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This month we feature two articles.

Amanda Rowlatt of ONS gives an overview of developments in the UK in the measurement of e-commerce. ONS has a range of activities in hand to measure the extent of e-commerce, the industries that supply goods and services for carrying out e-commerce, and the impact of e-commerce. The article starts with an assessment of the economics of e-commerce. Next, it describes the surveys and analysis currently carried out in ONS's business and social surveys and provides some results.

Amanda Tuke and Geoff Reed of ONS discuss the effects of annual chain-linking of the output measure of Gross Domestic Product (GDP). Annual chain-linking is a method for aggregating the volume of measures that are used to estimate economic growth embodied by the estimate of GDP in constant prices. In the UK, GDP is estimated using three different approaches (output, expenditure and income) which are then "balanced" to produce a single GDP estimate. The article investigates the effects of introducing annual chain linking as a methodology, requiring more up-to-date, and hence more relevant weights to aggregate volume measures for the output measure of GDP or GDP(O).

Recent economic publications

Quarterly
Consumer Trends: 2001 quarter 2. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/ p242.asp**
UK Economic Accounts: 2001 quarter 2. The Stationery Office, ISBN 0 11 621402 3. Price £26.
UK Trade in Goods analysed in terms of industries (MQ10): 2001 quarter 2. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p731.asp**

Monthly
Consumer Price Indices (MM23): July 2001. The Stationery Office, ISBN 0 11 538087 6. Price £185 p.a.
Financial Statistics: September 2001. The Stationery Office, ISBN 0 11 621308 6. Price £23.50.
Monthly Review of External Trade Statistics (MM24): July 2001. Available for downloading from the National Statistics website **www.statistics.gov.uk/products/p613.asp**

The Stationery Office publications are available by telephoning 0870 600 5522, fax 0870 600 5533, e-mail **bookorders@theso.co.uk** or online at **www.clicktso.com**

Economic Update - October 2001

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Overview

As concerns about the world economy increase, second quarter UK data shows GDP subdued for the third quarter in a row. The slower growth is particularly driven by the so-called high-tech industries, but other manufacturing industries are also declining, with the sector as a whole now in technical recession. On the other hand, evidence now suggests that there has been little impact on the service sector. Household and business demand is diverging. Household demand grew robustly in the second quarter, although confidence has deteriorated into Q3. Investment data shows that business demand has weakened in 2001, against a background of falling measured profits and concerns about the indebtedness of the sector. Trade also weakened substantially in the second quarter of 2001, with both exports and imports declining and monthly data suggesting continued weakness. Labour market figures also show some deterioration, with Labour Force Survey data showing the employment rate falling and unemployment rate flat. Prices figures remain subdued but recent signals are a little mixed. Earnings inflation slowed into the latest months whereas consumer prices data accelerated. On the other hand producer prices are suggesting no inflation at the factory gate.

GDP activity

GDP in the second quarter of 2001 showed quarterly growth of 0.4 per cent, down on 0.6 per cent in the first quarter (chart 1). Comparing with the same quarter a year ago, annual growth was 2.3 per cent in the second quarter, down on 2.7 per cent in the first. This is the third consecutive slower quarter and is driven by a manufacturing sector now in recession on the output side, and falling trade and investment on the expenditure side.

Chart 1
GDP growth
percentage change
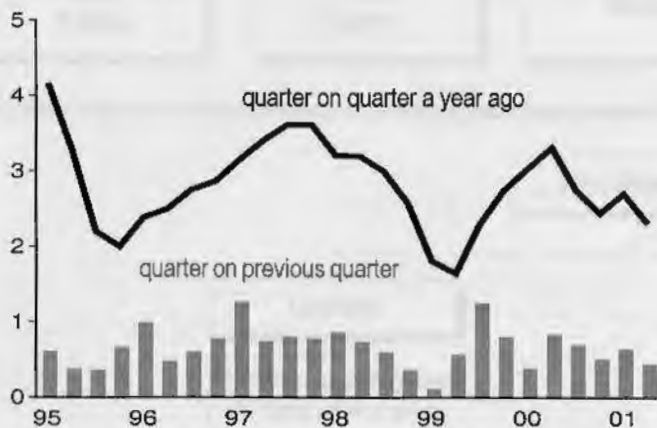
This slowdown in the UK comes alongside a period of substantial concern over the condition of the global economy and now the repercussions of the terrorist destruction of the world trade centre. GDP growth in the

United States has slowed to close to zero, the Japanese economy is now in decline and EU economies are growing only weakly. From the corporate perspective, increasing numbers of companies have announced profit warnings and redundancies, credit agencies have reported higher level of debt default, spreads between corporate and government debt are at high levels and stock markets are in decline all over the world (chart 2 shows UK FTSE). Since the terrorist attack on 11 September all of these corporate trends might be regarded as having been exacerbated.

Chart 2
FTSE all share index
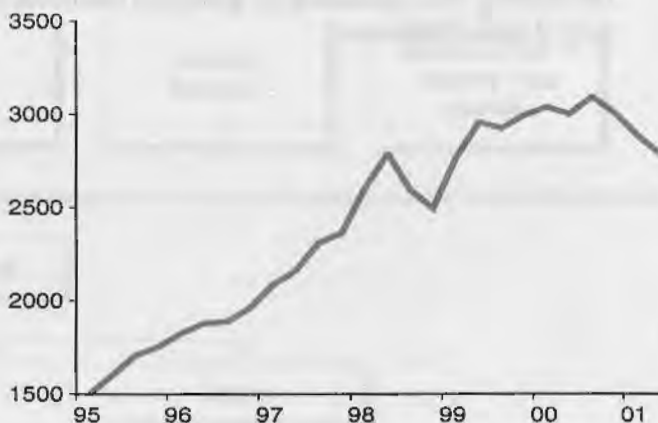
The latest UK quarterly National Accounts figures now incorporates long run changes due to a number of data and methodological improvements as well as benchmarking to latest annual survey totals. Broadly speaking the changes have not changed the economic picture to any great degree, although individual components have been affected to varying degrees. Perhaps the most significant revision is to the UK balance of payments statistics, which will be addressed in the relevant section.

