national STATISTICS

October 2002
No 587

Economic Trends

Managing Editor: Prabhat Vaze
Editor: Paul Dickman

Contents

In Brief

Articles

This month we feature three articles.

Richard Walton and Laura Citron of the Bank of England outline the latest International comparisons of Company Profitability. In the third of an annual series of articles, data are presented on the profitability of UK companies, compared with companies in 30 other countries. Data for 11 countries are presented here for the first time. The Office for National Statistics measures the profitability of private non-financial corporate sector operations in the United Kingdom, using rates of return on capital employed. These data were issued by the Office for National Statistics in First Releases (July 4th and October 3rd 2002) and are consistent with profits and capital stock data in the Quarterly National Accounts (June 28th and September 27th).

Dean Fletcher and Mark Williams, both of ONS describe the Index of Production redevelopment. The article describes the changes being made to the Index of Production (IoP) computer system, and the methodological improvements which are being incorporated as part of the project. The main reason for the changes is to update the computer system from a spreadsheet based system to move to the standard ONS national accounts software. This will enable chainlinked estimates of the IoP to be produced in time for the *Blue Book* 2003.

Amanda Tuke and David Ruffles, both of ONS discuss the effect of annual chain-linking on components of the expenditure measure of GDP. The article shows the effects of annual chain-linking on annual growth estimates for household final consumption expenditure (HHFCE), exports and imports of goods, and total GDP using input data consistent with those published in the *Blue Book* 2002. Annual chain-linking (ACL) is a method for aggregating volume measures of economic growth to better reflect the changing structure of industry and patterns of expenditure. Analysis of the effects of annual chain-linking on the output measure of Gross Domestic Product (GDP) has been described in earlier *Economic Trends* articles.

Recent economic publications

Annual

Economic Trends Annual Supplement 2002. TSO, ISBN 0 11 621493 7. Price £28.50.
United Kingdom National Accounts 2002 (ONS Blue Book). TSO, ISBN 0 11 621557 7. Price £39.50. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p1143.asp**
United Kingdom Balance of Payments 2002 (ONS Pink Book). TSO, ISBN 0 11 621558 5. Price £39.50. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p1140.asp**
United Kingdom Input Output Analyses 2002. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p7640.asp**

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: September 2002. TSO, ISBN 0 11 621502 X. Price £23.50.
Focus on Consumer Price Indices: August 2002. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p867.asp**
Monthly Review of External Trade Statistics (MM24): August 2002. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p613.asp**

TSO publications are available by telephoning 0870 600 5522, fax 0870 600 5533 or online at **www.tso.co.uk/bookshop**

Economic Update - October 2002

Geoff Tily, Macroeconomic Assessment - Office for National Statistics

Address: D4/20, 1 Drummond Gate, London, SW1V 2QQ, tel: 020 7533 5919, E-mail: geoff.tily@ONS.gov.uk

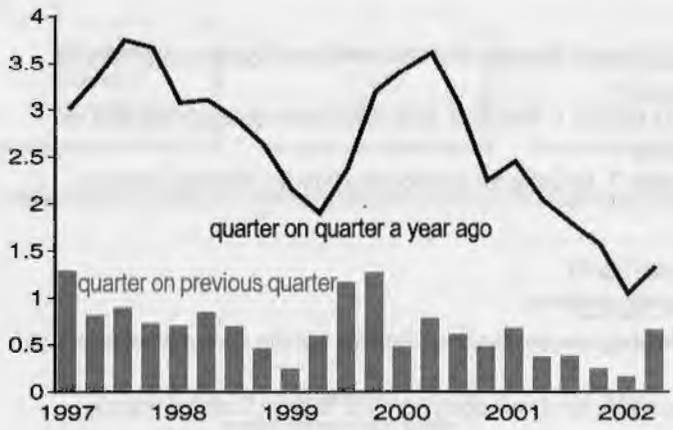
Overview

GDP data suggests economic growth picked up in the second quarter of 2002, alongside the first quarter improvement seen in other economies. However this improvement is set against a substantial deterioration in confidence in global financial markets between June and September. The pick-up in growth was driven by strong energy output, a lower fall in the manufacturing sector and less weak growth in the service sector. This improvement was foreshadowed in external indices, which broadly showed less improvement into the second quarter. Construction output was also very strong. Household demand picked up in the second quarter, but there is more ambiguity about later months. 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 now show a substantial acceleration in Government demand, with the public sector finances returning to deficit. Driving the growth in quarter two was very strong export demand, which follows the sharp decline in 2001. 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. Figures also show an increase to the rate of redundancies. 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

Gross domestic product (GDP) in the second quarter of 2002 grew by 0.6 per cent, following growth of 0.1 per cent in the first quarter of 2002. Growth comparing the second quarter of 2002 with the same quarter a year ago was 1.3 per cent, up slightly from 1.0 per cent in the year to the first quarter of 2002 (figure 1). Annual growth in the first quarter was the lowest figure since the economy emerged from the 1990-91 recession.

Figure 1
Gross Domestic Product
growth



The increased GDP growth in the latest quarter reflects a sharp increase in energy and mining output, a lesser decline in the manufacturing sector following an unprecedented five consecutive quarters of negative growth, and more robust growth in the service sector following a particularly weak first quarter. The expenditure measure of GDP shows that the stronger second quarter growth has been driven by a surge in overseas demand and a strengthening in household demand that followed a weaker first quarter, this is set against a decline on the year of over ten per cent in investment.

The stronger UK performance in the second quarter 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.

Financial Market activity

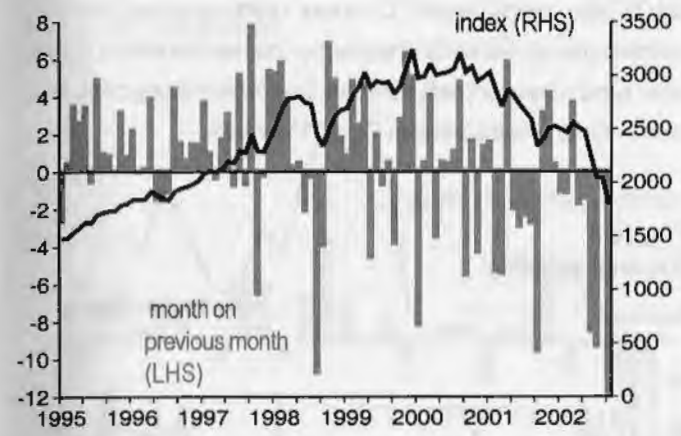
The improvement in GDP activity around the world has however been set against substantial deterioration in world stock market valuations of equity. Figure 2 shows monthly declines of 12 per cent in September following 0.2 per cent in the UK FTSE all-share index (measured at the end of the month). The index now stands substantially below its previous trough that followed the terrorist attacks on September 11.

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. The Bank of England's August 2002 *Inflation Report* recorded "UK and US BBB and high-yield spreads widen[ing] significantly".

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



Output

In the second quarter of 2002 manufacturing output fell by 0.7 per cent compared with the previous quarter, up from a fall of 1.2 per cent in the first quarter (see figure 3). Comparing with the same quarter of 2001, manufacturing output fell by 5.2 per cent. This is up on the decline of 6.6 recorded in the year to the first quarter the largest annual decline since 1981.

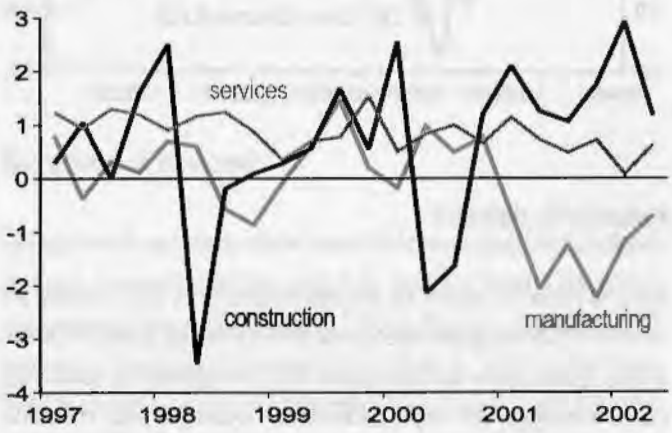
Monthly IOM figures now extend to July, and show that the 5.5 per cent decline of output in June that was caused by the Jubilee Bank holidays largely bounced back, with a rise of 5.0 per cent. Overall however, output in the three months to July compared with the previous three months continued to show a decline of 1.1 per cent.

According to the market sector breakdown index of production data continues to echo the wider picture on demand. Annual growth in the production of production of consumer durables and non-durables increased by 0.9 and 0.6 per cent respectively and this is set against a decline of 13.5 per cent in the production of investment goods.

Service sector quarterly growth was 0.6 per cent in the second quarter of 2002, following particularly subdued growth of 0.1 per cent in the first quarter (figure 3 again). However comparing with the same quarter a year ago annual growth was 1.9 per cent, the lowest figure since the fourth quarter of 1992.

A broad industrial breakdown 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.
Very robust construction output growth continues to support overall GDP

Figure 3
Manufacturing, construction & services output
growth, quarter on previous quarter



growth. Here figures show growth of 7.0 per cent in the year to 2002 quarter two, following 7.1 per cent in the year to quarter one, the highest growth since 1988. Similarly strong production growth in the mining and quarrying and electricity gas and water supply industries contributed 0.2 per cent of the stronger GDP growth in the second quarter.

External measures of output

External measures for both manufacturing and services stood at odds with official data in the first quarter of 2002 and showed a sharp acceleration from a very poor fourth quarter of 2001. Very broadly in the second quarter the measures held the level achieved in the first quarter, but did not show much increase.

However since then a number of external figures have deteriorated a little, in particular for the manufacturing sector. Confederation of British Industry (CBI) orders data have fallen back since July with falls continuing through to September, Chartered Institute of Purchasing and Supply (CIPS) figures have been slowing since April, although August showed a small pick-up. CIPS service figures have fallen back a little from the May peak, but still indicate growth.

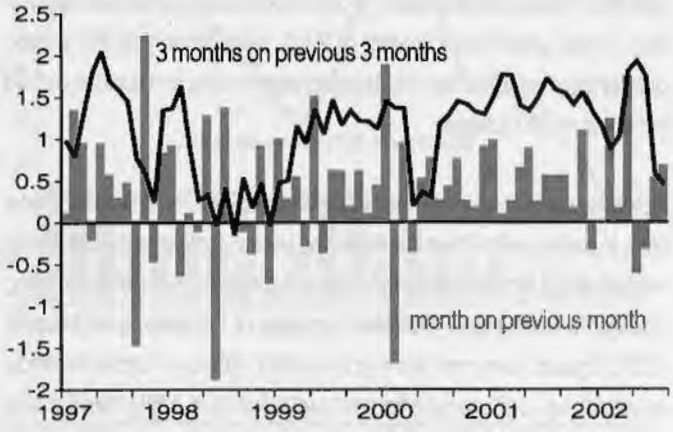
Figure 4
External manufacturing: CBI & CIPS
balances

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 overall figures for the second quarter might be regarded as containing mixed messages, with slight evidence of a slowing in pace in various monthly figures.

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.

Figure 5
Retail sales
growth

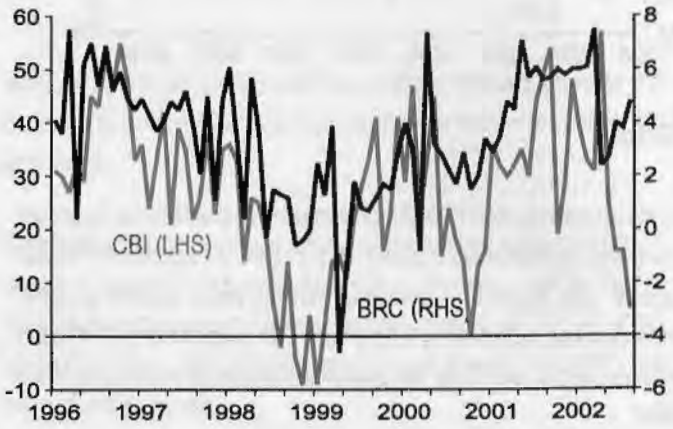


The acceleration in quarterly growth was driven by a recovery in spending in the high street and on the purchases of motor vehicles. However latest monthly retail sales figures suggest a degree of slowdown with growth in the three months to August of 0.5 per cent compared with 1.7 per cent in quarter two. However caution should be taken when interpreting recent monthly movements due again to the Jubilee bank holidays creating additional uncertainty.

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 recent trends are different with BRC edging up but CBI falling sharply (figure 6). Consumer confidence showed increased optimism through the start of the year, but this has now stalled. On the other hand consumer credit continues to grow at a strong pace, with recent annual growths between 12 and 15 per cent.

Figure 6
External retailing

Balance Like for like increase



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. The Bank of England's August 2002 *Inflation Report* notes that household debt to income ratios are at "new heights", and that this makes households more vulnerable to sudden increases in interest payments or falls in income. Similarly household demand is at least partly dependent on both 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.

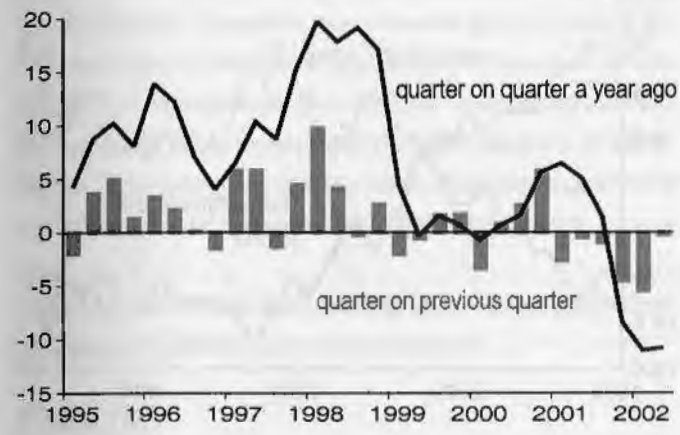
Business demand

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.

While external indices showed a fairly steep decline in 2001, in 2002 they have showed a degree of recovery and do not fully echo the long-term position discussed on the official figures.

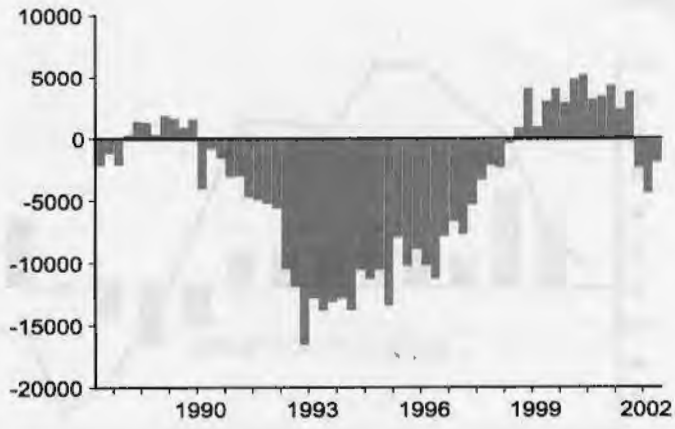
The cut-backs in investment have seen a recovery in the financial situation of the PNFC sector. Between quarter two of 2001 and quarter two of 2002 a net borrowing of £5.9 billion has given way to net lending of £2.6 billion, as investment has fallen by £4.6 billion and there has been a degree of recovery 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.

Figure 9
Central government net lending
millions



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 (figure 9).

Public sector net borrowing data extends to August 2002, and shows borrowing continuing into the start of the third quarter. Overall cumulative net borrowing for the financial year 2002-03 stands at £2.3 billion compared with a surplus of £0.5 billion in the same period of the previous financial year. The data also illustrates the decline in Inland Revenue tax revenues: by 2.3 per cent comparing the three months to August 2002 with the same period a year ago.

Imports

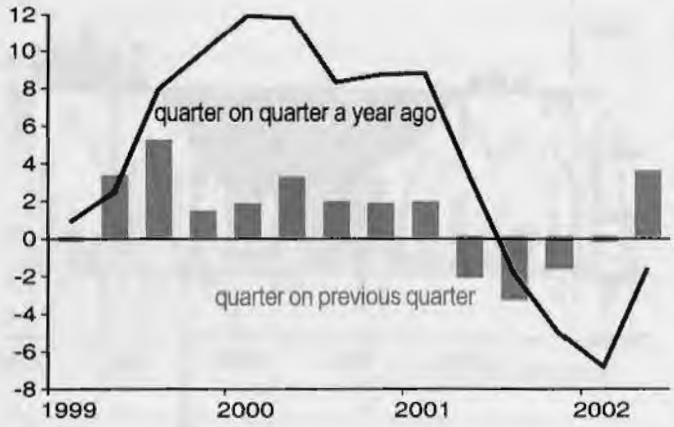
In the second quarter imports grew by 0.6 per cent compared with the previous quarter, down from 1.4 per cent in quarter one. Compared with the same quarter a year ago, imports fell by 0.1 per cent. All the growth in imports is from non-EU countries, with imports from EU countries in steep decline.

Overseas Demand

UK exports recovered strongly in the second quarter of 2002 with growth of 3.5 per cent, following four quarters of decline (figure 10). Comparing with the same quarter a year ago there is still a decline of 1.6 per cent. These movements mimic global trends over the past two years.

Recent monthly figures extending to July have been very volatile, but the suggestion is that export growth is dominated by exports to non-EU economies.

