.2	4.1	-1.3	1.6	4.2	1.6	3.4	2.7
Feb	0.2	2.8	6.4	0.7	4.2	-1.2	0.8	4.5	1.4	3.3	2.5
Mar	-1.2	2.5	6.6	1.3	4.4	-1.2	1.3	4.2	1.0	3.3	2.3
Apr	-0.9	2.5	6.9	1.2	4.1	-1.4	1.3	3.6	0.9	3.4	2.2
May	-1.1	2.7	6.7	1.5	4.1	-1.8	1.0	3.3	1.1	3.6	2.3
Jun	-0.3	2.4	6.7	1.1	4.0	-2.4	0.7	3.6	1.1	3.7	2.3
Jul	0.5	2.3	6.9	1.1	3.5	-2.9	0.7	4.5	1.3	3.8	2.5
Aug	0.7	2.5	8.2	1.8	3.6	-2.7	0.6	4.3	0.9	3.9	2.6
Sep	1.3	2.4	8.1	0.9	3.7	-5.5	0.7	3.5	1.0	3.8	2.3
Oct	1.9	2.4	8.2	0.5	3.8	-5.3	0.9	3.4	0.9	3.7	2.4
Nov	1.7	2.1	8.4	0.6	3.7	-5.1	0.8	3.4	0.5	3.7	2.3
Dec	1.8	2.2	8.6	0.1	3.7	-5.4	0.8	2.8	0.5	3.7	2.2

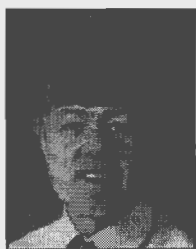
3 FEPI - Index of Investment Prices (Experimental)

	New Buildings and Works	Plant and Machinery	Vehicles, etc	Transfer Costs of Land and Buildings	New Dwellings	Index of Investment Prices IIP
January 1992=100						
Weights						
1995	276	376	106	37	206	1000
1996	266	378	108	38	209	1000
1997	267	390	103	33	207	1000
<hr/>						
	CUSF	CUSG	CUSH	CUSI	CUSJ	CUSK
1995 Dec	103.2	116.2	117.8	128.6	97.4	108.6
1996 Jan	103.7	116.7	118.5	127.1	97.5	109.0
Feb	104.2	116.3	118.7	129.8	98.2	109.3
Mar	104.8	116.0	118.8	130.5	99.3	109.6
Apr	105.2	116.7	119.2	135.7	100.1	110.3
May	105.7	115.4	119.1	135.8	100.5	110.1
Jun	106.1	114.7	118.9	135.5	101.1	110.1
Jul	106.5	113.5	119.0	138.1	102.0	110.1
Aug	106.9	114.0	119.6	139.2	102.7	110.6
Sep	107.3	113.1	119.7	139.3	102.7	110.4
Oct	107.7	113.0	119.2	140.9	102.8	110.6
Nov	108.1	110.6	117.6	140.9	103.0	109.7
Dec	108.5	111.0	117.5	141.0	103.8	110.1
1997 Jan	108.8	111.1	118.2	139.3	104.3	110.4
Feb	109.1	111.2	118.7	141.8	104.4	110.6
Mar	109.4	110.1	118.9	142.2	105.6	110.6
Apr	109.5	109.8	118.5	142.8	106.9	110.7
May	109.4	109.4	118.5	144.8	107.6	110.8
Jun	109.4	108.8	118.3	144.9	108.6	110.8
Jul	110.2	108.0	118.1	150.8	109.8	111.1
Aug	110.9	107.5	118.6	151.9	110.5	111.3
Sep	111.7	107.2	118.6	153.4	110.6	111.5
Oct	112.1	106.7	118.5	153.1	110.4	111.3
Nov	112.5	106.0	118.2	154.1	110.9	111.2
Dec	112.9	105.8	118.9	153.1	110.8	111.3
<hr/>						
Annual Percentage Changes						
	New Buildings and Works	Plant and Machinery	Vehicles, etc	Transfer Costs of Land and Buildings	New Dwellings	Index of Investment Prices IIP
1995 Dec	12.8	3.4	4.8	1.7	-0.1	5.3
1996 Jan	12.2	2.6	4.3	1.6	0.7	5.1
Feb	11.8	1.5	4.0	3.7	1.9	4.8
Mar	11.4	1.0	4.2	4.9	1.7	4.5
Apr	10.3	0.9	3.8	5.5	1.5	4.1
May	9.5	0.0	3.3	6.3	2.3	3.7
Jun	8.6	-1.2	2.9	5.1	2.8	3.0
Jul	7.9	-2.2	2.8	6.3	3.6	2.6
Aug	7.1	-2.0	2.2	7.1	4.4	2.6
Sep	6.4	-2.9	2.2	6.9	4.7	2.1
Oct	6.0	-2.3	1.8	8.6	5.0	2.4
Nov	5.6	-4.8	0.3	8.4	5.5	1.2
Dec	5.1	-4.5	-0.3	9.6	6.6	1.4
1997 Jan	4.9	-4.8	-0.3	9.6	7.0	1.3
Feb	4.7	-4.4	0.0	9.2	6.3	1.2
Mar	4.4	-5.1	0.1	9.0	6.3	0.9
Apr	4.1	-5.9	-0.6	5.2	6.8	0.4
May	3.5	-5.2	-0.5	6.6	7.1	0.6
Jun	3.1	-5.1	-0.5	6.9	7.4	0.6
Jul	3.5	-4.8	-0.8	9.2	7.6	0.9
Aug	3.7	-5.7	-0.8	9.1	7.6	0.6
Sep	4.1	-5.2	-0.9	10.1	7.7	1.0
Oct	4.1	-5.6	-0.6	8.7	7.4	0.6
Nov	4.1	-4.2	0.5	9.4	7.7	1.4
Dec	4.1	-4.7	1.2	8.6	6.7	1.1