Returning to the current situation in the UK economy, as noted the slower GDP growth in the UK has been dominated by a sharp decline in manufacturing output; this contrasts with ongoing strength in service output (chart 3). Between the first and second quarters manufacturing output declined by 2.0 per cent while services output grew by 0.9 per cent.

Chart 3
Services and manufacturing growth
quarter on previous quarter
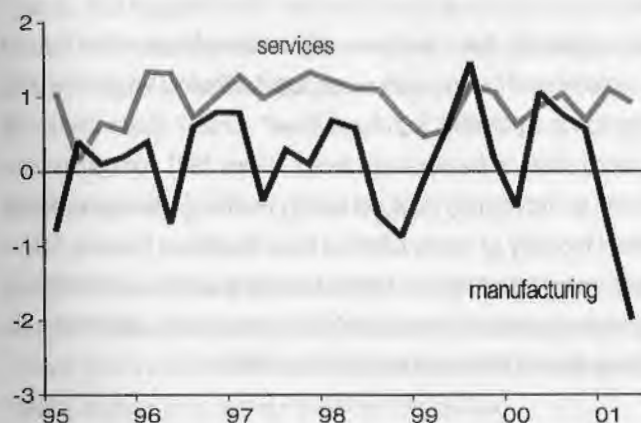
The decline in the manufacturing sector constituted the largest quarterly decline since the recession of 1991, and is hence more substantial than the decline of 1998 in the wake of the South East Asian economic crises. Within the manufacturing sector the deterioration is dominated by very steep declines in the so-called ICT industries (proxied by the NS series, 'electrical and optical equipment'), but the non-ICT industries are also seeing resumed deterioration. Index of manufacturing data for July 2001 showed the fall in output continuing into the start of the third quarter, with a monthly decline of 0.9 per cent. Since December 2000 the output of ICT industries has fallen by 18.4 per cent, and the IOM excluding these industries by 1.1 per cent.

On the other hand growth in the service sector continues at a robust pace, with growth comparing with the same quarter a year ago at 3.7 per cent in the second quarter, up slightly from 3.6 per cent in the first quarter. Growth was seen in most parts of the service sector, with particular strength in the transport and communications industries, retailing and business activities although there was evidence of some weakness in financial inter-mediation, transport and storage and hotels and catering.

External information on manufacturing from the British Chambers of Commerce, Confederation of British Industry and the Chartered Institute of Purchasing and Supply (CIPS) show declines in orders and sales. Although, on services, external figures point to weaker activity than in the official data. BCC services figures showed the weakest position since 1998, although a position still above the lowest point of the figures in 1998.

Similarly the Chartered Institute of Purchasing and Supply figures also deteriorated fairly abruptly into the second quarter, with releases noting the sector was feeling a degree of contagion from other sectors of the economy.

Domestic demand

All sources of information now suggest that in the first half of 2001 household demand growth was robust. National Accounts figures for the second quarter now show household demand increasing by 1.3 per cent from the first quarter, following growth of 1.0 per cent into the first quarter. Following upward revisions to this data the National Accounts figures are more in line with the signals from retail sales, which have recorded quarterly sales growth of over 1.5 per cent throughout 2001 (chart 4).

Chart 4
Household demand growth
quarter on previous quarter
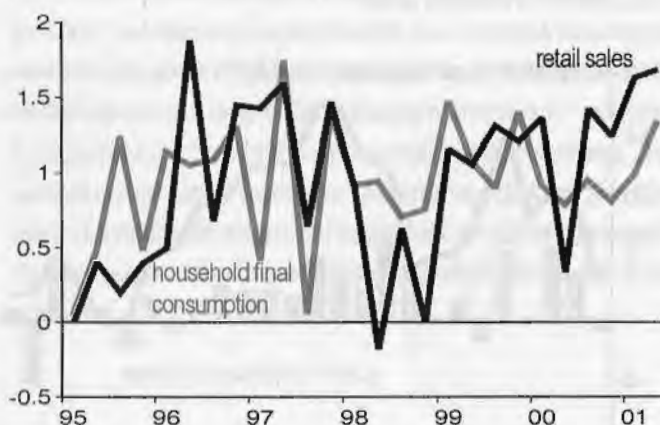
Gross consumer credit data from the Bank of England suggests that this acceleration in consumption is echoed by or was driven by a strong acceleration in credit. Quarterly growth of gross credit in the second quarter was 4.1 per cent, up very sharply from 2.0 per cent in the first quarter and the highest quarterly growth of credit since the third quarter of 1999. Looking into the third quartern NS retail sales figures have showed strong growth into both July and August, with growth in the three months to August at 1.4 per cent. On the other hand, while external figures suggested strength in both consumer confidence and retailing in the first half of 2001, third quarter figures have showed a more mixed picture. In particular, both GfK and Mori have showed a fairly abrupt deterioration in consumer confidence.

More generally, the medium term strength of consumer demand relative to disposable income has led to a shift in the saving ratio over the past four years. Since the first quarter of 1998 the average of the saving ratio has been 5.1 per cent; between the start of the decade and the first quarter of 1998, the saving ratio averaged 9.8 per cent. Data for the second quarter of 2001 showed a ratio of 4.9 per cent, closely in line with this average.

The Bank of England have also recently emphasised how the stock of household debt through bank lending (M4 lending) is at an unprecedented rate (in comparison to gross disposable income), and have questioned whether households have hence become too indebted.

Turning to investment demand, National Accounts shows that business investment has stalled quite abruptly into 2001 (chart 5). Quarter one data showed a sharp fall of 5.1 per cent, and while data for quarter two showed a quarterly increase of 2.5 per cent, this was strongly influenced by the import of £800 million of civil and military aircraft, excluding these, investment would have been flat. Comparing the second quarter with the same quarter of 2000, growth in business investment was 4.0 per cent. Echoing the deterioration on the output side, the main source of this slowdown has been sharp falls to investment in other machinery and equipment, which declined by 3.8 per cent and 2.9 per cent in the first and second quarters respectively.