Figure 10
Exports
growth

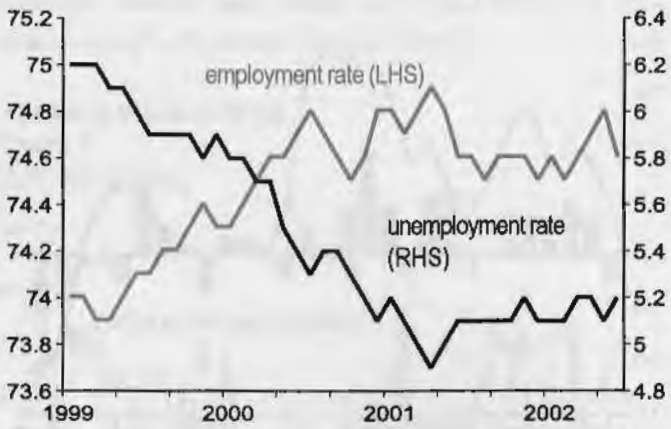


Labour Market

The headline messages from labour market data remain difficult to interpret, suggesting overall that the labour market remains flat. Although the detail continues to contain a number of mixed messages.

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 (figure 11). Claimant count unemployment figures show the rate oscillating between 3.1 and 3.2 per cent throughout 2002.

Figure 11
Labour Force Survey



Looking at the count of people employed LFS data shows an increase of 198,000 over the year to May-July 2002, on the other hand, workforce jobs figures show an increase of only 3,000. Equivalent annual growth figures are 0.7 and 0.0 respectively. 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, suggesting a weaker private jobs market.

Similarly redundancy figures suggest a degree of deterioration, picking up to 201,000 redundancies in the latest period (Winter 2002), up from 168,000 in the same period a year ago.

The average earnings index continues to echo the more subdued labour market. In July 2002 the headline rate was 4.0 per cent, up slightly on 3.9 per cent in June, but still below the 4.5 per cent figure that the Bank of England consider broadly consistent with their inflation target.

Prices

At the factory gate, output prices show very little inflation and input prices show deflation: the headline figures show output price inflation at 0.3 per cent in the year to August and input price inflation falling 2.2 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

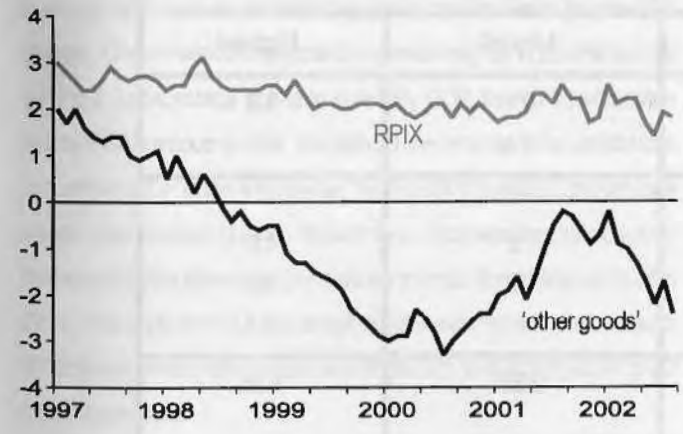
petroleum) at 1.4 per cent in August compared to 5.2 per cent in April. However the general weakness in producer price inflation may follow from the deteriorating global conditions in 2001 as over-supply become a significant phenomenon.

The August RPIX inflation figure was 1.9 per cent, down from 2.0 per cent in July, 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' (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 continued weakness in 'other goods' prices suggests that the recent strength in consumer demand is not having an impact on prices and indeed suggests that retailers are having to keep prices low to sustain the demand.

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, September 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	2.1
Inflation rate (Q4: per cent)			
- RPI	2.0	1.2	3.1
- RPI excl MIPs	2.2	1.6	2.8
Unemployment (Q4, mn)	0.98	0.90	1.10
Current Account (£ bn)	-21.4	-25.0	-17.3
PSNB * (2002-03, £ bn)	12.7	6.8	20.1

	Independent Forecasts for 2003		
	Average	Lowest	Highest
GDP growth (per cent)	2.6	-0.1	3.2
Inflation rate (Q4: per cent)			
- RPI	2.8	1.6	4.0
- RPI excl MIPs	2.4	1.7	3.2
Unemployment (Q4, mn)	0.98	0.82	1.25
Current Account (£ bn)	-23.4	-44.3	-15.0
PSNB* (2003-04, £ bn)	16.6	6.0	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 - October 2002

Gladys Asogbon, Marcoeconomic Assessment - National Statistics

Address: D4/20, 1 Drummond Gate, London, SW1V 2QQ, tel: 020 7533 5925, E-mail: gladys.asogbon@ONS.gov.uk

Overview

Having shown various degrees of decline in 2001, major economies grew in the first half of 2002, although growth was still fairly subdued. For the EU economies and the US, growth was mainly export driven, with domestic demand remaining relatively modest. Stockbuilding was also strong in most major economies with the exception of France. In all major economies, investment demand remained weak. Set against moderate output, most economies are seeing unemployment continuing to rise and employment growth weakening or in decline. In all major economies, there is producer price deflation and consumer price inflation is slowing.

EU15

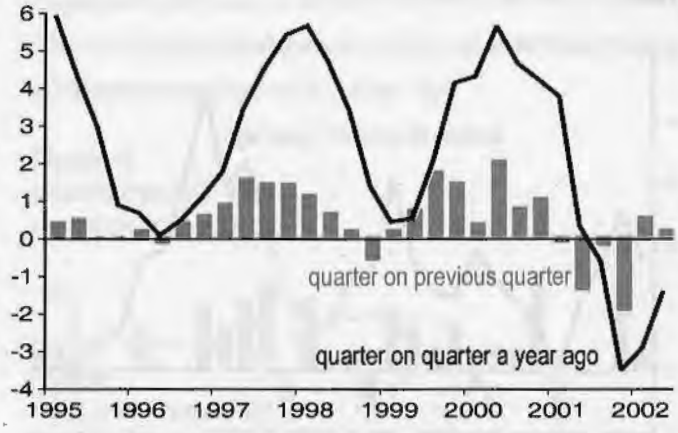
The latest data for 2002 quarter one shows that the EU economy grew by 0.2 per cent, following a 0.1 per cent contraction in the previous quarter.

All contributors to GDP were either weak or negative. The main driver of the slightly improved performance over the previous quarter was a rebound in inventories, which contributed 0.3 percentage points to quarterly GDP, from an equivalent negative contribution in the previous quarter. Government demand also increased slightly in the first quarter adding 0.2 percentage points to quarterly GDP, from 0.1 percentage points in the previous quarter. Household demand made no contribution to quarterly GDP in the first quarter, having contributed 0.2 percentage points in the previous quarter. Investment, which was the main driver of the recent global slowdown (it made no contribution to annual GDP in 2001) is also yet to make any tangible improvement and contracted in 2002 quarter one, with a negative contribution to quarterly GDP of 0.2 percentage points.

Index of Production data shows the source of the improvement from the output perspective. After four quarters of negative growth, the index was positive in 2002 quarter one and quarter two, with growth of 0.2 per cent in the second quarter, slightly weaker than the 0.5 per cent growth in the first (figure 1). Within the quarter, monthly figures show small declines in both June and April.

The PPI for 2002 quarter two shows producer prices still falling, at an annual rate of 0.5 per cent compared to a year ago. Growth in the index of consumer prices decreased from 2.2 per cent in the year to the first quarter of 2002 to 1.9 per cent in the year to the second quarter of 2002.

Figure 1
IOP: EU15
growth



EU employment figures continue to show growth, although at a declining rate. Annual growth in the year to the first quarter was 0.8 per cent, down from 0.9 per cent in 2001 quarter four. 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 July 2002.

Annual earnings growth has again returned to 3.4 per cent in 2002 quarter one, having fallen to 2.5 per cent in 2001 quarter four, but the figures are volatile.

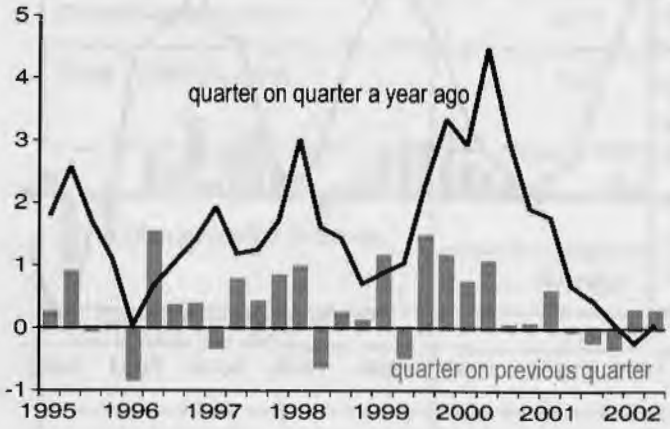
Germany

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 quarter of 2002 (figure 2).

In the second quarter the growth was mainly driven by a strong positive

contribution from inventories, 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. The other component that contributed to growth was the continued strength of exports, with a contribution of 0.4 percentage points to quarterly GDP, a slight increase over the 0.3 percentage points contributed in the previous quarter. Although, overall, trade made a negative contribution to quarterly GDP of 0.1 percentage points, following from a large increase in imports in quarter two. Domestic demand remains weak, with household demand contributing only 0.1 percentage points to quarterly GDP, although this is an improvement relative to the three consecutive negative contributions. Investment continued to provide the main downward pressure with a negative contribution to quarterly GDP of 0.5 percentage points.

Figure 2
GDP: Germany
growth



As with overall GDP, the index of production showed some recovery, from a contraction of 2.3 per cent in 2001 quarter four to positive growth of 0.2 per cent in 2002 quarter one, but now shows a return to contraction of 0.3 per cent in the latest quarter.

The producer price index for 2002 quarter two shows prices falling at the factory gate by 0.9 per cent compared with a year ago. Similarly growth in consumer prices also shows deceleration from 1.9 per cent in the year to 2002 quarter one to 1.2 per cent in the year to 2002 quarter two.

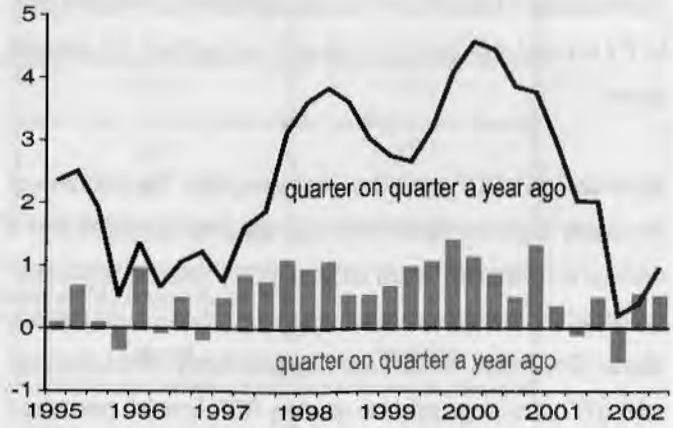
8.3 per cent of the workforce was unemployed as at July 2002 and there has been a gradual increase in the unemployment rate from the recent trough of 7.6 per cent in the fourth quarter of 2000. Similarly employment growth contracted in the second quarter of 2002, with annual growth figures for the quarter 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 three quarters, growing by just 1.0 per cent in the first quarter of 2002 and the fourth quarter of 2001, 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 (figure 3).

Figure 3
GDP: France
growth



As with other European economies, one of 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. Most components of domestic demand with the exception of investment made moderate contributions to GDP. Household demand increased slightly, from a contribution of 0.2 percentage points in 2002 quarter one to 0.3 percentage points in the latest quarter. Government demand added 0.2 percentage points in 2002. Investment made no contribution to quarterly GDP, having made a contribution of 0.1 per cent in the previous quarter. 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.

As with most other countries, the latest industrial production data show the IOP growing positively, with quarterly growth of 0.6 per cent for 2002 quarter two, compared with growth of 0.4 per cent in the previous quarter.

This reverses the negative growth in the index seen throughout 2001.

Consumer prices increased by 1.6 per cent in the year to the second quarter, compared to an increase of 2.2 per cent in the first. Producer prices growth was negative in the second quarter, falling by 0.2 per cent, the same rate as in the previous quarter.

The improvement in economic activity in the latest two quarters has not translated into falling unemployment. 8.9 per cent of the workforce was unemployed in July, the same as in the previous month and up 0.1 percentage points from May 2002 and the recent trough of 8.5 per cent in quarters two and three of 2001. Employment growth also continued its slowdown in the first quarter of 2002, with an annual rate of 0.7 per cent, well down on growth of 2.3 per cent at the start of 2001.

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 quarter of 2002.

Italy

Recent data for the Italian economy show that after a quarter of contraction in 2001 quarter four, the economy grew by 0.2 percent in 2002 quarter one.

A breakdown of the contributions to changes in GDP shows however that inventories were the main contributor to the improvement with other components weak or negative. Inventories added 1.2 percentage points to GDP growth in the first quarter of 2002 compared with a negative contribution of 0.8 percentage points in the previous quarter. Domestic demand in Italy weakened considerably in quarter one. Households, having made a positive contribution to GDP in 2001 quarter four of 0.1 percentage points, made an equal negative contribution to GDP in 2002 quarter one. Investment, the main driver of the global slowdown throughout 2001 made a particularly large negative contribution to Italian quarterly GDP of 0.5 percentage points. Government consumption's contribution to GDP growth has remained flat at 0.1 percentage points since 2000 quarter three. Similarly net trade made a large negative contribution of 0.5 percentage points. The contraction in export growth accelerated in the latest quarter, with the trade position further worsened by an increase in import 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 0.8 per cent. The index has shown negative growth throughout 2001. Monthly changes also show no signs of improvement.

Figures show that for June and July, the index of consumer prices increased by 2.2 per cent compared to a year ago, still above the ECB ceiling of 2.0 per cent but down from the rate of 2.8 per cent in August 2001. In the year to the second quarter, prices at the factory gate continued to fall, with the index contracting by 1.0 per cent in 2002 quarter two compared with a contraction of 1.3 per cent in the previous quarter. However, month compared to a year ago changes show the July index positive for the first time since September 2001.

Despite the overall weak and mixed picture painted by the GDP figures, the Italian labour market continues to show improvements (figure 4). Employment growth was 1.8 per cent in the year to the second quarter of 2002 and recently updated unemployment figures show slight reductions in the unemployment rate since October 2001.

Figure 4
Unemployment: Italy
percentage of the workforce

In line with the labour market performance, annual earnings growth has picked up slightly, and grew in the year to June by 3.2 per cent.

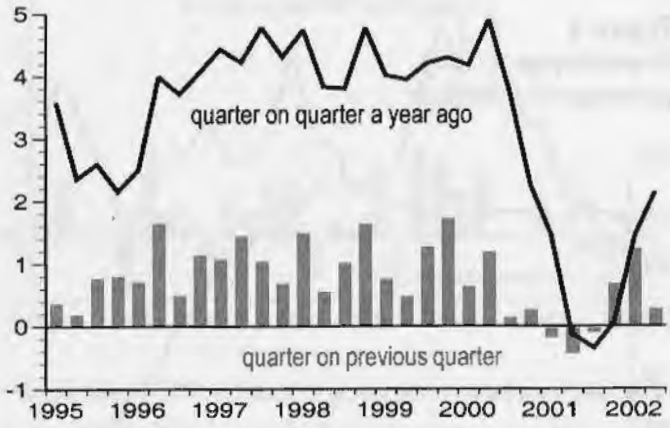
USA

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 (figure 5).

At 0.3 per cent, this performance is not as robust as in 2001 quarter one, when quarterly GDP growth was 1.2 per cent. A breakdown of the

components of GDP performance in 2002 quarter two shows household demand weakening from the previous quarter, although still fairly strong, adding 0.3 percentage points to GDP in quarter two, compared with 0.5 percentage points in the previous quarter. Government consumption was flat over the last two quarters, contributing 0.1 percentage points to quarterly GDP growth. Investment demand contracted in the latest period, making a negative 0.1 percentage points contribution to quarterly GDP. However, the main driver of the slowdown is a considerable reduction in the contribution of inventories to quarterly GDP, from an exceptionally high contribution of 0.8 percentage points in the first quarter to a contribution of 0.4 percentage points in the second. The other factor causing the slowdown is the large negative contribution by net trade of 0.5 percentage points to quarterly GDP, with both imports and exports increasing over the last quarter, but with imports growth higher than export growth.

Figure 5
GDP: USA
growth



However, the index of production accelerated into quarter two, with quarterly growth in 2002 quarter two of 1.0 per cent, 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.

Inflationary pressures continued to remain subdued, with the consumer prices index in July compared to a year ago increasing by 1.5 per cent, from an increase of 1.1 per cent in the previous month. Producer prices also continued to fall, with annual figures showing the PPI decline by 0.6 per cent in the year to July compared to a year ago. This is still an improvement over the previous month's decline in the producer prices index of 1.6 per cent.

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 for June and July shows the unemployment rate at 5.9 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 July 2002, the same as in the previous month.