4 FEPI - Index of Government Prices (Experimental)

	Local Government Total	Central Government Total	Education Grants	Index of Government Prices IGP	Annual percentage changes			
					Local Government Total	Central Government Total	Education Grants	Index of Government Prices IGP
January 1992=100								
Weights								
1995	347	588	65	1000				
1996	344	597	59	1000				
1997	347	589	64	1000				
	CUSL	CUSM	CUSN	CUSO				
1995 Dec	112.7	110.5	112.7	111.4	0.5	2.5	3.0	1.7
1996 Jan	112.7	110.8	113.4	111.6	1.7	1.4	3.0	1.5
Feb	112.8	110.8	113.3	111.6	1.8	2.0	2.9	1.9
Mar	113.0	111.6	113.3	112.2	1.2	2.3	2.9	1.9
Apr	112.8	111.4	113.3	112.0	1.7	1.8	2.9	1.8
May	114.3	111.0	114.3	112.3	2.5	2.2	3.1	2.3
Jun	114.8	111.5	114.3	112.8	2.7	2.4	3.1	2.5
Jul	114.3	110.9	114.5	112.3	2.0	1.9	1.7	1.9
Aug	114.1	111.5	114.6	112.6	1.8	2.3	1.8	2.1
Sep	114.1	110.9	114.6	112.3	2.1	1.6	1.8	1.8
Oct	114.5	111.5	114.6	112.7	2.1	1.7	1.8	1.9
Nov	115.2	111.6	114.8	113.1	2.4	1.7	2.0	2.0
Dec	114.9	112.3	114.9	113.3	2.0	1.6	2.0	1.7
1997 Jan	115.4	112.6	115.5	113.7	2.4	1.6	1.9	1.9
Feb	115.5	112.7	115.5	113.8	2.4	1.7	1.9	2.0
Mar	116.0	112.6	115.5	113.9	2.7	0.9	1.9	1.5
Apr	115.7	112.9	115.5	114.1	2.6	1.3	1.9	1.9
May	116.5	113.2	116.5	114.6	1.9	2.0	1.9	2.0
Jun	117.0	112.9	116.5	114.6	1.9	1.3	1.9	1.6
Jul	116.5	112.7	118.5	114.4	1.9	1.6	3.5	1.9
Aug	118.8	112.7	118.5	115.2	4.1	1.1	3.4	2.3
Sep	117.2	113.2	118.6	114.9	2.7	2.1	3.5	2.3
Oct	117.5	113.4	118.6	115.1	2.6	1.7	3.5	2.1
Nov	118.4	113.6	118.6	115.6	2.8	1.8	3.3	2.2
Dec	117.8	113.9	118.7	115.5	2.5	1.4	3.3	1.9

Improvements to business inquiries through the introduction of the new Inter-Departmental Business Register



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The introduction of the new Inter-Departmental Business Register, (IDBR), brings important improvements in quality to economic statistics. This new comprehensive database will improve the coverage of business inquiries and bring greater consistency to the estimates. This article explains the creation of the IDBR and the benefits it brings from combining previous registers. It further explains the way in which the change has been implemented and discusses the impact on business surveys.

Description of the IDBR

The IDBR combines the previous Central Statistical Office (CSO) business register and the separate sampling frame used by the former Employment Department for the census of employment. It is essentially a list of names and addresses of businesses operating in the UK. The IDBR is used to select samples for statistical inquiries, to provide information to estimate population totals and to supply rapid analyses of businesses.

The coverage of the CSO register had been determined mainly by the VAT trader registration system that provided the main data source for new businesses. VAT covers 1.7 million traders above a certain turnover threshold (currently £49,000 and increasing annually broadly in line with inflation), except for certain areas such as health and education which are exempt from registration. The transfer of data to ONS on individual undertakings is permitted under the VAT Act 1994. The limited range of items passed include the name and address of the business, its industrial classification and turnover and its date of registration.

The Employment Department's sampling frame, the PAYE ("Pay as you earn" tax) employer system had identified new businesses for the census of employment. It covers around 1.1 million employers in the UK. The transfer of data on individual PAYE collection points is permitted under the Finance Act 1969. Data items covered include name and business address, scheme type, numbers covered by the scheme, two digit classification code and previous reference where a scheme has changed. Coverage of

employers with employees is good except where all employees earn less than the income tax threshold and thus do not need to be registered in the PAYE scheme. In addition those businesses that operate without employees were generally excluded.

The creation of the IDBR by combining these two sources has increased the coverage of business surveys. The impact on employee surveys is to increase the estimates through the inclusion of some lower paid workers. The turnover inquiries, similarly, have higher coverage through the inclusion of some VAT exempt businesses and some smaller traders below the VAT threshold that had employees. The impact on the service trades inquiries is higher than elsewhere because it is where VAT exemption predominates and where there are relatively large numbers of very small businesses. Overall the IDBR covers more than 98% of UK economic activity, excluding private households and extra-territorial bodies.

The industrial classification of businesses is determined from details of the products they sell (for the larger production and retail businesses) and from descriptions of activity (for smaller businesses and in other industries). The classification of a business could change at the time the registers were merged because it was classified differently on the two previous systems. Before the introduction of the IDBR, comparable estimates of UK employment within manufacturing industries from the Annual Census of Production (ACOP) had been as much as 10% lower than those based on the Census of Employment mostly due to differences in classification of the same business units. The IDBR was introduced as the sampling frame at the same time as the move to the 1992 revision to the Standard Industrial Classification (SIC). Initially for the production industries all units were reclassified from the previous (1980) version of the SIC using the relationship between SIC(80) and SIC(92) in the product detail in PRODCOM. For other industries the relationship was determined by comparing the classifications. Further information can be found in the Indexes to the SIC of Economic Activities (1992), published by the CSO in 1993. However, as part of the introduction of the IDBR, each

business was checked through the 1993 Census of Employment and coded directly to the SIC(1992). Some business units changed classification through this checking process.

Development of the IDBR

The creation of the IDBR was a lengthy and challenging process, involving extensive computer and clerical inputs from the former CSO and ED. The development, which commenced with a pilot system in 1992, was undertaken over a three year period, involving extensive matching and quality checking work.

The 1993 Census of Employment was undertaken during this period. It was a full census involving contact with all employers. It was used in the construction of the IDBR by making use of the VAT numbers on the census forms, taking on further new units identified and details of classification. Although results were planned to be available during 1994, there was a delay which meant that the first classification information was not available to the IDBR until December 1994 with the last information being passed by June 1995.

The business inquiries were moved in stages onto the IDBR once the quality of the new register was seen as appropriate. The following timetable was adopted:

Stocks inquiries	Q3	1994
Capital Expenditure Inquiries	Q3	1994
Annual Production and Construction Inquiries	1994 (selected Oct 1994)	
Monthly Production Inquiries (for IOP)	October 1994	
Short Period Distribution and Service Inquiries	Q1	1995
Annual Distribution and Service Inquiries	1995	

Data users require consistent series over time without any discontinuities. Whenever the conduct of an inquiry was moved to the IDBR, there was a potential break in the series due to the new coverage of the register. The discontinuities were due to the inclusion of extra units and differences of classification.

The impact of these effects was removed in many cases by parallel running of the inquiries to evaluate links by comparing results calculated on the old and new registers. A second discontinuity was detected when the 1993 Census of Employment updated the IDBR which necessitated further parallel running and the application of a second set of link factors.

