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Economic Trends

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Contents

In Brief

Articles

This month we feature two articles.

Matthew Powell and Ninder Swatch of ONS report on an investigation into the coherence of deflation methods in the National Accounts. The article presents the methodology that has been developed to use deflators that are transparently linked to those used in the existing National Accounts, so that their coherence can be examined. It describes how the constant price input-output (KPIO) system completes each section of the Supply and Use Balance table. Results from the unbalanced KPIO system have been calculated for 1995–1999, and differences between supply and demand are given by product. The gaps expose incoherence in the methods for compiling constant price estimates used in the accounts, assuming that the allocation of commodities to products is correct. Some examples of product detail are given to give a flavour of the issues involved.

David Fenwick and Harry Duff present an update on developments in an improved house price index. The article summarises the emerging findings of a feasibility study into the development of a better official house price index. The study was initiated and led by the ONS in collaboration with the Office of the Deputy Prime Minister, HM Treasury, Bank of England and HM Land Registry, because none of the indices currently published fully met user requirements and when compared sometimes result in apparently conflicting messages. It builds upon earlier collaborative work as reported in the December 1998 edition of *Economic Trends* and has benefited from the valuable inputs from a number of major users and experts in the field as well as technical expertise drawn from ONS and ODPM. Some of the recommendations of the study are conditional on the results of further exploratory work and some may also need to be reviewed in the longer term in the event of possible external developments such as the introduction of a "sellers" pack or electronic conveyancing.

Recent economic publications

Annual

Economic Trends Annual Supplement 2002. TSO, ISBN 0 11 621493 7. Price £28.50.

Quarterly

Consumer Trends: 2002 quarter 2. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p242.asp**

United Kingdom Economic Accounts: 2002 quarter 2. TSO, ISBN 0 11 621546 1. Price £26. Also available for downloading from the National Statistics website **www.statistics.gov.uk/products/p1904.asp**

UK Trade in Goods analysed in terms of industries (MQ10): 2002 quarter 2. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p731.asp**

Monthly

Financial Statistics: October 2002. TSO, ISBN 0 11 621503 8. Price £23.50.

Focus on Consumer Price Indices: September 2002. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p867.asp**

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Economic Update - November 2002

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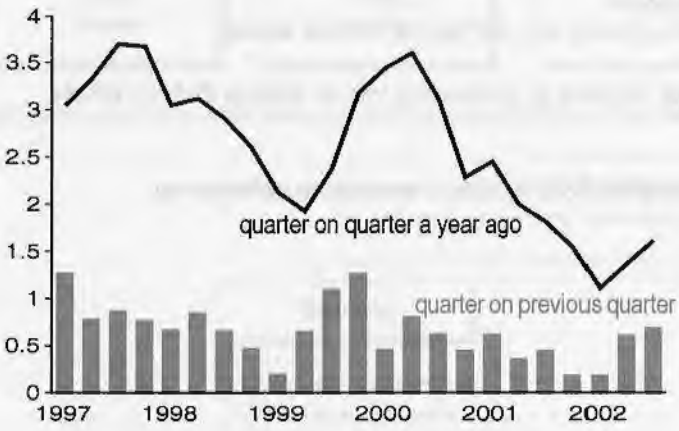
Overview

GDP data shows growth picked up in the second and third quarters of 2002. Although this came alongside faltering confidence in global financial markets from June. Growth in the third quarter was driven by positive growth in the manufacturing sector and stronger growth in the service sector. However these growth figures are affected by Jubilee holidays, making interpretation more difficult. In general external indices of output weakened a little into the third quarter. Short-term indicators suggest that household demand may have weakened slightly into the third quarter, with external figures also a little subdued. Investment demand is falling at an annual rate of ten per cent, set against a background of high indebtedness, an increase in bankruptcies and rising interest rates on some corporate debt. Figures continue to show strong growth in Government demand, with the public sector finances returning to deficit, compounded by revenues weakening. Trade demand deteriorated fairly abruptly into the third quarter, following a strong second quarter. Headline labour market figures show employment counts continuing to increase, but rates basically flat. By industry, manufacturing jobs are in decline, private sector service employment growth is weak but public sector job growth is accelerating. Price pressures are very subdued: earnings growth is below 4.0 per cent, producer price data show deflation coming into the factory and no inflation coming out and RPIX remains below target.

GDP activity - overview

The preliminary estimate showed gross domestic product (GDP) quarterly growth in the third quarter of 2002 at 0.7 per cent, up slightly from 0.6 per cent in the second quarter and from 0.1 per cent in the first quarter of 2002. Growth comparing the third quarter of 2002 with the same quarter a year ago was 1.7 per cent, up from 1.3 per cent in the year to the second quarter of 2002 (figure 1). Annual growth has now been below 2 per cent for five consecutive quarters.

Figure 1
Gross Domestic Product
growth



The increased GDP growth in the latest quarter reflects the first positive growth in the manufacturing sector since the last quarter of 2002 and an increase in service sector growth, these were partly offset by weaker oil production. It should be noted however that extended Jubilee holidays reduced June output in both the manufacturing and service sectors. Without this effect, growth in the second quarter would have been higher and growth into the third quarter would have been lower.

The pick-up in growth since the first quarter of the year comes alongside a degree of recovery in the main industrial economies in the first half of 2002. Much of this recovery appears to have been export led. The sharp decline in investment that was the primary cause of weakness in 2001 has not yet been reversed, there is also some evidence of weaker trade in the third quarter.

Financial Market activity

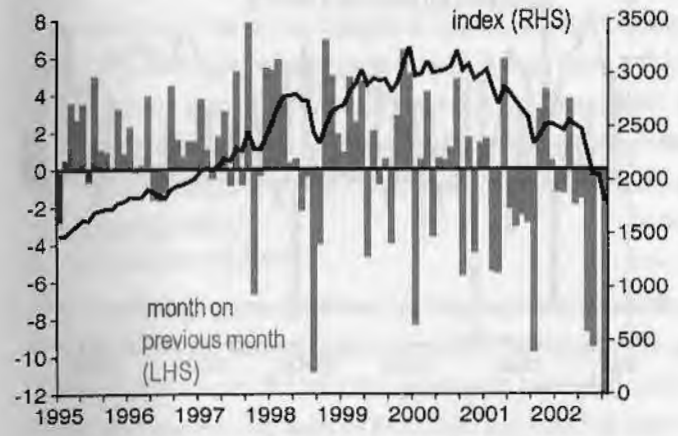
The improvement in GDP activity seen around the world in the first half of 2002 has however been set against substantial deterioration in world stock market valuations of equity. Figure 2 shows a monthly decline of 12 per cent in September in the UK FTSE all-share index (measured at the end of the month), although there has been a degree of recovery in October.

In the medium term, according to the FTSE All-share index (measured at the end of the month), equity values peaked at 3207 in August 2000. At the end of September 2002 the index stood at 1801, a total decline of 44 per cent. This is the largest and most prolonged deterioration in FTSE since the decline in the early 1970s, where the all share index (average across the month) fell by 71 per cent between August 1972 and December 1974.

Outside the stock market concerns are echoed in the corporate bond

market, which, alongside long-term loans from banks, has been the primary source of corporate borrowing since 2001. Some global measures of spreads between corporate and government bonds show the highest spreads for at least a decade.

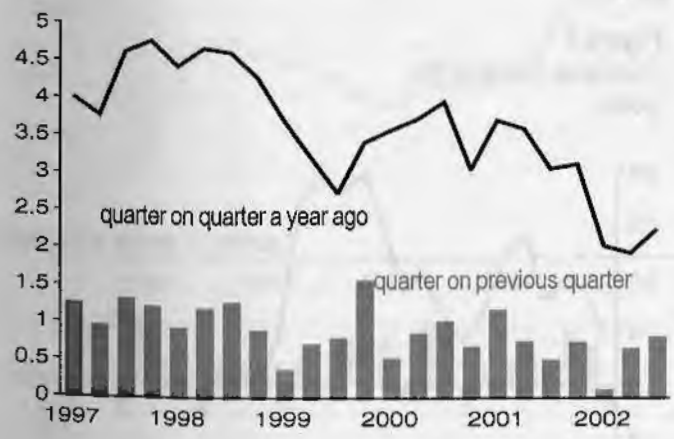
Figure 2
FTSE- all share price index: end month
growth index



Output

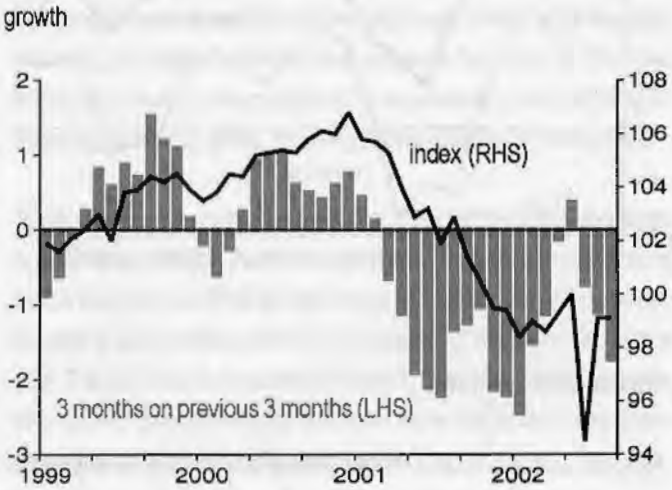
As noted manufacturing output grew in the third quarter, however this growth was affected by Jubilee holidays. Looking at monthly data shows August output the same as in July, and a little below the April figure, with the suggestion that at the headline level growth is fairly flat (figure 3). However the unchanged output between July and August was despite growth of 29 per cent in total car production. Most other industries, including the information and communications technologies industries, showed a decline in output between the two months.

Figure 3
Services output
growth, quarter on previous quarter



Service sector quarterly growth was 0.8 per cent in the third quarter of 2002, up from 0.6 per cent in quarter two, and particularly subdued growth of 0.1 per cent in the first quarter (figure 4). Again the Jubilee holidays affect these figures. Comparing with the same quarter a year ago annual growth was 2.2 per cent, the third consecutive quarter of growth below 3 per cent.

Figure 4
Manufacturing



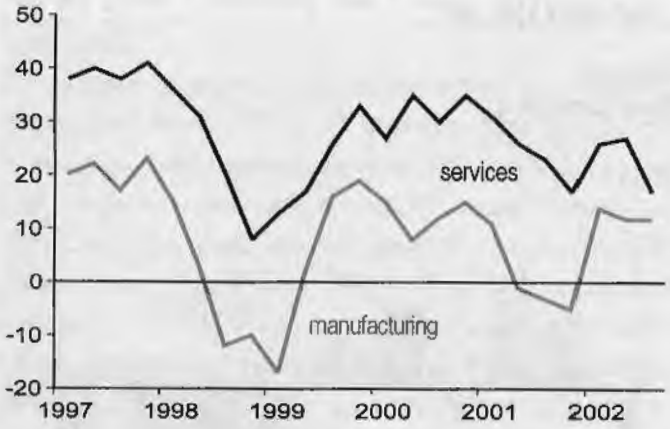
A broad industrial breakdown (extending only to the second quarter) shows that the general slowdown in the service sector over the year has been driven by a sharp slowdowns to the previously very rapidly growing 'transport, storage and communications' industries (from recent peak annual growth of 10.0 per cent in Q3 2000 to a decline of 1.0 per cent in Q2 2002) and a slowdown in 'business services and finance' (from 4.9 per cent in Q2 2001 to 1.9 per cent in Q2 2002). These declines have been offset to some extent by ongoing robust growth in distribution and government services.

Robust construction output growth has continued to support overall GDP growth. Figures for the third quarter are not available yet, but annual growth was 7.0 per cent in the year to 2002 quarter two. This followed 7.1 per cent in the year to quarter one, the highest growth since 1988. Energy output added to GDP in the second quarter but subtracted fairly substantially in the third, as oil companies extended maintenance over the summer.

External measures of output

External measures for both manufacturing and service sector suggest a broadly slightly weaker position than in earlier reports for 2002. Figure 5 shows the British Chamber of Commerce figures weakening into the third quarter for the service sector, and remaining subdued in the manufacturing sector. Confederation of British Industry (CBI) figures for the manufacturing sector showed a deterioration between their October and July surveys, with new orders balances the lowest for three years.

Figure 5
BCC: manufacturing & services
balances



Household demand

National Accounts figures for the second quarter of 2002 showed an increase in quarterly growth after slower growth in the first quarter. However advance indicators for the third quarter might be regarded as suggesting a degree of weakening.

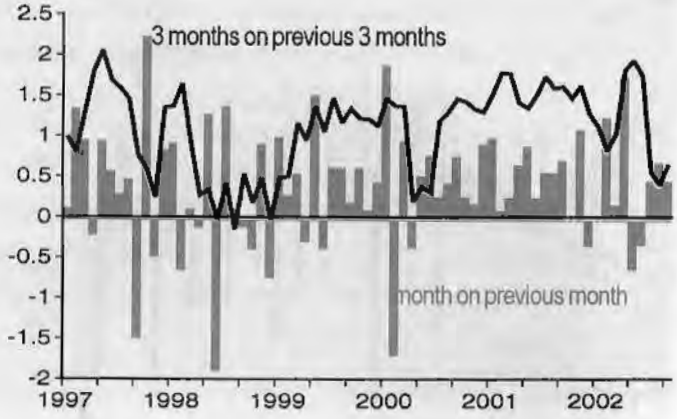
In the second quarter of 2002 household final consumption expenditure grew by 1.4 per cent compared with the previous quarter, up from growth of 0.5 per cent in the first quarter of 2002. Compared with the second quarter of 2001, growth was at an annual rate of 4.1 per cent.

The acceleration in quarterly growth was driven by a recovery in spending in the high street and on the purchases of motor vehicles. However latest monthly retail sales figures suggest a degree of slowdown with growth in the third quarter of 0.7 per cent compared with 1.7 per cent in quarter two. However this may under-exaggerate recent growth due to the high April figure partly resulting from Easter effects.

Other figures suggest a potential weakening in household demand growth. This is evident in external indices: the latest figures from both the British Retail Consortium (BRC) and CBI show sales weaker than this time last year, although a degree of improvement in latest months. Consumer confidence showed increased optimism through the start of the year, but this has now stalled. The growth in gross consumer credit may also have slowed in the third quarter: quarterly growth was 1.7 per cent in the three months to August, the slowest growth since the end of 2000.

More generally the prolonged period of high growth in consumer credit shows that the present level of consumer demand is supported by continued addition to the stock of household debt. Debt to income ratios continue at historic highs. As a result household demand is at least partly dependent on bank and building societies' willingness to lend and on households continuing to be able to meet the interest payments on previous and new borrowing. Many emphasise though that with interest rates low, these debt servicing costs continue to remain relatively low.

Figure 6
Retail sales
growth

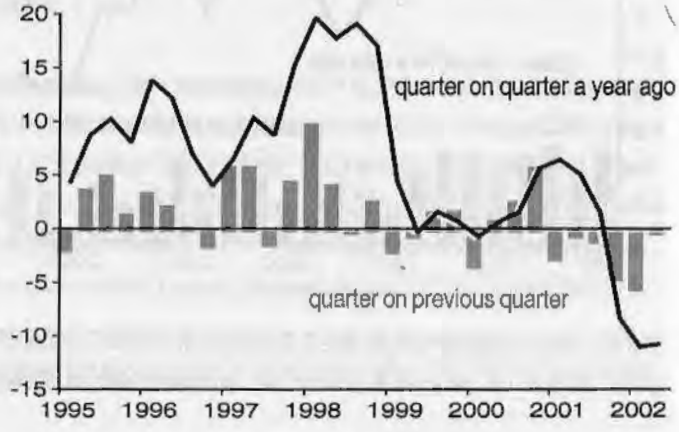


Business demand

In contrast to household demand, but echoing the position around the world, UK business investment demand is falling sharply relative to a year earlier.

In quarter two 2002 business investment fell by 0.2 per cent, compared with a fall of 5.4 per cent in the first quarter of 2002. Comparing with the same quarter a year ago, business investment declined at an annual rate of 10.8 per cent in quarter two following 11.0 per cent in quarter one. Apart from in 2002, annual rates of decline have only fallen below ten percent for two quarters since 1966 – in the first quarter of 1981 (10.3 per cent) and the third quarter of 1991 (11.4 per cent). Prior to 2002 there have never been two consecutive quarters of decline at a rate of over 10 per cent.