Japan

The Japanese economy grew by 0.5 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 and a considerable improvement over last year, when exports made negative contributions to quarterly GDP in all four quarters. However, domestic demand is still weak, with household demand slowing compared to quarter one, with a contribution to GDP of 0.2 percentage points in quarter two from 0.3 percentage points. Government demand has added 0.1 percentage points to quarterly GDP in both quarter one and quarter two. Investment demand contracted for the sixth consecutive quarter, making a negative contribution of 0.2 percentage points, a slight improvement over the previous quarter's 0.4 percentage points. After four quarters of negative contributions to quarterly GDP, inventories made a positive contribution of 0.1 percentage points to quarterly GDP.

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. However, monthly figures show this was dominated by a peculiary strong May figure, with falls in June and July.

Consumer and producer price falls continue the deflation that began in mid-1998. Growth figures for the year to 2002 quarter two show that 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, although the rate stopped deteriorating since

May 2002 and has been static at 5.4 per cent of the workforce since then. Recent rates of unemployment are very high by historical standards for Japan (unprecedented since 1960 when OECD records began, figure 6). Employment growth is also negative, declining by 1.6 per cent in the year to 2002 quarter two.

Figure 6
Unemployment: Japan
percentage of the workforce

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.

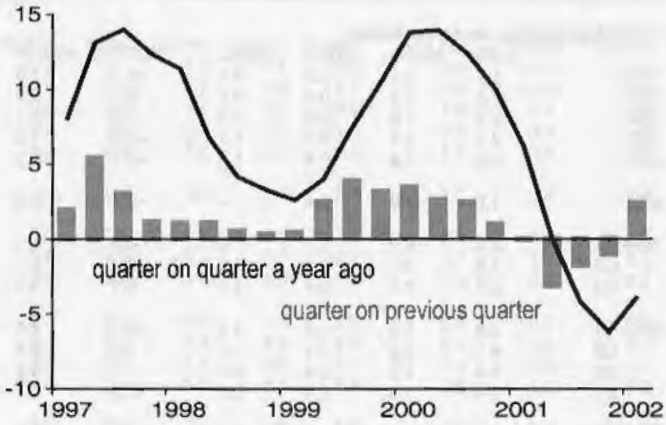
World Trade

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

	Contribution to change in GDP													
	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	0.6	0.5	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	1.6	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	2.7	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	2.1	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	2.3	2.5	4.7	3.3	1.9	7.8
2001	1.6	1.3	0.4	–	–0.4	0.9	0.5	–	1.6	2.5	1.2	3.0	1.4	7.4
1999 Q2	2.2	2.0	0.3	1.0	–0.3	1.1	1.9	0.6	1.2	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	0.5	3.6	1.9	8.6
Q4	3.7	2.1	0.4	1.2	0.1	3.3	3.3	4.2	3.1	1.6	2.4	2.7	1.8	8.4
2000 Q1	3.9	1.9	0.4	1.1	–0.1	4.2	3.6	4.3	2.8	2.1	4.1	3.6	1.8	8.1
Q2	4.1	2.2	0.5	1.2	0.1	4.3	4.1	5.7	3.1	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	5.1	2.6	1.9	7.7
Q4	2.9	1.5	0.4	0.9	–0.2	4.1	3.8	4.3	1.2	2.7	5.1	3.5	2.1	7.5
2001 Q1	2.5	1.4	0.4	0.5	–0.3	2.9	2.5	3.8	2.2	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	1.8	2.9	2.4	3.4	1.4	7.3
Q3	1.6	1.3	0.4	–0.2	–0.4	0.3	–0.2	–0.6	1.5	2.5	0.7	3.4	1.2	7.3
Q4	0.7	1.2	0.4	–0.4	–0.8	–1.1	–1.5	–3.5	1.3	2.1	–1.2	2.5	0.9	7.4
2002 Q1	0.6	0.7	0.4	–0.5	–0.3	–1.1	–1.3	–2.9	1.2	2.2	–0.7	3.4	0.8	7.5
Q2	..	..	..	..	..	..	..	–1.4	..	1.9	–0.5	..	..	7.6
2001 Aug	..	..	..	..	..	..	..	0.1	1.8	2.7	0.8	..	..	7.3
Sep	..	..	..	..	..	..	..	–1.0	1.8	2.3	–	..	..	7.4
Oct	..	..	..	..	..	..	..	–2.5	0.9	2.3	–0.8	..	..	7.4
Nov	..	..	..	..	..	..	..	–3.8	1.8	1.9	–1.4	..	..	7.4
Dec	..	..	..	..	..	..	..	–4.2	0.9	1.9	–1.2	..	..	7.4
2002 Jan	..	..	..	..	..	..	..	–3.1	–	2.3	–0.7	..	..	7.5
Feb	..	..	..	..	..	..	..	–3.4	1.8	2.0	–0.8	..	..	7.5
Mar	..	..	..	..	..	..	..	–2.3	1.8	2.2	–0.6	..	..	7.5
Apr	..	..	..	..	..	..	..	–1.4	1.8	2.2	–0.4	..	..	7.5
May	..	..	..	..	..	..	..	–1.1	1.8	1.9	–0.5	..	..	7.6
Jun	..	..	..	..	..	..	..	–1.6	..	1.7	–0.6	..	..	7.7
Jul	..	..	..	..	..	..	..	..	..	1.8	–0.2	..	..	7.7
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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	–0.3				1.2	
Q3	1.2	0.6	0.1	0.4	–	1.1	1.0	1.7	1.6				0.9	
Q4	1.2	0.5	0.1	0.3	0.4	1.0	1.1	1.4	1.2				0.2	
2000 Q1	0.8	0.6	0.1	0.2	–0.2	1.1	1.0	0.4	0.3				–0.4	
Q2	0.9	0.5	0.1	0.3	–	1.0	1.0	2.0	–				1.3	
Q3	0.5	0.2	0.1	0.2	–0.1	1.0	0.9	0.8	0.6				0.7	
Q4	0.7	0.2	0.2	0.2	0.1	0.9	0.9	1.0	0.3				0.4	
2001 Q1	0.4	0.5	0.1	–0.1	–0.3	–	–0.3	–0.1	1.3				–0.6	
Q2	0.2	0.3	–	–0.1	–	–0.3	–0.2	–1.4	–0.4				0.8	
Q3	0.3	0.2	0.1	–0.1	–0.2	–0.3	–0.6	–0.2	0.4				0.6	
Q4	–0.1	0.2	0.1	–0.1	–0.3	–0.4	–0.4	–1.9	–				0.1	
2002 Q1	0.2	–	0.2	–0.2	0.3	–	–0.1	0.5	1.2				–0.6	
Q2	..	..	..	..	..	..	..	0.2	..				..	
Percentage change on previous month														
								ILKF	ILKP					
2001 Aug								1.5	0.9					
Sep								–1.2	–					
Oct								–1.4	–0.9					
Nov								–0.4	0.9					
Dec								0.4	–					
2002 Jan								0.2	–					
Feb								0.1	1.8					
Mar								0.6	–0.9					
Apr								–0.3	–					
May								0.1	–					
Jun								–0.1	..					
Jul								..	..					
Aug								..	..					

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

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	–1.2	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	–1.7	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	4.3	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	–4.0	–3.4	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	..	–0.5	8.2
2001 Aug	..	..	..	..	..	..	..	–0.1	0.8	2.6	2.7	..	..	7.8
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	..	..	..	..	..	..	..	–4.1	–4.4	2.1	–0.1	..	..	8.0
Feb	..	..	..	..	..	..	..	–4.7	–2.5	1.7	–0.3	..	..	8.0
Mar	..	..	..	..	..	..	..	–3.1	–3.2	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	..	..	..	..	..	..	..	–1.4	–2.6	0.8	–1.1	..	..	8.3
Jul	..	..	..	..	..	..	..	..	..	1.0	–1.0	..	..	8.3
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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	1.6	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	0.8	–2.1	–2.1
Q2	0.3	0.1	–	–0.5	0.8	0.4	0.5	–0.3	1.6	0.8

Percentage change on previous month	ILKC	ILKM
2001 Aug	1.7	0.4
Sep	–1.3	–0.3
Oct	–1.6	–1.7
Nov	–0.7	2.3
Dec	0.1	–1.8
2002 Jan	1.1	–2.0
Feb	–0.4	0.4
Mar	0.3	0.2
Apr	–0.1	1.7
May	–1.3	–0.6
Jun	2.1	–0.1
Jul	..	..
Aug	..	..

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

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	1.9	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	2.3	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	1.6	8.5
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	2.8	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	2.7	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	2.6	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	2.3	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	1.3	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	1.0	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	0.7	8.7
Q2	1.0	1.1	0.7	0.1	–1.2	–	–0.3	–	–0.5	1.6	–0.2	..	..	8.8
2001 Aug	..	..	..	..	..	..	..	1.5	–	1.9	1.1	..	..	8.5
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	..	..	8.6
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	–0.2	..	..	8.8
May	..	..	..	..	..	..	..	–0.3	2.1	1.5	–0.2	..	..	8.8
Jun	..	..	..	..	..	..	..	–0.1	–2.5	1.5	–0.2	..	..	8.9
Jul	..	..	..	..	..	..	..	..	..	1.7	..	..	..	8.9
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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				0.7	
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				0.5	
Q2	–0.1	0.2	0.1	–0.1	0.1	–0.8	–0.5	–0.6	–2.5				0.1	
Q3	0.5	0.5	0.2	0.1	–0.4	–0.2	–0.2	0.7	–0.3				0.2	
Q4	–0.5	0.1	0.1	–0.1	–0.8	–0.6	–0.8	–1.7	–0.5				0.3	
2002 Q1	0.5	0.2	0.2	0.1	0.2	0.4	0.6	0.4	1.9				0.2	
Q2	0.5	0.3	0.2	–	–0.3	0.4	0.2	0.6	–1.6				..	
Percentage change on previous month														
								ILKD	ILKN					
2001 Aug								–	0.7					
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								0.2	–2.6					
Jul								..	..					
Aug								..	..					

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

4 Italy

	GDP	Contribution to change in 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	3.8	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	1.5	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	–0.1	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	4.1	–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	2.8	3.5	–0.3	2.4	4.7	1.6	1.1	10.9
Q2	3.0	1.9	0.3	1.5	–0.8	2.9	2.7	5.7	–0.3	2.6	6.2	2.6	1.6	10.5
Q3	2.7	1.7	0.3	1.4	–1.5	3.6	2.7	3.5	–	2.6	6.7	1.9	2.1	10.3
Q4	2.6	1.6	0.3	0.8	–0.8	2.6	1.9	3.6	–1.3	2.6	6.5	1.8	2.8	9.9
2001 Q1	2.5	1.2	0.4	0.8	–0.3	0.9	0.4	2.5	–0.6	2.9	4.8	2.2	3.2	9.7
Q2	2.3	0.9	0.4	0.6	–0.1	1.4	0.9	–0.7	–1.0	3.0	3.2	1.3	2.1	9.5
Q3	1.7	0.5	0.4	0.3	1.2	–0.6	–	–1.2	–2.2	2.8	0.9	2.0	1.8	9.4
Q4	0.6	0.2	0.3	0.4	–0.6	–0.8	–1.1	–4.4	–1.9	2.5	–1.0	2.1	1.1	9.2
2002 Q1	0.1	–0.1	0.3	–0.4	0.9	–1.5	–0.9	–3.6	2.9	2.4	–1.3	2.2	1.8	9.0
Q2	..	..	..	..	..	..	..	–2.9	..	2.2	–1.0	3.1	1.8	..
2001 Aug	..	..	..	..	..	..	..	–1.0	–1.0	2.8	1.2	2.0	..	9.4
Sep	..	..	..	..	..	..	..	–2.1	–2.9	2.6	0.4	2.0	..	9.3
Oct	..	..	..	..	..	..	..	–1.6	–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	..	9.0
Mar	..	..	..	..	..	..	..	–4.4	2.9	2.5	–1.3	2.8	..	9.0
Apr	..	..	..	..	..	..	..	–3.6	1.0	2.3	–1.2	3.1	..	9.0
May	..	..	..	..	..	..	..	–1.8	1.9	2.3	–0.9	3.1	..	..
Jun	..	..	..	..	..	..	..	–3.2	..	2.2	–0.7	3.2	..	..
Jul	..	..	..	..	..	..	..	..	..	2.2	0.1	..	..	..
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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	2.1	–				1.4	
Q4	1.0	0.4	0.1	0.5	0.4	1.0	1.3	1.3	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	0.4	0.4	–	0.3	0.2	–0.6	–	1.7	0.3				1.6	
Q3	0.6	0.2	0.1	0.3	–1.2	1.3	0.1	–0.1	0.3				1.9	
Q4	0.9	0.3	0.1	–0.1	1.0	0.1	0.6	1.5	–				0.6	
2001 Q1	0.7	0.2	0.1	0.3	–0.3	0.1	–0.3	–0.6	–1.3				–0.8	
Q2	0.1	0.2	0.1	0.1	0.4	–0.1	0.6	–1.5	–				0.5	
Q3	–	–0.2	0.1	–	0.1	–0.7	–0.8	–0.6	–1.0				1.6	
Q4	–0.2	0.1	0.1	–	–0.8	–0.1	–0.5	–1.8	0.3				–0.1	
2002 Q1	0.2	–0.1	0.1	–0.5	1.2	–0.6	–0.1	0.2	3.6				–0.2	
Q2	..	..	..	..	..	..	..	–0.8	..				0.5	
Percentage change on previous month								ILKE	ILKO					
2001 Aug								0.6	–					
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	..					
Jul								..	..					
Aug								..	..					

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
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

5 USA

	GDP	PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl[1]	Unempl
		Contribution to change in GDP												
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	2.1	2.1	0.7	–0.6	0.7	–0.4	0.5	–1.3	5.5	1.3	–1.7	3.4	–0.7	5.9
2001 Aug	..	..	..	..	..	..	..	–4.6	5.1	2.7	0.8	3.4	–0.6	4.9
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	..	..	..	..	..	..	..	0.1	6.2	1.1	–1.6	3.3	–0.6	5.9
Jul	..	..	..	..	..	..	..	0.2	6.6	1.5	–0.6	3.3	–0.8	5.9
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..
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	0.3	0.8	1.0	0.8				1.0	
Percentage change on previous month														
								ILKG	ILKQ				ILLA	
2001 Aug								–0.3	0.7				–1.1	
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								0.6	–0.7				0.5	
Jun								0.7	1.6				0.5	
Jul								0.2	1.1				0.2	
Aug								..	..				..	

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

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

6 Japan

	GDP	Contribution to change in 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	–0.2	–0.7	0.1	–5.2	–1.1	–0.7	–0.6	0.6	–0.4	4.9
Q3	–0.6	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	–0.9	0.4	0.4	–1.6	–0.9	0.6	–0.2	–3.0	–3.0	–0.9	–1.1	–0.7	–1.6	5.3
2001 Aug	..	..	..	..	..	..	..	–11.3	–3.3	–0.7	–1.0	–1.1	–0.6	5.0
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	..	..	..	..	..	..	..	1.1	–4.5	–0.8	–1.2	–5.5	–1.2	5.4
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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	–0.2	–0.6	–0.3	–4.0	–2.9	1.4
Q3	–0.7	–0.1	0.1	–0.4	–0.3	–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	–	0.3	0.1	–0.4	–0.4	0.5	–	–0.1	0.8	–2.0
Q2	0.5	0.2	0.1	–0.2	0.1	0.6	0.3	3.7	–1.5	1.3

Percentage change on previous month	ILKH	ILKR	ILLB
2001 Aug	0.3	–1.1	–0.1
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	–0.1	–1.2	–
Aug	..	..	..

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

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

International comparisons of Company Profitability

Laura Citron
Monetary and Financial Statistics Division
Bank of England
Threadneedle Street
London EC2R 8AH

Richard Walton
Monetary and Financial Statistics Division
Bank of England
Threadneedle Street
London EC2R 8AH
Tel: 020 7601 5453
E-mail: Richard.Walton@bank of england.co.uk

Introduction

In the third of an annual series of articles,[1] data are presented on the profitability of UK companies, compared with companies in 33 other countries. Data for 14 countries are presented here for the first time. The Office for National Statistics measures the profitability of private non-financial corporate sector operations in the United Kingdom, using rates of return on capital employed. These data are issued by the Office for National Statistics in First Releases (4 July and 3 October 2002) and are consistent with profits and capital stock data in the Quarterly National Accounts (28 June and 27 September). Sources and coverage of country data are discussed in a separate article, "Sources of data for international comparisons of company profitability (methodology)"[2]. The views expressed in this article are those of the authors and do not necessarily reflect those of the Bank of England or the Office for National Statistics. The authors would like to thank the staff of statistical offices and central banks in the countries who contributed to this article.