Until recently these factors have been applied to publish results at the levels of the previous CSO VAT register. However, from the 1998 Blue Book the survey results will be published at the new IDBR levels. The 1996 annual inquiries, released in December 1997, which form the basis of the input-output tables underpinning the Blue Book, were published on this new basis. This timetable has been chosen for the following reasons:

- a. The National Accounts will be rebased on 1995 = 100 and published on an ESA basis for the first time from the 1998 Blue Book. The move to IDBR levels would be appropriate at the same time.
- b. All business survey inquiries have now moved to the IDBR.
- c. The quality of the IDBR has improved following the taking on of the 1993 Census of Employment. Additionally further work has been undertaken to examine data from the two sources. This exercise has now been completed and the reconciliation has been effected. The benefits of conducting the new Annual Employment Survey and the experience of running the business surveys on the new register are also established.

Annual Production and Construction Inquiries

The 1993 Annual Census of Production (ACOP) was selected from the VAT register using SIC(92). The 1994 ACOP selection was from the IDBR which meant that coverage was extended to the additional businesses derived from employment sources. Because the basis of the National Accounts had yet to move to this full coverage, the results of the inquiry were published on the same basis as those for 1993. To do this it was necessary to estimate the discontinuity in the results by moving to the IDBR with its greater coverage. Factors for each 4-digit industry were obtained from analysis of parallel runs by the Monthly Production Inquiry (MPI) which allowed conversion back to 1993 levels.

For the 1995 inquiry, selection remained on the same basis but the register incorporated the results from the 1993 Census of Employment. This second discontinuity was again removed by using factors obtained from MPI.

The Annual Census of Construction also moved to the IDBR in 1994. The conversion to SIC(92) had less effect on construction since the industrial classification was broadly similar to SIC(80). Investigations showed it was unnecessary to produce link factors

between 1993 and 1994 results. However, the 1995 Register did show a discontinuity with the previous year's construction population so link factors were applied so that results could be produced on the same levels as 1993.

The use of these factors in production and construction had allowed all results for use in the National Accounts and in publications to be produced as a consistent series at 1993 levels of the register. These levels were in effect for the 1997 Blue Book. However, the 1998 Blue Book figures will be at the new IDBR levels. It had originally been intended to apply the inverse of the factors to years previous to 1995 to produce consistent back series.

However, inspection of the population values on the IDBR between 1993 and 1997 showed erratic movements. It was thought that this reflected the effect of the various changes and the timings of updates and the settling down of the new procedures rather than real volatility in the populations. It was therefore decided to fit a regression line to give a smoothed population trend over the years 1994 to 1996. This was carried out separately for the number of enterprises and for the employment within production and construction after removing enterprises with 200 or more employment. These largest firms were excluded from the regression but added back to the predicted populations to give the total populations because it was thought that these firms would be correct on the register and they tended to be in the completely enumerated strata and would not affect the grossing. Divisions 11 and 12 were excluded as they were not covered by the annual inquiry.

The results for 1994 and 1995 were then regressed to these new population values using the normal programs. No other changes in the data were taken on. The detailed purchases results were also regressed to the new grossed total purchases values. It was also necessary to redistribute the population differences amongst the 11 standard statistical regions within each industry so that regional analyses were consistent with the main analyses. This was done in relation to regional size in a similar way to the allocation to strata. However, there is a major drawback to this method of adjusting the population. Since special analyses involving small area analyses are carried out using register employment of local units and returns split out to local unit pro rata to their employment, it was not possible to reallocate the revised populations at this level. Thus any special analysis will not be totally consistent with the main results.

The difference between the 1994 published results which were on VAT register levels and the new results gives the IDBR effect.

This will therefore provide the factor which will allow back years to be calculated on a consistent basis with 1994 and 1995.

Quarterly capital expenditure and stocks inquiries

The quarterly inquiries were selected from the IDBR for the first time during 1994 but continued to be on an SIC(80) basis until the first quarter of 1995. An investigation of the stocks results showed that there was little discontinuity since changes were being measured. It was therefore not necessary to build any links into the stocks series. However, capital expenditure was subject to the register and classification discontinuities. Factors which were very similar to the MPI factors, were obtained from a parallel run and were used to adjust 1994 production capital expenditure figures to a consistent VAT Register level for National Accounts and publications. The MPI factors were used for 1995.

From the 1998 Blue Book, results will be produced on the new IDBR levels. For production and construction capital expenditure, the smoothed Register populations described above were used by redoing the normal benchmarking exercise to the revised grossed annual results. In general, the annual production and construction estimates were used though judgement is used where annual results are not thought to be reliable. This was carried out for 1995 and 1994. As for the annual inquiries these new results on an IDBR basis were compared with the previous VAT based results to calculate factors on the 1994 aggregates. These factors were then used to generate consistent back series.

For distribution and services, a benchmarking exercise was carried out against the new register levels for capital expenditure for 1995. Judgement was employed, as always, on the final figures to be used but the annual distribution and services values were used to a greater extent than they had been previously and were employed in the majority of industries. A consistent back series was created by deriving earlier levels using the new link factors and the existing percentage growth rates between 1995 and earlier years, apart from a few cases where it was thought that the growth rate shown in Blue Book 1997 should be re-examined and reworked. It was not possible to rebenchmark 1994 as in production because of the differences in SIC as well as register differences.

Index of Production (IOP)

The IOP was moved to the IDBR in October 1994. At that time each industry was re-run on both the new and old register basis. The overall link to the IOP calculated in that process was around 1.9%.

In January 1995 the annual register update took on board information provided by the full Census of Employment for 1993. This resulted in further discontinuity both at individual industry level and in aggregates. The results were run twice for December 1994 using both the new and old register counts. Links were calculated for each industry; the overall discontinuity came to around 3%.

When IoP results are run month by month there have been a number of occasions where further discontinuities have been noticed for individual industries. When such a problem occurs on the Register a link has been built in to remove the impact of the discontinuity where there is not a good data reason for the change. These occurrences have been widespread over the period since 1994 and could not easily be tracked back over the two different computer systems used during this period. It is likely that many of the register changes due to further discontinuities will have been removed by this process. Links were also introduced when the MPI computer system was redesigned to allow for changes in methodology, particularly the treatment of outliers in grossing up the results.

The work on ACOP has used different methodology to that previously employed by considering the register counts across a substantial period by putting in a regression line from 96 back to 94. This gives a consistent picture over time but has changed some of the original links quite substantially.

However, it would be very difficult to reproduce this work for the IOP due to its long back run of monthly estimates and technical changes. The further adjustments which have taken place where discontinuities have been observed for individual industries will have removed many of the erratic components which have been smoothed out in the new counts used for ACOP grossing.

An investigation has been carried out to check the movements between 1994 and 1995 on the reworked IOP and the annual inquiries. Estimates of value added on the latter were deflated using the price indices employed in the calculation of the IOP. The results showed encouraging agreement for the manufacturing industry aggregate between the production index and the deflated value added from ACOP. It is not, therefore, considered necessary to rework the IOP links. A similar exercise will be undertaken on the growth rates between 1995 and 1996.