Figure 7
Business investment
growth



Over the year investment is declining at almost exactly the same pace in both the manufacturing and service industries. Manufacturing investment fell by 13.3 per cent and service investment by 13.2 per cent. On the other hand other production and construction investment rose by 8.2 per cent. By asset, the main and most prolonged falls in investment have been in information and communications technology products.

External indices have shown a degree of recovery that has not been particularly evident in the headline investment figures, however third quarter figures suggest a weakening overall. BCC data showed a weakening in the service position set against a strengthening in the manufacturing position, whereas CBI figures show deterioration in the manufacturing position.

The cut-backs in investment have seen a recovery in the financial situation of the PNFC sector. Between quarter two of 2001 and quarter two of 2002 a net borrowing of £5.9 billion has given way to net lending of £2.6 billion, as investment has fallen by £4.6 billion and there has been a degree of recovery in profit revenues. The Bank of England's August 2002 *Inflation Report* suggested that the "recent weakness" in investment, may "in part reflect[s] the slowdown in demand and growing corporate sector financial pressures". It is notable that the overall indebtedness of the sector, while still at a high level, has moderated over the latest quarters as investment has been cut (figure 8). Lastly DTI data show a fairly sharp increase in both company and individual insolvencies into the second quarter.

Figure 8
PNFC debt to quarterly GDP ratio
billions

Government demand

Set against the reasonably robust household demand and falling business demand, measured over the year there has now been a substantial acceleration in government demand. While in the second quarter of 2002 constant price government expenditure fell by 2.7 per cent compared with the previous quarter, this followed growth of 2.9 per cent in the first quarter of 2002. Compared with the second quarter of 2001, government demand was up 4.6 per cent. In cash terms government expenditure has grown by 8.8 per cent in the year to the second quarter, down from 11.8 in the year to the first. The latter growth, being the highest since 1981.

The acceleration in government expenditure has come as revenue growth is slowing, potentially reflecting the slowdown in the economy. The effect is that the central Government sector has returned to net borrowing for three consecutive quarters, following thirteen quarters of net lending.

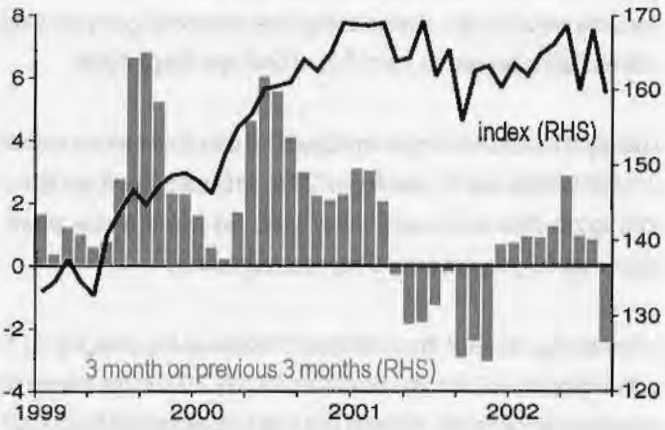
Public sector net borrowing data extends to September 2002, and shows borrowing continuing in the third quarter. Overall cumulative net borrowing for the financial year 2002-03 stands at £12.4 billion, this compares with borrowing of £2.5 billion over the same period of the previous financial year. The data also illustrate the weakness in Inland Revenue tax receipts; while growth is up 0.9 per cent in the year to the third quarter, this follows two consecutive quarters of annual decline.

Imports

Following a pick-up in the growth of imports in the first half of 2002, latest monthly figures show declines resuming. In the three months to August, goods imports fell by 2.4 per cent (figure 9). This weakness is in imports from both EU and non-EU countries.

Figure 9
Imports

growth



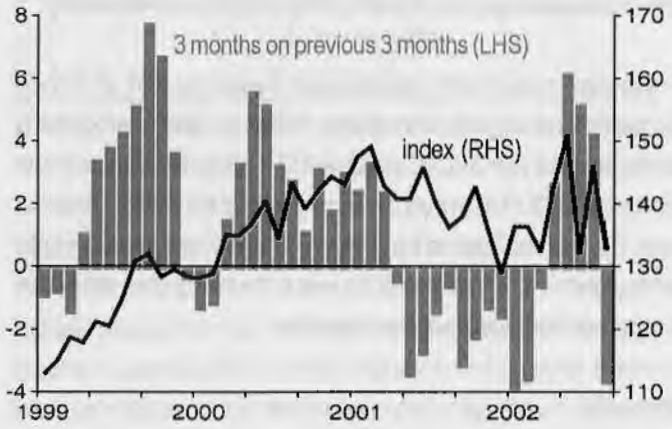
Overseas Demand

UK exports deteriorated sharply in the third quarter following the sharp increase in activity in the second. Quarterly growth of goods exports in

the second quarter was 5.2 per cent, in the three months to August goods exports declined by 3.7 per cent. However, the extent of the decline is affected by the fall in activity over the Jubilee period. The deterioration is dominated by trade with EU economies; in the three months to August exports fell by 6.4 per cent to EU economies and grew by 0.8 per cent to non-EU economies.

Figure 10
Exports

growth



Labour Market

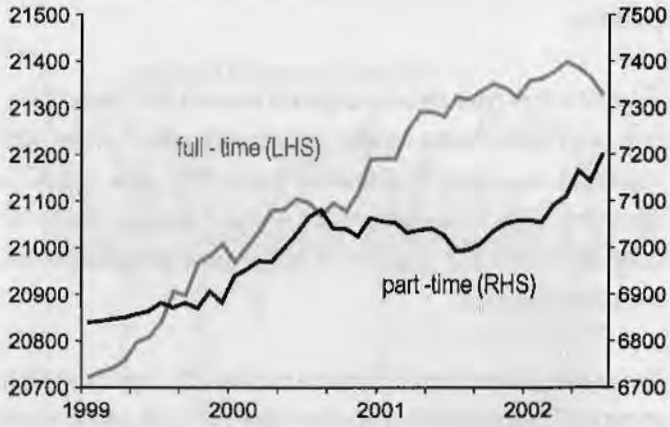
Labour market data continues to show that the position is 'flat'.

On employment, the Labour Force Survey (LFS) figures show the employment rate was 74.6 per cent in May-July, the same as in the previous three month period and in the same period of 2001. The ILO unemployment rate was also unchanged at 5.2 per cent between the latest two three month periods, but was up marginally by 0.1 per cent from the same period of 2001. Claimant count unemployment figures show the rate oscillating between 3.1 and 3.2 per cent over the past year.

Looking at the count of people employed LFS data shows an increase of 211,000 over the year to June-August 2002, on the other hand, workforce jobs figures show an increase of only 3,000. Equivalent annual growth figures are 0.7 per cent and 0.0 per cent respectively.

However the nature of the employment increases are changing. LFS data shows that full time jobs accounted for only 2,000 of the measured increase in employment, whereas part time jobs accounted for 209,000 (figure 11). This change in work pattern may follow from firms' attempts to keep costs down. Workforce jobs figures provide an industry dis-aggregation showing over the year to the second quarter 154,000 manufacturing jobs have been lost, 34,000 new construction jobs created, and 166,000 service sector jobs created. Of the new service jobs however, 75 per cent were public sector jobs, also potentially suggesting a weaker private jobs market.

Figure 11
Employment
jobs created



Figures showed a fall in the amount of redundancies into Spring following increases through 2001, although the level is still relatively high.

The average earnings index continues to echo the more subdued labour market. In August 2002 the headline rate was 3.8 per cent, down on 3.9 per cent in July, and well below the 4.5 per cent figure that the Bank of England consider broadly consistent with their inflation target. Figures excluding bonuses show even lower earnings growth.

Prices

At the factory gate, output prices show very little inflation and input prices show deflation: the headline figures show output price inflation at 0.4 per cent in the year to September and input price inflation falling 0.9 per cent over the same period. The rate of deflation in input prices has however been falling, with underlying figures (excluding food, beverages, tobacco and petroleum) at 0.8 per cent in September compared to 5.2 per cent in April. More generally, the ongoing weakness in producer price inflation may follow from the deteriorating global conditions in 2001 as over-supply become a significant phenomenon.

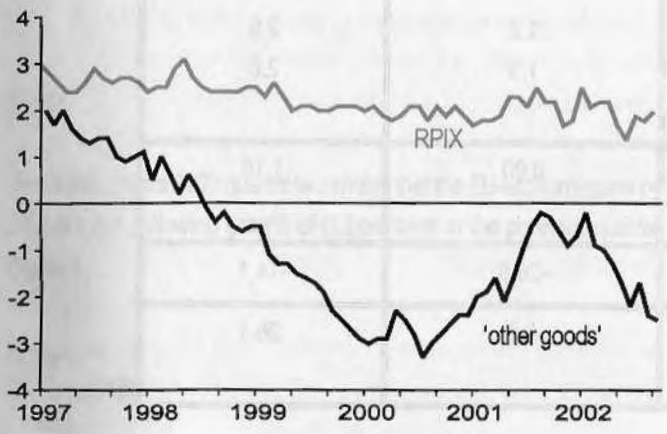
The September RPIX inflation figure was 2.1 per cent, up from 1.9 per cent in August, and continuing the run of figures below the Monetary Policy Committee's target of 2.5 per cent (figure 12).

The low outturns for inflation over recent months have been driven by goods components: petrol and oil prices continue to fall on the year; 'other goods' inflation (including, for example, cars, consumer durables, clothing

and DIY goods) have showed a resumed acceleration in the rate of deflation (figure 12); and food price inflation is subdued. The contrast may be due to exposure to international competition, with services prices shielded from price effects due to an over-supply of goods on international markets.

Overall, by historical standards, earnings and consumer and producer price pressures continue to remain very subdued.

Figure 12
Consumer prices
growth, month on a year ago



Forecasts for the UK Economy

A comparison of independent forecasts, October 2002

The tables below are extracted from HM Treasury's "FORECASTS FOR THE UK ECONOMY" and summarise the average and range of independent forecasts for 2002 and 2003, updated monthly.

	Independent Forecasts for 2002		
	Average	Lowest	Highest
GDP growth (per cent)	1.6	0.6	2.0
Inflation rate (Q4: per cent)			
- RPI	2.0	1.2	2.5
- RPI excl MIPs	2.1	1.5	2.6
Unemployment (Q4, mn)	0.97	0.90	1.10
Current Account (£ bn)	-20.3	-26.8	-14.1
PSNB * (2002-03, £ bn)	13.2	8.0	20.1

	Independent Forecasts for 2003		
	Average	Lowest	Highest
GDP growth (per cent)	2.5	-0.3	3.1
Inflation rate (Q4: per cent)			
- RPI	2.8	1.6	4.0
- RPI excl MIPs	2.4	1.7	3.3
Unemployment (Q4, mn)	0.98	0.80	1.25
Current Account (£ bn)	-22.5	-36.7	-13.8
PSNB* (2003-04, £ bn)	17.2	7.0	24.3

NOTE: "FORECASTS FOR THE UK ECONOMY" gives more detailed forecasts, covering 27 variables and is published monthly by HM Treasury, available on annual subscription, price £75. Subscription enquiries should be addressed to Claire Coast-Smith, Public Enquiry Unit 2/S2, HM Treasury, 1 Horse Guards Road, London SW1A 2HQ (Tel: 020-7270 4558). It is also available at the Treasury's internet site: http://www.hm-treasury.gov.uk.

* PSNB: Public Sector Net Borrowing.

International Economic Indicators - November 2002

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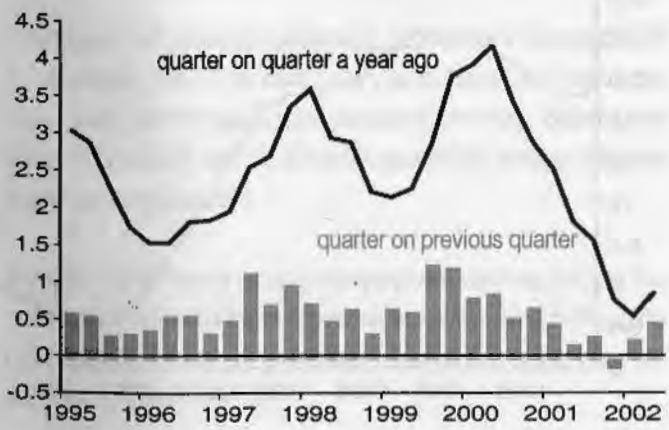
Overview

Having shown decline in the second half of 2001, major economies grew again in the first half of 2002. For the EU economies, growth was mainly export driven, with domestic demand remaining subdued. In the US, domestic demand was a little more robust, but stockbuilding was also very strong. In all major economies, investment demand remained weak, although the US showed a degree of recovery. Set against output, in most economies unemployment continues to rise and employment growth is weakening and in decline. There is producer price deflation except in France and consumer price inflation appears to be increasing except in Japan, where the deflation is continuing.

EU15

The latest data for 2002 quarter two shows that the EU economy grew by 0.5 per cent, following growth of 0.2 per cent in the previous quarter (figure 1).

Figure 1
GDP: EU15
growth



A breakdown of the contributors to GDP growth is not available with this dataset, however, from analysis of the main individual economies, exports growth and stockbuilding are likely to have been the main drivers of this performance. Subdued contributions are expected from government and household demand, while investment is likely to be weak or contract in this latest period.

On output, the index of production data picked up in quarters one and two following falls in 2001. However it may be weakening with quarterly growth of 0.2 per cent in the second quarter, slightly weaker than the 0.5 per cent growth in the first. Monthly data show falls into July and August.

The PPI shows prices at the factory gate increasing by 0.2 per cent in the year to August. This is the first time the PPI has been positive since September 2001. The CPI shows consumer prices growing by 1.8 per cent in both July and August, a slight rise from June's growth of 1.7 per cent

EU employment figures continue to show growth, although at a declining rate. Annual growth in the year to the second quarter was 0.5 per cent, down from 0.7 per cent in 2002 quarter one. The unemployment rate however appears to be increasing with the rate up from a trough of 7.3 per cent in the second quarter of 2001 and now standing at 7.7 per cent in August 2002.

Annual earnings growth fell in the second quarter of 2002, showing growth of 2.5 per cent, from 3.4 per cent in the first quarter, but the figures are volatile.

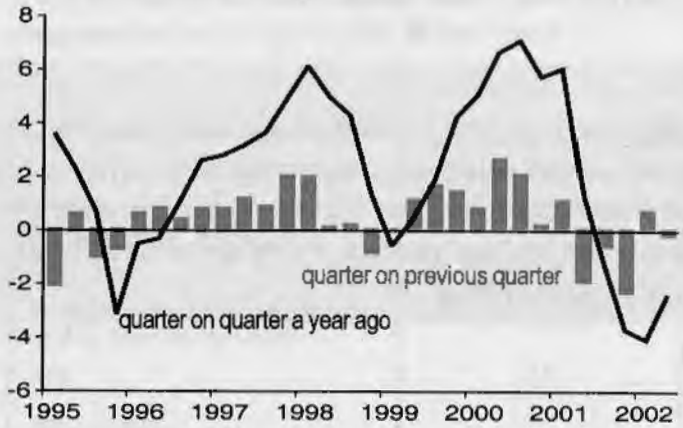
Germany

The latest data for Germany shows that quarterly GDP growth rebounded from two consecutive quarters of contraction to post positive growth of 0.3 per cent in both the first and second quarters of 2002.

However, in the second quarter, growth was mainly driven by stockbuilding, which contributed 0.8 percentage points to quarterly GDP. When compared with a negative contribution of 0.4 percentage points in the previous quarter, this increase is significant. Export growth also continued to remain strong, with a contribution of 0.4 percentage points to quarterly GDP. However, domestic and government demand are still weak and investment is contracting by much more than in quarter one.

Industrial production has resumed negative growth in the latest quarter, with 2002 quarter two showing the index contracting by 0.2 per cent, from stronger growth of 0.7 per cent in the previous quarter (figure 2). July data shows the contraction continuing.

Figure 2
IOP: Germany
growth



Producer prices are still falling, with the PPI showing falls of 1.0 per cent in the year to July and August. PPI change has been negative since January 2002. The CPI shows consumer prices growing by 1.1 per cent in the year to August, down from growth of 2.1 per cent growth seen in the index at the start of the year.

8.3 per cent of the German workforce was unemployed as at August 2002. There has been a gradual increase in the unemployment rate from the recent trough of 7.6 per cent in the fourth quarter of 2000. Similarly employment growth contracted in the second quarter of 2002, with annual growth figures for the quarter showing negative growth of 0.5 per cent, accelerating from negative growth of 0.3 per cent in the previous quarter.