Chart 5
Business investment growth

quarter on same quarter a year ago

quarter on previous quarter
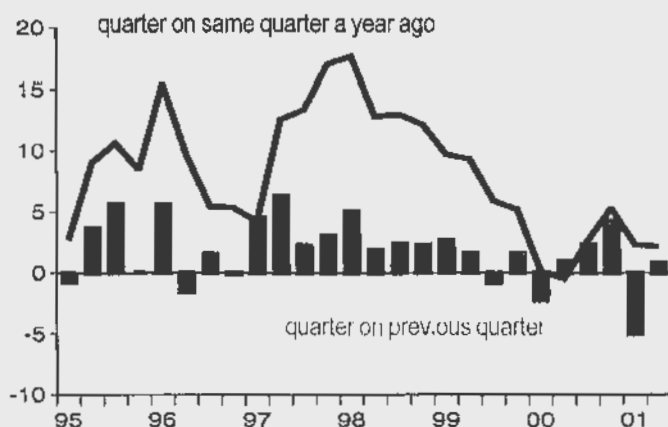
Looking ahead, external indices point to further weakness, for example BCC manufacturing and services investment intentions weakening over the latest quarters, and CBI manufacturing figures showed likewise.

Chart 6
Private non-financial corporations profit
£ million
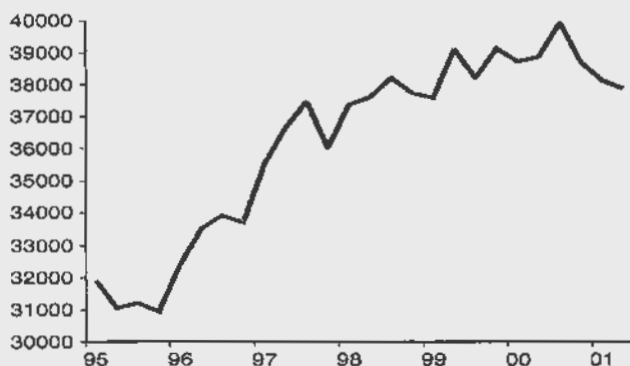
The weakening investment comes as profits of private non-financial corporations have started to decline. Chart 6, non-continental shelf (i.e. broadly non-oil) company profits, shows a decline for three consecutive quarters and currently stand below the figure for the second quarter of 1999. In the year to the second quarter of 2001 these profits have fallen by 2.5 per cent, the strongest annual decline since 1992. This deterioration in profits combined with a rise in net property income payments and the ongoing, if more limited growth in investment, has returned the sector to net borrowing from other sectors of the economy (£3.2 billion in the second quarter of 2001).

More generally there has been an increased focus on the level of indebtedness of the corporate sector, with the Bank of England drawing attention to a potential "significant threat". Chart 7 shows the overall balance sheet of the corporate sector. Since 1987 companies have shown an increasingly large net liability position (although a modest recent recovery as equity liabilities have decreased following falls in stock exchange valuations). Overall however, the ratio of net liabilities at about one and a half times annual GDP remains well below the figures seen in the late 1980s and first half of the 1990s.

Chart 7
PNFCs' net financial liabilities
£ million
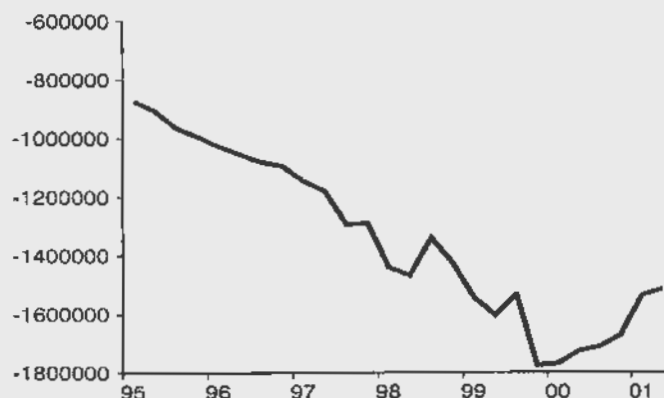
Government demand saw quarterly growth of 0.7 per cent into the second quarter, down from 1.0 per cent in the first quarter. Comparing with the same quarter a year ago growth was 1.8 per cent. This output figure remains considerably weaker than current price government expenditure, which grew by 6.8 per cent in the year to the second quarter. The figures diverge because increased cash expenditure is unlikely to have an immediate impact on government output. Reflecting the increased cash expenditure, public sector net borrowing figures shows so far in 2001-02 the government had borrowed more than in the same period of 2000-1. Net borrowing in April-August 2001 was £0.8 billion compared with a repayment of £3.7 billion in the same period of the previous financial

year.

Finally on domestic demand, import data showed a substantial decline of 2.1 per cent into the second quarter of 2001, following growth of 1.5 per cent in the first quarter. Growth comparing the current quarter with the same quarter a year ago also slowed sharply, to 3.3 per cent in the second quarter from 10.6 per cent in the previous quarter. At a quarterly rate, the decline in imports was the most substantial since the 1991 recession, and it should also be noted that this was despite the imports of the previously mentioned civil and military aircraft. Looking into the third quarter, data suggests further declines. Figures excluding oil and erratics show a sharp fall in imports from EU economies in July, and falls into both July and August for non-EU imports.

Overseas demand

In line with the weakening global deterioration, UK export growth declined sharply into the second quarter of 2001, with sales slowing and falling to not just the US but to markets all over the world. Monthly data shows this decline appears to be continuing into the third quarter.

In quarter two overall exports declined at a quarterly rate of 2.4 per cent compared to growth of 1.3 per cent in the previous quarter. This was the largest quarterly decline since the recession of 1991. Dis-aggregated goods data shows the decline into the second quarter was mainly dominated by a quarterly fall in exports to the United States of 5.3 per cent, but also a decline of 2.6 per cent to EU economies, and falls in exports to other non-EU countries such as Japan (14%), Switzerland (3%) and Canada (5.3%). Services exports also declined by 1.3 per cent on the quarter following a decline of 2.3 per cent in the first quarter.