Table 1.1 Top counties, by recent profitability

	All Companies	per cent
1	Norway*	*20.8*
2	Finland*	*14.0*
3	Belgium	*11.9*
4	UK*	*11.6*
5	Estonia	*11.4*
6	Italy	*11.3*
7	Australia*	*10.3*
8	Canada	*9.7*
9	South Africa*	*9.6*
10	Israel*	*9.4*
11	Spain	*9.3*
12	Mexico*	*9.2*
13	Denmark	*8.4*
14	Japan	*7.7*
15	US*	*6.9*
16	France	*6.7*
17	Germany*	*6.5*
18	Latvia	*6.0*
19	Netherlands*	*5.2*
20	China**	*5.1*
21	Slovenia	*3.9*
22	Hungary	*2.7*
23	Iceland	*0.8*

* *indicates that data is for 2001, the rest is 2000.*
** *ratio of profits to sales*

Table 1.2 Top counties, by recent manufacturing profitability

	Manufacturing	per cent
1	Belgium	*21.0*
2	Australia*	*20.3*
3	Finland*	*18.9*
4	Spain	*13.8*
5	Denmark	*12.0*
6	Netherlands*	*12.0*
7	Canada	*10.6*
8	Mexico*	*7.4*
9	Norway*	*6.7*
10	Korea*	*5.5*
11	Hungary	*5.0*
12	US*	*4.4*
13	UK*	*3.6*

* *Indicates that data is for 2001, the rest is 2000.*

Table 1.3 Top counties, by recent services profitability

	Services	per cent
1	US*	*17.5*
2	Norway	*16.6*
3	Finland*	*15.9*
4	Spain	*14.8*
5	UK*	*12.9*
6	Mexico*	*12.6*
7	Canada	*9.0*
8	Belgium	*8.8*
9	Australia*	*6.3*
10	Denmark	*5.4*
11	Netherlands*	*2.1*

* *Indicates that data is for 2001, the rest is 2000.*

For the purposes of this article, profitability is defined as the ratio of profits to capital employed. Profits are defined fairly precisely in international manuals and it is likely that they will be measured reasonably consistently. On the other hand, capital employed is not defined so precisely and there is more scope for variations in the detail of its definition and the methods used to estimate it. We have not sought to impose a common detailed definition. Of the 34 countries (including the UK) providing data, 29 countries have provided rates of return, 4 countries profits data only and one country a measure of competitiveness. 16 countries have provided rates of return for the manufacturing sector and 13 for the services sector. Four countries provided quarterly data – UK, US, Canada and Spain. Quarterly data are provided from a smaller sample of companies than the survey providing the annual data, but have been used where annual data are not yet available.

It follows that differences between countries can reflect a mixture of real differences in profitability and the results of differences in the calculations. In virtually every case, countries will, however, have calculated profitability consistently over time. Rises and falls will reflect real changes in their economies. Estimates for the latest year may be subject to revision. The statistics presented here have to be interpreted accordingly.

Outline of the article

1. League tables
2. Why hasn't profitability in the Euro-area countries converged?
3. Why are the rates of return for manufacturing and service companies different?
4. Individual country analysis
   - UK
   - US
   - Japan
   - Euro-area countries
   - Rest of Europe
   - Rest of World
   - Continental Shelf Companies

Table 1.4 International comparisons of all companies' profitability

per cent

	Major trading partners				Euro-area countries							
	UK	US	Euro-area	Japan	Germany	Italy	France	Spain	Belgium	Portugal	Finland	Netherlands
1990	11.1	7.8	..	13.3	..	11.0	7.3	8.1	11.3	..	6.9	..
1991	9.5	7.2	..	13.1	..	10.7	6.9	4.4	10.3	..	3.6	..
1992	9.1	7.0	..	11.1	..	10.7	6.9	3.0	9.4	..	3.9	..
1993	9.8	7.4	..	10.4	..	10.1	6.6	1.7	8.8	..	5.5	..
1994	11.7	8.3	7.3	9.3	5.7	11.5	6.7	4.8	10.5	..	7.7	..
1995	12.0	8.6	7.6	9.4	6.0	12.6	6.8	6.8	11.1	6.4	9.7	5.1
1996	12.7	9.1	7.8	10.0	6.1	12.8	6.3	7.2	10.7	6.4	9.7	5.1
1997	12.9	9.5	8.1	9.4	6.3	12.3	6.6	8.4	12.1	6.2	11.6	5.4
1998	13.0	8.9	8.1	8.8	6.6	11.8	7.3	9.9	12.2	5.9	13.3	5.4
1999	12.6	8.6	8.1	7.7	6.4	11.5	6.9	9.1	11.6	..	13.0	5.2
2000	12.5	7.7	8.1	7.7	6.4	11.3	6.7	9.3	11.9	..	15.1	5.4
2001	11.6	6.9	..	..	6.5	..	..	..	..	..	14.0	5.2

	Rest of Europe								Rest of the World							
	Denmark	Norway	Czech Republic	Hungary*	Estonia*	Slovenia	Latvia*	Slovakia	Australia	Israel	S. Africa	Canada*	China**	Iceland	Singapore	Mexico*
1990	6.0	..	..	..	..	..	..	..	8.5	..	8.2	..	..	..	17.9	..
1991	5.8	12.5	..	..	..	..	..	..	7.7	..	8.0	..	..	..	16.5	..
1992	6.4	12.1	..	..	..	..	..	..	8.1	..	7.4	..	..	..	14.9	..
1993	6.2	12.6	9.2	..	..	..	..	..	8.6	..	7.3	..	..	..	17.1	..
1994	7.2	13.0	7.8	..	..	..	..	..	9.1	..	7.9	..	..	..	16.0	..
1995	7.3	14.0	9.0	..	5.4	..	..	7.2	9.3	13.5	8.5	8.1	..	..	14.8	7.6
1996	7.3	16.1	7.7	..	6.2	..	..	6.2	9.6	11.9	9.0	8.5	..	..	13.8	13.5
1997	7.6	16.8	7.3	..	6.9	2.9	9.8	6.2	9.8	11.4	9.1	8.4	..	..	13.1	14.9
1998	6.4	12.6	8.3	2.2	6.1	3.5	7.2	5.6	10.2	11.4	7.8	8.1	..	9.0	11.0	6.3
1999	6.9	14.5	7.2	2.0	1.6	3.9	6.2	6.4	9.6	10.7	7.5	9.3	3.3	9.5	13.1	10.9
2000	8.4	22.4	..	2.7	11.4	..	6.0	..	10.4	11.3	8.8	9.7	5.2	0.8	..	10.2
2001	..	20.8	..	..	..	..	..	..	10.3	9.4	9.6	..	5.1	..	..	9.2

* Ratio of Profits to Equity.
** Ratio of Profits to Sales.
See Methodology Paper by Richard Walton (Bank of England) for further details.

Table 1.5 International comparisons of manufacturing companies' profitability

per cent

			Euro-area countries					Rest of Europe				Rest of the World				
	UK	US	Nether-lands	Germany	Spain	Belgium	Finland	Denmark	Czech Republic	Hungary	Norway	Australia	Korea	Singapore	Canada	Mexico
1990	6.8	15.2	..	..	9.7	16.0	8.4	9.7	..	..	..	15.6	..	23.4	..	..
1991	4.1	9.3	..	..	3.8	11.3	3.3	8.8	..	..	7.4	13.2	..	24.8	..	..
1992	5.3	15.7	..	..	-0.4	9.6	5.5	10.3	..	..	8.3	14.3	..	20.0	..	..
1993	5.8	11.3	..	..	-3.4	8.3	9.4	8.8	9.7	..	10.5	16.6	..	23.9	..	..
1994	8.7	21.9	..	10.1	6.1	14.9	11.4	11.6	8.7	..	11.4	19.8	..	19.5	..	..
1995	10.0	22.2	11.9	10.1	10.9	17.7	14.1	11.8	11.4	..	14.3	20.1	8.3	21.0	9.1	6.4
1996	11.1	22.8	11.2	10.3	9.5	15.5	11.2	10.4	9.5	..	12.0	19.7	6.5	18.3	9.4	12.9
1997	11.9	25.2	11.9	10.9	11.7	19.1	13.9	12.3	10.1	..	11.9	20.5	8.3	18.3	9.0	20.5
1998	10.5	21.2	12.3	12.2	13.4	18.8	16.5	10.9	10.7	5.7	11.1	22.8	6.1	15.0	9.5	5.1
1999	9.3	22.7	11.6	11.8	13.3	17.3	15.7	10.9	9.8	4.9	11.7	21.9	6.6	19.3	9.9	9.2
2000	8.6	20.8	13.3	..	13.8	21.0	21.1	12.0	..	5.0	9.9	20.3	7.4	..	10.6	8.3
2001	3.6	4.4	12.0	..	..	..	18.9	..	..	..	6.7	20.3	5.5	..	..	7.4

Table 1.6 International comparisons of service companies' profitability

per cent

			Euro-area countries					Rest of Europe			Rest of the world		
	UK	US	Germany	Finland	Netherlands	Spain	Belgium	Denmark	Norway	Czech Republic	Australia	Canada	Mexico
1990	13.6	15.1	..	5.8	..	17.1	9.2	5.4	..	..	5.8	..	..
1991	13.0	14.0	..	6.0	..	11.5	9.2	5.3	15.7	..	5.8	..	..
1992	11.0	11.3	..	5.7	..	6.9	10.1	5.4	17.6	..	6.1	..	..
1993	11.5	16.5	..	6.5	..	6.9	9.3	5.6	18.6	3.7	6.2	..	..
1994	13.3	21.8	6.5	9.2	..	8.8	9.6	6.1	18.2	3.6	6.8	7.4	9.0
1995	13.2	16.7	7.9	11.3	2.1	11.6	9.2	6.0	17.6	4.4	6.9	8.2	12.9
1996	13.7	18.6	6.8	13.2	2.1	12.2	9.0	5.8	17.5	3.8	7.2	7.8	16.0
1997	14.7	19.2	7.0	15.7	2.5	12.4	9.9	5.7	18.1	3.8	6.4	7.7	12.6
1998	16.2	23.3	7.2	17.4	2.4	14.8	10.5	5.1	17.4	6.2	6.8	7.0	13.2
1999	15.6	24.4	6.9	17.0	2.3	16.1	10.0	5.2	17.2	5.4	6.9	7.9	14.4
2000	14.0	19.3	..	16.8	1.9	14.8	8.8	5.4	16.6	..	6.9	9.0	14.4
2001	12.9	17.5	..	15.9	2.1	..	..	..	16.6	..	6.3	..	12.6

1. League tables

The league tables give the latest available data (2000/2001) from each country for all companies, manufacturing and service sectors. Some data has been revised since the last edition of this article, so comparisons are made on the basis of a 1999 league table using current data, and not as it was last published in December 2000.

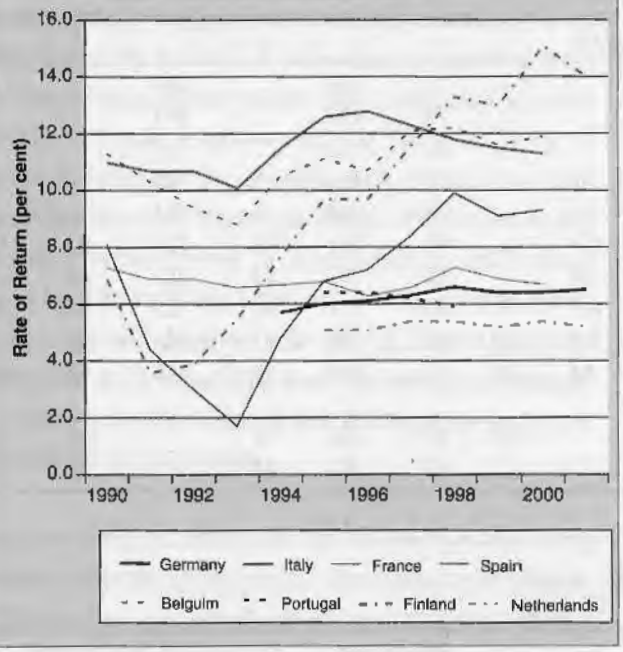
Norway topped the latest PNFC profitability league table, coming in nearly 7 percentage points above second-placed Finland. Belgium is the most profitable manufacturer followed by Australia and the US retailers were the most profitable service sector. The biggest jump was by Estonia who moved from bottom of the league to fifth overall.

The UK maintained its overall ranking as the fourth most profitable country among the 23 countries with data for 2000/2001 that are compared in Table 1.1. The UK's manufacturing profitability has fallen to the bottom of the league table (Table 1.2), whilst in services the UK retained its fifth place (Table 1.3).

Private non-financial corporations in the US fell two places to fifthteenth place, just below Japan in fourteenth position. Europe was more profitable than the US and the gap could be over one per cent in 2001.

Figure **2.1**

Euro-area countries rates of return



2. Why hasn't profitability in the Euro-area converged?

Economic theory suggests that where direct investment can move freely between countries, profitability rates will be equal, as investment will flow to where its return is greatest. Since the creation of the European Monetary Union, one might expect a convergence in profitability ratios among the 20 million companies in the member countries.

However, Figure 2.1 shows little evidence of convergence. Setting aside Finland's spectacular profitability growth, the remaining countries have more or less maintained their relative levels for the past five years. This article briefly put forward three answers.

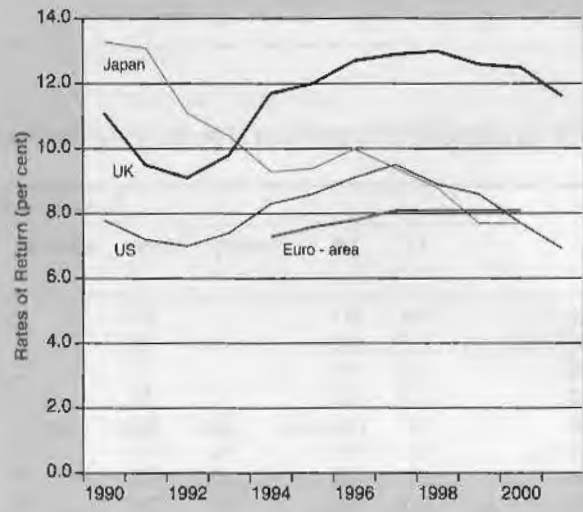
First, investment does not appear to have been flowing to reduce profitability differentials. Despite a generally low level of domestic investment, intra-EU foreign direct investment (FDI) grew 50 per cent in 2000. In 2000 in particular, Germany (with one of the lowest profitability ratios in the Euro-area) was the biggest net receiver of intra-EU FDI. The UK was the biggest net investor. By 2001, the flows were moving more generally in the directions suggested by the profitability data. However, a proportion of countries' FDI leaves the Euro-area, for the US and UK. This could be attributed to the higher rates of return that were available in the US and UK and could, in turn be slowing the convergence process within Europe.

Second, an explanation is that the markets are not completely integrated. A lack of comparable information and structural obstacles may mean firms do not seek investment opportunities in other EU countries, or in those with the highest profitability ratios.

Finally, it is, of course, possible that the data does not reflect the reality of profitability ratios. For several countries, ratios net of tax or depreciation are unavailable. Investors will be concerned with post-tax profits and depreciated capital values. We might expect to see rather more convergence in post-tax rates of return.

Figure **2.2**

Euro-area and major trading partners rates of return



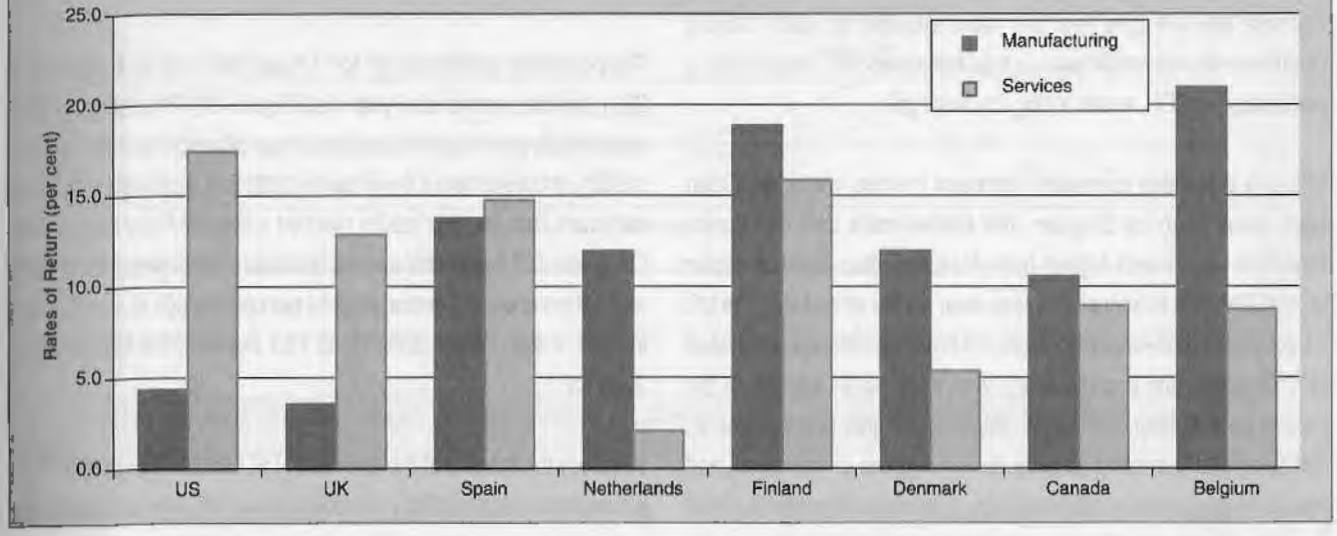
Euro-area

A Euro-area wide indicator was calculated in order to make comparisons with other countries. The indicator weights profitability from the eight Euro-area countries that provided data, according to the GDP of each country. Rates of return have been consistently higher in the US in the second half of the 1990s. But, this positive differential in profitability with the Euro area moved from 0.5 percentage points in 1999 to a negative differential of close to one per cent in 2001.