In line with a deteriorating labour market, annual earnings growth has remained weak in the last four quarters, growing by just 1.0 per cent in the first and second quarter of 2002, which, after accounting for inflation in the quarter, implies a fall in real earnings.

France

The French economy grew by 0.5 per cent in 2002 quarter two, its second successive quarter of positive GDP growth, following two quarters of negative GDP growth in both 2001 quarter two and 2001 quarter four.

As with other European economies, the main drivers of the positive growth was exports, which contributed 0.4 percentage points to GDP growth in 2002 quarter two, the same as in the previous quarter. This follows four consecutive quarters of contraction in export growth. In France most components of domestic demand with the exception of investment (which did not contribute to quarterly GDP growth), have made moderate contributions to GDP. Unlike in Germany, where there was an expansion in inventories, France saw its inventories contract in the latest quarter by 0.3 percentage points, having contributed positively to GDP in the previous quarter.

The French industrial production data has shown growth in 2002, with quarterly growth of 0.7 per cent for 2002 quarter two following growth of 0.4 per cent in the previous quarter. Monthly figures for July, in line with many other economies, however shows a fall.

Consumer prices increased by 1.8 per cent in the year to August, a slight rise over the previous month. Producer prices growth was positive in the year to both July and August, having fallen prior to this since February.

The improvement in economic activity in the first half of 2002 has not translated into falling unemployment (figure 3). 8.9 per cent of the workforce was unemployed in August, the same as in the previous month up from the recent trough of 8.5 per cent in quarters two and three of 2001. Employment growth also continued its slowdown in the second quarter of 2002, with an annual rate of 0.2 per cent, well down on growth of 2.1 per cent at the start of 2001.

Figure 3
Unemployment rate: France
percentage of the workforce

Following on from the labour market conditions, annual earnings growth continued to ease, slowing slightly from 4.1 per cent in the fourth quarter to 3.9 in the first and second quarters of 2002.

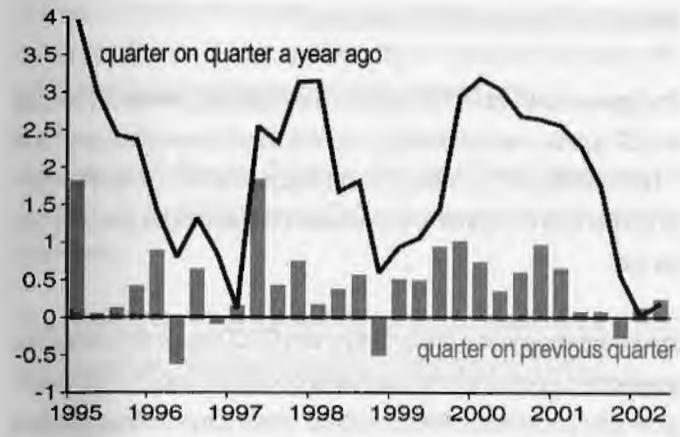
Italy

Data for 2002 quarter two show the Italian economy growing by 0.2 per cent, following growth of 0.1 per cent in quarter one and a contraction of 0.2 per cent in the fourth quarter of 2001 (figure 4).

Again, as with other economies, the main driver of this performance has been exports, which contributed a strong 0.8 percentage points to quarterly GDP, from a negative contribution of 0.7 percentage points in the previous

quarter. Overall trade contributed 0.1 percentage points to GDP in quarter two. However, domestic demand (households and government) is still weak and investment continues to contract. Inventories did not contribute to GDP growth in the second quarter.

Figure 4
GDP: Italy
growth



The index of production data, having shown improvement in 2002 quarter one, with growth of 0.2 per cent, has again contracted in 2002 quarter two by 0.7 per cent.

In Italy, consumer prices are accelerating, with the index showing growth of 2.4 per cent and 2.6 per cent in the year to August and September respectively. Monthly figures show producer prices rising, following falls in the first half of 2002, with the July and August indices growing for the first time since September 2001.

The Italian labour market shows unemployment stable for the past five months at 9.0 per cent of the workforce following improvements through to October 2001. Employment growth was 1.8 per cent in the year to the first and second quarters of 2002.

Annual earnings growth has picked up at 3.1 per cent in the year to the second quarter. However, more recent monthly figures show the increase slowing in the year to July and August, with growth of 2.2 per cent in each of these months.

USA

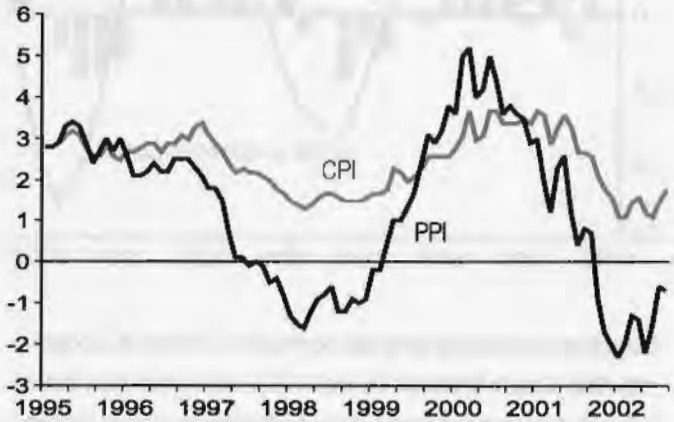
Figures for the second quarter of 2002 show the US economy has posted a third consecutive quarter of positive GDP growth following three quarters of decline in 2001.

At 0.3 per cent, this performance is not as robust as in quarter one, when quarterly GDP growth was 1.2 per cent. A breakdown of the contributors to GDP growth in 2002 quarter two shows household demand weakening from the previous quarter, although still fairly strong. Government consumption was flat over the last two quarters, and investment demand contracted in the latest period, having contributed 0.1 percentage points to quarterly GDP growth in the previous quarter. Two factors contributed to the subdued growth in the second quarter compared to the first. A considerable reduction in the contribution of inventories to quarterly GDP, from an exceptionally high contribution in the first quarter, and the large negative contribution by net trade of 0.4 percentage points with both imports and exports increasing over the last quarter.

However, industrial production grew noticeably in quarter two, with quarterly growth of 1.0 per cent in the index, up on 0.7 per cent in the previous quarter. Monthly changes also reinforce the quarterly data with the index posting positive changes each month since January 2002, with the exception of August.

Inflationary pressures continued to remain subdued, with the consumer prices index in August compared to a year ago increasing by 1.8 per cent, from 1.5 per cent in the previous month. Producer prices also continued to fall, with annual figures showing the PPI decline by 0.7 per cent in the year to August compared to a year ago from a decline of 0.6 per cent in the previous month (figure 5).

Figure 5
PPI & CPI: USA
month on previous month a year ago



The US saw a sharp increase in unemployment in 2001 from 4.2 per cent in January to 5.8 per cent in December. The deterioration slowed somewhat in the first three months of 2002, but the volatility in the figures since then offers no clear signs of recovery. The latest data shows the unemployment rate improving by 0.2 percentage points in August over the previous month's 5.9 per cent to stand at 5.7 per cent of the workforce.

Having grown more strongly in February and March 2002 by 4.2 per cent, earnings growth eased slightly to 3.3 per cent in the year to August

2002.

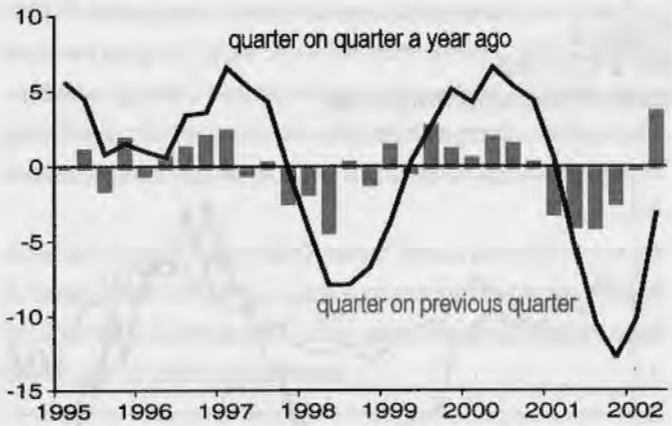
Japan

The Japanese economy grew by 0.6 per cent in the second quarter of 2002, following zero growth in the previous quarter and three quarters of negative growth in 2001.

Again, as with most other economies, this improvement is export led, with a contribution of 0.6 percentage points, a slight increase over the previous month's contribution of 0.5 percentage points. Overall trade contributed 0.4 percentage points to quarterly GDP. However, domestic demand was flat over quarters one and two and government demand still weak. Investment demand contracted for the fifth consecutive quarter.

The deterioration in industrial output has been reversed in the latest period, with growth of 3.7 per cent in 2002 quarter two after five consecutive quarters of negative growth (figure 6). However, monthly figures show this was dominated by a peculiarly strong May figure.

Figure 6
IOP: Japan
growth



Consumer and producer price falls continue the deflation that began in mid-1998. Growth figures for the year to 2002 quarter two show that the index of consumer and producer prices declined by 0.9 per cent and 1.1 per cent respectively.

Despite the pick-up in economic activity, the unemployment rate is yet to show signs of improvement and has increased by 0.1 percentage points in August to 5.5 per cent of the workforce, from 5.4 per cent in the previous month. Recent rates of unemployment are very high by historical standards for Japan (unprecedented since 1960 when OECD records began). Employment growth is also negative, declining by 1.6 per cent in the year to 2002 quarter two.

Earnings growth also contracted, in line with the weak labour market conditions, with negative annual growth in 2002 quarter two of 0.7 per cent.

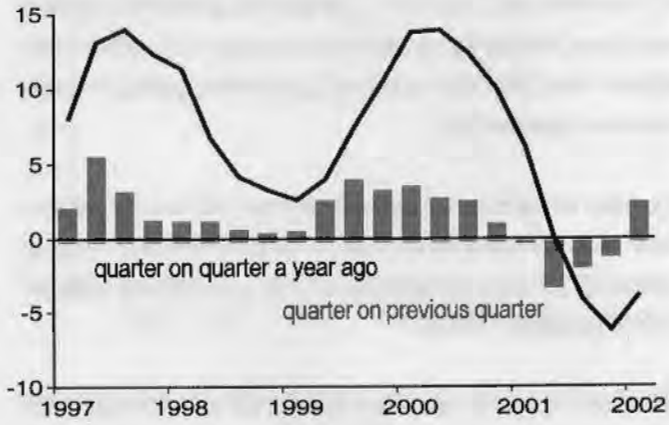
World Trade

Available data for 2002 quarter one show a significant improvement in trade, reflecting the recent improvement in world trade activity (this data currently exists only for OECD countries).

The figures show that OECD export of manufactures grew by 2.4 per cent in 2002 quarter one compared to a contraction in the previous quarter of 1.1 per cent (figure 7). Similarly, export of goods by OECD countries grew by 2.4 per cent compared to a contraction in the previous quarter of 0.9 per cent.

Import data also shows a similar picture, with OECD import of manufactures growing by 2.3 per cent in the first quarter of 2002 and import of goods also growing by 1.8 per cent in the same period. When compared to contractions of 0.4 per cent and 0.3 per cent in the previous quarter, these increases are considerable.

Figure 7
OECD exports of manufactures
growth



Notes

The series presented here are taken from the OECD's Main Economic Indicators and are shown for each of the G7 (except the UK) economies and for the European Union (EU15) countries in aggregate. The definitions and methodologies used conform to SNA 93.

Comparisons of indicators over the same period should be treated with caution, as the length and timing of the economic cycles varies across countries. For world trade, goods includes manufactures, along with food, beverages and tobacco, basic materials and fuels.

Data for EU15, France, Germany, Italy, the USA and Japan are all available on an SNA93 basis. Cross country comparisons are now more valid.

1 European Union 15

	GDP	Contribution to change in GDP: PFC	GFC	GFCF	ChgStk[1]	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl	Unempl
Percentage change on a year earlier	ILGB	HUDS	HUDT	HUDU	HUDV	HUDW	HUDX	ILGV	ILHP	HYAB	ILAI	ILAR	ILIJ	GADR
1996	1.7	1.2	0.3	0.4	–0.5	1.5	1.2	0.7	0.6	2.5	0.7	3.5	0.5	10.2
1997	2.6	1.3	0.2	0.7	0.1	3.1	2.7	3.8	1.5	2.0	0.9	3.1	1.0	10.0
1998	2.9	1.9	0.3	1.3	0.3	2.1	3.1	3.8	2.9	1.8	–0.4	2.8	1.9	9.4
1999	2.7	2.1	0.4	1.1	–0.2	1.8	2.4	1.8	2.0	1.2	0.1	2.7	1.9	8.7
2000	3.6	1.9	0.4	1.0	–0.1	4.2	3.9	4.7	2.2	2.5	4.7	3.3	1.9	7.8
2001	1.6	1.3	0.4	–	–0.5	0.9	0.5	–0.1	1.8	2.5	1.3	3.0	1.4	7.4
1999 Q2	2.2	2.0	0.3	1.0	–0.3	1.1	1.9	0.6	0.9	1.1	–0.9	1.8	1.8	8.8
Q3	2.8	2.1	0.4	1.2	–0.4	2.1	2.5	2.1	1.9	1.2	0.6	3.6	1.9	8.6
Q4	3.7	2.1	0.4	1.2	0.1	3.3	3.3	4.2	2.8	1.6	2.4	2.7	1.8	8.4
2000 Q1	3.9	1.9	0.4	1.1	–0.1	4.2	3.7	4.3	2.4	2.1	4.2	3.6	1.8	8.1
Q2	4.1	2.2	0.5	1.2	0.1	4.3	4.1	5.7	2.8	2.3	4.8	3.6	2.0	7.9
Q3	3.4	1.8	0.4	0.9	–	4.2	4.0	4.7	2.1	2.7	5.0	2.6	1.9	7.7
Q4	2.9	1.5	0.4	0.9	–0.2	4.1	3.8	4.3	1.6	2.7	5.1	3.5	2.1	7.5
2001 Q1	2.5	1.4	0.4	0.5	–0.3	3.0	2.5	3.9	2.5	2.7	3.3	2.6	1.9	7.4
Q2	1.8	1.3	0.4	0.1	–0.3	1.6	1.3	0.3	2.2	2.9	2.5	3.4	1.4	7.3
Q3	1.6	1.3	0.4	–0.1	–0.5	0.3	–0.2	–0.7	1.5	2.5	0.7	3.4	1.2	7.3
Q4	0.8	1.2	0.4	–0.4	–0.8	–1.1	–1.4	–3.5	0.9	2.1	–1.1	2.5	0.8	7.4
2002 Q1	0.5	0.7	0.5	–0.6	–0.2	–1.1	–1.3	–2.9	1.2	2.2	–0.7	3.4	0.7	7.5
Q2	0.9	..	..	..	..	..	..	–1.3	1.2	1.9	–0.5	2.5	0.5	7.6
2001 Sep	..	..	..	..	..	..	..	–0.9	1.8	2.3	0.1	..	..	7.4
Oct	..	..	..	..	..	..	..	–2.5	0.9	2.3	–0.8	..	..	7.4
Nov	..	..	..	..	..	..	..	–3.9	0.9	1.9	–1.4	..	..	7.4
Dec	..	..	..	..	..	..	..	–4.0	0.9	1.9	–1.2	..	..	7.4
2002 Jan	..	..	..	..	..	..	..	–3.1	–	2.3	–0.7	..	..	7.5
Feb	..	..	..	..	..	..	..	–3.3	1.8	2.0	–0.8	..	..	7.5
Mar	..	..	..	..	..	..	..	–2.2	1.8	2.2	–0.6	..	..	7.5
Apr	..	..	..	..	..	..	..	–1.4	1.8	2.2	–0.4	..	..	7.5
May	..	..	..	..	..	..	..	–1.0	0.9	1.9	–0.4	..	..	7.6
Jun	..	..	..	..	..	..	..	–1.5	0.9	1.7	–0.6	..	..	7.6
Jul	..	..	..	..	..	..	..	–0.9	..	1.8	–	..	..	7.7
Aug	..	..	..	..	..	..	..	..	..	1.8	0.2	..	..	7.7
Sep	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter	ILGL	HUDY	HUDZ	HUEA	HUEB	HUEC	HUED	ILHF	ILHZ	ILIT
1999 Q2	0.6	0.2	–	0.2	–0.2	0.9	0.6	0.7	–0.4	1.2
Q3	1.2	0.6	0.1	0.4	–	1.1	1.0	1.6	1.3	0.9
Q4	1.2	0.5	0.1	0.2	0.4	1.0	1.0	1.6	1.2	0.2
2000 Q1	0.8	0.6	0.1	0.2	–0.2	1.2	1.0	0.3	0.3	–0.4
Q2	0.8	0.5	0.1	0.2	–	1.0	1.0	2.0	–	1.3
Q3	0.5	0.2	0.1	0.2	–0.1	1.0	0.9	0.7	0.6	0.7
Q4	0.7	0.2	0.2	0.1	0.1	0.9	0.9	1.2	0.6	0.4
2001 Q1	0.4	0.5	0.1	–0.1	–0.3	–	–0.3	–0.1	1.2	–0.6
Q2	0.2	0.4	–	–0.1	–	–0.4	–0.2	–1.4	–0.3	0.8
Q3	0.3	0.2	0.2	–0.1	–0.3	–0.3	–0.5	–0.3	–	0.6
Q4	–0.1	0.2	0.1	–0.2	–0.2	–0.4	–0.4	–1.6	–	–
2002 Q1	0.2	–	0.2	–0.2	0.3	–0.1	–0.1	0.5	1.4	–0.6
Q2	0.5	..	..	..	..	..	..	0.2	–0.3	0.6

Percentage change on previous month	ILKF	ILKP
2001 Sep	–0.9	–
Oct	–1.4	–0.9
Nov	–0.5	0.9
Dec	0.7	–
2002 Jan	–0.1	–
Feb	0.2	1.8
Mar	0.6	–
Apr	–0.3	–0.9
May	0.2	–
Jun	–0.1	–
Jul	–0.4	..
Aug	..	..
Sep	..	..