Chart 8
Export volumes
Indices, 1995 = 100
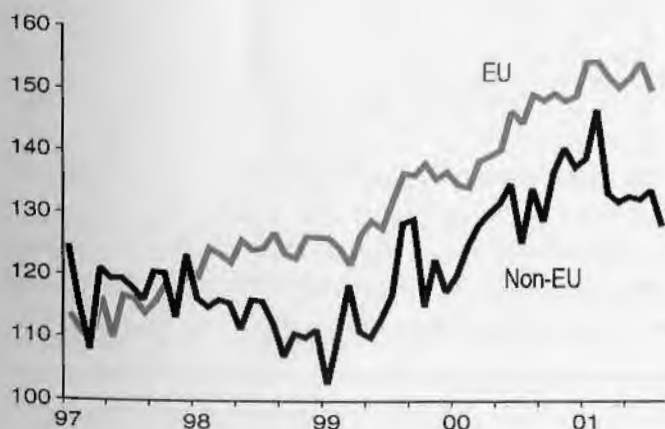
In order to look into the third quarter, chart 8 shows monthly export indices excluding oil and erratics. The figures reveal a sharp fall in exports to EU countries in July and a sharp fall in exports to non-EU countries in August, therefore a t this stage suggesting further falls into the third quarter.

Lastly on trade, the medium term movements of imports and exports are such that the balance of trade has been on a widening trend since 1997 (chart 9). The deficit was £5.4 billion in the second quarter down from £4.4 billion in the first quarter, the largest cash deficit since 1989, although a significant element of the deterioration was due to the aircraft imports. However, despite this trade deficit , the balance of payments has improved a little into 2001 compared with the end of 2000. This is due to high investment income surplus of £5.1 billion in the first quarter and £4.3 billion in the second quarter. These high surpluses follow near record net revenues on income from direct investment, although these come just as inward and outward direct investment gross revenues have begun to fall. The balance of payments statistics were affected more than other series by the revision process outlined at the start of this update. Between 1994 and 2000, the balance of payments deficit was increased, the average revision being about £6 billion. The revision in 2000 itself was more modest however, as a share of GDP balance of payments is now estimated at 1.9 per cent, compared with 1.7 per cent at the previous release. The cumulative depiction of the balance of payments deficit was also little changed, although with net financial liabilities at £111.5 billion continues to show a largely continued unprecedented UK position with the rest of the world.

Chart 9
Balance of payments
£ million
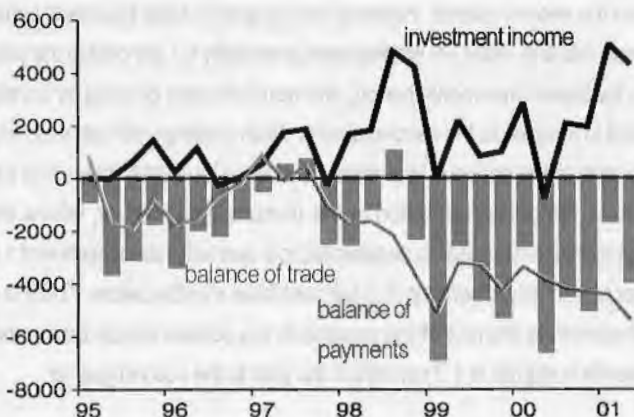
Labour Market

The labour market data now provides more substantial evidence of a

slowdown. Employment has now deteriorated according to the Labour Force Survey, and unemployment improvements have slowed.

Chart 10
Labour Market

Between May-July 2001 the employment rate was 74.6 per cent, down from 74.4 per cent in the previous three-month period (chart 10) The unemployment rate was stable at 5.0 per cent in each three-month period, although monthly figures underpinning the quarterly figures suggest a slight deterioration from previous estimates of 4.9 per cent. On the other hand the claimant count continued to show a further fall from 3.2 per cent in July to 3.1 in August.

The latest labour market data also reflects a turnaround in the two pictures of the labour market portrayed by the LFS and the workforce jobs employer survey data. Prior to the latest release workforce jobs showed a higher degree of slowdown than the LFS position, with the latest figures it is the LFS figures that show slowdown, with workforce jobs increasing by 56,000 into the second quarter. However annual growth rates have now come more into line, with LFS employment growing by 0.7 per cent in the year to the latest three month period, and workforce jobs growing by 0.6 per cent in the year to the second quarter. Both these growth rates are low relative to the previous few years. Workforce jobs data shows that job losses remain concentrated in the manufacturing sector, where the deterioration has recently accelerated to a quarterly rate of decline of 1.0 per cent in July, down from 0.5 per cent three months before. There is a slowdown to the rate of job creation in the service sector, but annual growth is still fair at 1.3 per cent in the year to the second quarter.

The average earnings index showed earnings accelerating to over 5 per cent in the first quarter of 2001, figures into May, June and July have slowed a little, with the headline rate at 4.6 per cent in July.

Prices

Consumer price inflation, as measured by RPIX, was to 2.6 per cent in July, up from 2.2 per cent in June. This was the first time RPIX was over the Government's inflation target since the beginning of 1999 but is still influenced by erratic items as well as comparisons with exceptionally low figures in 2001. Furthermore, movements remain importantly, but not entirely, influenced by petrol prices, which saw a lesser decrease in the latest months compared to previous months.