Distribution and Service Inquiries

Both the short term and annual inquiries directed at businesses in this sector moved to the IDBR with effect from the 1994 inquiries

but the lack of what was perceived to be adequate classification data for these businesses on the IDBR for SIC (92) led to a postponement of selection on that basis until 1995. The effect of this was that for 1994 only those businesses which had a VTC were included in the inquiry, which meant that those businesses not covered by VAT were excluded.

Short term inquiries

The introduction of short term inquiries into services began in 1991 and data were collected on a VTC basis until the move to SIC (92) in 1995. The co-incident inclusion, for the first time, of businesses not registered for VAT introduced a further discontinuity into the data series. The changes necessitated not only a reworking of the old data series onto an SIC(92) basis, but the calculation of an estimate of the discontinuity introduced by the inclusion of additional businesses. A reworking of the data should have been made possible from an analysis of the data collected during the first quarter of 1995 but it was discovered that the new industrial classification of many of the businesses selected was not accurate. Some work was necessary to correct this with the result that it was not until the results from the third quarter inquiry were available that a reasonable assessment of the changes introduced by the new classification could be made.

This was achieved mainly from the production of an analysis of data held on the IDBR. Updated classification data was fed through from the quarterly inquiries and a matrix was produced which showed for each SIC(92) services classification, the turnover derived from each services VTC.

An additional line in the matrix showed the turnover of those enterprises for which such a VTC was not recorded. These enterprises comprised mainly those which were not covered by VAT registrations but also included newly registered enterprises (births) and enterprises formerly classified to production using the previous methodology.

The use of this matrix made it possible to convert the data collected on a VTC basis for the last quarter of 1994 to an SIC(92) and using the movement in VAT registration data by VTC between the last quarter of 1994 and the first quarter of 1995 it was possible to project forward the collected data for the fourth quarter of 1994 to provide estimates of what might have been collected on a VTC basis in the first quarter of 1995. From this data reworked to an SIC(92) basis it was possible to produce estimates of the differences in level between the old and new estimates of levels for service sector data.

By converting VTC data to an SIC(92) basis and using the observed differences in levels between the old and new series it has been possible to produce estimates back to 1992 on an SIC(92) basis.

Annual inquiries

Even though selection for these annual inquiries on the basis of SIC (92) was delayed until the 1995 inquiry, the impact of this new classification for the compilation of results had been recognised some years earlier. From the 1992 annual inquiries it was decided to include a list of SIC (92) activities on the inquiry forms and to ask responding enterprises to tick the activity most appropriate to their business. As a further check on the quality of the information provided, each enterprise was asked to provide a brief description of its activity.

This had two purposes. First it provided information which could be used for the classification of the larger enterprises and a sample of smaller ones on the IDBR. Second it enabled inquiry estimates to be produced on the basis of the new classification for the purposes of compiling the input-output tables and to serve as possible back data of SIC (92) for publication at a later date. However, since this estimation process was designed to produce results from businesses sampled on a VTC basis, the quality of the data on an SIC (92) basis was not as high as would be wished.

The procedures for providing links between the old and new classifications and registers did not use this information. Instead the work relied on analyses of register data for both 1994 and 1995.

Revisions

The improvements in coverage and classification from the use of the IDBR in economic measurement have resulted in revisions to 1995 and earlier years to the data for the production and construction sectors. For the service industries this is the first release of annual data published on a SIC(92) basis. The changes in coverage and classification compared to previous publications have the following impact on estimates of grossed value added:

Production	+1.6%
Construction	+2.9%
Distribution	-0.5%
Services	+22.6%

In the distribution and services industries the main driving force behind these figures is reclassification. If the impact of this were to be moved corresponding changes of coverage for the sectors would be:

Distribution	+0.8%
Services	+3.8%

Within the distribution industries reclassification has led to lower figures for motor and wholesale trades but reclassification into the retail sector. In the services sector there have been substantial gains due to reclassification into many industries, particularly transport storage and communication and renting and business activities.

The annual business survey estimates will first be published in the National Accounts in the 1998 Blue Book and in the quarterly National Accounts First Release in September 1998. It is difficult to anticipate how this information which underpins the input-output balancing process will affect the level or the growth rates of GDP. GDP is settled annually by the detailed process of balancing output, expenditure and income data across industries and products. The data which underlines the output approach, and to some extent that for the expenditure approach also, have been revised as a result of the move to the new register. Income data however is mostly based on information from tax sources from the Inland Revenue and is unaffected. As a result the undercoverage of the Register will to some extent have already been allowed for in earlier years through this detailed annual balancing process. A view will not be possible on any extent of undercoverage until the 1998 balancing process is complete. These revisions will not, however, change in the headline rates of growth for the latest periods.

Results of the 1996 Surveys

The results of the surveys are shown in table 1. The turnover increased from 1995 to 1996 for all four sectors covered, but to very different extents. The increases ranged from 1.9 per cent for construction industries to 9.7 per cent for service industries.

Estimates of turnover (£bn)

	1995	1996	% change
Production industries	487.5	512.2	5.1
Construction industries	80.6	82.1	1.9
Distribution industries	589.0	614.6	4.3
Services industries	285.8	313.5	9.7

Gross value added (what a business gets for its goods and services less what it pays for them) showed an even greater range. While the production and distribution industries had similar increases in turnover, distribution had more than three times the increase on value added.

Estimates of gross value added (£bn)

	1995	1996	% change
Production industries	167.9	175.4	4.5
Construction industries	24.2	26.7	10.3
Distribution industries	73.2	84.3	15.2
Services industries	128.2	149.5	16.6

Production Industries

The mining and quarrying sector increased turnover by 14.9 per cent between 1995 and 1996. Gross value added, however, increased more strongly by 24.8 per cent for this sector.

Manufacturing turnover increased by 5.2 per cent between 1995 and 1996. The largest rises were in transport equipment (14.6 per cent), refined petroleum products and nuclear fuel (12.0 per cent) and electrical and optical equipment (7.9 per cent). These were partially offset by falls in wood and wood products (3.0 per cent) and other non-metallic mineral products (2.4 per cent).

Gross value added in the manufacturing sector increased by 2.5 per cent between 1995 and 1996. The most significant rises were in the food products, beverages and tobacco (9.5 per cent) and transport equipment (8.6 per cent). Conversely, the main falls were in refined petroleum products and nuclear fuel (12.5 per cent) and metals and metal products (5.7 per cent).

Gross value added for the electricity, gas and water supply industries increased by 2.7 per cent between 1995 and 1996. However, turnover for this sector fell by 1.6 per cent.

Distribution Industries

There were rises in turnover in all industries in this sector between 1995 and 1996. The largest increase was in motor trades of 8.2 per cent. Wholesaling and retailing turnover rose by 3.4 per cent and 4.0 per cent respectively. The largest increase in value added was in the wholesaling sector of 18.8 per cent. There were also increases in motor trades and retailing of 8.9 per cent and 14.1 per cent respectively.