Figure 2.2 shows that the Euro-area had lower profitability ratios than UK, US and Japan, until 2000 when Japan and the US fell below it. Profitability is showing a gradually rising trend which could be explained by better capital mobility and the benefits of trade within the area. It could also be due to the stable growth in manufacturing industry in the Euro area in the past two years. In the US on the other hand, profitability in the manufacturing industry in 1999 and

Figure **3.1**

Manufacturing and services profitability (latest data) for selected countries



2000 was dominated by chemicals, computer and electronics products and motor vehicle parts. These were the same industries which were responsible for the dramatic drop in US profits in 2001. Nevertheless, the Euro-area's slow growth in rates of return could be due to structural issues, such as labour market rigidities or high corporate tax rates.

3. Why are the rates of return on manufacturing and service companies different?

The most striking feature of corporate profitability across countries is the difference between the manufacturing and service sectors (Figure 3.1). The UK, US, Spain and Norway have more profitable service than manufacturing sectors, but the majority of economies' manufacturing sectors outperform their service sectors. One of the most extreme examples is the Netherlands, where manufacturing profitability has exceeded service profitability by an average 10 per cent since 1995. Manufacturing industry in the Euro area has been dominated by chemicals, machinery and equipment and food.

In some economies, the relationship has changed over recent years. In Finland, for example, the mobile phones boom (Nokia) caused spectacular climbs in services profitability, allowing the service sector to match the traditionally profitable manufacturing sector.

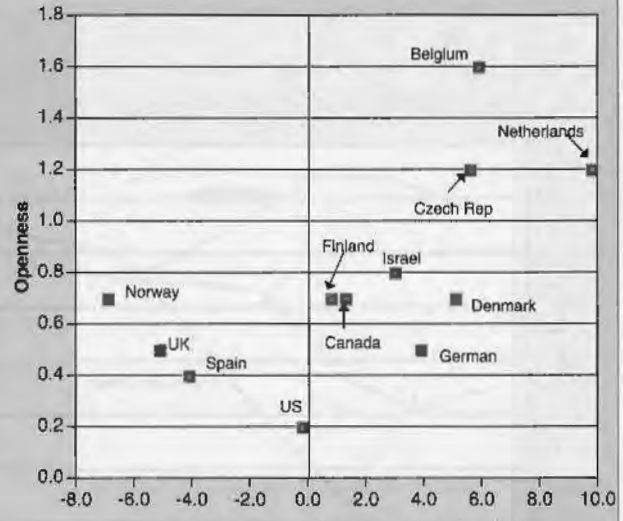
Economic theory suggests that disparities between the sectors should close as capital flows to its most profitable use. However, the data suggests that most countries have maintained a historical gap between manufacturing and services profitability. Two possible explanations will briefly be outlined.

Firstly, it is difficult to measure the capital of service sector firms, as it is often intangible. This might suggest higher than expected profitability of service sector firms if their capital is underestimated. However, services have not performed consistently better than manufacturing in all countries – quite the opposite. The majority of countries in this survey have historically higher profitability ratios in manufacturing than services.

Second, it has been suggested that the difference between manufacturing and service sector profitability represents a risk premium because manufacturing firms tend to be more export-focused and therefore more exposed to external shocks. In the UK, the percentage of exports to the output of manufacturing is 25 per cent. Figure 3.2

Figure **3.2**

Openness and (manufacturing *minus* services) profitability for selected countries



Note: Openness is defined as total trade (exports + imports) as a per cent of GDP.

plots manufacturing profitability minus services profitability against openness for 12 economies. On the horizontal axis, a positive number indicates manufacturing profitability greater than services profitability. The data are averages from the years available for each country. Openness, on the vertical axis, is total trade (exports + imports) as a percentage of GDP, and is a long run average.

There is a positive correlation between the two variables. Open economies such as Belgium, the Netherlands and the Czech Republic have much higher manufacturing than service sector profitability. The relationship is less clear on the other side. The US – the most closed economy – does not have the difference between service sector and manufacturing sector we would expect. In the centre, several economies (UK, Spain, Germany, Canada, Israel, Germany and Denmark) all have similar degrees of openness, and yet are widely spread in manufacturing – services differentials. Other variables (like productivity, fiscal and investment incentives) could, therefore, be affecting the relative profitability in these countries.

4. Individual country analysis

United Kingdom

Total company profitability fell to 11.6 per cent from 12.5 per cent in 2001, the third consecutive year it fell (Figure 4.1). Profitability in 2002 was broadly unchanged. Manufacturing profitability more than halved in 2001, dropping from 8.6 per cent in 2000 to 3.6 per cent in 2001. In fact, manufacturing profitability reached a low of 2.5 per cent in 2001 Q4. Rates of 2.5 per cent have not been seen for 20 years. Profitability also fell in the service sector, from 14 per cent in 2000 to 12.9 per cent in 2001. It then rose in 2002 Q2 to 14.1 per cent, the highest since 2000 Q2.

What are the causes of the decline of UK profitability in 2001? This article examines the effects of labour productivity, the exchange rate, and investment.

Figure **4.1**

UK total, manufacturing and services profitability

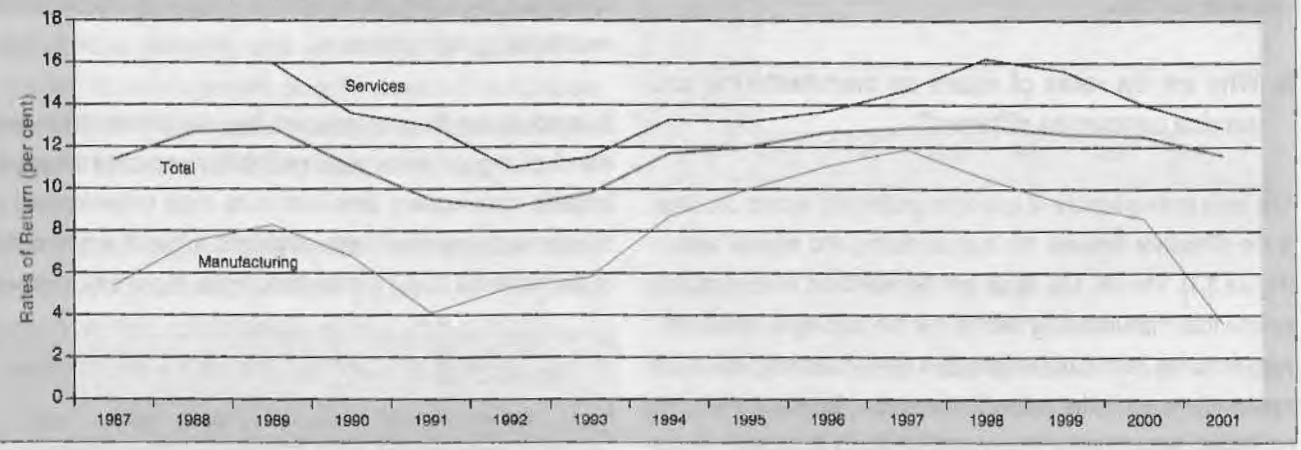


Figure **4.2**

UK profitability and productivity growth

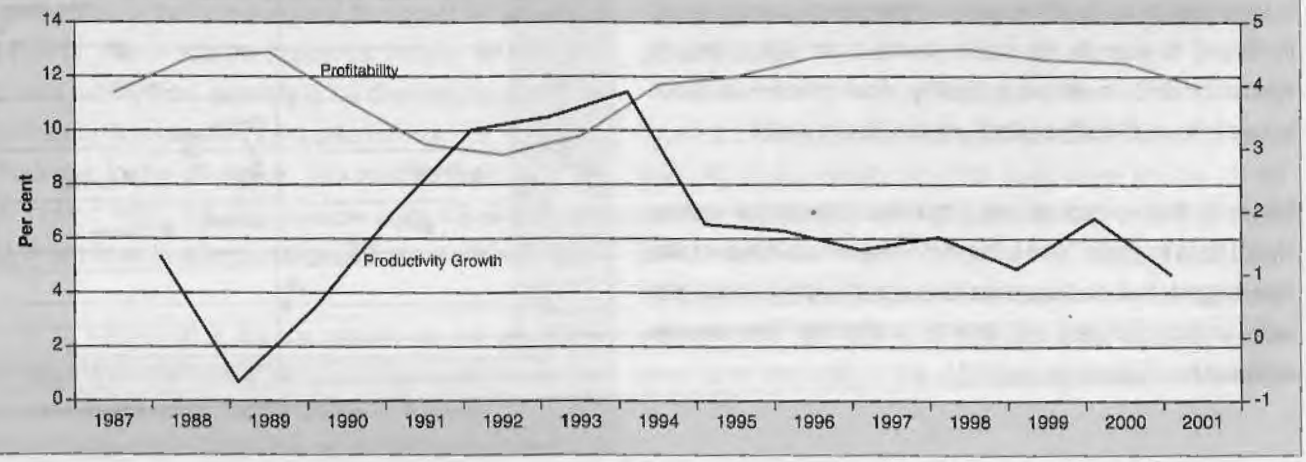
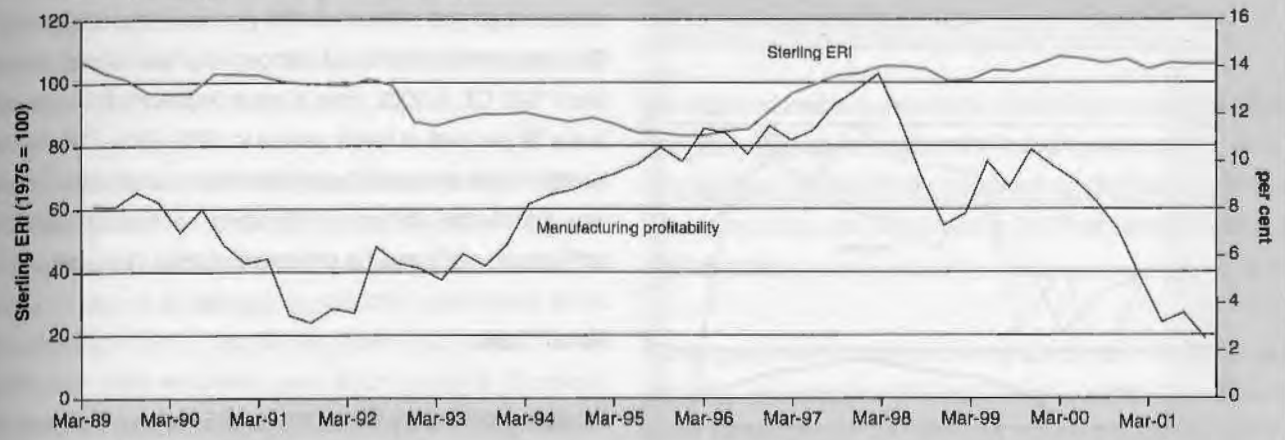


Figure **4.3**

Manufacturing profitability and sterling ERI



A slowdown in productivity growth could have weakened profitability in 2001. Wages grew 3.3 per cent and productivity grew by only 0.9 per cent. Manufacturing productivity growth has deteriorated since 2001 Q1. When the share of labour income goes up, the share of corporate profits will go down. However, Figure 4.2 does not show a historical relationship between profitability and productivity. And, in services – a more labour intensive sector than manufacturing – the fall in profitability was only of the order of 1.1 percentage points in 2001.

Non-labour inputs do not appear to be responsible for the falls in profitability. Producer input prices for materials and fuels purchased by manufacturing industry fell 2.2 per cent in the year to August 2002, whilst manufacturing output prices rose 0.3 per cent suggesting a small improvement in profit margins. Net operating surplus, (with capital consumption deducted) fell, however, in 2001 by 1.7 per cent.

There is also not a strong relationship between company profitability and the Sterling ERI exchange rate (Figure 4.3). In manufacturing which is more export orientated, it is difficult to discern any trend. However, the strength of the sterling exchange rate against the euro is often cited by UK firms as a reason for the difference between manufacturing and service sector profitability.

Investment intentions of firms may well respond to inadequate net returns and to uncertainty over future profit margins. Investment could have several effects on profitability. On the one hand, by increasing the capital stock profitability will be reduced. On the other hand, however, investment may raise productivity and lower running costs, thus increasing gross operating surplus. It does not appear that investment and profitability are correlated (Figure 4.4). Investors are likely to put capital into firms where the rate of return is high, and profitable firms are more likely to have retained profits to invest. It is more likely that weak corporate profits have reduced investment.

Figure **4.4**

UK PNFC profitability and business investment

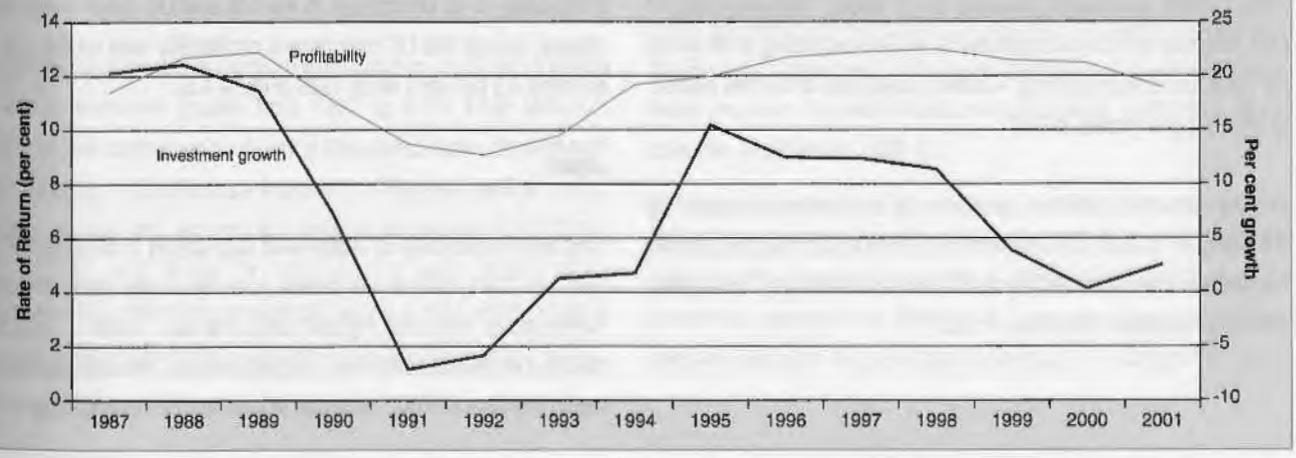
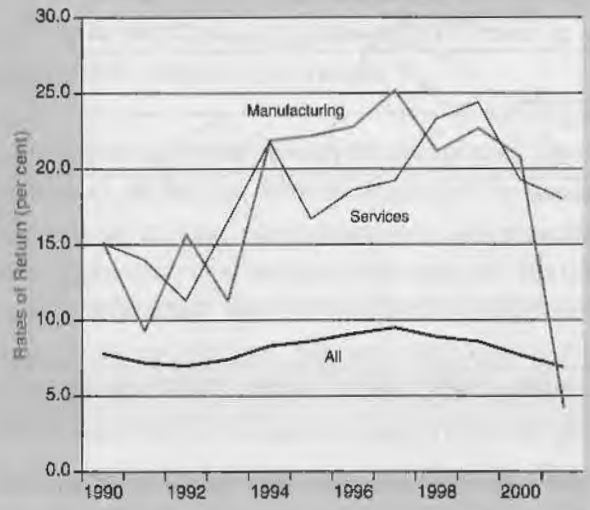


Figure 4.5

US total manufacturing and retail company profitability



In the UK manufacturing sector, profitability surged in the 1990s to 1998. The fall in 2001 in rates of return was marked. This was caused by a large fall in net operating profits, losing over one half of their value. The decline in manufacturing output since 2001 Q1 is the principal cause of a fall in profits. The falls in profits have been particularly marked in the pharmaceutical and high tech sectors. This includes the UK pc industry in which prices fell by over 20 per cent in the past year.

United States

Profitability of companies in the US peaked in 1997. Successive falls were recorded in 1998–2001 (Figure 4.5). The profitability of all private non-financial companies fell from 8.6 per cent in 1999 to 6.9 per cent in 2001. This is the lowest level since 1983 and lower than the average of 8.2 per cent for the decade 1990–2000 and the median for 1960–2001 of 8.4 per cent. Pre-tax corporate profits of non-financial companies fell by over US $50 billion in 2001. This fall was led by the manufacturing sector in which high-tech industries felt the impact of the downward pressure on IT prices. Manufacturers of cars and food and chemical products all reported falling profit levels for the second year running. Retailers were one of the few sectors to report higher profits in 2001.

Pre-tax corporate profits of non-financial companies increased by 0.8 per cent in 2002 Q1 and were flat in 2002 Q2. Second quarter results reflected both decreases in prices received by companies and an increase in non-labour costs.