GDP = Gross Domestic Product at constant market prices
PFC = Private Final Consumption at constant market prices
GFC = Government Final Consumption at constant market prices
GFCF = Gross Fixed Capital Formation at constant market prices
ChgStk = Change in Stocks at constant market prices
Exports = Exports of goods and services
Imports = Imports of goods and services

Sales = Retail Sales Volume
CPI = Consumer Prices, measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Wage Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment rates: percentage of total labour force

2 Germany

	GDP	Contribution to change in GDP: PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl[1]	Unempl
Percentage change on a year earlier	ILFY	HUBW	HUBX	HUBY	HUBZ	HUCA	HUCB	ILGS	ILHM	HVLL	ILAF	ILAO	ILIG	GABD
1996	0.8	0.5	0.4	-0.2	-0.4	1.3	0.8	0.7	-1.1	1.4	-1.2	3.5	-0.4	8.7
1997	1.5	0.4	0.1	0.2	–	2.9	2.0	3.7	-1.6	1.9	1.1	1.5	-0.3	9.6
1998	1.7	0.9	0.4	0.5	0.3	1.8	2.2	4.2	1.0	1.0	-0.4	1.8	1.5	9.1
1999	1.9	2.0	0.2	0.8	-0.4	1.5	2.3	1.5	0.3	0.6	-1.0	2.6	0.9	8.4
2000	3.1	0.9	0.2	0.7	0.1	4.4	3.3	6.2	1.3	1.9	3.4	2.7	0.6	7.8
2001	0.7	0.9	0.2	-1.1	-0.6	1.8	0.4	0.6	0.7	2.5	2.9	1.5	0.4	7.8
1999 Q2	1.0	2.0	0.1	0.8	-0.6	0.7	1.9	0.5	-0.7	0.5	-1.7	2.4	0.3	8.5
Q3	2.3	2.2	0.2	1.0	-0.6	2.0	2.5	1.9	-0.3	0.7	-0.7	2.7	1.4	8.4
Q4	3.3	1.9	0.2	1.2	-0.2	3.3	3.0	4.3	0.8	1.0	0.6	3.0	0.8	8.2
2000 Q1	2.9	0.5	0.2	0.8	-0.1	4.4	2.8	5.1	-0.4	1.7	2.3	2.8	0.5	7.9
Q2	4.5	1.9	0.3	0.9	0.2	4.2	2.9	6.7	4.2	1.6	2.6	2.4	0.8	7.8
Q3	3.0	1.1	0.1	0.6	0.2	4.0	3.0	7.1	1.5	2.0	3.7	3.3	0.5	7.7
Q4	1.9	0.3	0.4	0.4	0.3	4.9	4.4	5.8	-0.2	2.4	4.5	2.4	0.8	7.6
2001 Q1	1.8	1.1	0.2	-0.4	-0.3	3.5	2.3	6.1	1.4	2.5	4.8	2.0	0.7	7.6
Q2	0.7	0.8	0.2	-0.9	-0.3	2.3	1.4	1.4	0.4	3.2	4.7	2.0	0.6	7.7
Q3	0.5	0.8	0.2	-1.5	-1.0	1.8	-0.1	-1.3	0.9	2.5	2.6	1.1	0.2	7.8
Q4	0.1	0.9	–	-1.6	-0.9	-0.2	-1.9	-3.7	-0.1	1.8	0.3	1.0	-0.1	7.9
2002 Q1	-0.2	-0.3	0.2	-1.2	-0.8	0.1	-1.8	-4.1	-3.3	1.9	-0.2	1.0	-0.3	8.0
Q2	0.1	-0.7	0.2	-1.4	–	0.6	-1.2	-2.4	-2.3	1.2	-0.9	1.0	-0.5	8.2
2001 Sep	..	..	..	..	..	..	..	-1.5	1.4	2.1	1.9	..	..	7.8
Oct	..	..	..	..	..	..	..	-2.9	-1.1	2.0	0.6	..	..	7.9
Nov	..	..	..	..	..	..	..	-3.8	1.8	1.7	0.1	..	..	7.9
Dec	..	..	..	..	..	..	..	-4.3	-0.9	1.7	0.1	..	..	7.9
2002 Jan	..	..	..	..	..	..	..	-4.2	-4.4	2.1	-0.1	..	..	8.0
Feb	..	..	..	..	..	..	..	-4.7	-2.5	1.7	-0.3	..	..	8.0
Mar	..	..	..	..	..	..	..	-3.1	-3.1	1.8	-0.2	..	..	8.0
Apr	..	..	..	..	..	..	..	-2.0	-1.7	1.6	-0.8	..	..	8.0
May	..	..	..	..	..	..	..	-3.7	-2.7	1.1	-0.9	..	..	8.2
Jun	..	..	..	..	..	..	..	-1.5	-2.5	0.8	-1.1	..	..	8.3
Jul	..	..	..	..	..	..	..	-1.3	-3.1	1.0	-1.0	..	..	8.3
Aug	..	..	..	..	..	..	..	..	..	1.1	-1.0	..	..	8.3
Sep	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter	ILGI	HUCC	HUCD	HUCE	HUCF	HUCG	HUCH	ILHC	ILHW	ILIQ
1999 Q2	-0.4	-0.6	-0.1	0.2	-0.4	1.2	0.7	1.1	-3.0	0.8
Q3	1.5	0.6	0.1	0.5	–	1.0	0.7	1.8	1.3	1.0
Q4	1.2	0.5	–	-0.1	0.3	0.7	0.3	1.4	1.8	0.6
2000 Q1	0.7	–	0.1	0.2	–	1.4	1.1	0.8	-0.4	-1.8
Q2	1.1	0.8	–	0.2	–	1.0	0.8	2.6	1.5	1.1
Q3	–	-0.1	–	0.2	–	0.9	0.8	2.1	-1.4	0.7
Q4	0.1	-0.3	0.3	-0.2	0.3	1.6	1.6	0.2	0.1	0.9
2001 Q1	0.6	0.8	-0.1	-0.6	-0.5	–	-1.0	1.1	1.2	-1.9
Q2	–	0.5	–	-0.3	-0.1	-0.2	-0.1	-1.9	0.5	1.0
Q3	-0.2	-0.1	–	-0.4	-0.7	0.3	-0.7	-0.6	-0.9	0.3
Q4	-0.3	-0.3	0.1	-0.3	0.3	-0.4	-0.2	-2.3	-0.8	0.6
2002 Q1	0.3	-0.4	0.1	-0.2	-0.4	0.3	-0.8	0.7	-2.1	-2.1
Q2	0.3	0.1	–	-0.5	0.8	0.4	0.5	-0.2	1.6	0.8

Percentage change on previous month	ILKC	ILKM
2001 Sep	-1.3	-0.3
Oct	-1.6	-1.7
Nov	-0.7	2.3
Dec	0.1	-1.8
2002 Jan	1.0	-2.0
Feb	-0.3	0.4
Mar	0.3	0.2
Apr	-0.1	1.7
May	-1.3	-0.6
Jun	2.0	-0.1
Jul	-1.0	-1.6
Aug	..	..
Sep	..	..

GDP = Gross Domestic Product at constant market prices
PFC = Private Final Consumption at constant market prices
GFC = Government Final Consumption at constant market prices
GFCF = Gross Fixed Capital Formation at constant market prices
ChgStk = Change in Stocks at constant market prices
Exports = Exports of goods and services
Imports = Imports of goods and services
IoP = Industrial Production
Sales = Retail Sales volume
CPI = Consumer Prices measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment rates: percentage of total workforce

3 France

	GDP	Contribution to change in GDP: PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI[1]	Earnings	Empl[2]	Unempl
Percentage change on a year earlier														
	ILFZ	HUBK	HUBL	HUBM	HUBN	HUBO	HUBP	ILGT	ILHN	HXAA	ILAG	ILAP	ILIH	GABC
1996	1.1	0.7	0.5	–	–0.6	0.7	0.4	0.9	–0.3	2.0	–2.7	2.6	0.3	11.9
1997	1.8	0.1	0.5	–	0.1	2.8	1.5	3.9	1.1	1.2	–0.6	2.6	0.7	11.8
1998	3.5	2.0	–	1.3	0.7	2.1	2.6	5.2	2.6	0.8	–0.9	2.2	2.0	11.4
1999	3.2	1.9	0.3	1.6	–0.3	1.1	1.5	2.0	2.4	0.5	–1.6	2.5	2.2	10.7
2000	4.2	1.5	0.7	1.6	0.4	3.6	3.7	3.6	0.5	1.7	2.1	5.2	2.7	9.3
2001	1.8	1.5	0.5	0.5	–1.0	0.4	0.2	0.8	–0.1	1.7	1.5	4.2	1.5	8.6
1999 Q2	2.7	1.8	0.3	1.5	–0.2	0.4	1.0	0.5	1.9	0.4	–2.3	2.0	2.0	11.0
Q3	3.2	2.0	0.3	1.6	–0.7	1.4	1.4	2.3	2.3	0.5	–1.6	2.7	2.2	10.6
Q4	4.1	1.9	0.6	1.6	–	2.4	2.4	4.3	2.2	1.0	–	3.4	2.5	10.2
2000 Q1	4.6	2.1	0.5	1.8	0.1	3.2	3.1	4.3	2.0	1.5	1.2	5.2	2.6	9.8
Q2	4.5	1.6	0.7	1.7	0.1	3.9	3.6	3.9	1.3	1.5	2.1	5.4	2.7	9.4
Q3	3.9	1.3	0.7	1.5	1.0	3.5	4.1	3.3	0.1	1.9	2.7	5.2	2.6	9.1
Q4	3.8	1.2	0.7	1.6	0.4	3.9	4.0	2.7	–1.3	1.9	2.4	5.0	2.5	8.8
2001 Q1	3.0	1.4	0.6	1.1	–0.5	2.8	2.4	2.3	1.3	1.2	2.5	4.3	2.1	8.6
Q2	2.0	1.4	0.5	0.6	–0.3	0.8	0.9	1.4	–0.4	2.1	1.8	4.2	1.8	8.5
Q3	2.0	1.7	0.6	0.5	–1.0	–0.1	–0.3	1.4	–0.7	1.9	1.1	4.2	1.2	8.5
Q4	0.2	1.5	0.5	–	–2.1	–1.8	–2.1	–1.9	–0.8	1.4	0.6	4.1	0.8	8.6
2002 Q1	0.4	1.0	0.6	–0.1	–0.9	–1.2	–0.9	–1.2	–1.4	2.2	–0.2	3.9	0.4	8.7
Q2	1.0	1.1	0.7	0.1	–1.2	–	–0.3	0.1	–0.7	1.6	–0.1	3.9	0.2	8.8
2001 Sep	..	..	..	..	..	..	..	1.0	–1.1	1.5	0.8	..	..	8.5
Oct	..	..	..	..	..	..	..	–1.2	–0.9	1.8	0.6	..	..	8.6
Nov	..	..	..	..	..	..	..	–2.0	–0.6	1.2	0.6	..	..	8.6
Dec	..	..	..	..	..	..	..	–2.4	–0.6	1.4	0.4	..	..	8.7
2002 Jan	..	..	..	..	..	..	..	–1.9	–3.5	2.3	–	..	..	8.7
Feb	..	..	..	..	..	..	..	–1.3	–0.6	2.1	–0.4	..	..	8.7
Mar	..	..	..	..	..	..	..	–0.3	–0.3	2.1	–0.3	..	..	8.8
Apr	..	..	..	..	..	..	..	0.4	–0.9	1.9	–0.1	..	..	8.8
May	..	..	..	..	..	..	..	–0.3	2.1	1.5	–0.1	..	..	8.8
Jun	..	..	..	..	..	..	..	–	–3.0	1.5	–0.1	..	..	8.9
Jul	..	..	..	..	..	..	..	–1.7	1.7	1.7	0.2	..	..	8.9
Aug	..	..	..	..	..	..	..	..	3.5	1.8	0.3	..	..	8.9
Sep	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Percentage change on previous quarter														
	ILGJ	HUBQ	HUBR	HUBS	HUBT	HUBU	HUBV	ILHD	ILHX				ILIR	
1999 Q2	1.0	0.6	0.1	0.4	–0.1	0.5	0.5	0.8	–0.2				0.5	
Q3	1.0	0.5	0.1	0.4	–0.6	1.2	0.5	1.3	1.2				0.7	
Q4	1.4	0.5	0.3	0.3	0.8	0.6	1.1	2.1	1.0				0.7	
2000 Q1	1.1	0.4	0.1	0.6	–	1.0	1.0	0.1	–0.1				0.8	
Q2	0.8	0.2	0.2	0.4	–0.1	1.1	1.0	0.3	–0.8				0.6	
Q3	0.5	0.2	0.1	0.1	0.3	0.7	1.1	0.7	–				0.6	
Q4	1.3	0.3	0.2	0.4	0.2	1.0	0.9	1.5	–0.4				0.6	
2001 Q1	0.3	0.6	–	0.1	–0.9	–0.1	–0.6	–0.3	2.6				0.4	
Q2	–0.1	0.2	0.1	–0.1	0.1	–0.8	–0.5	–0.6	–2.5				0.2	
Q3	0.5	0.5	0.2	0.1	–0.4	–0.2	–0.2	0.7	–0.3				0.1	
Q4	–0.5	0.1	0.1	–0.1	–0.8	–0.6	–0.8	–1.7	–0.5				0.2	
2002 Q1	0.5	0.2	0.2	0.1	0.2	0.4	0.6	0.4	1.9				–0.1	
Q2	0.5	0.3	0.2	–	–0.3	0.4	0.2	0.7	–1.8				–	
Percentage change on previous month														
								ILKD	ILKN					
2001 Sep								–0.4	–1.4					
Oct								–1.2	–0.3					
Nov								–	1.0					
Dec								–0.7	–0.1					
2002 Jan								0.5	–0.2					
Feb								0.3	2.3					
Mar								0.6	0.7					
Apr								0.2	–3.5					
May								–0.2	2.5					
Jun								0.3	–3.1					
Jul								–1.0	3.4					
Aug								..	2.4					
Sep								..	..					