Chart 11
Unerlying Producer prices
Indices, 1995 = 100
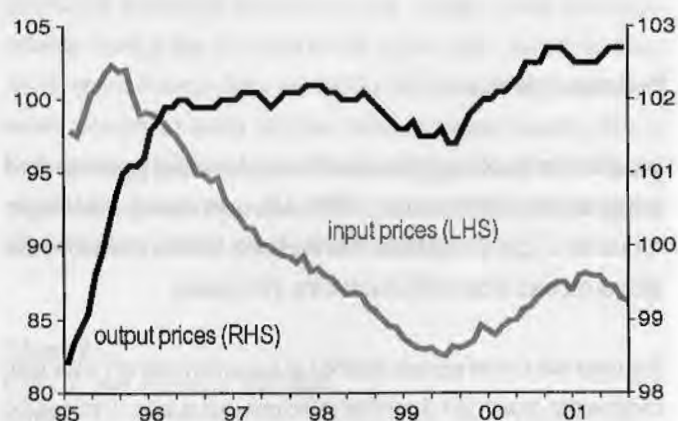
However, at the start of the price chain, producer prices continue to remain very subdued. Headline inflation rates in August 2001 show output inflation at an annual rate of 0.3 per cent and input price inflation now falling at an annual rate of 2.3 per cent. Chart 11 of underlying index numbers excluding food beverages tobacco and petroleum show the more general subdued nature of prices at the factory gate. It seems likely that these prices are becoming increasingly subdued as global conditions deteriorate and over-supply is becoming a more important phenomenon.

Forecasts for the UK Economy

A comparison of independent forecasts, September 2001

The tables below are extracted from HM Treasury's "FORECASTS FOR THE UK ECONOMY" and summarise the average and range of independent forecasts for 2001 and 2002, updated monthly.

	Independent Forecasts for 2001		
	Average	Lowest	Highest
GDP growth (per cent)	2.1	1.6	2.8
Inflation rate (Q4: per cent)			
- RPI	1.7	1.1	2.5
- RPI excl MIPs	2.2	1.6	2.6
Unemployment (Q4, mn)	0.99	0.92	1.10
Current Account (£ bn)	-15.9	-20.8	-8.4
PSNB *(2001-02, £ bn)	-7.0	-13.5	-1.4

	Independent Forecasts for 2002		
	Average	Lowest	Highest
GDP growth (per cent)	2.5	0.4	3.2
Inflation rate (Q4: per cent)			
- RPI	2.6	1.2	3.9
- RPI excl MIPs	2.4	1.6	3.5
Unemployment (Q4, mn)	1.03	0.80	1.29
Current Account (£ bn)	-21.1	-29.7	-10.5
PSNB* (2002-03, £ bn)	-0.1	-9.1	10.0

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 Miss B K Phamber, Public Enquiry Unit, HM Treasury, Room 88/2, Parliament Street, London SW1P 3AG (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 2001

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Overview

EU15 Quarterly GDP growth slowed further in the first quarter of 2001, mainly due to falling contributions of consumption and investment. Growth in the labour market remained, however, reasonably robust. Inflation remained above the ECB target of 2 per cent, although the latest monthly data point to some easing. Within the EU, German GDP has slowed considerably since the high of 4.3 per cent in 2000 quarter two. French GDP growth started slowing more significantly only in 2001 quarter one, in line with earlier signals of weakness in industrial production. Italian GDP growth remained strong in the first quarter but, latest IoP data suggest that this may be nearing an end. Outside the EU, GDP growth in the US weakened further in 2001 quarter two while unemployment continued to rise strongly and industrial production contracted. In Japan, GDP growth was again negative and industrial production fell sharply, while the economy continued to suffer from deflationary pressures.

EU15

Following strong growth of 3.5 per cent in 2000, EU GDP growth appears to have slowed somewhat with quarter on quarter growth of 0.5 per cent in the first quarter of 2001. Households were the main drivers of growth with the government sector continuing at the same pace as in previous quarters. Exports although positive, recorded a marked fall from the contribution they were making in the previous seven quarters. Continuing the weakness seen in the previous quarter, there was no change in the level of investment recorded in the second quarter. Stocks fell and whilst aiding the growth figure by recording no change, imports nevertheless point to a slowdown in the European economy.

Index of Production data shows the potential source of the slowdown, with quarterly growth contracting by 1.2 per cent in 2001 quarter two, following a small increase of 0.2 per cent in the previous quarter (chart 1). The monthly figures are somewhat harder to interpret, with an increase of 0.9 per cent in June coming on the back of three consecutive months of falling output. In this context and in the light of the revisions seen since last month's publication it may be prudent to wait a little while before jumping to any conclusions.

EU average earnings for 2001Q1 have been revised upwards and now show growth of 3.5 per cent, which is in line with the rates seen in 2000 but, is a marked rise from the previous figure of 2.6 per cent and could become a cause for concern if wage growth fails to slow as the economy does. EU Employment data continues to show growth but at a slightly reduced rate, with annual growth in the year to the first quarter at 1.6 per cent following 1.8 per cent in the previous quarter.

Unemployment continued its decline with a fall to 7.6 per cent of the labour force in 2001Q2.

Chart 1

EU15 - IOP growth   percentage change, quarters
seasonally adjusted
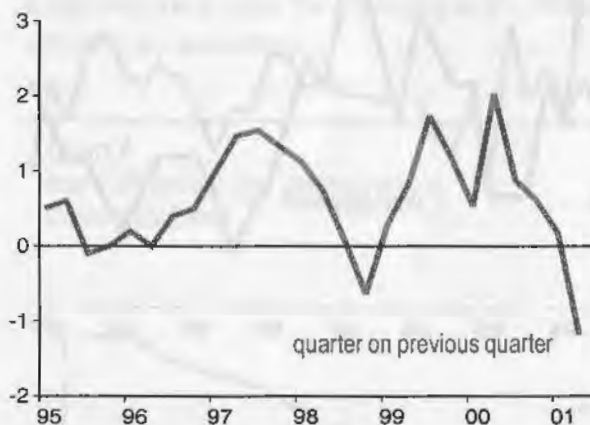
The second quarter of 2001 saw producer prices falling back to 2.5 per cent from 3.3 per cent in the first quarter of 2001, whilst consumer prices increased to 2.9 per cent up from 2.7 per cent in the previous quarter. Latest monthly figures indicate that inflationary pressures on the producer side continue to abate but remain quite strong on the consumer side.

Germany

Quarterly GDP growth stalled in 2001 quarter two, showing zero growth. Whilst the second successive quarter of robust demand from households and a slight improvement on exports added to the economy, there were declines in all other areas

notably a further 0.3 per cent fall in investment as in the previous quarter and imports continued to drag down growth.