Manufacturing

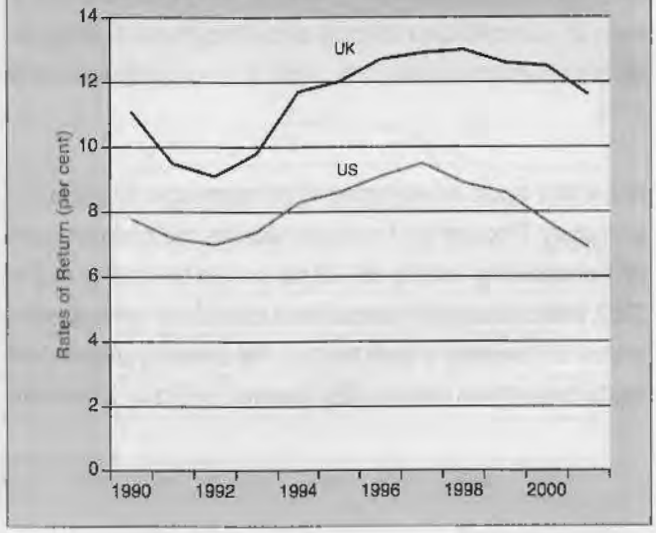
Manufacturing profitability fell to 4.4 per cent in 2001, compared with average rates of return of 18.8 per cent in the 1990s. In 2001 Q4, rates of return fell to 2.5 per cent, the lowest level recorded since 1992 Q1. In 2002, rates of return improved, but were still at levels 50 per cent of levels earned in 1995–2000. This reflected stronger profits by manufacturers of pharmaceuticals, motor vehicles, and petroleum and coal, offsetting continuing losses by manufacturers of computer and communications products.

Retail Trade

In retailing, profitability fell in 2001 to 17.5 per cent, a six-year low. In 2002 Q1, profitability was 19.1 per cent. Although this return was 4.5 percentage points below the previous quarter, it was higher than the return of 16.7 per cent recorded in 2001 Q1.

Figure 4.6

US and UK PNFC profitability



UK and US Comparison

Profitability of all companies in the UK and US follow each other closely, though the UK maintains a profitability lead on the US, an average 3.5 per cent since 1990 (Figure 4.6).

Japan

Corporate profitability in Japan was unchanged in 2000 at 7.7 per cent. In 2001, corporate profits rose by 2 per cent, although bankruptcies were the highest since the late 1980s. Profitability reached its lowest point over the past decade. Whether profitability would improve in 2002 depends in part on the restructuring of the

economy, in particular the traditional manufacturing industry. The effects of this in the short term could work both ways for firms. High and rising unemployment could keep wages low and falling, though it could also subdue domestic demand. In the long run, however, these changes are necessary for the economy to address structural excesses of labour and capacity.

Exports to the US and surrounding countries increased in 2002, in particular in capital and intermediate goods. Exports of semi-conductors and IT-related goods also showed a turnaround. This pick-up in exports is stimulating production, particularly in the manufacturing industry. Recovery in Japan could depend on the performance of the electronics sector which makes up 55 per cent of manufacturing. Restructuring should help to lower costs for electronics firms but competition from Asian rivals remains a risk. Rapid advances in technology and the wage gap with Japan could see China emerging as a threat to the Japanese recovery. Imports from China are contributing to a fall in prices and a squeeze in profits, as Chinese exports are undercutting Japanese exports throughout the Asian markets. The yen's appreciation against the dollar could also harm export competitiveness, particularly in export-orientated sectors such as motor vehicle production.

The next section analyses the rates of return in Euro-area countries.

Belgium

Profitability in Belgium rose slightly in 2000 to 11.9 per cent from 11.6 per cent in 1999. Belgian manufacturing profitability leapt nearly 4 percentage points to reach 21 per cent in 2000, driven by the chemicals industry which accounts for close to 25 per cent of manufacturing value added. This gave Belgium the highest manufacturing profitability in the world in 2000, just ahead of the US at 20.8 per cent. Service sector profitability fell however, further widening the gap between manufacturing and services in Belgium. Service sector profitability was 8.8 per cent in 2000, a differential of 12 percentage points.

The profitability growth in Belgium went hand-in-hand with a period of robust economic growth from 1997 to 2000. High levels of business and consumer confidence stimulated domestic demand. Global demand is particularly important to Belgium, as it is a small open economy, with exports and imports equal to around 75 per cent of GDP each. Belgium's manufacturing sector is particularly export sensitive; the strong export conditions in 2000 were probably the key to the profitability increases in the manufacturing sector.

The outlook for Belgian corporate profitability depends on two factors: the world economy and labour market developments. Belgium, as an economy which specialises in intermediate goods, would benefit from a pick-up in world demand.

The labour market has undergone substantial changes in the past few years. Tax cuts for employers to encourage employment would no doubt have improved profitability. However, high headline inflation caused by energy and food prices in 2001 has filtered into wages via indexation.

Other government action which may affect profitability, includes reducing corporate taxes to attract foreign investment (particularly in the service sector). The telecoms and utility industries are in a process of liberalisation. Depending on the success of regulation, this may affect profitability if a period of intense competition ensues.

Finland

Profitability in Finland fell across all sectors in 2001. However, Finland's performance is still unparalleled, and it was one of the world's most profitable countries in 2001. Company profitability fell from its high of 15.1 per cent in 2000 to 14 per cent in 2001. This is nearly double the Euro-area average. In the manufacturing sector, profitability fell from 21.1 per cent in 2000 to 18.9 per cent in 2001. Falls were also recorded in the service sector, bringing profitability down to 15.9 per cent.

It would not be possible to discuss Finland's corporate sector without mentioning mobile phone manufacturer Nokia. Nokia is the only Finnish company listed in the world's top 50 companies, and is estimated to provide up to half of Finland's GDP growth per year. Nokia began manufacturing tyres, tissue and wires. In the early 1990s it led the way in focusing on ICT and mobile technologies. Nokia is now the world's biggest mobile phone manufacturer, with a 38 per cent market share. Around Nokia, Finland has been able to build a highly efficient export-focused ICT industry. Its unique strength is in the Finnish commitment to R&D, and the highly educated workforce. Nokia has worn the falls in telecoms output well, recording a 46 per cent rise in profits for 2002 Q2.

Finland has been hailed as Europe's success story for maintaining GDP growth of nearly 5 per cent in 1994-2000. Inflation over the period was contained at between 1–3 per cent. However, Finland has been hit by the recent economic downturn – GDP growth slowed

to 0.7 per cent in 2001. The upturn in the world economy is now lifting the traditional export sectors of paper and machinery.

France

Profitability in France fell slightly in 2000 to 6.7 per cent. This was despite high economic growth and export competitiveness which France enjoyed in 2000. The weak Euro stimulated exports which grew by 12.6 per cent. Domestic demand was also strong, growing at 2.6 per cent. It is possible that high investment costs in 2000 were in part responsible for the light fall in profitability – investment by non-financial corporations and unincorporated enterprises was 7.2 per cent higher than in 1999. Increases in the minimum wage in 2000 may also have reduced profitability slightly.

Germany

Profitability of German non-financial companies was the same in 2000 as in 1999 and was led by the German exporting companies.

Manufacturing performed particularly well, with after-tax profits growing 15 per cent in 2000. Industry benefited from the strength of exports, especially chemicals and chemical products, motor vehicles and electrical machinery, which are particularly export focused and which are the three main manufacturing sectors. Germany was the EU's leading producer of machinery and equipment and one of the main net exporters.

In services, the transport sector was unable to translate high demand into profits, as rising fuel prices and a sharp rise in excise taxes eroded profits on the cost side. Another poor performer was the retail sector, which suffered excessive competition and unsustainable low prices as a foreign retail groups entered the market. Retail sales stagnated in 2000. Wholesalers, on the other hand, benefited from buoyant exports and capital goods and by handling a sharp rise in imported goods.

There is estimated to be very little change in overall profitability in 2001.

Italy

Profitability in Italy fell 0.2 percentage points to 11.3 per cent in 2000, slightly below the 1990–1999 average of 11.5 per cent. The economic background was one of high GDP growth rates and low inflation. Manufacturing profitability was sustained by growth in machinery and equipment, chemicals and metal products. Italy is one of the main net exporters of machinery and equipment in the EU. Profitability in the service sector has been affected by the Government's programme of liberalisation in the State-owned utilities.

Netherlands

Company profitability fell slightly in 2001 to 5.2 per cent from 5.4 per cent in 2000. Manufacturing profitability in the Netherlands fell 1.3 percentage points to 12 per cent in 2001. Manufacturing profitability has been over 10 per cent for the past seven years, led by food, chemicals and printing companies. Profitability in the service sector remained at around 2 per cent, a differential with manufacturing of 10 percentage points. The service sector is a far more capital intensive sector than manufacturing and this mainly accounts for the lower rates of return.

In the Netherlands, high levels of growth were recorded in 2000. Exports stimulated manufacturing growth and widened the gap in rates of return with the service sector. The Netherlands was very successful in being able to combine record lows in unemployment with wage moderation, allowing firms to benefit from increased output.

Industrial production has been falling for many months, led by a recession in the metal industry which accounts for about a third of industrial production. However, many firms have reported shifting investment from 2001 to 2002. As a result, investment is projected to rise 21 per cent in 2002. This may reduce profitability in the short term as the capital stock grows, but it is an indicator of firms' optimism that business will improve in 2002.

Spain

Profitability in Spain rose slightly from 9.1 per cent in 1999 to 9.3 per cent in 2000. Manufacturing sector profitability rose significantly from 13.3 per cent in 1999 to 13.8 per cent in 2000, the highest value on record. The main manufacturing industry is food production. The service sector, however, experienced a notable fall in profitability: the profitability of Spanish service companies in 2000 fell from a 10 year high of 16.1 per cent in 1999 back to its 1998 level of 14.8 per cent. These shifts represent a convergence in manufacturing and service sector profitability.

2000 was a strong year for Spanish corporations. Quarterly data suggest that the momentum was lost in 2001. Most corporations recorded similar or slightly reduced profits. Hardest hit were the energy and industry sectors, with falls in Gross Value Added (GVA) of –7.3 per cent and –3.3 per cent respectively. The nominal growth

rate of gross operating profit was 3.7 per cent in 2001 compared to 9.9 per cent in 2000. Much of this fall was caused by rising costs from two sources – wages and financial costs. Nominal wage growth outpaced productivity growth, as high inflation was factored into collectively bargained wage settlements. Financial costs grew 17 per cent in 2001 as firms increased their borrowing. This borrowing financed positions in new markets, and was used to purchase third generation telecommunications licenses.

Austria, Greece, Ireland and Sweden

These countries were only able to provide data on profits, not profitability ratios. A brief summary of their results is given below in Table 4.7.

Table 4.7 Percentage Change in Net Operating Surplus

per cent change

	Austria	Greece	Ireland	Sweden
1990	..	..	..	..
1991	..	..	*–0.8*	..
1992	..	..	*0.4*	..
1993	..	..	*10.8*	..
1994	..	..	*8.5*	*64.6*
1995	..	..	*29.0*	*34.5*
1996	*8.7*	..	*12.9*	*–18.9*
1997	*7.5*	..	*23.3*	*–0.2*
1998	*7.6*	..	*26.8*	*–5.9*
1999	*2.7*	..	*20.3*	*–2.8*
2000	*8.4*	..	*18.7*	*–8.2*[p]
2001	..	*–14.0*	..	*–25.6*[p]

[p] *provisional data*

In **Austria**, profits grew 8.4 per cent in 2000. Excluding a dip in 1999, this follows three years of strong growth for profits. Profits have risen from 10 per cent to 12 per cent of GDP since 1996.

Profits in **Greece** fell substantially in every sector between 2000 and 2001. Profits in manufacturing fell 26.4 per cent, and in trade they fell 29.9 per cent. Some of the biggest falls were recorded for paper printing (–99.3 per cent) and oil refineries (–66.5 per cent). However, there are signs that the 'new economy' is succeeding in Greece: profits for information companies grew 32.2 per cent and for electrical equipment by 14.4 per cent.

Ireland's growth in the past ten years has often been called an 'economic miracle'. An attractive economic package has brought vast foreign investment into Ireland, particularly from the US. Profits growth has been in double figures since 1995, peaking at 26.8 per cent in 1998. The growth has been well spread between the industry and service sectors in which profits account for 25 per cent and 11 per cent respectively of GDP in Ireland. In 2000, profits grew 12.4 per cent in industry led by the chemicals and food sectors and an impressive 41.9 per cent in services led by the telecommunications sector, although the boom in industry began a little earlier than in the service sector. Since 1990, total profits have grown at an average 15 per cent per year and by 2000 represented 22 per cent of GDP.

In **Sweden**, profits for private companies are provisionally estimated to have fallen 25.6 per cent in 2001. The fall in profits could have reflected reduced output in the telecommunications industry.

Rest of Europe

Denmark

Corporate sector profitability in Denmark rose 1.5 percentage points to 8.4 per cent in 2000. Manufacturing sector profitability (by 1.1 percentage points to 12.0 per cent) and service sector profitability (from 5.2 per cent in 1999 to 5.4 per cent in 2000) both rose slightly. The manufacture of machinery and equipment contributed 15 per cent of value added in the manufacturing sector and a positive net trade balance.

Denmark had a prolonged period of above-potential growth which has since slowed a little in 2001–02. Tightness in the labour market has led to wage growth slightly above Euro-zone levels, which might affect profitability in the labour-intensive service sector. Business benefited from interest rate cuts in 2002 which could mean profitability gains.

Norway

Norway achieved the highest profitability ratio of any country in this year's survey. A profitability ratio of 20.8 per cent was recorded in 2001, driven by companies in the service sector and oil and gas industry. Norway has also benefited from the growth of high tech manufacturing industry, but rates of return for this sector fell in 2001, as they did in the US and UK. Profitability has been particularly buoyant in 2000 and in 2001. The oil price and a competitive external trading environment have been major factors.

Most **Central European economies** are enjoying periods of growing profitability. As markets continue to liberalise and large utilities are privatised, competition is likely to increase. One of the principal threats to profitability in the Baltic countries, however, is that wages

will grow faster than inflation, especially since collective bargaining is common. This could reduce domestic profit margins and reduce competitiveness in vital export sectors.

Estonia

Estonia experienced the greatest increase in profitability of any country that supplied data. Profitability of Estonian non-financial corporations rose from 1.6 per cent in 1999 to 11.4 per cent in 2000, putting Estonia at fifth in the world league table. This could be related to domestic investment, which grew 24.4 per cent in 2000. The current level of investment is 25 per cent of GDP. Companies in the IT and telecommunications sectors benefited from higher investment.

Hungary

2000 saw a rise in non-financial companies' rate of return, from 2.0 per cent in 1999 to 2.7 per cent in 2000. Profitability improved in 2000, but the 2001 data could show a downturn. In May 2001, the Hungarian central bank widened the fluctuation band of the forint from 2.25 per cent to 15 per cent which resulted in an immediate and continuing appreciation of the currency. This was an attempt by the Central Bank to slow inflation, which had stagnated at around 10 per cent per year. Surveys have shown significant reductions in export profitability, particularly in the food and machinery sectors. One positive outcome for producers will be a reduction in input costs of imported raw materials and semi-finished goods.

Iceland

Iceland's profitability dropped from 9.5 per cent in 2000 to just 0.8 per cent in 2001. This could have resulted from a change in the government's exchange rate policy which for years had maintained a high krona. This encouraged firms to borrow abroad: Iceland's net debtor position reached 280 per cent of exports in 2000. The krona fell from March 2001 and companies' interest payments soared. Private and non-financial listed companies suffered losses equivalent to 1.3 per cent of GDP in the first half of 2001, compared to profits of 0.8 per cent in the same period in 2000.

Latvia

The profitability of Latvian businesses and enterprises fell slightly from 6.2 per cent to 6.0 per cent in 2000. Falls in profitability were recorded in the fishing, household goods, manufacturing, tourism and real estate sectors. Fishing and tourism are substantially loss making, with profitability of –10.6 per cent and –32.1 per cent respectively. Construction experienced the greatest rise in profitability, reaching over 22 per cent in 2000, making it the most profitable private sector. The electricity, gas and water sector, which is the largest employer in Latvia, remains profitable at 12.3 per cent.

The Latvian economy is enjoying a period of strong growth (6.5 per cent in 2000). Inflation has remained low and exports and investment strong.

Russia

Russia has contributed the profitability of products to the survey for the first time. On this basis of measurement, 1996 and 1997 were low points in the 1990s. 1999 was the most profitable year in the decade: overall industry profitability was at 25 per cent and in the fuel industry returns were as high as 45 per cent, double the levels reported in 1990. Chemicals and petrochemicals reported strong growth in 1999 and levels of returns had risen to over 20 per cent, after returns of less than 10 per cent in the period 1995–1998. The food industry, on the other hand, maintained a steady rate of return which at the end of the 1990s was around 13 per cent.

Slovak Republic

Data on the Slovak Republic is only available until 1999. However, improving corporate profitability has led to strong domestic and foreign fixed investment – total fixed capital formation grew 11.6 per cent in 2001. GDP grew at 3.3 per cent in 2001 and is expected to grow by 4 per cent in 2002.

Slovenia

There has been a gradual recovery in profitability of companies in Slovenia, to 3.9 per cent in 1999. One factor has been foreign investment in the domestic manufacturing industries. Slovenia has a diverse manufacturing base, from the traditional textiles industry to car production, brewing, chemicals and rubber. A high proportion (over 60 per cent) of exports are now to EU countries.

Rest of World

Australia

In the past decade, there has been a steady improvement in the profitability of companies in Australia. The average rate of return for the 1990s was 9.1 per cent and in only one year – 1999 – did the rate of return fall. Profitability in 2000 and 2001 was stable at

10.3 –10.4 per cent. One key driver for the improvement in rates of return was in the manufacturing industry in which first estimates show rates of return in excess of 20 per cent for the past five years. As in many economies, manufacturers are export – focused: around 60 per cent of exports are manufacturing commodities. In Australia, the manufacturing sector accounts for 12 per cent of GDP and the services sector around 20 per cent. The services sector employs rather more capital, particularly in transport and storage. Consequently, services has not shown the same resilience in profitability, particularly in 2000 and 2001 as in the manufacturing sector. Another key driver of profitability was in property and business services, a sector which is now equally as large in GDP terms as in manufacturing. Profitability in this sector in 2001 at 18.5 per cent was just below returns in manufacturing.