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CPI = Consumer Prices, measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Wage Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment rates: percentage of total workforce

4 Italy

	Contribution to change in GDP													
	GDP	PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl	Unempl
Percentage change on a year earlier														
	ILGA	HUCI	HUCJ	HUCK	HUCL	HUCM	HUCN	ILGU	ILHO	HYAA	ILAH	ILAQ	ILII	GABE
1996	1.1	0.7	0.2	0.7	–0.7	0.2	–0.1	–1.6	1.2	4.0	1.9	3.1	0.5	11.5
1997	2.0	1.9	–	0.4	0.3	1.7	2.3	3.7	0.9	2.0	1.3	3.9	0.4	11.6
1998	1.8	1.9	–	0.7	0.3	1.0	2.2	1.4	1.0	2.0	0.1	3.0	1.1	11.7
1999	1.6	1.5	0.2	1.1	0.1	0.1	1.4	–	1.0	1.7	–0.2	1.8	1.3	11.3
2000	2.9	1.7	0.3	1.3	–1.1	3.3	2.5	4.0	–0.5	2.5	6.0	2.0	1.9	10.4
2001	1.8	0.7	0.4	0.5	–	0.2	–	–1.0	–1.4	2.7	1.9	1.9	2.0	9.4
1999 Q2	1.1	1.2	0.2	0.9	0.5	–0.8	1.1	–2.4	0.3	1.4	–1.4	1.4	1.3	11.3
Q3	1.4	1.4	0.2	1.2	–0.3	0.2	1.3	0.4	0.6	1.7	–	1.9	1.2	11.2
Q4	2.9	1.3	0.2	1.6	–0.1	2.0	2.1	3.2	2.3	2.1	2.2	1.5	1.4	11.0
2000 Q1	3.2	1.4	0.3	1.5	–1.3	4.1	2.9	3.5	–0.3	2.4	4.7	1.6	1.1	10.9
Q2	3.0	1.8	0.3	1.5	–0.8	2.9	2.6	5.8	–0.3	2.6	6.2	2.6	1.6	10.5
Q3	2.7	1.7	0.3	1.4	–1.6	3.6	2.7	3.5	–	2.6	6.7	1.9	2.1	10.3
Q4	2.6	1.6	0.3	0.7	–0.7	2.6	2.0	3.5	–1.3	2.6	6.5	1.8	2.8	9.9
2001 Q1	2.5	1.2	0.4	0.7	–0.2	0.9	0.4	2.4	–0.6	2.9	4.8	2.2	3.2	9.7
Q2	2.3	1.0	0.4	0.6	–0.2	1.4	0.9	–0.8	–1.0	3.0	3.2	1.3	2.1	9.5
Q3	1.7	0.4	0.4	0.3	1.2	–0.6	–	–1.3	–2.2	2.8	0.9	2.0	1.8	9.4
Q4	0.5	0.1	0.3	0.4	–0.6	–0.8	–1.1	–4.3	–1.9	2.5	–1.0	2.1	1.1	9.2
2002 Q1	–	–0.3	0.3	–0.4	1.1	–1.6	–0.9	–3.6	2.9	2.4	–1.3	2.2	1.8	9.1
Q2	0.2	–0.3	0.3	–0.7	1.0	–0.6	–0.5	–2.8	1.3	2.2	–1.0	3.1	1.8	9.0
2001 Sep	..	..	..	..	..	..	..	–2.1	–2.9	2.6	0.4	2.0	..	9.3
Oct	..	..	..	..	..	..	..	–1.5	–1.9	2.5	–0.6	2.0	..	9.3
Nov	..	..	..	..	..	..	..	–5.8	–1.9	2.4	–1.3	2.1	..	9.2
Dec	..	..	..	..	..	..	..	–5.7	–1.9	2.4	–1.3	2.1	..	9.1
2002 Jan	..	..	..	..	..	..	..	–3.3	2.9	2.4	–1.2	1.9	..	9.1
Feb	..	..	..	..	..	..	..	–3.1	2.9	2.3	–1.4	1.6	..	9.1
Mar	..	..	..	..	..	..	..	–4.4	2.9	2.5	–1.3	2.8	..	9.0
Apr	..	..	..	..	..	..	..	–3.5	1.0	2.3	–1.2	3.1	..	9.0
May	..	..	..	..	..	..	..	–1.8	1.9	2.3	–0.9	3.1	..	9.0
Jun	..	..	..	..	..	..	..	–3.2	1.0	2.2	–0.7	3.2	..	9.0
Jul	..	..	..	..	..	..	..	–1.7	2.9	2.2	0.1	2.2	..	9.0
Aug	..	..	..	..	..	..	..	..	..	2.4	0.2	2.2	..	..
Sep	..	..	..	..	..	..	..	..	..	2.6	..	..	..	..

Percentage change on previous quarter														
	ILGK	HUCO	HUCP	HUCQ	HUCR	HUCS	HUCT	ILHE	ILHY				ILIS	
1999 Q2	0.5	–	–	0.3	–0.3	0.5	0.1	–0.4	0.3				1.1	
Q3	0.9	0.4	0.1	0.3	–0.5	0.7	0.1	2.0	–				1.4	
Q4	1.0	0.4	0.1	0.5	0.4	1.0	1.3	1.4	1.3				–0.1	
2000 Q1	0.7	0.6	0.1	0.3	–0.8	1.8	1.3	0.5	–1.9				–1.2	
Q2	0.3	0.4	–	0.3	0.2	–0.6	–0.1	1.8	0.3				1.6	
Q3	0.6	0.3	0.1	0.3	–1.2	1.3	0.2	–0.2	0.3				1.9	
Q4	1.0	0.3	0.1	–0.1	1.2	0.1	0.6	1.4	–				0.6	
2001 Q1	0.6	0.2	0.1	0.3	–0.3	0.1	–0.3	–0.5	–1.3				–0.8	
Q2	0.1	0.1	0.1	0.2	0.2	–0.1	0.3	–1.5	–				0.5	
Q3	0.1	–0.2	0.1	–	0.2	–0.7	–0.7	–0.7	–1.0				1.6	
Q4	–0.2	0.1	0.1	–0.1	–0.6	–0.1	–0.4	–1.7	0.3				–0.1	
2002 Q1	0.1	–0.2	0.1	–0.5	1.4	–0.7	–0.1	0.2	3.6				–0.2	
Q2	0.2	0.1	0.1	–0.1	–	0.8	0.7	–0.7	–1.6				0.5	

Percentage change on previous month		
	ILKE	ILKO
2001 Sep	–0.9	–
Oct	–0.2	–
Nov	–2.5	1.0
Dec	1.6	–1.0
2002 Jan	0.2	3.9
Feb	–	–
Mar	–0.7	–
Apr	–1.0	–1.9
May	1.6	1.0
Jun	–1.0	–1.0
Jul	0.6	1.0
Aug	..	..
Sep	..	..

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Earnings = Average Wage Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment not seasonally adjusted

Source: OECD - SNA93

5 USA

	GDP	Contribution to change in GDP: PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl[1]	Unempl
Percentage change on a year earlier														
	ILGC	HUDG	HUDH	HUDI	HUDJ	HUDK	HUDL	ILGW	ILHQ	ILAA	ILAJ	ILAS	ILIK	GADO
1996	3.6	2.1	0.1	1.5	–	0.9	1.0	4.6	5.6	2.9	2.3	3.3	1.4	5.4
1997	4.4	2.4	0.3	1.6	0.4	1.4	1.7	7.0	4.9	2.3	0.3	3.2	2.3	4.9
1998	4.3	3.2	0.2	2.0	0.2	0.3	1.6	5.1	7.1	1.6	–1.1	2.5	1.5	4.5
1999	4.1	3.3	0.4	1.6	–0.2	0.4	1.6	3.7	8.8	2.1	1.8	2.9	1.5	4.2
2000	3.8	2.9	0.4	1.2	–	1.1	2.0	4.5	5.5	3.4	4.1	3.5	1.3	4.0
2001	0.3	1.7	0.5	–0.6	–1.4	–0.7	–0.5	–3.6	4.8	2.8	0.7	3.2	–0.2	4.8
1999 Q2	3.9	3.2	0.2	1.7	–0.1	0.3	1.4	3.2	8.1	2.2	1.1	2.4	1.4	4.3
Q3	4.2	3.4	0.5	1.7	–0.3	0.7	1.8	3.7	9.6	2.4	2.4	3.7	1.4	4.2
Q4	4.3	3.3	0.5	1.3	0.1	0.6	1.7	4.4	8.2	2.6	3.2	3.6	1.5	4.1
2000 Q1	4.2	3.4	0.4	1.6	–0.4	1.0	2.0	4.8	7.8	3.2	4.6	4.2	1.6	4.0
Q2	4.9	3.0	0.6	1.4	0.7	1.3	2.2	5.9	5.8	3.3	4.4	3.3	1.6	4.0
Q3	3.7	2.9	0.4	1.0	0.2	1.4	2.2	4.8	5.2	3.5	3.9	2.9	1.1	4.1
Q4	2.3	2.4	0.3	0.7	–0.4	0.9	1.7	2.6	3.5	3.4	3.3	3.5	1.0	4.0
2001 Q1	1.5	1.9	0.5	0.1	–0.8	0.4	0.8	–0.4	2.9	3.4	2.1	2.6	0.7	4.2
Q2	–0.1	1.6	0.4	–0.5	–1.6	–0.4	–0.2	–3.5	4.5	3.4	2.1	3.5	–0.1	4.5
Q3	–0.4	1.2	0.5	–0.9	–1.4	–1.3	–1.2	–4.8	3.8	2.7	0.6	3.4	–0.2	4.8
Q4	0.1	1.9	0.7	–1.0	–1.7	–1.4	–1.4	–5.8	7.9	1.8	–1.5	3.4	–1.0	5.6
2002 Q1	1.4	2.0	0.7	–0.9	–	–1.1	–0.7	–3.7	5.9	1.2	–1.8	4.0	–1.4	5.6
Q2	2.2	2.1	0.7	–0.6	0.7	–0.4	0.4	–1.3	5.5	1.3	–1.7	3.4	–0.7	5.9
2001 Sep	..	..	..	..	..	..	..	–5.7	1.6	2.6	0.7	3.4	–0.1	5.0
Oct	..	..	..	..	..	..	..	–5.9	9.5	2.1	–0.9	3.4	–0.6	5.4
Nov	..	..	..	..	..	..	..	–5.9	7.5	1.8	–1.7	3.4	–1.0	5.6
Dec	..	..	..	..	..	..	..	–5.8	6.7	1.6	–2.0	3.4	–1.4	5.8
2002 Jan	..	..	..	..	..	..	..	–4.4	5.6	1.1	–2.3	3.4	–1.8	5.6
Feb	..	..	..	..	..	..	..	–3.7	6.1	1.1	–2.0	4.2	–1.0	5.5
Mar	..	..	..	..	..	..	..	–3.0	6.0	1.5	–1.3	4.2	–1.4	5.7
Apr	..	..	..	..	..	..	..	–2.3	5.8	1.6	–1.4	3.4	–1.0	6.0
May	..	..	..	..	..	..	..	–1.5	4.4	1.2	–2.2	3.4	–0.6	5.8
Jun	..	..	..	..	..	..	..	–	6.2	1.1	–1.6	3.3	–0.6	5.9
Jul	..	..	..	..	..	..	..	0.3	6.8	1.5	–0.6	2.5	–0.8	5.9
Aug	..	..	..	..	..	..	..	0.4	6.7	1.8	–0.7	3.3	0.1	5.7
Sep	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Percentage change on previous quarter														
	ILGM	HUDM	HUDN	HUDO	HUDP	HUDQ	HUDR	ILHG	ILIA				ILIU	
1999 Q2	0.5	0.9	–	0.4	–0.6	0.1	0.5	0.7	1.4				1.2	
Q3	1.3	0.8	0.2	0.3	0.2	0.3	0.5	1.2	1.9				0.6	
Q4	1.7	0.8	0.2	0.2	0.5	0.4	0.4	1.5	2.0				0.3	
2000 Q1	0.6	0.9	–0.1	0.6	–0.5	0.2	0.5	1.4	2.2				–0.5	
Q2	1.2	0.5	0.3	0.2	0.5	0.4	0.7	1.7	–0.4				1.2	
Q3	0.1	0.6	–	–	–0.3	0.3	0.5	0.2	1.3				0.1	
Q4	0.3	0.3	0.1	–0.1	–	–0.1	–0.1	–0.7	0.4				0.2	
2001 Q1	–0.2	0.4	0.2	–	–0.9	–0.2	–0.3	–1.6	1.6				–0.7	
Q2	–0.4	0.2	0.1	–0.4	–0.3	–0.4	–0.3	–1.4	1.2				0.4	
Q3	–0.1	0.2	0.1	–0.4	–	–0.6	–0.5	–1.2	0.5				–	
Q4	0.7	1.0	0.3	–0.2	–0.4	–0.3	–0.2	–1.7	4.3				–0.6	
2002 Q1	1.2	0.5	0.1	0.1	0.8	0.1	0.3	0.7	–0.2				–1.1	
Q2	0.3	0.3	0.1	–0.1	0.4	0.4	0.8	1.0	0.8				1.0	
Percentage change on previous month														
								ILKG	ILKQ				ILLA	
2001 Sep								–1.1	–2.5				–	
Oct								–0.6	7.5				–	
Nov								–0.3	–2.4				–0.4	
Dec								–0.4	0.1				–0.1	
2002 Jan								0.7	0.2				–1.6	
Feb								0.4	0.7				0.9	
Mar								0.3	–0.4				–	
Apr								0.1	0.8				0.3	
May								0.5	–0.7				0.5	
Jun								0.7	1.6				0.5	
Jul								0.4	1.2				0.2	
Aug								–0.2	0.7				–0.2	
Sep								..	..				..	

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CPI = Consumer Prices, measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment rates: percentage of total workforce