Quarterly growth in production declined by 1.9 per cent in the second quarter of 2001 following an increase of 1.2 per cent in the previous quarter (chart 2). This is the weakest growth since 1993Q1, when quarterly production fell by 4.1 per cent.

The slowdown in GDP in 2001 quarters one and two appears to be feeding through into the unemployment figures. Unemployment rose for the first time since 1997Q3 (chart 2), to 7.8 per cent in 2001 quarter one up from 7.7 per cent in 2001 quarter two and has risen to 7.9 per cent of the total workforce in July 2001.

Chart 2
Germany - IOP growth and unemployment
seasonally adjusted   percentage changes, quarters

In line with a deteriorating labour market, quarterly annual earnings growth moderated somewhat, from 2.4 per cent in 2000 quarter four to 2.0 per cent in 2001 quarter one. Furthermore, the slowdown in 2001 quarter one follows on from the slowdown seen in the previous quarter, where growth dropped back from 3.3 per cent in 2000 quarter three to 2.4 per cent in 2000 quarter four.

While wages slowed, both producer and consumer prices continued growing in 2001, with quarter two figures showing consumer price inflation quickening to 3.2 per cent from 2.5 per cent the previous quarter and producer price inflation at 4.7 per cent, a slight fall from the 4.8 per cent growth recorded in the first quarter. The acceleration may continue to be partly driven by the price of oil.

France

In the first quarter of 2001, the French economy may have come into line with the general slowdown in the world economy. After three years of fairly vigorous expansion, quarterly GDP growth in 2001 quarter one slowed to 0.5 per cent, down from 0.7 per cent in the previous quarter.

The 2001 quarter one slowdown was dominated by declines in the contribution of exports and sharp destocking. Export growth made the weakest contribution to GDP growth since 1998 quarter four. The contribution of consumption, however, picked up strongly, relative to the lower figures in previous quarters. Exceptionally strong quarterly retail sales growth of 3.4 per cent echoed this movement in consumption in 2001 quarter one, however, the figure for the second quarter shows sales falling by 2.8 per cent and a further month on month fall in July of 3.3 per cent. French GDP in the first quarter of 2001 was also supported by a substantial fall in import growth. France's trade balance has been rather weak and often negative in recent years.

Growth in quarterly industrial production remained weak in 2001 quarter two, at 0.2 per cent, slightly lower than the 0.3 per cent growth recorded in the previous quarter. Growth has been weak since 2000 quarter one, except for a blip of 1.0 per cent in 2000 quarter three.

The robust expansion in GDP since 1997 has generated strong growth in employment. Employment grew strongly by an annual rate of 2.5 per cent in 2001 quarter one, one of the highest rates for a number of decades. As a result, unemployment, although it remains high, has been continuously falling in recent years, from a peak of 12.5 per cent in 1994 quarter two to 8.5 per cent in 2001 quarter two.

Annual earnings growth slowed to 4.3 per cent in 2001 quarter one, down from 5 per cent in the previous quarter. This represents a significant decline in growth after four quarters of earnings growth of 5 per cent or more.

Consumer price inflation in quarter two 2001 jumped to 2.1 per cent, up from 1.2 per cent in 2001 quarter one. Conversely, producer price inflation eased in the second quarter, down from 2.5 per cent in the first quarter to 1.8 per cent in the second (chart 3).

Chart 3
France - CPI and PPI growth
seasonally adjusted   percentage changes, quarters
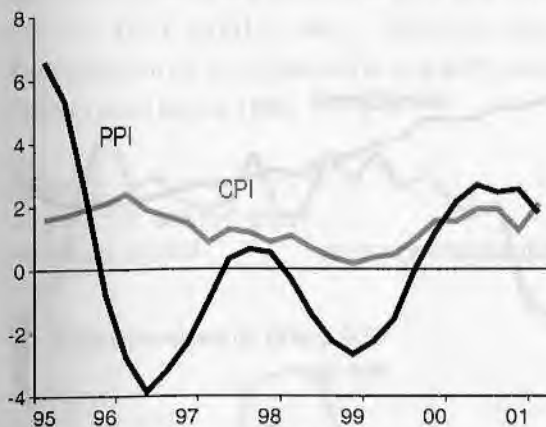
Italy

Unlike other EU economies, data shows Italian quarterly GDP growth accelerating, growing by a robust 0.9 per cent in 2001 quarter one. This follows a year of strong growth in 2000 where, growth was 2.9 per cent compared with 1.6 per cent in 1999.

However, the main factor for the stronger growth in the first quarter of 2001 was a recovery in the contribution of stockbuilding, which increased by 0.8 per cent in 2001 quarter one, up from 0.1 per cent in the previous quarter. The other main components of GDP, consumption, government and investment where all very subdued while the impact of the balance of trade was neutral. Echoing weak consumption in quarter one, retail sales fell once again in the second quarter, albeit by only 0.3 per cent compared to the fall of 1.0 per cent seen in the first quarter of 2001.

Similarly, in contrast with the headline quarterly GDP growth in 2001 quarter one, growth in industrial production fell by 0.2 per cent and this has continued into the second quarter, with the decline gathering pace with a fall of 1.5 per cent. In previous quarters, growth in industrial production has been mostly strong, in line with GDP growth which, may point to a slowdown in second quarter GDP.

The strong GDP growth in 2000 has led to an acceleration in annual employment growth since 2000 quarter one, reaching 3.1 per cent in 2001 quarter one, up from a period in 1998 and 1999 characterised by rates of about 1.2 per cent. However, despite relatively strong growth in annual employment in recent years, the fall in unemployment has been more modest, from 11.7 per cent in 1998 quarter one to 9.7 per cent in 2001 quarter one.

Perhaps reflecting persisting high unemployment, annual earnings growth has remained subdued and has fallen back significantly in the second quarter of 2001 to 1.3 per cent. Whilst not wanting to place too much emphasis on one quarter's figure, this level of earnings growth coupled with the fall in second quarter industrial production point to a future slowdown in the Italian economy.