Canada

The profitability of Canadian firms rose from 9.3 per cent in 1999 to 9.7 per cent in 2000. This was the highest rate of return recorded by Canadian companies in the past five years. Preliminary data for 2001 (based on quarterly surveys) indicate a fall in the rates of return in both the manufacturing and service sectors. In the first six months of 2002, rates of return recovered, following four straight quarterly declines in 2001. However, corporate profits were far below the most recent peak in the first quarter of 2000.

Manufacturing has generally been more profitable than services in Canada. In 2000, the differential was 1.6 percentage points. In 2001, this differential was eroded, as profits of motor vehicles producers, chemicals, plastic and rubber products and primary metals all fell. In addition, electronics and computer manufacturers' profits were hit hard by the slump and global demand for electronics and telecommunications products. However, in 2002, the motor vehicles industry led a rebound in manufacturing rates of return. Low interest rates and strong US demand boosted margins. Wood and paper and steel producers' profits rebounded in 2002, but manufacturers of computer and electronic products registered losses again in 2002 caused by restructuring and downsizing costs. Operating profits of retailers were strong across all sectors in both the first and second quarters of 2002.

China

Between 1999 and 2000 profitability increased 1.9 percentage points, as economic restructuring led to efficiency gains. However, economic reform is dampening profits of Chinese firms as imports rise and competition intensifies. In 2001, profitability in China (ratio of profits to sales of industrial enterprises) remained broadly constant at 5.1 per cent.

Ecuador

Ecuador has contributed to the survey for the first time. A Competitive Trend Index (ICT) is published quarterly by the Central Bank which evaluates competitiveness and actions for economic policy. Data are available from 1995. The ICT turned down significantly in 1998 and 1999. While the median of the ICT during 1999 was 121.8, in the years 2000 and 2001 it stood at 138.9 and 152.9 points, respectively. In 2000, the improvement in competitiveness was due to a reduction in financial and labour costs. In 2001, the further rise was due to a sharp reduction in inflation and to the increase in investment in new technology. In the first quarter of 2002, a further reduction in inflation (but not in labour costs) pushed the ICT up 8.9 points over the quarter before.

Israel

In Israel, corporate sector profitability rose slightly in 2000 to 11.3 per cent, but fell to 9.4 per cent in 2001, the lowest level recorded. The drop continues the trend of falling profitability throughout the 1990s. Domestic and export demand have both fallen, hitting traditional industries (agriculture and mining) particularly hard. The high-tech sector – which is a driving force in the Israeli economy – has seen a slight improvement since the downturn in the telecoms business.

Mexico

Mexico has contributed to the survey for the first time. The return on equity for all companies listed on the Mexican Stock Exchange doubled between 1995 and 1997, to 14.9 per cent. In 1998, all sectors suffered a fall in profitability, particularly so in manufacturing in which returns fell from over 20 per cent to just 5 per cent, The overall rate of return earned by Mexican companies fell to just 6.3 per cent. 1999 was a year of recovery in all sectors and 2000 was a year of consolidation, with rates of just over 10 per cent recorded. In 2001, manufacturing, construction and retail companies all saw returns fall. As a result, profitability for all companies fell one percentage point to 9.2 per cent.

South Africa

In South Africa, profitability rose from 8.8 per cent to 9.6 per cent in 2001, the highest level on record. South Africa's profitability goes hand in hand with a period of growth and stability since 1997.

The value of the rand is a key factor that has brought profitability to the levels it has reached now, and that will determine the future of South Africa's corporations. The rand depreciated sharply in late

2001 and supported exporters' margins. The level of the rand has underpinned South Africa's exports to resist the global slowdown. The gold industry, one of South Africa's major exporters, has recorded exceptionally high profits.

Wages are another key variable for South African business. In 2001, gross operating surplus as a percentage of total factor income grew, indicating that prices grew faster than wages. This was supported by increases in productivity. The growing industrial sector enjoyed much improved profitability this year thanks to interest rate cuts.

Table 5.1 UK and Norway Continental Shelf Companies Rates of Return per cent

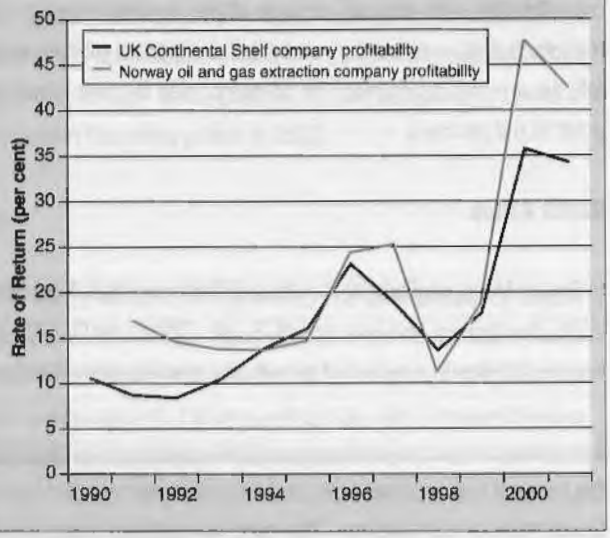
	UK	Norway
1990	*10.6*	..
1991	*8.7*	*16.9*
1992	*8.4*	*14.5*
1993	*10.4*	*13.7*
1994	*13.8*	*13.6*
1995	*16.0*	*14.6*
1996	*23.1*	*24.3*
1997	*18.8*	*25.2*
1998	*13.6*	*11.2*
1999	*17.7*	*18.7*
2000	*35.7*	*47.6*
2001	*34.2*	*42.4*

UK and Norway oil and gas companies

Profitability in UK and Norwegian Continental Shelf (CS) companies peaked at 35.7 per cent and 47.6 per cent respectively in 2000. Although profitability fell back in 2001, it was still well above the levels seen in the past decade (Table 5.1 and Figure 5.2).

Figure **5.2**

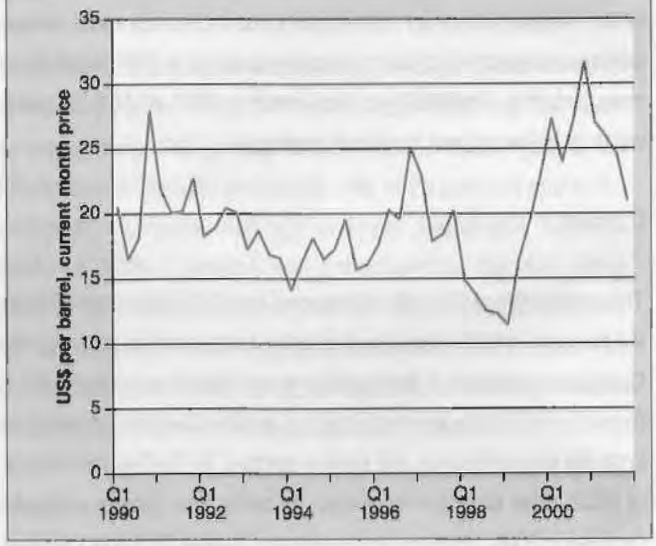
UK Continental Shelf and Norway Oil and Gas Extraction company profitability



UK and Norway oil company profitability ratios follow each other closely and are largely determined by oil and gas prices (Figure 5.3). Norway is the eighth largest producer of crude oil (the UK is tenth) and the second largest exporter (the UK is the seventh). In natural gas production, the UK is the fourth largest producer and Norway is the fourth largest exporter.

Figure **5.3**

Brent Crude Oil Price (US$)



Notes

1. International Comparisons of Company Profitability. *Economic Trends* No. 554, pp. 33–46. International Comparisons of Company Profitability. *Economic Trends* No. 565, pp. 33–50.

2. 'Sources of data for international comparisons of company profitability (methodology)' is available from Richard Walton at the address above. Laura Citron, a summer student at the Bank of England provided the analysis of the data on international profitability.

Index of Production redevelopment

Dean Fletcher
Short-term Output Indicators Division
Office for National Statistics
Room 1.473
Government Buildings
Cardiff Road
Newport NP10 8XG
Tel: 01633 813297
E-mail: dean.fletcher@ons.gov.uk

Mark Williams
Short-term Output Indicators Division
Office for National Statistics
Room 1.473
Government Buildings
Cardiff Road
Newport NP10 8XG
Tel: 01633 812319
E-mail: mark.williams@ons.gov.uk

Summary

- The Index of Production (IoP) computer system is being updated, with some small changes made to the methodology and compilation method. This will affect growth rates back to 1994.
- Results from the new system will be published as part of the September 2003 *Blue Book* data-set. The project is progressing to timetable, quality assurance of the final system will be completed in spring 2003, after which a further article will be produced.
- The main methodological enhancements are focused around the method for adjusting for monthly change in inventories and seasonal adjustment which, when implemented, will improve the overall quality of the outputs.
- Prototype systems have been signed off by the users and work is underway to produce a final system, but due to the early stage of this work it is not possible to discuss the emerging results.

Introduction

This article describes the changes being made to the Index of Production (IoP) computer system, and the methodological improvements which are being incorporated as part of the project. The main reason for the changes is to update the computer system from a spreadsheet based system to move to the standard ONS national accounts software. This will enable chain-linked estimates of the IoP to be produced in time for *Blue Book* 2003. This article does not include an explanation of chain-linking, this is given at reference[1].

This article is in five sections:

- Section 1 – Conceptual basis of the IoP;
- Section 2 – Need for redevelopment;
- Section 3 – Methodological changes;
- Section 4 – Progress to date;
- Section 5 – Next steps.

Section 1 – Conceptual basis of the IoP

The UK Index of (industrial) Production has existed in more or less its present form since the late 1940s. Using 1995 weights, the IoP represents 26.8 per cent of total GDP(O), the output measure of GDP. The IoP covers manufacturing (21.8 per cent of GDP(O)); mining and quarrying (2.6 per cent of GDP(O)), and energy supply industries (2.4 per cent of GDP(O)), and is published on a monthly basis. The main data source for the IoP is the Monthly Production Inquiry, which provides turnover data for around 75 per cent of overall production. The remaining 25 per cent is accounted for by series based on volume indicators, such as oil and gas extraction and electricity and gas supply, which are provided mainly by the Department of Trade and Industry.

Turnover data are deflated using weighted combinations of home producer price indicies and export price deflators. Inventory adjustments, obtained from monthly and quarterly ONS surveys, are then applied to the series to produce an estimate of total output.

Industry indicies at the 4-digit level of the SIC are seasonally adjusted and then weighted together (currently using 1995 weights) to produce higher level aggregates and the total IoP. Not seasonally adjusted series, and aggregation by market sector (rather than industry) are also produced, along with current price series.

The IoP is published 26 working days after the reference month. The First Release gives details of seven industrial sectors within manufacturing, as well as showing the market sector breakdowns and oil and gas extraction.

Section 2 – Need for redevelopment

The redevelopment aims:

- *To bring the IoP system up to date.* The current spreadsheet based system is old and does not easily allow changes to be made.

- To *improve consistency and coherence.* The IoP will move to the standard ONS national accounts computing system and environment, which will enable the IoP to take advantage of standard functionality, including the newly developed chain-linking functions. Chain-linking the IoP on the new system is thus far more efficient than trying to do so on the existing, bespoke, system.

- *To improve the quality of the outputs.* The Short Term Output Indicators Review (STOIR) recommended changes to the methods used to calculate the IoP, which cannot be implemented on the existing system. The IoP redevelopment will enable these recommendations to be implemented.

Section 3 – Methodological changes

At the same time as the current system design was examined, a review of the methodology took place. A small number of changes to the methods and order of processing are subsequently being made and discussed later in the article.

The new IoP system has been developed as a number of distinct modules, which are outlined below:

- **Pre-processing** – turnover data, inventory data, and price indices are quality assured in preparation for indexing.

- **Indexing** – the initial turnover index is calculated.

- **Deflation** – the index is deflated using Producer Price Indices (PPI's) and Export Price Deflators (EPD's).

- **Seasonal adjustment** – the deflated index is seasonally adjusted using standard seasonal adjustment models.

- **Ad hoc data quality adjustments** – the index is adjusted to remove anomalies only identified by examining the seasonally adjusted series.

- **Inventory adjustment** – the index is adjusted for changes in inventories to produce an output index rather than a turnover index.

- **Smoothing** – thirty-seven of the inventory adjusted indices are smoothed to remove excess volatility caused by using monthly sales and quarterly stocks data.

- **Aggregation** – low level (4 digit SIC indices) are aggregated to higher levels. Currently the aggregation uses 1995 weights but will, from the 2003 *Blue Book*, use annually chain-linked weights.

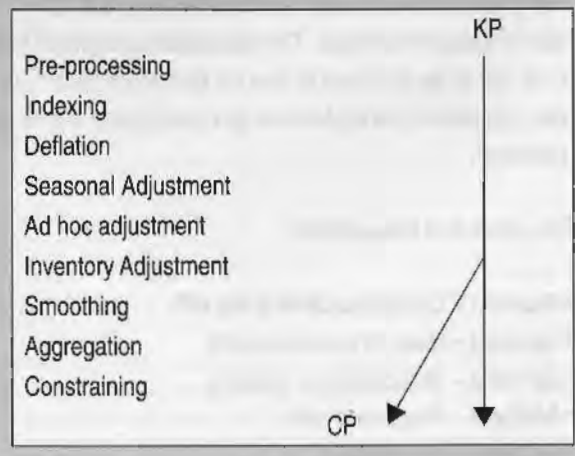
- **Constraining** – Constraining attaches the most recent data (for the 'open' revisions period), to the 'constrained' published series, which is not open for revision.

- **Balancing** – the aggregated indices are balanced so their growth matches the quarterly GDP(O) growth rates using balancing or coherence adjustments.

Another feature of the new system is **constant price (KP) and current price (CP) processing**. The existing IoP system was designed initially to produce KP series. CP series are currently achieved by 'undoing' some of the KP processes (i.e. reflating), see Figure 1.

Figure 1

Current processing



The new IoP system operates on CP and KP series in parallel, see Figure 2. This will produce more consistent indicies and for the first time allow an inventory adjusted CP series to be derived.

Figure 2

Proposed processing

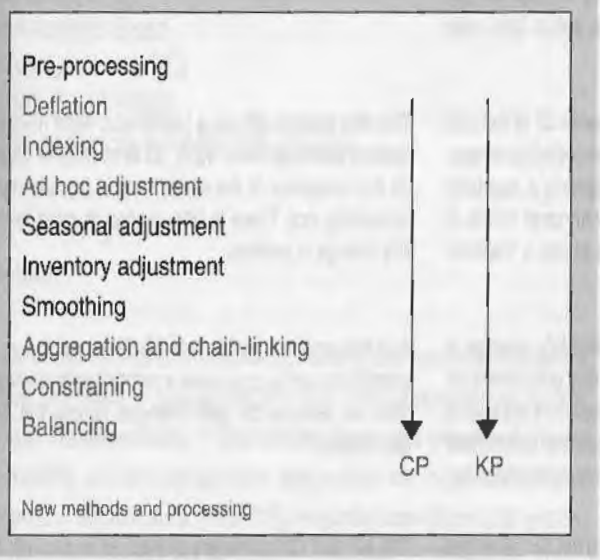


Table 1 describes in more detail the methodological changes that have been proposed and the benefits that they will bring.

Section 4 – Progress to date

The following progress has been made to date:

- A review of the current methods has taken place. Following detailed discussions with National Accountants, IoP staff, and methodological experts, the proposed changes have been endorsed.

- Prototype systems have been built and simulations conducted to test whether the chosen software could produce the IoP in the time required to deliver the IoP each month.

- A system has been completed to produce 1995 = 100 data series from 1994 to date. The back data, 1994 to 2000, has been quality assured and passed to the *Blue Book* production team to approve.

- Quality assurance of data from 2000 to date is timetabled, along with quality assurance of the chain-linked aggregates.

Section 5 - Next steps

The following table illustrates the remaining milestones for the project.

Time period	Task and deliverable
October 2002	Deliver a first working system for user quality assurance.
December 2002	Deliver a final working system for user testing and parallel running.
December 2002	Detailed training of the IoP team that will enable them to operate the system.
December 2002 to March 2003	Production of a final working system. including hard copy outputs; additional security features etc.
January to March 2003	IoP team will parallel run the new system and the existing system and quality assure the outputs on a monthly basis between January and March 2003.
March 2003	Complete user documentation and methodology documentation.
March 2003	Hand the developed system to the IoP production team.
From September 2003	Produce the first chain-linked IoP outputs on the new system.

It is our aim to release a follow up to this article in spring 2003, after delivery of the final system.

In the meantime, if you would like any further information regarding this project, or the IoP in more detail, please contact the authors of this article.