Source: OECD - SNA93

6 Japan

	Contribution to change in GDP													
	GDP	PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP[1]	Sales	CPI	PPI	Earnings[2]	Empl	Unempl
Percentage change on a year earlier	ILGD	HUCU	HUCV	HUCW	HUCX	HUCY	HUCZ	ILGX	ILHR	ILAB	ILAK		ILAT	ILIL	GADP
1996	3.6	1.3	0.4	2.0	0.3	0.6	1.0	2.2	0.6	0.1	–1.7		2.6	0.5	3.4
1997	1.8	0.5	0.2	0.2	–	1.1	0.1	4.0	–2.1	1.7	0.6		2.8	1.0	3.4
1998	–1.0	0.1	0.3	–1.2	–0.6	–0.2	–0.6	–6.7	–6.0	0.7	–1.3		–0.9	–0.6	4.1
1999	0.7	0.6	0.7	–0.2	–0.3	0.1	0.2	1.0	–2.6	–0.3	–1.4		–0.7	–0.8	4.7
2000	2.2	0.2	0.7	0.9	–0.1	1.3	0.8	5.2	–1.1	–0.7	0.1		1.6	–0.3	4.7
2001	–0.3	0.8	0.4	–0.6	–0.3	–0.7	–0.1	–7.0	–1.2	–0.7	–0.9		0.1	–0.5	5.0
1999 Q2	1.3	1.3	0.8	–0.3	–0.3	–0.1	0.2	0.3	–2.5	–0.3	–1.7		–1.3	–1.1	4.7
Q3	2.1	1.6	0.8	0.1	–0.3	0.3	0.3	2.7	–2.2	–	–1.3		–0.3	–0.7	4.7
Q4	0.6	–	0.7	0.1	–0.2	0.7	0.8	5.1	–1.1	–1.0	–0.5		–0.3	–0.2	4.7
2000 Q1	3.6	1.7	0.8	0.6	–0.1	1.3	0.7	4.3	–2.2	–0.6	0.1		1.9	–0.5	4.8
Q2	2.3	0.3	0.8	0.7	–0.1	1.4	0.8	6.6	–1.5	–0.7	0.3		2.2	–0.4	4.7
Q3	0.7	–1.4	0.7	0.9	–	1.2	0.7	5.3	–0.4	–0.6	0.2		1.6	–0.4	4.7
Q4	2.3	0.2	0.7	1.3	0.1	1.0	0.9	4.4	–0.4	–0.8	–0.1		1.1	0.2	4.8
2001 Q1	1.4	0.8	0.6	0.4	–	0.2	0.7	0.6	2.3	–0.5	–0.4		0.4	0.5	4.7
Q2	–0.6	0.4	0.3	–0.3	–0.3	–0.7	0.1	–5.2	–1.1	–0.7	–0.6		0.6	–0.4	4.9
Q3	–0.5	1.1	0.4	–0.8	–0.4	–1.1	–0.2	–10.4	–2.6	–0.8	–1.0		–0.2	–0.8	5.1
Q4	–1.5	0.9	0.5	–1.7	–0.7	–1.3	–0.8	–12.8	–3.4	–1.0	–1.6		–0.6	–1.3	5.4
2002 Q1	–2.5	0.1	0.4	–2.1	–1.1	–0.6	–0.8	–10.1	–4.4	–1.4	–1.5		–1.5	–1.5	5.3
Q2	–0.7	0.4	0.4	–1.7	–0.7	0.6	–0.2	–3.0	–3.0	–0.9	–1.1		–0.7	–1.6	5.3
2001 Sep	..	..	..	..	..	..	..	–11.1	–2.2	–0.8	–1.0		–0.6	–1.3	5.3
Oct	..	..	..	..	..	..	..	–12.2	–3.4	–0.8	–1.5		–0.4	–1.6	5.4
Nov	..	..	..	..	..	..	..	–13.1	–2.2	–1.0	–1.6		0.5	–1.1	5.4
Dec	..	..	..	..	..	..	..	–13.1	–4.5	–1.2	–1.8		–1.7	–1.2	5.5
2002 Jan	..	..	..	..	..	..	..	–11.1	–4.4	–1.4	–1.7		–2.7	–1.4	5.3
Feb	..	..	..	..	..	..	..	–10.8	–4.4	–1.6	–1.5		–0.8	–1.6	5.3
Mar	..	..	..	..	..	..	..	–8.5	–4.4	–1.2	–1.5		–1.0	–1.3	5.2
Apr	..	..	..	..	..	..	..	–6.4	–3.4	–1.1	–1.3		0.4	–1.4	5.2
May	..	..	..	..	..	..	..	–1.6	–2.3	–0.9	–1.1		–0.4	–1.9	5.4
Jun	..	..	..	..	..	..	..	–1.1	–3.4	–0.7	–1.0		–1.8	–1.4	5.4
Jul	..	..	..	..	..	..	..	1.7	–4.5	–0.8	–1.2		–5.0	–1.2	5.4
Aug	..	..	..	..	..	..	..	..	–1.1	–0.9	–0.9		–3.4	–1.1	5.5
Sep	..	..	..	..	..	..	..	..	..	..	..		..	..	..
Percentage change on previous quarter	ILGN	HUDA	HUDB	HUDC	HUDD	HUDE	HUDF	ILHH	ILIB					ILIV	
1999 Q2	2.1	1.6	0.4	–	0.1	0.1	0.2	–0.3	–0.4					2.2	
Q3	0.8	1.0	0.1	–0.2	–0.2	0.3	0.2	2.7	–0.4					–	
Q4	–1.3	–1.3	0.1	–	–0.1	0.2	0.2	1.2	–0.7					–0.6	
2000 Q1	2.0	0.4	0.2	0.8	0.1	0.7	0.1	0.6	–0.7					–2.1	
Q2	0.8	0.2	0.4	0.1	–	0.3	0.3	1.9	0.4					2.3	
Q3	–0.7	–0.7	–	–	–0.1	0.1	0.1	1.5	0.8					–	
Q4	0.3	0.3	–	0.3	–	–	0.4	0.3	–0.7					–	
2001 Q1	1.0	1.0	0.2	–	–	–0.2	–	–3.1	1.9					–1.8	
Q2	–1.2	–0.1	0.1	–0.6	–0.3	–0.6	–0.3	–4.0	–2.9					1.4	
Q3	–0.7	–0.1	0.1	–0.4	–0.2	–0.3	–0.3	–4.0	–0.8					–0.4	
Q4	–0.7	0.1	0.1	–0.6	–0.3	–0.2	–0.2	–2.4	–1.5					–0.5	
2002 Q1	–	0.2	–	–0.4	–0.4	0.5	–	–0.1	0.8					–2.0	
Q2	0.6	0.2	0.1	–0.2	0.2	0.6	0.2	3.7	–1.5					1.3	
Percentage change on previous month								ILKH	ILKR					ILLB	
2001 Sep								–3.3	–					–0.7	
Oct								0.1	–1.1					0.1	
Nov								–1.5	1.2					0.4	
Dec								1.7	–2.3					–1.1	
2002 Jan								–1.5	2.4					–1.4	
Feb								0.9	–					–0.3	
Mar								0.5	–1.1					0.7	
Apr								0.3	–1.2					0.6	
May								4.0	1.2					0.3	
Jun								–0.2	–1.2					0.3	
Jul								0.4	–1.2					–	
Aug								..	2.4					–	
Sep								..	..					..	

GDP = Gross Domestic Product at constant market prices
PFC = Private Final Consumption at constant market prices
GFC = Government Final Consumption at constant market prices
GFCF = Gross Fixed Capital Formation at constant market prices
ChgStk = Change in Stocks at constant market prices
Exports = Exports of goods and services
Imports = Imports of goods and services

Sales = Retail Sales volume
CPI = Consumer Prices, measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted
Unempl = Standardised Unemployment rates: percentage of total workforce
IoP=Index of Production

7 World trade in goods[1]

	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
1992	4.3	3.3	8.6	5.3	4.3	8.3	4.3	3.7	5.9	5.1	4.2	7.8	4.8	4.7
1993	4.7	2.2	15.3	4.0	1.0	12.5	4.0	2.2	9.1	3.3	0.8	10.3	4.4	3.6
1994	12.0	9.9	19.9	11.9	12.3	11.0	10.6	9.4	14.0	10.9	11.0	10.8	12.0	10.8
1995	9.6	10.0	8.6	10.9	10.4	12.4	9.0	9.4	7.8	9.9	9.0	12.2	10.3	9.4
1996	6.5	6.5	6.5	7.0	7.9	4.6	6.6	6.4	7.2	6.0	7.0	3.5	6.7	6.3
1997	11.3	11.9	9.4	10.8	11.4	9.5	10.4	11.1	8.9	9.5	9.7	8.9	11.1	10.0
1998	6.0	6.4	4.8	6.8	9.6	–0.4	5.4	5.8	4.3	6.1	8.3	0.3	6.5	5.8
1999	6.0	6.1	5.6	8.0	10.5	0.8	5.4	5.7	4.7	6.5	8.9	–0.9	7.0	5.9
2000	13.8	12.6	18.3	14.5	13.8	16.6	12.5	12.1	13.8	12.9	11.9	15.9	14.1	12.7
2001	–0.7	–1.0	0.3	–	–1.0	3.2	0.1	–0.3	1.2	0.6	–0.4	3.8	–0.3	0.4
1996 Q2	5.8	5.3	7.6	6.0	6.7	4.1	5.7	4.9	7.8	5.1	5.8	3.1	5.9	5.4
Q3	6.7	6.8	6.2	7.0	8.7	2.5	7.0	7.0	7.2	5.9	7.8	1.1	6.8	6.5
Q4	7.8	8.1	6.5	8.1	9.0	5.8	8.4	8.8	7.3	7.1	8.3	4.0	7.9	7.7
1997 Q1	8.2	8.0	9.0	8.3	8.3	8.3	7.9	7.6	8.7	7.2	7.2	7.1	8.2	7.5
Q2	11.9	13.1	7.8	11.5	12.4	9.3	11.3	12.5	8.2	10.2	10.6	9.2	11.7	10.8
Q3	12.9	14.0	9.0	12.1	12.5	11.2	11.8	13.0	8.7	10.6	10.6	10.8	12.5	11.2
Q4	12.2	12.4	11.6	11.4	12.3	9.1	10.8	11.2	9.8	9.9	10.4	8.7	11.8	10.4
1998 Q1	10.7	11.4	8.5	10.5	13.1	3.7	10.0	11.1	7.4	9.5	11.4	4.7	10.6	9.8
Q2	7.1	6.8	8.3	7.8	9.5	3.2	6.3	6.2	6.5	6.9	8.3	3.4	7.5	6.6
Q3	4.1	4.2	4.0	4.9	7.9	–2.9	3.4	3.4	3.5	4.4	6.9	–2.3	4.5	3.9
Q4	2.2	3.3	–1.6	4.1	7.7	–5.4	1.9	2.6	–	3.5	6.5	–4.6	3.2	2.7
1999 Q1	1.5	2.6	–2.2	4.5	7.3	–3.5	1.4	1.8	0.3	3.6	6.3	–4.1	3.0	2.5
Q2	3.7	4.0	2.8	6.2	9.2	–2.2	3.6	3.7	3.5	4.8	7.8	–3.6	5.0	4.2
Q3	7.4	7.4	7.3	9.2	11.5	2.3	6.8	7.3	5.3	7.3	9.7	–	8.3	7.0
Q4	11.3	10.5	14.3	12.2	14.0	6.6	10.0	10.1	9.6	10.1	12.0	4.1	11.8	10.0
2000 Q1	14.8	13.8	18.5	14.3	14.8	12.6	13.2	13.5	12.7	12.3	12.7	10.9	14.6	12.8
Q2	14.9	14.0	18.1	15.3	15.0	16.2	13.3	13.2	13.5	13.6	12.9	15.6	15.1	13.4
Q3	14.0	12.4	19.6	15.4	14.3	19.1	12.9	11.9	15.7	14.1	12.6	19.0	14.7	13.5
Q4	11.5	10.0	16.8	12.9	11.2	18.6	10.7	9.8	13.4	11.5	9.5	17.9	12.2	11.1
2001 Q1	7.0	6.2	9.9	7.7	6.0	13.0	6.9	6.1	9.0	7.3	5.5	13.0	7.4	7.1
Q2	0.5	0.1	1.8	1.2	–0.1	5.1	1.1	0.7	2.0	1.6	0.4	5.3	0.8	1.3
Q3	–4.2	–4.2	–4.2	–3.5	–4.2	–1.4	–2.9	–2.9	–2.7	–2.7	–3.3	–0.7	–3.9	–2.8
Q4	–6.2	–6.2	–6.1	–5.3	–5.7	–4.0	–4.6	–4.9	–3.6	–3.8	–4.3	–2.4	–5.7	–4.2
2002 Q1	..	–3.8	..	..	–1.9	..	..	–2.6	..	..	–1.4	..	..	..
Q2	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Percentage change on previous quarter														
	ILJN	ILJO	ILJP	ILJQ	ILJR	ILJS	ILJT	ILJU	ILJV	ILJW	ILJX	ILJY	ILJZ	ILKA
1996 Q2	1.0	0.7	2.2	1.1	1.1	1.0	1.1	0.7	2.0	1.1	1.3	0.5	1.0	1.1
Q3	2.0	2.3	0.7	2.4	2.8	1.2	2.2	2.5	1.6	2.2	2.5	1.2	2.2	2.2
Q4	2.3	2.7	1.1	2.4	2.1	3.0	2.5	3.0	1.4	2.1	1.9	2.7	2.4	2.3
1997 Q1	2.7	2.0	4.7	2.2	2.0	2.8	1.8	1.2	3.4	1.7	1.3	2.6	2.4	1.7
Q2	4.5	5.5	1.1	4.1	4.9	1.9	4.3	5.3	1.5	3.9	4.5	2.5	4.3	4.1
Q3	2.9	3.1	1.9	3.0	2.9	3.1	2.7	3.0	2.1	2.6	2.5	2.7	2.9	2.6
Q4	1.7	1.2	3.5	1.7	1.9	1.1	1.6	1.3	2.5	1.5	1.7	0.7	1.7	1.5
1998 Q1	1.3	1.1	1.8	1.4	2.8	–2.4	1.1	1.1	1.1	1.3	2.2	–1.2	1.3	1.2
Q2	1.1	1.1	0.8	1.5	1.6	1.5	0.8	0.8	0.7	1.5	1.6	1.2	1.3	1.1
Q3	–	0.6	–2.1	0.2	1.4	–3.1	–0.1	0.2	–0.8	0.1	1.2	–3.0	0.1	–
Q4	–0.2	0.4	–2.1	0.9	1.8	–1.5	0.1	0.5	–0.9	0.6	1.4	–1.7	0.4	0.3
1999 Q1	0.6	0.5	1.2	1.7	2.4	–0.4	0.6	0.3	1.4	1.4	2.0	–0.7	1.2	1.0
Q2	3.3	2.5	5.9	3.3	3.4	2.9	3.0	2.7	3.9	2.7	3.0	1.7	3.3	2.9
Q3	3.5	3.9	2.2	3.0	3.6	1.4	2.9	3.7	0.9	2.4	3.0	0.6	3.3	2.7
Q4	3.4	3.2	4.3	3.7	4.0	2.7	3.1	3.1	3.0	3.2	3.5	2.3	3.6	3.2
2000 Q1	3.8	3.5	5.0	3.6	3.1	5.2	3.6	3.4	4.3	3.4	2.7	5.8	3.7	3.5
Q2	3.3	2.7	5.6	4.2	3.5	6.1	3.1	2.5	4.7	3.9	3.2	6.1	3.7	3.5
Q3	2.7	2.5	3.4	3.2	2.9	3.9	2.6	2.5	2.8	2.9	2.6	3.6	3.0	2.7
Q4	1.2	1.0	1.9	1.4	1.2	2.3	1.1	1.2	1.0	0.9	0.7	1.4	1.3	1.0
2001 Q1	–0.4	–0.1	–1.2	–1.2	–1.7	0.2	–	–0.1	0.2	–0.5	–1.1	1.4	–0.8	–0.2
Q2	–3.0	–3.2	–2.2	–2.2	–2.5	–1.3	–2.5	–2.8	–2.0	–1.6	–1.8	–1.2	–2.6	–2.1
Q3	–2.1	–1.9	–2.7	–1.6	–1.3	–2.5	–1.4	–1.3	–1.9	–1.5	–1.2	–2.4	–1.8	–1.4
Q4	–0.9	–1.1	–0.2	–0.4	–0.4	–0.4	–0.7	–0.9	–	–0.3	–0.3	–0.3	–0.7	–0.5
2002 Q1	..	2.4	..	..	2.3	..	..	2.4	..	..	1.8	..	..	..
Q2	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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

Source: OECD - SNA93

An investigation into the coherence of deflation methods in the National Accounts

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Introduction

In January 2002, ONS published an article in *Economic Trends* reporting on current and planned work on developing Constant Price Input-Output (KPIO) Supply-Use Balances. It described how the relaunched KPIO project would use deflators that were transparently linked to those used in the existing National Accounts and so allow us to examine the coherence of those deflators. The purpose of this article is to present the methodology of the system that has been developed together with some of the results. Full results are available on the ONS website **www.statistics.gov.uk**.

Methodology

As the name suggests, Supply and Use Balances set out the total supply and use of products in an economy. The accounting identity reflects the Goods and Services Account of the 1993 System of National Accounts and the 1995 European System of Accounts. Figure 1 sets out the structure of the supply and use identity. Using a van and associated spare parts as an example of a product, the supply to the market comes from domestic manufacturing and imports. In order to arrive at the values paid by purchasers (supply at 'purchasers prices') it is necessary to add on trade margins and taxes. On the demand side, vans at purchaser's prices can be bought by households or government, go to exports or be bought by companies. Companies buying vans as assets for future use in the process of production will record these purchases as investment: capital formation. If the purchases of the spare parts are considered current as opposed to capital spending, then this is recorded as intermediate use. If there is more supply than demand for a product, the excess should be recorded as an increase in the holdings of stocks or inventories of that product. Similarly a shortfall in supply will result in a decrease in inventories as stocks are used to meet the excess demand. This explains the accounting identity that supply will always exactly match demand.

Now consider a domestic establishment producing vans and spare parts. In order to do this it will have to use up some of the supply of goods and services in the economy. This is referred to as intermediate use. The difference between the enterprise's output and its intermediate consumption is referred to as its Value Added.

The ONS produces annual Supply and Use Balances in current prices using 123 products and industries. The following sections describe how the KPIO system completes each section of Figure 1 with values for 1995–99 calculated in the prices of a constant base year (1995) using estimates derived from and fully consistent with the existing constant price estimates in the National Accounts and the current price Supply and Use Balances.

Domestic output

Constant price outputs for each industry in each year are calculated by extrapolating the base year output value using the existing volume of value added index for that industry. The UK constant price value

Figure 1

Structure of a Supply and Use Balance Table

Components of Supply							Components of Use								
Classified by Industry							*Classified by Industry*	*Final Use*							
Products	Domestic Output	+ Imports	+ Margins	+ Net Tax	= SUPPLY	=	Intermediate Use	+ HHFC	+ NPISH	+ GGFC	+ GFCF	+ NAV	+ Stocks	+ Exports	= USE
	Total Dom. Output						+ Value Added = Total Dom. Output								

Margins = Trade and Transport Margins
Net Taxes = Taxes less Subsidies on Products

HHFC = Household Final Consumption
NPISH = Non Profit Institutions Serving Households' Consumption
GGFC = General Government Final Consumption
GFCF = Gross Fixed Capital Formation
NAV = Net Acquisition of Valuables
Stocks = Change in Inventories

added indexes are derived using the assumption that Value Added grows at the same rate as output.