Inflation signals from the consumer and producer price indices were mixed in 2001 quarter two, with consumer prices continuing their upward trend, from 2.9 per cent in 2001 quarter one to 3.0 per cent in the next quarter (chart 4), although the monthly figures point to a slight slowdown in July and August. Producer prices growth continued to ease, with another large drop from the preceding month, this time to 3.2 per cent. Both measures started rising at the end of 1999, mainly fuelled by rising oil prices, after having followed a declining trend since the beginning of the 1990s, in line with other EU economies.

Chart 4
Italy -CPI growth and unemployment
seasonally adjusted
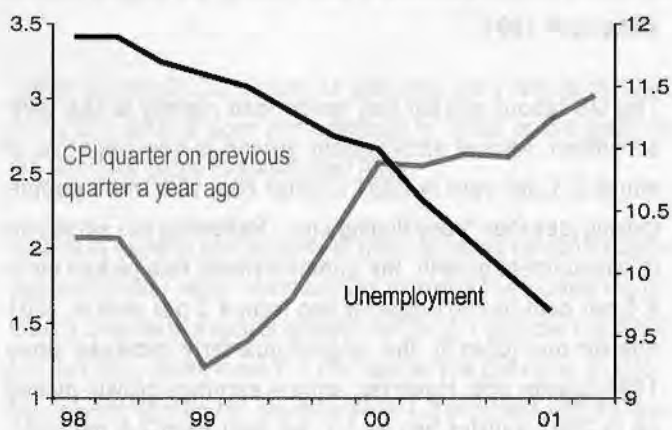
USA

The most recent figures for the USA suggest that following the slowdown in GDP growth, the economy remains fragile, with no quarterly growth in GDP in 2001 quarter two, compared with 0.3 percent growth in 2001 quarter one.

Annual GDP growth was also at its lowest in recent years at 1.2 per cent in 2001 quarter two. The main driver of the weakness was investment expenditure, which made a negative contribution of minus 0.3 per cent to quarterly GDP growth in 2001 quarter two (0.2 per cent in 2001 quarter one), its annual percentage contribution to GDP growth was zero.

However, private and government consumption continue to make positive contributions to GDP in 2001 quarter two with quarterly growth of 0.4 per cent and 0.1 per cent respectively, indicating a dual economy situation. In addition, although changes in stock still made a negative contribution to quarterly GDP growth in 2001 quarter two, destocking seemed to have slowed, considering the minus 0.8 per cent contribution to quarterly GDP growth in 2001 quarter one. Overall, the balance of trade also made a negative contribution to both quarterly and annual GDP growth in 2001 quarter two, with annual growth in imports falling to its lowest figure since 1991 quarter three.

The decline in industrial production has been unambiguous. Annual growth rate showed a significant decline from 0.7 per cent in 2001 quarter one to minus 2.2 per cent in 2001 quarter two. Quarterly growth slowed from 0.9 per cent in 2000 quarter three, to minus 0.2 per cent in 2000 quarter four, minus 1.8 per cent in 2001 quarter one and minus 1.0 per cent in 2001 quarter two. The monthly figures show a decline of minus 3.3 per cent in the year to July, the largest decline since April 1991.

The US labour market has responded rapidly to the GDP slowdown. Annual employment growth is now negative at minus 0.1 per cent in 2001 quarter two, with more people loosing jobs than those finding one. Reflecting this slowdown in employment growth, the unemployment rate picked up to 4.5 per cent in 2001 quarter two from 4.2 per cent in 2001 quarter one (chart 5), the largest quarterly increase since 1991 quarter one. However, annual earnings growth picked up in 2001 quarter two to 3.2 per cent from 2.6 per cent. Monthly data also shows ongoing growth in earnings with June and July figures at 3.4 per cent.

Consumer and producer price index data serve to further confirm the present condition of the US economy. Annual consumer prices picked up slightly from 3.2 per cent in 2001 quarter one to 3.4 per cent in 2001 quarter two but then monthly data shows a sharp slowdown to 2.7 per cent in July. Annual producer prices fell slightly from 2.1 per cent in

2001 quarter one to 2.0 per cent in 2001 quarter two.

Chart 5
USA - GDPgrowth and unemployment
seasonally adjusted
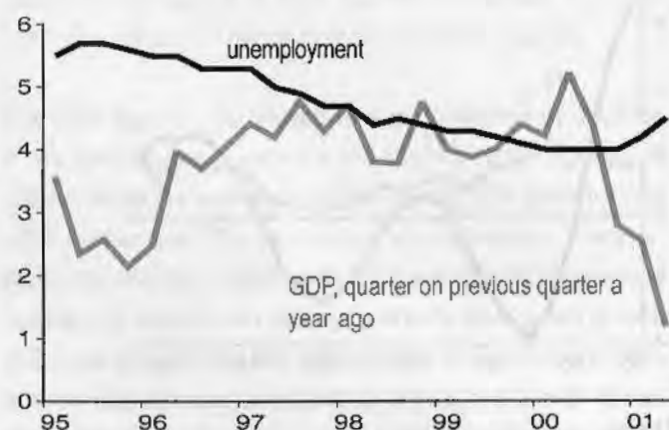
Japan

In line with the global economic slowdown, both annual and quarterly GDP growth for the latest data show negative growth rates of 0.1 per cent and 0.2 per cent respectively, indicating a contraction in the Japanese economy. This represents a continuation of the overall weak and volatile growth pattern since early 1999, when growth in the Japanese economy resumed to some degree. The standstill in GDP growth in 2001 quarter one came as private consumption and balance of trade made negative contributions to annual GDP growth, with marginal contributions from government consumption, capital formation and stock changes.

Broadly speaking, quarterly growth in industrial production had recovered strongly since 1999 quarter two but has shown very sharp declines in the latest periods (chart 6). Quarterly growth in production slowed sharply to 0.3 per cent in 2000 quarter four and then to minus 3.1 per cent in 2001 quarter one and minus 4.0 in 2001 quarter two. There is an increasing likelihood that GDP growth in 2001 quarter two would still be weak or even negative.

The structure of the Japanese economy is likely to make it especially vulnerable to the vagaries of the high tech industries as many companies operate on the frontier of industrial knowledge with a sizeable proportion of their output being exported.