Table 1 – Changes to methodology and the benefit the changes will bring

	Existing Method	New Method
Constraining	The constraining process takes place at the end of the IoP processing. Constraining attaches the most recent data (for the 'open' revisions period), to the 'constrained' published series, which is not open for revision. The existing method simply publishes the unconstrained end of the series (and may lead to 'steps' over the join).	The method will be changed so that growth rates form the unconstrained series will be linked to the end of the constrained published series. This will implement recommendation 3.1 of the Short Term Output Indicators Review.[1]
Smoothing Method	Currently a 'Kalman' filter is used to smooth 37 of the 225 (4-digit) low level series. The series are smoothed to remove volatility caused, for example, from applying a quarterly change in inventory series to a monthly turnover series. It is not standard practice within the ONS to use a 'Kalman' filter.	The new system will use a Henderson trend method. The method smooths over a 13 or 23 term window (depending on the behaviour of the series) and is the standard ONS smoothing tool. There is little change to most series from this change in method.
Quarterly Change in Inventory Series	The existing method of adjusting for monthly change in inventories simply uses an average monthly adjustment for the quarter. The same adjustment is therefore applied to each month in the quarter. This causes the adjustment series to have step changes across quarterly boundaries.	A cubic splined series will be fitted to the quarterly inventories series to produce a monthly path of inventories. This will remove the step changes across the quarterly boundaries.
Current Price Series (CP SA)	The CP SA series is produced by reflating the KP SA series after the quality adjustments have been applied, using seasonally adjusted PPIs as the reflators, after seasonal adjustment but before inventory adjustment. Therefore the final CP series is not inventory adjusted.	The KP and CP series are processed in parallel. In other words the system splits into two processing streams (KP and CP) at the point of deflation. The CP stream is not deflated, but is ad hoc adjusted, seasonally adjusted and inventory adjusted independently of, but consistently with, the KP stream. This is more efficient, and will give greater consistency and mean that for the first time inventory adjusted CP series will be derived.
Order of Processing for quality and Seasonal Adjustments	The ad hoc adjustment series is added to the Not Seasonally Adjusted (NSA) series, which is then divided by a seasonal factor. Currently seasonal factors are calculated from the NSA series prior to the ad hoc quality adjustments.	The ad hoc adjustments are applied to the NSA series and the seasonal factors are calculated from the result. This means that the ad hoc adjustments effectively act as a permanent prior. The seasonal factors should be calculated from what is deemed to be the most accurate NSA data set. This change was endorsed by ONS Time Series Analysis experts.
Balancing	The existing system does not take on balancing adjustments to align IoP with GDP.	The new system will be able to take on balancing or coherence adjustments. This will implement recommendation 7.1 of the Short Term Output Indicators Review.[1]

References

1. *Economic Trends* No. 565, December 2000.
2. Short Term Output Indicators Review (STOIR); **www.statistics.gov.uk**

The effect of annual chain-linking on components of the expenditure measure of GDP

Amanda Tuke
National Accounts Co-ordination Division
Office for National Statistics
Room D3/07
1 Drummond Gate
London SW1V 2QQ
Tel: 020 7533 5965
E-mail: amanda.tuke@ons.gov.uk

David Ruffles
Balance of Payments Division
Office for National Statistics
Room D3/19
1 Drummond Gate
London SW1V 2QQ
Tel: 020 7533 6070
E-mail: david.ruffles@ons.gov.uk

Overview

Analysis of the effects of annual chain-linking on the output measure of Gross Domestic Product (GDP) has been described in earlier *Economic Trends* articles.[1,2] This article shows the effects of annual chain-linking on annual growth estimates for household final consumption expenditure (HHFCE), exports and imports of goods, using input data consistent with those published in *Blue Book* 2002. The analysis for HHFCE shows an effect of between +0.1 per cent (1995) and –0.6 per cent (2001) on percentage annual growth estimates. The effect on annual growth estimates of exports of goods is between +0.3 per cent (1995) and –0.4 per cent (1999, 2000). The effect on imports of goods is between –1.8 per cent (2000) and +1.2 per cent (2001) on percentage annual growth estimates. The combined effect of annual chain-linking these components on the overall expenditure measure of GDP shows a significant depression in 2001 of –0.7 per cent.

Introduction

Annual chain-linking (ACL) is a method for aggregating volume measures of economic growth to better reflect the changing structure of industry and patterns of expenditure. An analysis of the effect of ACL on the output measure of GDP was given in two earlier articles.[1,2] Data used were consistent with those published in *Blue Book* 2001 and a comparison was made with annual growth estimates given there. In brief, ACL applied to GDP(O) reduced growth estimates by –0.1 per cent in 1998 and –0.4 per cent in 1999 (Table 1).

Table 1 The modelled effects of annual chain-linking on the percentage annual growth estimates of the output measure of GDP

	1995	1996	1997	1998	1999	2000
Total GDP(O)	*+0.3*	*0.0*	*–0.1*	*–0.1*	*–0.4*	*–0.2*

Source: Economic Trends, April 2002

The expenditure measure of GDP can be represented by the following textbook expression:

$$Y=C+I+G+X-M$$

(where Y=total GDP, C= Household final consumption expenditure and expenditure by Non-profit-making institutions serving households, I= investment, G=government expenditure, X=exports of goods and services and M=imports of goods and services).

In practice, UK National Accountants build up the expenditure measure of GDP from a more detailed disaggregation. Given the modelled effect of ACL on the output measure of GDP, a broadly comparable effect would be expected on the expenditure measure. This article describes the effects of ACL on three components of expenditure: HHFCE, which accounts for approximately two thirds of the expenditure measure, on exports of goods and on imports of goods. The effects of ACL on annual growth of total HHFCE, total exports of goods, total imports of goods and total GDP are considered. Commodity groups contributing to the effect of ACL on each component are identified using the 'contribution to growth' methodology described in an earlier article.[2]

Household Final Consumption Expenditure (HHFCE)

The effects of ACL on HHFCE were modelled by implementing ACL from a 230 breakdown of commodities. This is a higher level of aggregation than the level at which ACL will be implemented in HHFCE in *Blue Book* 2003. It should therefore seen as approximating the effects which will be included in that publication, as earlier investigations show that level of implementation of ACL can have an effect on growth of over +/–0.2 per cent. The results shown in Table 2 are consistent with the expectation that as we move away from the most recent base year (1995), growth estimates derived from fixed base aggregation include increasing substitution bias.[2]

The depression in annual growth estimates of total HHFCE, caused by ACL, increases from 1997 to 2001 and is driven particularly by expenditure on recreation and culture, with contributions from other areas (Table 2). This suggests that expenditure for the purpose of 'recreation and culture' is overweighted within published fixed base growth estimates after 1995. This is because the 1995 value-share weights used in fixed base growth estimates for 1997 to 2001 do not take into account dramatic price falls in key commodity groups in those years. In particular, the falling prices of 'equipment for reception, recording and reproduction of sound and pictures' and the very fast-falling prices in 'information processing equipment' (including computers) within expenditure on recreation and culture have contributed to this effect. On the other hand 'Miscellaneous goods and services' contribute a small increase in total HHFCE in 2001, suggesting that this is under-weighted within published fixed base growth estimates. In the latter case, the 1995 value-share weights used in fixed base growth estimates for 1997 to 2001 do not take into account rising prices in some commodity groups from 1996 to 2001, in particular in 'Misc. goods and services'.

Exports of goods

The effects of ACL on exports of goods were modelled from a breakdown of 64 commodities using the Standard Industrial Trade Classification (SITC). This will be the level of implementation of ACL for exports of goods in *Blue Book* 2003.

Again, the results shown in Table 3 support the hypothesis that annual chain-linking reduces substitution bias as we move away from the fixed base year. The depression of growth in later periods is driven by exports of 'electrical components' and 'electrical capital goods'. This suggests that these export commodities are currently over-weighted in the fixed base total for exports of goods because of falling prices after 1995 for micro-processors in the case of the former and computers in the latter case. Other exports can be seen to counteract this depression to some extent.

Imports of goods

The effects of ACL on imports of goods were also modelled using a breakdown of 64 commodities using the SITC. This is the level of implementation of ACL for imports of goods in *Blue Book* 2003. For total imports, there is no consistent depression in growth. The effects of annual chain-linking are driven by 'electrical components' which has a strongly negative effect on growth in 2000 and then a positive effect in 2001 and 'electrical capital goods' which has a negative effect on growth from 1997 onwards (Table 4). As with exports, both these groups have fast-falling prices (for micro-processors and computers respectively) after 1995 although 'electrical components' shows a fall in volume in 2001 resulting in its positive contribution to overall growth of imports in that year. For a fuller explanation of this effect, see Appendix A.

Table 2 The effect of annual chain-linking on the percentage annual growth estimates for Household final consumption expenditure (HHFCE) broken down by commodity group

		1995	1996	1997	1998	1999	2000	2001
01	Food and non-alcoholic beverages	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
02	Alcohol and tobacco	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*–0.1*	*0.0*
03	Clothing and footwear	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*–0.1*	*–0.1*
04	Housing utilities and fuels	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
05	Furnishings, etc.	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
06	Health	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
07	Transport	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*–0.1*	*0.0*
08	Communication	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*–0.1*	*–0.1*
09	Recreation and culture	*0.0*	*0.0*	*0.0*	*–0.1*	*–0.2*	*–0.3*	*–0.4*
10	Education	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
11	Restaurants and hotels	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
12	Misc. goods and services	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*	*+0.1*
	Effect of Annnual Chain-linking on Total HHFCE	*+0.1*	*0.0*	*–0.1*	*–0.1*	*–0.3*	*–0.6*	*–0.6*
	Fixed base growth estimates for Total HHFCE	*2.2*	*3.9*	*3.3*	*3.2*	*4.0*	*4.8*	*3.7*

Contributions to growth differences are rounded to 1 decimal place. NB These do not represent percentage growth effects on each total commodity group.

Table 3 The effect of annual chain-linking on the percentage annual growth estimates for exports of goods showing which lower level series have contributed to the effect

	1995	1996	1997	1998	1999	2000	2001
Metal ores	0.0	0.0	0.0	0.0	0.0	–0.1	0.0
Crude Oil	0.0	0.0	0.0	0.0	0.0	0.0	+0.2
Organic chemicals	+0.1	0.0	0.0	0.0	0.0	0.0	0.0
Medicinal products	0.0	0.0	0.0	0.0	0.0	0.0	–0.1
Road vehicles other than cars	0.0	0.0	0.0	0.0	0.0	+0.1	0.0
Aircraft	0.0	0.0	0.0	0.0	0.0	+0.1	0.0
Mechanical components	0.0	0.0	0.0	0.0	0.0	0.0	+0.1
Electrical components	0.0	0.0	0.0	0.0	–0.1	–0.3	–0.1
Electrical capital goods	+0.2	0.0	–0.1	–0.1	–0.2	–0.5	0.0
Other exports of goods	0.0	0.0	0.0	0.0	–0.1	+0.2	–0.1
Effect of Annual Chain-linking on Total Exports of Goods	+0.3	0.0	–0.1	–0.2	–0.4	–0.4	–0.1
Fixed base growth estimates for Total Exports of Goods	9.5	7.6	8.4	1.3	4.3	11.5	2.3

Contributions to growth differences are rounded to 1 decimal place. NB. These do not represent percentage growth effects on each total commodity group.

Table 4 The effect of annual chain-linking on the percentage annual growth estimates for imports of goods showing which lower levelseries have contributed to the effect

	1995	1996	1997	1998	1999	2000	2001
Silver	0.0	0.0	0.0	0.0	–0.1	0.0	0.0
Crude oil	0.0	0.0	0.0	0.0	+0.1	+0.1	+0.1
Oil products	0.0	0.0	0.0	0.0	0.0	+0.1	+0.1
Precious stones	0.0	0.0	0.0	0.0	+0.1	0.0	0.0
Clothing	0.0	0.0	0.0	0.0	0.0	+0.1	+0.1
Aircraft	0.0	0.0	+0.1	0.0	–0.1	0.0	+0.2
Ships	0.0	0.0	0.0	0.0	0.0	+0.1	–0.1
Cars	0.0	0.0	0.0	0.0	+0.1	-0.1	+0.2
Mechanical components	0.0	0.0	0.0	0.0	0.0	0.0	+0.1
Electrical components	+0.1	0.0	–0.1	–0.3	–0.6	–1.3	+0.7
Electrical capital goods	+0.2	0.0	–0.1	–0.3	–0.5	–1.0	–0.2
Other imports of goods	0.0	0.0	0.0	+0.1	+0.1	+0.2	0.0
Effect of annual chain-linking on Total Imports of Goods	+0.3	0.0	–0.1	–0.4	–0.8	–1.8	+1.2
Fixed base growth estimates for Total Imports of Goods	5.9	9.5	9.9	9.0	7.7	12.1	3.6

Contributions to growth differences are rounded to 1 decimal place. NB These do not represent percentage growth effects on each individual commodity group.

Table 5 The effect of annual chain-linking (ACL) on the percentage annual growth estimates for the overall expenditure measure of GDP contributed by consumer expenditure, exports of goods and imports of goods

	1995	1996	1997	1998	1999	2000	2001
HHFCE	*+0.1*	*0.0*	*0.0*	*–0.1*	*–0.2*	*–0.4*	*–0.4*
plus Exports of goods	*0.0*	*0.0*	*–0.1*	*–0.1*	*–0.2*	*–0.7*	*–0.1*
minus Imports of goods	*0.0*	*0.0*	*0.0*	*+0.3*	*+0.5*	*+0.9*	*–0.1*
Combined effect on GDP(E)	*+0.1*	*0.0*	*–0.1*	*+0.1*	*0.0*	*–0.1*	*–0.7*
Fixed base growth estimates for							
Total GDP	*2.9*	*2.6*	*3.4*	*2.9*	*2.4*	*3.1*	*1.9*

Contributions to growth differences are rounded to 1 decimal place. NB Although as a value share, Household final consumption expenditure (HHFCE) represents approximately two thirds of GDP(E), the results shown here should not be seen as the expected effect of ACL on GDP(E).

Overall expenditure measure of GDP

The effect of annual chain-linking HHFCE, exports of goods and imports of goods on overall GDP(E) was modelled. The combined effect, shown in Table 5, retains a small depression of annual growth estimates in 2000 and a depression of 0.7 per cent in 2001. It should not be assumed, however, that this is the expected magnitude of the effect of ACL on GDP(E), as it does not include all GDP(E) components.

Conclusions

The combined effects of ACL on HHFCE, imports of goods and exports of goods show some similarities to the effect of ACL on the output measure (the output measure was modelled up to and including 2000), as would be expected in a coherent set of national accounts. The differences are likely to be because this model represents only part of the expenditure measure. The effects shown here should not be taken as the indication of the magnitude of revisions to GDP in *Blue Book* 2003 as a result of updating weights annually. As the effects are shown as applied to estimates consistent with data inputs used in *Blue Book* 2002, they do not include the effects of rebasing price indices or any other improvements in quality of source data or methodology.

References

1. Tuke A and Reed G. The effects of annual chain-linking on the output measure of GDP. *Economic Trends* No. 575, pp. 37–53.
2. Tuke A. Analysing the effects of annual chain-linking on the output measure of GDP. *Economic Trends* No. 581, pp. 26–33.

Appendix A

Contribution to growth difference of total imports by electrical components

The contribution of each lower level volume measures series to the effect of annual chain-linking on the aggregate is calculated using the following equation:

$$=\left(\frac{q_{i,t}}{q_{i,t-1}}-1\right)\left(w_{i,t-1}-\frac{w_{i,o}q_{i,t-1}}{I_{t-1}}\right)*100$$

(where "*w*" is weight as a proportion, "*q*" represents the fixed base indices at the level from which annual chain-linking is implemented. "*I*" is the aggregate fixed base index. See earlier article for full derivation[2]).

The data feeding into this calculation for imports of electrical components are in the Tables 6 and 7. The fixed base constant price indices (*q*) and the weights as a proportion (*w*) are in Table 6, with the aggregate fixed base index (*I*) in Table 7. The contribution to the growth differences of imports of electrical components are in the final column of Table 6, which also shows for information the implied deflator for electrical components.

Table 6 For imports of Electrical components

	KP 95 prices	Weights	Impl. Def.	Contrib. to diff
1994	82.3	0.0842	99	
1995	100.0	0.0910	100	+0.1
1996	122.9	0.0971	95	0.0
1997	137.9	0.0913	81	–0.1
1998	166.7	0.0917	68	–0.3
1999	208.3	0.0987	61	–0.6
2000	281.7	0.1140	59	–1.3
2001	242.2		54	+0.7

Table 7 For Total imports

	KP 95 prices
1994	94.4
1995	100.0
1996	109.5
1997	120.3
1998	131.1
1999	141.2
2000	158.3
2001	164.1

i. The calculation for 2000 in Table 6 is:

$$=\left(\frac{281.7}{208.3}-1\right)\left(0.0987-\frac{0.0910*208.3}{141.2}\right)*100$$

$$= (+0.3524) * (-0.0355) *100$$

$$= -1.3\%$$

ii. The calculation for 2001 is:

$$=\left(\frac{242.2}{281.7}-1\right)\left(0.1140-\frac{0.0910*281.7}{158.3}\right)*100$$

$$= (-0.1402) * (-0.0480) *100$$

$$= +0.7\%$$

This shows that the contribution of electrical components to the effect of annual chain-linking on total imports of goods changes from negative in 2000 to positive in 2001 because of the large 14 per cent fall in constant prices from 2000 to 2001 which gives the first term in the expression a negative sign. This component is unusual in having a fall in constant prices when price levels are falling. In most cases volumes will increase as prices fall and lead to the usual negative impact from annual chain-linking.