Services Industries

There were increases in turnover in all sectors. The greatest rises were 11.2 per cent in business activities and 11.7 per cent in transport, storage and communication. Gross value added also increased in all sectors with the largest rises in renting and business activities (18.2 per cent), hotels and restaurants (17.8 per cent) and other services (25.2 per cent).

References

1. The Inter-Departmental Business Register. J A Perry. *Economic Trends*, April 1992 (No 462)
2. The Inter-Departmental Business Register. J A Perry. *Economic Trends*, November 1995 (No 505)
3. Transition to the new Standard Industrial Classification SIC(92). *Economic Trends*, February 1993 (No 472)

Details of income and expenditure by industry (sections C-O) for 1995 and 1996

Standard Industrial Classification Revised 1992		Year	Turnover	Purchases	Gross value added
Industry			£ million	£ million	£ million
C - O	Production, construction, distribution and services (part)	1995	1 442 887	1 035 292	393 542
		1996	1 522 359	1 063 652	435 917
C - E	Production industries	1995	487 519	306 738	167 927
		1996	512 150	317 999	175 410
C	Mining and quarrying	1995	23 549	8 654	14 765
		1996	27 052	8 645	18 430
CA	Mining and quarrying of energy producing materials	1995	20 360	6 858	13 355
		1996	23 338	6 540	16 792
CB	Mining and quarrying except energy producing materials	1995	3 189	1 796	1 410
		1996	3 715	2 104	1 638
D	Manufacturing	1995	418 599	268 890	137 087
		1996	440 450	280 752	140 470
DA	Food products; beverages and tobacco	1995	72 372	46 650	17 659
		1996	74 710	47 144	19 344
DB	Textiles and textile products	1995	16 816	10 560	6 453
		1996	17 323	10 594	6 734
DC	Leather and leather products	1995	2 294	1 510	809
		1996	2 340	1 460	885
DD	Wood and wood products	1995	5 759	3 923	1 850
		1996	5 586	3 784	1 786
DE	Pulp, paper and paper products; publishing and printing	1995	38 926	22 896	16 467
		1996	41 202	24 082	16 938
DF	Coke, refined petroleum products and nuclear fuel	1995	22 335	10 403	2 998
		1996	25 008	11 686	2 624
DG	Chemicals, chemical products and man-made fibres	1995	44 325	29 066	15 610
		1996	44 926	29 831	15 334
DH	Rubber and plastic products	1995	17 968	11 490	6 650
		1996	19 163	12 074	7 132
DI	Other non-metallic mineral products	1995	11 762	6 805	5 079
		1996	11 484	6 493	5 122
DJ	Basic metals and fabricated metal products	1995	43 126	27 506	16 137
		1996	43 553	28 369	15 213
DK	Manufacture of other machinery and equipment	1995	33 612	21 805	12 182
		1996	34 769	22 336	12 527
DL	Electrical and optical equipment	1995	49 974	33 808	16 898
		1996	53 900	36 878	16 847
DM	Manufacture of transport equipment	1995	45 905	33 631	13 580
		1996	52 620	37 271	14 754
DN	Other manufacturing equipment	1995	13 426	8 836	4 715
		1996	13 866	8 751	5 229
E	Electricity, gas and water supply	1995	45 371	29 195	16 075
		1996	44 648	28 602	16 511
F	Construction	1995	80 560	57 365	24 153
		1996	82 124	56 069	26 691
G	Wholesale and retail trade, Repair of motor vehicles and household goods	1995	588 970	513 745	73 219
		1996	614 581	524 511	84 292
50	Motor trades	1995	97 122	84 758	13 291
		1996	105 065	91 468	14 479
51	Wholesale trades and Commission trade	1995	327 595	293 014	30 635
		1996	338 671	295 362	36 381
52	Retail trade and Repair of personal and household goods	1995	164 253	135 973	29 293
		1996	170 845	137 681	33 432
H	Hotels and Restaurants	1995	33 771	20 200	13 607
		1996	36 327	20 357	16 027
I	Transport, Storage and Communication	1995	69 176	42 157	27 019
		1996	77 259	48 380	29 618
K (71,72,73,74)	Renting and Business activities	1995	123 161	60 275	62 690
		1996	136 962	63 081	74 089
M	Education (excludes public sector, doctors and dentists)	1995	5 300	3 043	2 257
		1996	5 315	2 829	2 482
N	Health and social work (excludes public sector)	1995	8 115	2 577	5 538
		1996	8 138	2 273	5 867
O (90,92,93)	Other services	1995	46 315	29 192	17 132
		1996	49 503	28 153	21 441

The measurement of real public sector output in the National Accounts



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This article describes the background to a project the ONS is undertaking designed to introduce new measures of output for public sector non-market production. The article surveys the international guidance and explains the approach which the ONS is adopting. It also describes some of the new data sources which may be used to derive new measures.

International guidance

By convention, national accountants value the output of non-market services, such as health, education and defence, as the sum of the inputs. The inputs are the compensation of employees, the cost of goods and services purchased known as procurement, and a charge for consumption of fixed capital known as capital consumption. By extension, the volume of output has traditionally been estimated by estimating the volume of each of these inputs. So, for example, the volume of labour input into production can be estimated by using the number of employees used to produce the output. This approach is subject to criticism because it fails to take account of changes in labour productivity, which may mean that more units of output are derived from the same amount of input.

The 1993 United Nations System of National Accounts (SNA) set out the issue.

16.138 There is no mystique about non-market health or education services which make changes in their volume more difficult to measure than volume changes for other types of output, such as financial or business services or fixed tangible assets. Moreover, changes in their volume are also needed in order to be able to measure volume changes for the actual consumption of households. The same principles apply to the measurement of consumption as to production.

This gives the background to one of the main motivations for the exercise described in this article and the method to be used. It is difficult not to see the statement in the SNA as slightly naive. There may be no mystique about non-market services, but for a problem

which has existed since the very beginning of national accounts, the deflation of public services has proved remarkably resistant to agreed solutions. So why do we now think that we shall be any more successful in tackling problems whose solutions have eluded national accountants for so long?

Kazemier in his 1991 paper described three approaches to measuring the volume of public sector output - imputing a productivity trend, direct output measurement and deflating inputs. The project which is now starting in the ONS will seek to adopt one of the alternatives to input measurement. The preferred approach is to obtain direct measures of public sector output, something which Kazemier describes as having been undertaken by the US but involving enormous compilation costs.