Industry totals are broken down into products using the proportions in the current price domestic output matrix for each year. This is equivalent to applying the same, base weighted, deflator to all the outputs of an industry, which is another basic feature of UK constant price value added measurement.

All work on the domestic output matrix is done at basic prices. Basic prices reflect the amount received by the producer for a unit of goods or services *minus* any taxes payable *plus* any subsidy receivable on that unit as a consequence of production or sale.

Final Use and imports matrices

Information for deriving constant price final use and imports by product is provided by the branches of the National Accounts Group responsible for each component of Final Use in Figure 1. Each branch maintains current and constant price estimates using their own expenditure commodity classification, which is rarely compatible with the input output product classification. The same branches also keep matrices for allocating current price expenditure commodities into I–O products. The Household Final Consumption branch for example make estimates for each element of the COICOP or Classification of Individual Consumption by Purpose system, which is more concerned with why expenditure was made (DIY goods) than what products were purchased (wood, tools etc.). Once a year they provide a cross classification of current price household consumption by COICOP and I–O product to the team preparing the current price supply and use balances. On examination of the data in each of the compiler areas it was possible to separate each element of the constant price expenditure data into four types. The examples below are all drawn from HHFC:

- Most expenditure commodities fitted into one I–O product. All of the HHFC commodity 'Bacon' for instance lies within the I–O product 8 'Meat Processing';

- Some expenditure commodity totals fell into many IO products in the tables supplied to the current price supply and use team but could be split into several lower level estimates, each fitting into a single I–O product, using lower level constant price estimates maintained by the expenditure branch. The HHFC commodity 'Books' for example is split into I–O products 34 ('Printing and Publishing') and 115 ('Public administration and Defence'). However the HHFC team keeps lower level current and constant price data for books bought by individual

households (I–O product 34) and books bought by institutional households such as nursing homes (I–O product 115);

- Some expenditure commodities fell into many I–O products but the expenditure branch responsible believed that the price changes for each I–O product in that commodity moved together. For example the HHFC commodity 'other cereal products' which consists mostly of pasta is split between I–O product 17 ('other food products') and I–O product 9 ('fish and fruit processing') depending on the exact type of pasta in question. As the goods in the different I–O products are in fact quite similar it appears likely that their price changes are also similar. This means that the proportional allocation of the commodity between I–O products at constant prices is the same as the allocation at current prices;

- For a very few commodities none of the above procedures were acceptable and so each current price I–O product within that commodity had to be individually deflated using a deflator arrived at in consultation with the relevant expenditure branch. An example would be the HHFC commodity 'DIY Goods' which falls into I–O products as diverse as 'Wood and wood Products' and 'Electrical equipment'. In these cases it is necessary to deflate each I–O product separately, and then 'constrain'[1] the result to fit the total constant price estimate for that commodity.

Intermediate consumption matrix

The intermediate consumption matrix in the current price Supply and Use Balances is given in purchasers' prices. These are the prices paid by purchasers, and include transport costs, trade margins, taxes and subsidies. In an ideal world we would deflate these using price indexes for intermediate consumption in purchasers prices. Unfortunately, these do not exist. The alternative procedure adopted was as follows.

1. First margins and taxes were removed to produce current price intermediate use tables at basic prices using a methodology developed for the current price supply and use work on analytical tables

2. Next the total domestic output and imports in constant basic prices for each product were added and implicit basic price deflators for each product derived by dividing the total supply of each product at current basic prices, from the current price supply and use balance, by the total supply at constant basic prices[2].

3. It was then possible to deflate the current basic price intermediate use with the deflators derived in step 2 and arrive at a constant basic price intermediate use matrix.

4. The next step was to add on constant price trade margins, taxes, and subsidies (see below), to get an intermediate use matrix at constant purchaser prices.

5. Finally the intermediate use of all the products in each industry was constrained[1] so that the ratio of total intermediate use to output for that industry was the same as that in the base year. This was necessary to ensure that Value Added grows at the same rate as output.

Trade margins and net indirect tax matrices

Constant price estimates of indirect taxes, subsidies and trade margins on products are defined as the base year values increased in line with the constant price increase in the value of the transaction being taxed or having a margin charged on it. Taxes, Subsidies and Margins on intermediate use can be estimated using the changes to our intermediate use matrices in constant basic prices. Taxes, Subsidies and Margins on final demand can be estimated using changes to final demand in constant purchaser prices.

Figures for constant price Taxes and Subsidies produced using this procedure differ from those currently published in the National Accounts. In order to achieve consistency they are constrained[2] so that total taxes and subsidies are equal to published figures. A similar procedure with margins ensures that total margins produced grow in line with the output of margin producing industries.

Results

Results from the unbalanced KPIO system have been calculated for the period 1995 to 1999. Estimates for the base year, 1995, are fully compatible with the published current price Supply and Use Balances. Totals for each component of supply and use in Figure 1 are consistent with the (balanced) published constant price estimates so the overall gap between supply and use is zero. However, the gap between supply and demand for an individual product can be large. Assuming the allocation of commodities to input output products is correct, these gaps expose incoherence in the methods for compiling constant price estimates used in the accounts. Table 1 highlights the main areas of difference. The results are shown in more detail in Annex 1 at the end of this article.

Table 1 Supply – Use gaps

£ million at constant 1995 Prices

	Product groups	1996	1997	1998	1999
1–3	Agriculture	–24	–937	–26	–287
4–7	Mining and quarrying	–1,793	–780	–2,485	–558
8–84	Manufacturing	–1,433	–4,457	–11,238	–18,272
85–87	Electricity, gas and water	138	768	1,190	1,318
88	Construction	130	–14	–339	–717
89–92	Wholesale and retail trade	–268	–371	2,877	5,349
93–99	Transport and communication	2,704	5,535	6,680	8,370
100–114	Finance and business services	179	886	4,932	7,139
115	Public Administration	307	1,337	1,733	1,109
116–118	Education health and social services	–278	–1,146	–1,690	–1,666
119–123	Other services	342	–820	–1,634	–1,780
	Total	**4**	**1**	**0**	**4**

Note: A negative Supply–Use gap implies that the use of a product is growing faster than the supply and vice versa. Totals do not add to zero because of rounding.

Table 1 shows that, according to the methodology set out above, the volume of use of manufactured products is growing faster than their supply. This is offset by the supply of both Transport and Communication and Finance and business services growing faster than their use. Table 2 shows these results expressed in terms of the implicit deflators derived by dividing the current price estimates from the published Supply and Use Balances by the constant price estimates from the KPIO system and multiplying by 100. As the current price estimates are balanced a constant price supply growing faster than uses implies a supply deflator growing more slowly than the use deflator and vice versa.

There are two ways of examining the results more closely. Firstly, we can delve into the product detail to see exactly which products display Supply–Use gaps. Then we can examine the implicit deflators for the major components of Supply and Use. Analysis of the detailed product discrepancies for the categories highlighted above reveals the following points.

Table 2 Major Supply – Use gaps (implied deflators)

		1995	1996	1997	1998	1999
Manufacturing						
	Supply	100	102.9	103.1	102.3	102.0
	Use	100	102.7	102.5	100.9	99.7
Transport and communication						
	Supply	100	104.1	103.8	106.0	106.1
	Use	100	106.5	108.4	111.3	112.4
Finance and business services						
	Supply	100	103.9	107.1	114.3	120.7
	Use	100	103.9	107.4	115.9	123.0

Note: Current and constant price estimates are equal in the base year so all deflators = 100

- Uses are greater than supply for most of the 77 manufactured products. However, 'Office machinery and computers', shows supply exceeding use for all years and the gap rises to £10 billion at 1995 prices by 1999. Other areas where supply exceeds demand are; 'Alcoholic beverages', 'Tobacco products', 'Pulp and paperboard', 'Bread and biscuits', and 'Other Food Products'. Examples of commodities within manufacturing where use exceeds supply by more than £2 billion in 1999 include 'Wearing apparel and Fur products', 'General purpose machinery' and 'Special purpose machinery'. See Annex 1 for details.
- Supply exceeds use for all the products within Transport and Communication apart from 'Telecommunications' where use is very slightly greater than supply. The most rapidly growing gaps are for 'Postal and courier services', which more than doubles between 1998 and 1999, and 'Other land transport', for which the Supply–Use gap grows from just under £300m in 1996 to almost £1,900m in 1999.
- The Supply-Use gap for products in Finance and Business Services is strongly negative for 'Banking and finance', 'Renting of machinery' and 'Research and development' but this is more than offset by the strong positive gaps in 'Insurance and Pension Funds',' Financial auxiliaries' and the other business services.

Full details are shown in Annex 1.

Further insight into exactly why the growth of supply and use for a product differ can be obtained by looking at the implicit deflators for

the larger components of Supply and Use in the products with large supply/use gaps. Although there are legitimate reasons why the deflators for different components might not be the same, these differences should offset one another so that the deflators for total supply and total use are equal. Lack of space prevents us undertaking this analysis for all 123 products in this article but the six examples given below, two each for Manufacturing, Transport and communications, and Finance and business services give a flavour of the issues involved.

Manufacturing

Figure 2 shows implicit deflators for 'Office machinery and computers' the product with the largest excess supply. It clearly shows that imports, a very large source of supply, have an implicit deflator falling much faster, and hence constant price estimates rising much faster, than the deflators on the use side of the balance.

The picture for 'Wearing Apparel' in Figure 3 shows the opposite problem. Use is greater than supply as the deflators for two of the major supply components, output and trade margins, is growing much faster than the household consumption deflator.

Transport and Communication

'Other land transport', the Transport and communication product with the largest oversupply has a particularly high deflator (slow growth) for intermediate consumption. This may in turn be caused by the need to pull real intermediate consumption/output ratios back to their base year values.

The picture is even starker for postal and courier services where both important uses have growing deflators despite the fact that the output deflator is actually falling. Again the intermediate consumption deflator will have been raised by the need to pull down intermediate consumption.

Figure **2**

Implicit deflators for major components of 'Office machinery and computers'

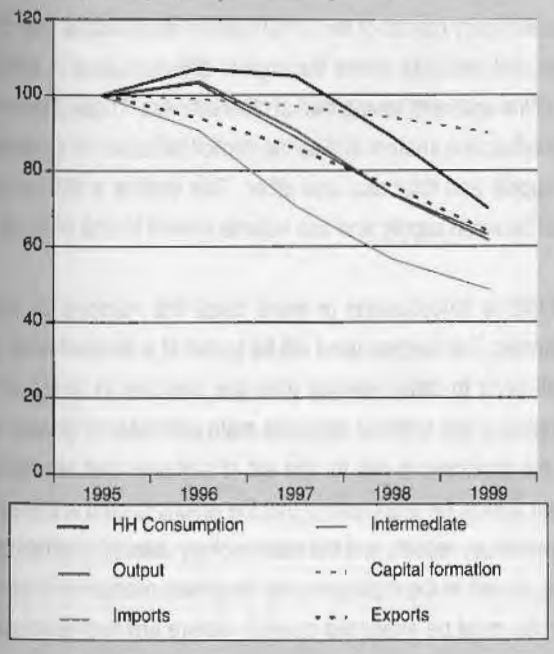


Figure **3**

Implicit deflators for major components of 'Wearing apparel'

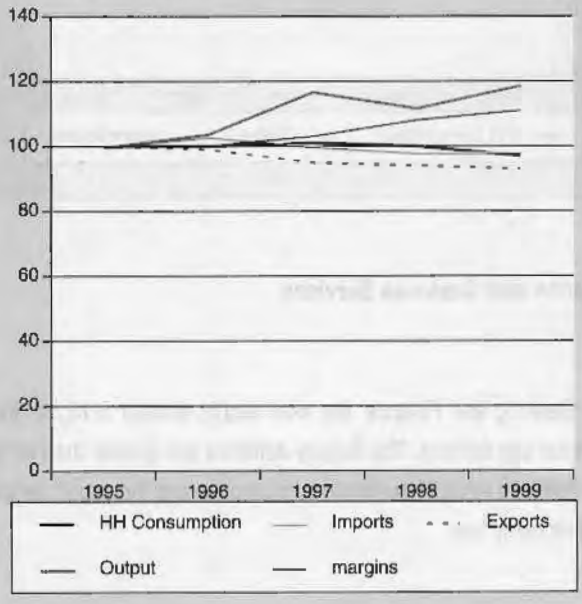


Figure **4**

Implicit deflators for major components of 'Other land transport'

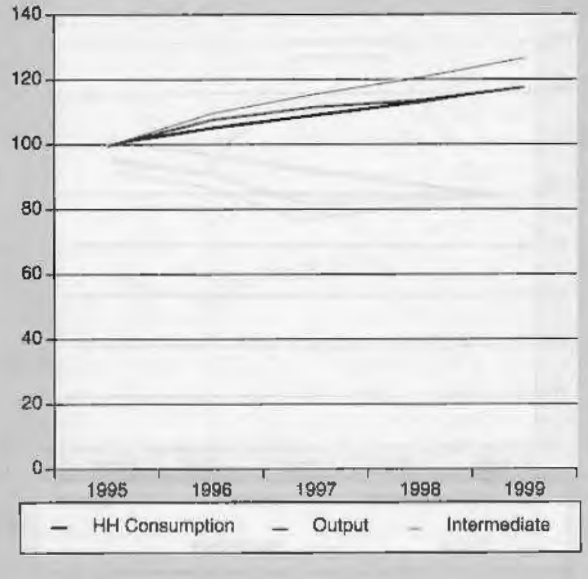
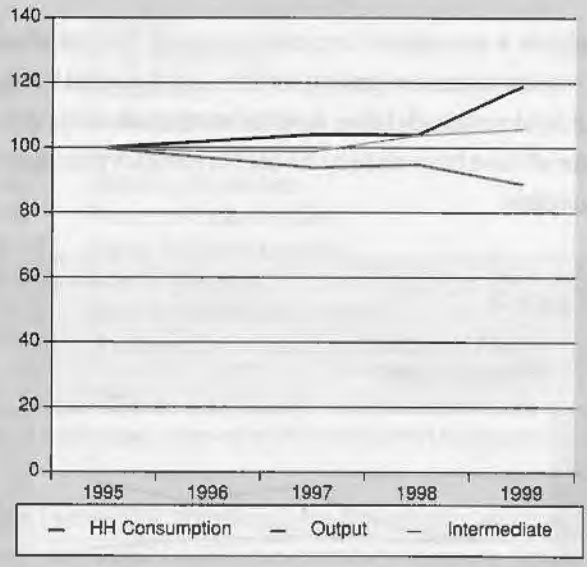


Figure 5

Implicit deflators for major components of 'Postal and courier services'

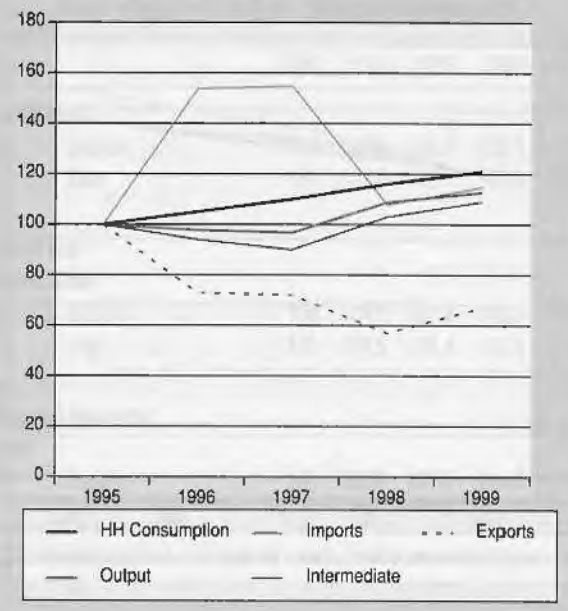


Finance and Business Services

For 'Banking and Finance' the total supply deflator is higher than the total use deflator. The Supply deflators are greater than all the use deflators except household consumption and the export deflator is particularly low.