Collective services

Most of this paper will discuss services such as health and education which can be transferred to individuals in the household sector. There are substantial areas, notably public administration and defence, which cannot be so transferred. Here the output and still more the outcome is very hard to define. The SNA 93 says:-

16.139 Measuring changes in the volume of collective services is distinctly more difficult, however, as it is not possible to observe and record the delivery of such services. Many collective services are preventive in nature: protecting households or other institutional units from acts of violence including acts of war, or protecting them from other hazards, such as road accidents, pollution, fire, theft or avoidable diseases. It is difficult to measure the output of preventive services, and this is an area in which further research is needed. In practice, it may not be feasible to avoid using changes in the volumes of inputs into such services as proxies for changes in volumes of outputs, just as it may sometimes be necessary to use changes in inputs as proxies for changes in outputs in certain market industries, such as agriculture or construction.

The ONS takes a view which is marginally more optimistic than the SNA. While the measurement of final outputs is in many cases beyond the capacity of national accountants, the outputs measured by agencies provide some kind of indicator for many administrative services. The actual economic activity used to sustain administration and defence activity is, much of it, very similar to equivalent activity in the private sector. Where the final outputs present too great a challenge for measurement, it is possible to measure large separate parts of the activity leaving only a residual which may have to be measured by inputs. The output of military catering can be measured in the same way as commercial catering even if the eaters are engaging in intermediate consumption defending their country rather than enjoying themselves in final consumption.

Other government services

As the quotation at the head of the article implies, there is an additional motivation for trying to solve the age old problem of measuring the output of public services, the need to deflate the transfers of non-market services purchased by public authorities and non-profit institutions serving households (NPISHs). In previous versions of the SNA we have been content to treat the Government sector as the final consumer of the expenditure involved in providing public services. With the introduction of the concept of the actual consumption of households, this is no longer sufficient.

When the new SNA is introduced it will be feasible to maintain existing deflation practices for the transfers of non-market services to households. To do so will, however, undermine one of the objectives of creating the tables showing the redistribution of income in kind. The weakness of earlier systems arose from the substitutability of public and private services in many areas. There is increasingly a mixed economy in services like health and education where both public and private sector are involved to some extent. As a result, the extent to which households spend out of their cash income is likely to be influenced by the scale and quality of public services. An improvement in the quality of public health services might lead to a reduction of spending on private health insurance or on pharmaceuticals. In some cases like social protection there has always been a mixed economy.

Concepts like real personal disposable income will need eventually to take account of transfers of public services. When that happens, then deflating using input prices will be hard to combine with goods bought privately in the market. For those who look to the national accounts for broader measures of welfare, it is clear that the conventionalised measures of deflated public sector output offer

little help. In effect, the output of the public sector is not significantly distinguished from its inputs. While GDP is not designed to be, and should not be, used as an indicator of welfare, it is appropriate that the national accounts should be the place where people might look for indicators on which they might base welfare measurement.

UK government developments

Over recent years there have been significant changes to the structure of provision of government services. In particular, market mechanisms have been introduced. In areas like health and public administration, services are produced by publicly owned bodies to a commission from ministries. Most healthcare is now provided by NHS trusts which will be classified as non-financial corporations. There is currently an internal market for health services. Agencies have been created which, although still within government, have separate accounts and considerable autonomy of internal decision making.

These developments have increased interest in an improved method of deflation for public sector purchases. The Government has fostered the development of agencies to undertake the work of the traditional public services. Agencies collect taxes, issue passports, distribute social security benefits and, in the case of the ONS, compile statistics. These bodies are still within the public sector, but are not directly run by ministers in the same way as traditional ministries were. They have a more formal contractual arrangement for their output which involves direct indicators of output and productivity. The ONS, for example, has a set of revisions, publication, response rate and coherence targets. While the techniques for measuring these outputs are still not well developed, much new information is forthcoming. In addition to being an aid to measurement, their introduction was motivated by a desire to improve the efficiency with which public services, mainly administrative in nature, were delivered. It was clear that any success of such a policy would not be observable in the national accounts where public spending was deflated in the traditional way.

The second development is the transfer of considerable amounts of government activity out of the general government sector. The most notable of these has been the establishment of Trust Hospitals within the National Health Service, but as public corporations. The effect is that a large part of what was public sector direct employment is now recorded as procurement from public corporations. We therefore run the risk of discontinuities in the series for deflated public spending as contract prices between health authorities and trust hospitals replace labour cost indicators in deflation.

The prospective development is the planned introduction of resource accounting into the planning and control of public spending. This involves two significant changes. The first is the measurement of public spending on an accruals rather than a cash basis, bringing Treasury practice into line with national accounts conventions. The second is the construction of an Output and Performance Analysis for central government departments. This should become a rich source of data which can be used to inform the measurement of public sector output in constant prices. The relationship between performance indicators and indicators of output is discussed below in a separate section.

SNA developments

The introduction of actual personal consumption reflects a change in approach to public expenditure which lies at the heart of the new optimism that the problem can be effectively tackled. The approach which underlay previous SNAs appeared to place emphasis on the political nature of government. What distinguished public spending from private spending was the control exercised over the decisions. While individuals controlled their household's own spending decisions directly through the use of their available money, control of public spending was exercised through the political process.

Under this approach, the fact that the government produced services that were not in general sold in a market was not accidental. It reflected the fact that such activity was seen as requiring a political decision in order to arrive at the right level and pattern of spending. The absence of a market was an issue not only because it raised practical difficulties in the way of valuation in a system of national accounts in which market valuation provided the basis of most valuations; the valuation was itself a matter of political judgement. Governments of different orientations would place different values on the same expenditure. While some governments would see spending on nursery education, say, as a valuable social support, another government might see it as interfering dangerously in the family or undermining the development of initiatives which might lead to a more effective and longer lasting system of early learning.

The concern that deflating the actual outputs of the public sector would involve political judgements is one that for a long time concerned official statisticians in the UK. It is important not to lose sight of that concern. The difficulty remains a serious one. However, the development of public services has now reduced the degree of political controversy surrounding the role of the state in providing services. It is now more generally accepted that the provision of public services is something which can be justified in terms of

economic efficiency rather than political doctrine. It is more widely accepted that a service delivered by a public body could have been delivered by a private body and vice versa. Emphasis has therefore shifted from the political difficulties of measurement to the practical ones.

Another difficulty which was associated with the deflation of public expenditure was rather more institutional. Traditionally the output of many services in both the public and the private sector had been measured using employment proxies. In the case of the private sectors, these proxies have been progressively replaced by direct indicators of activity. In 1980 some 19 per cent of GDP was measured by employment proxies, six per cent of it in the private sector; now employment proxies for private sector output are used for only 3 per cent of GDP. This gradual evolution was not considered appropriate for the public sector. In the case of the private sector, it was quite clear that direct output measures or current price measures deflated were to be preferred. For the public sector, it was felt necessary to make such a change in a radical step and not by a series of incremental improvements. There appeared to have been a view that standards for the measurement of public sector output or deflation needed to meet a higher statistical standard than equivalent private sector measurement. This may have been because it was felt that government should be better at monitoring its own activity than that of its citizens, from the worry about making political judgements, from what the SNA in our quotation refers to as the "mystique attached to public services" or from some combination of these and other causes. What is clear is that the attitude has changed. It is this change which gives the grounds for renewed hope that progress will be made. Optimism is also generated by the increased resources now being devoted to this project.

The change in attitude can perhaps be described as a view that we shall no longer expect higher standards for the deflation of public spending, or the measurement of public sector output than we do for the private sector. Hitherto, the subject has been approached as if a radical change were needed if any change were to take place and that radical change must be demonstrably superior. This is now replaced by a view that the same general procedure can be used in both the public and private sector. Where the opportunity arises for replacing conventionalised labour proxies with some kind of direct measurement it will be taken; without waiting for those sectors where it proves more difficult, or without requiring some general theoretical uniformity before proceeding at all.

A good example is the output of the Hospital and Community Health Service component of the output of the National Health

Service. Some twenty years ago the Department of Health in the UK developed an index of activity in part of the health service known as the cost weighted activity index. This was, as its name implied, a Laspeyres index of activity in the health service. Until recently, this had not even been examined for use in the national accounts. There are some technical problems with the index, but these are certainly no more serious than many of the problems in measuring the output of many private sector services. It is now expected that this index will be used as an indicator for a significant proportion of health output.

None of this optimism can dispose of the real problems of deflating public spending or finding appropriate measures of output. What it does is lead to a classification of problems into those which are specific to the area of public sector deflation and those which afflict a wider area of the national accounts.

We have already referred to the two main difficulties which are usually seen as specific to the public sector, the fact that the output is not sold in a market and the fact that it is controlled by a political process. In addition, there are more general problems which afflict much private sector as well as public sector output, the problem of quality change and the difference between outputs and outcomes. These two can be monitored to some extent with the use of satellite accounts. These are described in the next two sections.

It should be emphasised that the changes proposed apply only to the deflation of public spending and the equivalent direct measurement of indices of public sector output. It is not proposed that the measurement of expenditure in current prices or the weight of output in the base year be changed. It is assumed that the price government pays for its inputs represents the "value" of those inputs in just the same way as the purchases by any other economic agent represent a valuation. The GDP volume indicator implied by the new method still weights together changes in the scale of activity using these implied valuations. The change proposed will affect the changes over time of these indicators, not the way they are weighted together.

Quality change

The problem of allowing for quality change in the measurement of volumes in the national accounts is of widespread and increasing interest. Recent discussions like the US Boskin report on their Consumer Prices Index have focused on the biases introduced by the failure to adjust for quality change in price indices than having positive suggestions for a generally reliable way of addressing the problem. There are particular problems associated

with quality change in the public sector. Judgements of quality may be partly arbitrary. In addition the search for efficiency in public sector operations may carry with it the danger that incentive systems will place emphasis on the more quantitative aspects of output - the number of transactions completed, say, rather than the satisfaction of the user. At the same time there is a danger that the absence of a market will lead decision makers in the public services to rely on producers' rather than consumers' judgement of what constitutes important aspects of quality.

It is this absence of a market which gives the measurement problems of quality its special character in the public service context. While the SNA makes some general suggestions on addressing quality change in volume measurement, it cannot be said that it makes any firm recommendations. Various suggestions associated with hedonic analysis are canvassed, but none are recommended. Nor does there seem to be any immediate prospect of uniformity of practice being adopted. Nonetheless the principle which underlies nearly all approaches is the National Accounts principle that the market should be used where possible to provide the valuations. Within this general principle, there are two broad approaches - option costing and hedonic regression. The first identifies in advance certain key characteristics which might be expected to be relevant to the quality of the service or activity in question. Various techniques are used including regression of prices on characteristics, questionnaires to manufacturers, etc. to try to establish relative valuations for these characteristics. The quality adjusted price index is then produced by using the prices of examples of the relevant commodity which exhibit the characteristics identified. The aim is a price index for each of the characteristics. The other approach known as hedonic regression is to regress the price index for the commodity on the selected characteristics and on a dummy representing time. The coefficient on the time dummy is then used as the price index. This latter technique appears to be vulnerable to risks like omitted variables and mismeasurement of characteristics. Any errors will automatically feed into the coefficient on time, where the option costing approach affords some protection against that risk.

Whatever the merits of different approaches in the case of market goods, it is clear that only the option costing approach is available for government services. The costing of options can be based on quality valuations drawn from market goods. It might be possible, for example, to use quality adjustment in the provision of business services or private sector advice services to apply to public administration. Similarly the prices of services provided in private sector health and education or private security may help guide the valuation of quality change in the public sector. In doing so, however, it must always be borne in mind that the private sector

markets are small, traditionally confined to certain segments both of the activity and of the population.

The Boskin report identified a particular aspect of quality which will sometimes be relevant to the public sector as well as to household spending. This is the problem of availability. The Boskin report identifies the development of retailing as a source of quality change for consumers. By providing a greater range of goods to choose from, supermarkets give people a wider choice - even if they choose exactly the same bundle of goods. This is clearly a benefit, and one that consumers reveal by their choice of shopping location that they value, but which it is hard to price. The challenge to the underlying economic theory is not the concern of this paper.

The relevance to the public sector comes when we look at changes in the availability and accessibility of public services. Few public sector decisions arouse as much anger as the closure of facilities like hospitals and schools. The administrators of such services will point to such closure and the concentration of facilities onto larger sites as a gain in efficiency. Users of the services perceive the withdrawal of a guarantee of accessibility of service. To some extent such concerns are problems of transition; many people are subsequently persuaded of the merits of the change, but there is also a value to availability which should be reflected in a deflation system.

At present, the ONS does not expect to make explicit quality adjustments to the output series it is developing. The rationale behind this decision is that the new output indicators will lead to a significant improvement in the measurement of these services. Measuring quality, although important, is a second order problem which will be returned to once the basic set of indicators is established. This is likely to include an assessment of the use of satellite accounts in measuring quality.

The use of satellite accounts

Satellite accounts can support the measurement of public sector output in three ways. They can help monitor the total resources from within the production boundary devoted to a particular purpose, not just those subscribed from the public sector. They can help to monitor the resources subscribed also from outside the production boundary to the same purpose. Finally they can help monitor the outcomes rather than outputs of public service.