Figure 6

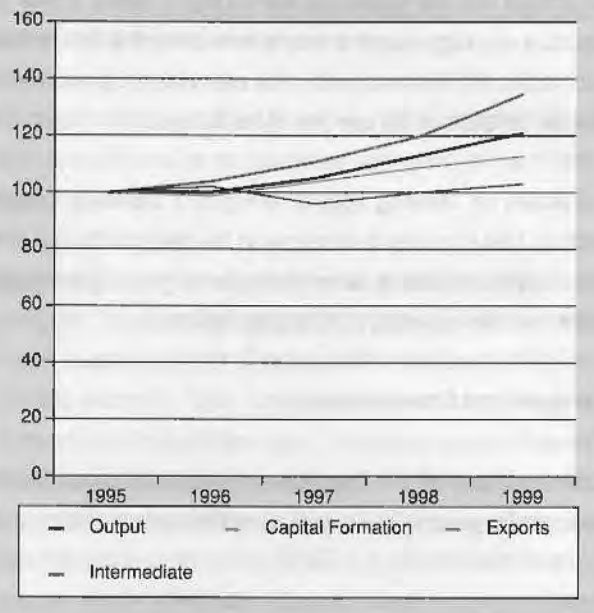
Implicit deflators for major components of 'Banking and finance'



The pattern of deflators for the 'Computer Services' product is more typical of the Finance and Business Services group with the most important use deflator, intermediate consumption, well above the important supply deflator. It is worth remembering again that this intermediate use deflator has been pushed up to lower intermediate consumption. Without this it is likely that we would be looking at less supply than use for this commodity.

Figure 7

Implicit deflators for major components of 'Computer services'



Conclusions and future developments

The preliminary results of the KPIO system demonstrate that there are several products where the implicit deflators used in different parts of the accounts have grown at different rates. These differences do not offset one another and so the implicit deflators for a product's total supply and total use also differ. This implies a difference in growth between supply and use volume growth for the product.

The ONS is investigating in more detail the reasons for these differences. The method used will be tested at a detailed level, and we will seek to draw lessons from the exercise in terms of the coherence of the national accounts main estimates of growth, and what the implications are for the set of deflators that are used at present. It must be emphasised that the results quoted in this article are preliminary results, and the methodology used in generating the results, as well as the implications for the growth measures of national accounts, must be examined carefully before any firm conclusions can be drawn.

A further stage of the KPIO project will be to develop an automated balancing process for the KPIO tables based on our best estimates of relative confidence intervals for the various components in national accounts. The system will allow us to experiment with a range of balancing assumptions until we find a set that achieves a balanced constant price supply and use table while respecting the conventions used in compiling the existing accounts. This phase is scheduled to end in February 2003.

References

Powell M (2002). A Report on current and planned ONS work on constant price Input-Output supply-use balances. *Economic Trends* No. 578, pp 39–40.

UK Input-Output Analytical Tables, 1995, Office for National Statistics, Web Publication 2002.

Notes

1 'Constraining' a set of figures are multiplied through by a constant factor which ensures that they sum to a known total. For example the numbers 4, 3 and 3, which sum to 10, might be "constrained" to sum to 20 by multiplying them all by 20/10 to get 8, 6 and 6.

2 Note that no attempt is made to distinguish deflators for imports and domestic output as intermediate consumption cannot be split between the two sources.

Annex 1 Supply–Use Gaps 1996–99 (1995 £Million)

I–O	Product	1996	1997	1998	1999
1	Agriculture	–2	–821	139	–184
2	Forestry	–7	–44	–68	2
3	Fishing	–15	–73	–96	–104
4	Coal extraction	–229	–29	23	203
5	Oil and gas extraction	–1,271	–198	–2,223	–295
6	Metal ores extraction	18	–75	–56	–96
7	Other mining and quarrying	–311	–478	–229	–370
8	Meat processing	–210	–639	–401	–877
9	Fish and fruit processing	–299	–284	16	–193
10	Oils and fats	55	–45	–16	–193
11	Dairy products	211	266	–96	–154
12	Grain milling and starch	–74	–65	–167	–376
13	Animal feed	90	–42	–128	–208
14	Bread, biscuits, etc	27	8	252	213
15	Sugar	80	–60	–25	–2
16	Confectionery	–9	106	156	–30
17	Other food products	132	17	218	363
18	Alcoholic beverages	896	2,027	1,811	1,824
19	Soft drinks and mineral waters	–111	–30	–177	–44
20	Tobacco products	119	73	361	950
21	Textile fibres	43	–79	–15	14
22	Textile weaving	57	165	106	292
23	Textile finishing	0	46	51	55
24	Made–up textiles	–211	–308	–329	–475
25	Carpets and rugs	–5	4	–47	–128
26	Other textiles	–37	–27	–31	8
27	Knitted goods	–130	–79	–217	–357
28	Wearing apparel and fur products	–519	–1,484	–1,521	–2,734
29	Leather goods	–42	–78	–121	–216
30	Footwear	–186	–382	–294	75
31	Wood and wood products	–77	–214	–60	4
32	Pulp, paper and paperboard	28	333	547	460
33	Paper and paperboard products	193	–392	–275	–759
34	Printing and publishing	–157	86	–684	–1,885
35	Coke ovens, refined petroleum & nuclear fuel	528	1,286	1,693	–140
36	Industrial gases and dyes	–7	–62	–57	–44
37	Inorganic chemicals	83	25	–185	–61
38	Organic chemicals	202	–205	–710	–969
39	Fertilisers	–21	–47	–160	–162
40	Plastics & synthetic resins, etc	200	269	151	–30
41	Pesticides	81	330	–83	–96
42	Paints, varnishes, printing ink, etc	–22	60	–117	–237
43	Pharmaceuticals	66	–728	–476	–810
44	Soap and toilet preparations	–325	–712	–659	–937
45	Other chemical products	–101	–98	–397	–436
46	Man–made fibres	–81	0	60	14
47	Rubber products	–102	–51	–85	–122
48	Plastic products	65	–429	–5	–214
49	Glass and glass products	–111	–65	–185	–346
50	Ceramic goods	–115	–133	–76	–162
51	Structural clay products	4	40	55	74
52	Cement, lime and plaster	78	124	117	98
53	Articles of concrete, stone, etc	–86	–38	–59	–20
54	Iron and steel	118	–295	–96	123
55	Non–ferrous metals	494	167	–146	–315
56	Metal castings	38	21	19	8
57	Structural metal products	–182	–758	–1,144	–1,211
58	Metal boilers and radiators	–33	–136	–148	–165
59	Metal forging, pressing, etc	152	345	287	202
60	Cutlery, tools, etc	–34	–210	–439	–653
61	Other metal products	3	–42	–247	–433
62	Mechanical power equipment	–103	–316	–346	–657
63	General purpose machinery	–664	–1,099	–1,832	–2,588
64	Agricultural machinery	–86	–582	–251	–222
65	Machine tools	–159	–330	–466	–496
66	Special purpose machinery	–505	–1,377	–1,994	–2,573
67	Weapons and ammunition	27	–166	–192	–91
68	Domestic appliances nec	–170	–387	–553	–402
69	Office machinery & computers	160	3,251	8,339	10,714
70	Electric motors and generators, etc	33	–270	–580	–617
71	Insulated wire and cable	27	–120	–99	–183
72	Electrical equipment nec	–363	–421	–426	–1,085
73	Electronic components	387	–173	354	–738
74	Transmitters for TV, radio and phone	–180	–632	–1,520	–297
75	Receivers for TV and radio	–299	–988	–1,213	–1,320
76	Medical and precision instruments	–319	–1,031	–1,423	–1,663
77	Motor vehicles	253	976	–847	–72
78	Shipbuilding and repair	165	–222	–482	–22
79	Other transport equipment	–43	–760	–322	–280
80	Aircraft and spacecraft	56	4,005	–613	–1,082
81	Furniture	–253	–707	–1,663	–1,547
82	Jewellery and related products	20	66	69	137
83	Sports goods and toys	–120	–378	–805	–1,336
84	Miscellaneous manufacturing nec & recycling	–54	–375	–198	–435
85	Electricity production and distribution	–8	430	437	387
86	Gas distribution	237	583	1,030	1,170
87	Water supply	–91	–245	–276	–239
88	Construction	130	–14	–339	–717
89	Motor vehicle distribution and repair, automotive fuel retail	160	946	2,097	2,474
90	Wholesale distribution	–653	–961	–602	226
91	Retail distribution	1,613	1,794	3,568	4,118
92	Hotels, catering, pubs, etc	–1,387	–2,150	–2,186	–1,470
93	Railway transport	468	466	436	592
94	Other land transport	291	817	1,575	1,896
95	Water transport	906	1,016	1,656	1,432
96	Air transport	127	1,046	1,163	1,004
97	Ancillary transport services	364	902	1,191	1,654
98	Postal and courier services	219	589	804	1,936
99	Telecommunications	330	699	–146	–146
100	Banking and finance	–3,028	–4,742	–4,589	–2,848
101	Insurance and pension funds	417	1,220	1,816	52
102	Auxiliary financial services	849	937	2,256	980
103	Owning and dealing in real estate	381	1,045	1,518	1,866
104	Letting of dwellings	534	767	1,330	1,787
105	Estate agent activities	71	238	375	684
106	Renting of machinery, etc	39	–2	–402	–526
107	Computer services	480	761	1,125	2,199
108	Research and development	–165	–341	–363	–612
109	Legal activities	36	63	707	1,046
110	Accountancy services	67	212	448	665
111	Market research, management consultancy	–21	–2	201	406
112	Architectural activities and technical consultancy	–278	–19	232	508
113	Advertising	91	353	465	757
114	Other business services	707	397	–186	175
115	Public administration and defence	307	1,337	1,733	1,109
116	Education	–392	–1,288	–2,697	–3,876
117	Health and veterinary services	350	691	1,750	2,805
118	Social work activities	–236	–549	–743	–596
119	Sewage and sanitary services	–403	–733	–973	–1,430
120	Membership organisations nec	64	153	181	361
121	Recreational services	195	–831	–1,405	–1,589
122	Other service activities	587	914	945	1,268
123	Private households with employed persons	–101	–324	–382	–389
	Total	**4**	**1**	**0**	**4**

An improved House Price Index- update on developments

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Summary

This article summarises the emerging findings of a feasibility study into the development of a better official house price index. The study was initiated and led by the Office for National Statistics in collaboration with the Office of the Deputy Prime Minister, HM Treasury, Bank of England and HM Land Registry. It builds upon earlier collaborative work as reported in the December 1998 edition of Economic Trends and has benefited from valuable inputs from a number of major users and experts in the field as well as technical expertise drawn from within the ONS and ODPM. Some of the recommendations of the study are conditional on the results of further exploratory work and some may also need to be reviewed in the longer term in the event of possible external developments such as the introduction of a "sellers" pack or electronic conveyancing.

Introduction

The study was commissioned by ONS because none of the indices currently published fully meet user requirements and when compared sometimes result in apparently conflicting messages. Past differences in trend between the existing indices have created problems of interpretation for the Monetary Policy Committee of the Bank of England. Concerns have also been raised about the use of the ODPM and other house price indices in the Retail Prices Index for the calculation of mortgage interest payments, depreciation and other costs borne by owner-occupiers.

It is not surprising given methodological differences in their coverage and construction that the existing indices can sometimes show differences in trend. Details of these differences are given in the table below and illustrate some of the choices available and the resulting issues that arise.

User needs

Feedback from major users indicated the need for a monthly index that is reliable, published with little timelag and with the minimum of revision. As a result much of the detailed technical work undertaken during the course of the study attempted to address these specific issues.

The wide-ranging uses to which house price indices are put leads to a number of different detailed requirements and priorities. For example, the most rigorous requirement on timeliness and reliability comes from the use of the index in the RPI. The question of the most appropriate indicator of house prices was most recently investigated by an RPI Advisory Committee in 1992-94 in connection with its studies into the inclusion of owner-occupier house depreciation costs in the RPI. The Committee concluded that it would be best to use the "all houses" price index for houses purchased

Table 1: Existing house price indices

Measure	Coverage		Method of mix-adjustment
ODPM	UK	5% survey of **completions** with members of the Council of Mortgage Lenders	Mix-adjustment using simple matrix approach
Halifax	UK	100% of mortgages **approved** by Halifax	Mix adjustment using hedonic regression.
Nationwide	UK	100% of mortgages **approved** by Nationwide	Mix adjustment using hedonic regression
Bank of England	England and Wales	100% of mortgage and cash **completions**	Mix-adjustment using simple matrix approach

on mortgages, produced by (the then) Department of Environment (now ODPM)[1].

Other users expressed a need for regional data, which is of less importance in the RPI but of greater interest to, for example, HM Treasury, Bank of England and ODPM. The demand for other sub-analyses varies depending on the particular user, with some users expressing a need for sub-indices for different types of houses including new homes and others for different categories of purchasers such as first-time buyers. All main users expressed a need for an index that was representative of all house purchases whether cash or mortgage-based whether or not the index itself covered both.

The study concluded that an index should have as a minimum the following characteristics: monthly; timely with no systematic bias and with minimal revision; UK coverage with sub-indices at least down to region; mix-adjusted to allow for changes in the characteristics of the houses sold each month.

The separate identification of new from old houses, first-time from other buyers, cash purchasers from others were also considered important.

Against this background of differing and sometimes potentially conflicting priorities and needs it is not possible to construct a single index that fully satisfies all users. The task of the study was to find a way forward that would satisfy most users.

Availability and adequacy of current sources and options for their future exploitation

Following an initial trawl of the alternative sources of information available the broad thrust of the study focussed on two data sources: the survey of members of the Council of Mortgage Lenders, relating to mortgage approvals and the Land Registry information on completions. Each was critically examined together with approaches to improve source material. The conclusions of this work are summarised below.

Survey of Mortgage Lenders

As indicated earlier this is the source currently used to compile the quarterly ODPM House Price Index. It covers all the main mortgage lenders in the UK, includes detailed information on the types and location of houses being sold and is relatively timely. But it is currently collected on a sample basis and house details are often missing [and therefore need to be imputed]. Mortgage-based transactions cover about 75% of total house purchases

Further development of ODPM's mortgage-based index has taken place to address these methodological issues, focusing on sample size and mix-adjustment, and increasing the frequency of the index from quarterly to monthly. Work is well in hand. In particular, ODPM with methodological support from ONS have:

- Worked with the Council of Mortgage Lenders to obtain statistical returns from members based on all mortgage transactions rather than 5% as previously provided. This work is on-going and will considerably expand the effective sample size of the ODPM index as more members come on board;
- Developed regression approaches that will enhance the reliability of the mix-adjustment of the new improved index;
- Reviewed weighting structures and data sources to ensure that the most appropriate weights are used.

Work continues and the current plan is that ODPM will publish a new monthly house price index for mortgage transactions based on an enlarged sample and improved methodology from Summer 2003. This will initially be an experimental index but in due course will be published as a National Statistic if it passes the necessary quality assurance. The name of the new index is likely to be the National Statistics House Price Index but this is yet to be confirmed.

Land Registry

Land Registry data covers both mortgage-based purchases and cash sales in England and Wales and also relates to completions so gives data on actual houses sold and the final price paid. But the data is not particularly timely and there is a lack of detailed characteristics on the types of houses sold. In addition first indications suggest that data for Scotland and Northern Ireland is more limited and less readily accessible. It is, however, the sole source of data on cash purchases. The latter account for about 25% of total sales.

Work on cash purchases has also been taken forward but the results have been less positive. There are a number of statistical problems which will need resolving before we could move to the construction of a reliable index. Specific difficulties relate to:

- the revisions performance of an index based on Land Registry data. Although the latter has the advantage of being based on completions rather than offer prices associated with mortgage approvals, there can be a considerable timelag between the

[1] The index used in practice is an unpublished monthly version of the ODPM index, tailored to cover the RPI reference population. As this is only available a month after it is required, the latest house price estimate is derived by uprating the ODPM estimate with the latest month-on-month change in the Halifax index.

completion of the purchase and the submission to Land Registry by solicitors of final documentation. Further investigation has shown that the details of houses not subject to stamp duty tend to be registered more quickly leading to a downward bias in initial data on average house price. Whilst the emergence at some future date of electronic conveyancing may reduce this timelag (and the scope for bias) in the longer-term, making allowance for the initial bias through the use of statistical techniques has so far met with limited success;

- the lack of detailed Land Registry data on the characteristics of houses sold for use in mix-adjustment, particularly house size (an important factor in the determination of price). Attempts by Land Registry to collect this information on a voluntary basis from transfer documents have met with very limited success with only a small proportion of forms currently being submitted with this information included. An exploration of alternative sources of this data, including local Valuation Offices, has not been particularly fruitful and even if feasible would involve substantial resources.

References

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