The ONS approach to satellite accounts distinguishes between internal and external satellites. The former, which have been the most prevalent in most countries, partition flows within the production boundary so as to focus on a particular range of

activities. The latter extend beyond the production boundary and combine measures (often in physical units) of activity not included within the production boundary. Tourism accounts are internal satellites which collect together the activities classified to a range of different industries and badge them as tourist activities. Similarly there is an internal satellite account for the environment which identifies the outputs of certain industries and associates with environmental protection. Such accounts when applied to health, education and personal security can be valuable in monitoring the total scale of resources devoted to an objective which is primarily served by public spending. Thus, if a public body reduces the scale of its inputs, the first question is whether it has done so by passing part of the cost onto the private sector. The most obvious and direct case is charging. An increase in charges for prescriptions dispensed by the NHS would immediately appear in an internal health satellite account as private sector expenditure. A less obvious case might be the introduction of self-assessment for income tax in the UK. There is a reduction in the resources deployed by the Inland Revenue. A tax collecting satellite, if one were to think of constructing one, might display the extent to which that reduction in resources was matched by an equivalent increase in private sector expenditure. This would suggest a measure of quality reduction, even though the overall effect could be an improvement in efficiency. The slight absurdity of the notion of a tax collection satellite illustrates the limits of this approach. Satellite accounts will on the whole, need to be broadly drawn; as a result it will not be feasible to link changes in private sector spending with changes in the quality of public services. The framework may nonetheless be helpful.

It is not only resources from within the production boundary which will be affected by the quality of public services. Many of the activities of the public sector substitute for, or complement, output produced in the household sector. Public provision of nurseries for children under school age can substitute both for paid care and for informal care. While the most important dimensions are purely quantitative, there will be important qualitative aspects such as timeliness and accessibility which will bear on the demand for private sector provision. An external satellite account for the household sector will be an important source of quality monitoring. Another important external satellite will be environmental. The public sector is itself an important source both of pollution and anti-pollution activity. If hospitals economise by diminishing the standards of their waste disposal, it will only be through the use of an environmental satellite that we shall have any clues. Again, this is not different from possible pollution from the private sector and will be hard to distinguish from them except in a few specialised cases.

The major role for the external satellite, however, will be in the area of outcomes. The SNA says:-

16.136 The output of health services needs to be clearly distinguished from the health of the community. Indeed, one reason for trying to measure the output of health services may be to see the effect of an increase in the volume of health services on the health of the community. This obviously requires a measure of the volume of health services that is different from health itself. It is well-known that there are many other factors such as sanitation, housing, nutrition, education, consumption of tobacco, alcohol and drugs, pollution, etc., whose collective impact on the health of the community may be far greater than that of the provision of health services.

16.137 Similarly, the output of education services is quite different from the level of knowledge or skills possessed by members of the community. Education services consist principally of teaching provided by producers of education services — schools, colleges, universities — to the pupils and students who consume such services. The level of knowledge or skills in the community depends in addition on other factors, such as the amount of study or effort made by consumers of education services and their attitudes and motivation. As in the case of other types of output, when compiling indicators of the output of educational services it is important to distinguish as many different kinds of education service as possible as their relative costs, or qualities, may vary considerably. Moreover, the quality of education services provided may vary over time in the same way as other goods and services. The quality of education services is likely to depend on the amount of resources provided per pupil or student: for example, the numbers of teachers or amount of capital equipment in the form of laboratories, libraries, computers, etc.

The distinction between output and outcome, while central to the notion of output measurement, can be hard to make in practice. The objective of external satellite accounts for areas such as health and education will be to monitor the state of education and health - that is the outcome not only of public sector activity, but private sector activity and the more general ambient factors which influence it. They will be no more than accounts; they cannot by themselves identify causal links. The outcome states will be the accounting equivalents of balance sheets, such as the qualification level of the population in the context of education. Current accounts and capital accounts will be associated with the current maintenance of states of health and education, while capital

accounts will account for prospective states of health and education. In the current context, the monitoring of these states and their flows will provide some general hint as to whether public spending was having a greater or lesser influence on their objectives. Such links must inevitably be tenuous, but the accounts may provide some kind of framework in which to make quality judgements. A persistent divergence in trend between output and outcome which was not explained by other inputs would suggest some change in quality.

Satellites may also touch on a further problem which affects the measurement of both public and private sector output. This is the problem of the quality of inputs. Education standards of children may be rising because the educational standards of their parents have risen. If we measure the outcome of education in terms of the level of qualification of the population, then there may be an improvement in standards even though resource input and measured output are unchanged. This will be an apparent improvement in either output or outcome productivity. It would seem sensible to treat this as a productivity improvement. Just as a change in the weather may improve the productivity of agriculture, so an improvement in children's background improves the productivity of education, although this could also be seen as the long term return to parental education. The output gain is attributable to a factor of production not normally included within national accounts. The more successful external satellites are at identifying the ambient factors which influence outcome, the more successful they will be at identifying the particular value added of the public sector. There will always remain, however, a residual which will have to be treated as the return to unidentified factors.

Measuring output and performance indicators

One of the important UK government developments referred to above was the introduction of resource accounting, and its associated use of performance indicators. This will be of great assistance in measuring output but it is important to be clear that there are differences. There is also a danger that the use of some measures as performance indicators may weaken their role as a source of information for output measurement.

Performance measures are designed to provide a monitor for the effectiveness of resource use by Government Departments and other organisations. As such, they need to be precise and simple to compile, not subject to influence by those being monitored in a way that cannot be easily detected by auditors. They do not, however, need to be steady over time. Each year's monitoring indicators can, in principle, be designed afresh to reflect evolving needs or environments.

By contrast, while transparency of compilation is an ideal, there will be many occasions where output measures for the public sector require a range of complex adjustments to transform the raw data which may form the raw material for both performance and output measures, into something which can be compared with output measures in other sectors of the economy. Output measures also need to be comprehensive, while performance indicators can afford to some extent to be selective or indicative.

Thus performance measures and output indicators will use much the same raw data, and the promotion of the former will assist with the compilation of the latter, there are differences in the way in which the data will be used, and some elements of conflict. The conflict arises from the danger that the use of data for a performance indicator may transform its meaning as it becomes a target or the possible object of adjustment. Output indicators will need to be able to resist the pressure to use what has become available if it is inappropriate or tainted.

Conclusion

This article is no more than an outline of a project which is at its early stages. The ONS is attempting to make progress in an area where many earlier attempts have foundered. It is under few illusions that this attempt could founder again. The grounds for optimism are the increasing availability of data on which to base an output method, and the change in attitude which gives greater emphasis to achieving some central estimate of public sector productivity rather than exhibiting a self-consciously conventionalised number.

If all goes well, it is hoped to complete the initial stages of the work in time to incorporate in the first ESA95 accounts to be published in the summer of 1998. New series covering health, education and social services are likely to be introduced. Further categories of government spending will be added as appropriate measures are found. Later work will look at improving the indicators and taking account of changes in quality of output.

References

B Kazemier; Volume measurement of Government output in the Netherlands: Some Alternatives, *Central Bureau of Statistics Netherlands, paper NA-045 1991*

System of National Accounts 1993 New York
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