Despite previous improvements in GDP growth, annual

employment growth has remained mostly negative over recent years and it fell significantly between 2001 quarter one and 2001 quarter two. Unemployment figures are also inching up with the rate now at 4.9 per cent in 2001 quarter two (4.8 per cent in 2001 quarter one). Monthly figures show unemployment up to 5.0 per cent in July 2001, unprecedented since at least before 1960.

Chart 6
Japan - IOP and PPI growth
seasonally adjusted   percentage changes, quarters
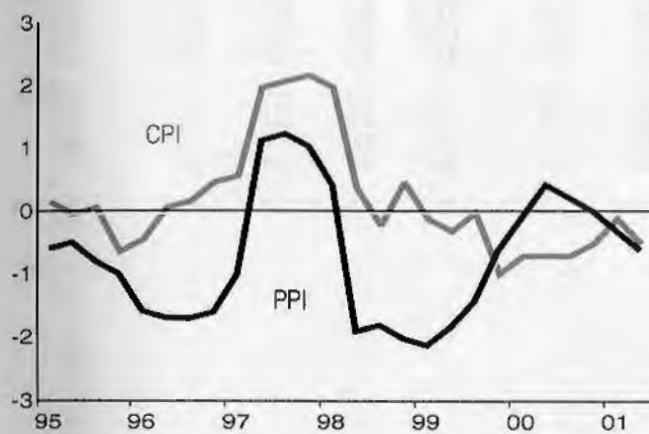
Annual earnings growth picked up in 2000 to 1.7 per cent, after having been negative in the two previous years, minus 0.7 per cent and minus 0.8 per cent respectively. However annual growth data for 2001 quarter one shows a slowdown in earnings growth to 0.5 per cent, in line with the general overall lethargic economy.

Consumer and producer prices have continued to fall in 2000 and 2001(chart 6), continuing the deflation that began in mid-1998. 2001 quarter two show annual growth of consumer and producer prices at minus 0.5 per cent and minus 0.6 per cent respectively, with no sign of a reversal of this trend. On a general note, rising unemployment and falling prices are said to be signs of aggregate demand lagging behind output.

World Trade

Echoing the national figures, world trade data showed signs of slowdown in the global economy, although they mostly only extend to the fourth quarter of 2000. OECD exports and imports of goods, which include both manufactures and raw materials, slowed significantly in the last quarter of 2000. Quarterly growth of exports of goods slowed to 1.1 per cent, from 2.6 per cent in the preceding quarter. 2001 quarter one OECD export manufacturing data show quarterly growth

slowing further to 0.4 per cent and an annual growth rate of 6.1 per cent, compared with figures of 9.9 per cent, 12.0 per cent and 13.3 per cent in the preceding three quarters. Quarterly growth of imports of goods slowed to 1.1 per cent in 2000 quarter four, from 2.6 per cent in the preceding quarter. This slowdown in OECD trade comes after a strong period of expansion since 1999 quarter two. As a result, annual growth in OECD exports and imports of goods in 2000 remained very high, at 11.8 per cent and 12.5 per cent respectively (chart 7 shows OECD trade in goods, quarter on same quarter a year ago).

Chart 7
OECD exports and imports of goods
seasonally adjusted   percentage changes
                                    quarter on quarter a year ago
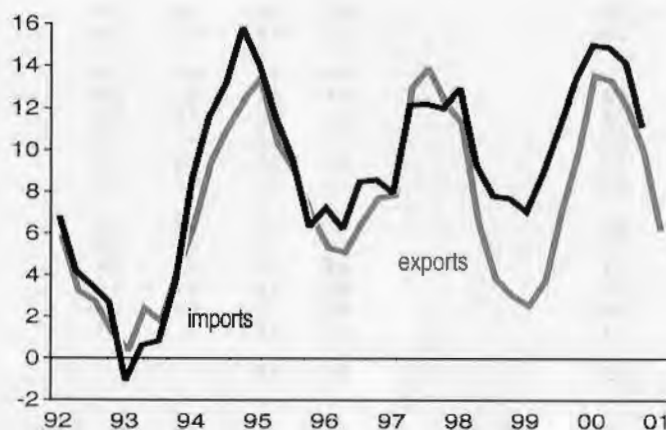
Trade of non-OECD countries was also very robust in 1999 and 2000, after a poor performance in 1998, in the wake of the financial crisis in south-east Asia.

Trends in exports and imports of manufactures (which exclude raw materials) were very similar to trends in goods trade, OECD quarterly exports growth fell to 1.1 per cent in 2000 quarter four, down from 2.7 per cent in the previous quarter. Equivalent figures for imports were 1.3 per cent and 3.0 per cent. Manufactures trade for non-OECD countries was similar to trends observed for goods trade.

In general, the slowdown in trade for both OECD and non-OECD countries in 2000 quarter four is reflective of the sharp slowdown of the US economy, weak growth in Japan and increasing signs of a slowdown in Europe.

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 68 and 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 France, Germany, Italy, the USA and Japan has been updated to SNA93 basis, EU 15 tables are only available on an SNA68 basis. The two bases are not directly comparable meaning that cross-country comparisons with countries on different bases are less valid. All the European data is likely to be put on the SNA93 basis in OECD data very soon.

	GDP	Contribution to change in GDP						IoP	Sales	CPI	PPI	Earnings	Empl	Unempl
		PFC	GFC	GFCF	ChgStk[1]	Exports	less Imports							
Percentage change on a year earlier	ILGB	HUDS	HUDT	HUDU	HUDV	HUDW	HUDX	ILGV	ILHP	HYAB	ILAI	ILAR	ILIJ	GADR
1995	2.4	1.1	-0.2	0.6	0.2	2.3	2.0	3.5	-0.3	3.1	4.5	3.4	0.6	10.7
1996	1.7	1.1	0.3	0.4	-0.5	1.4	1.2	0.6	0.6	2.5	0.7	4.0	0.5	10.8
1997	2.6	1.3	0.2	0.7	0.1	3.1	2.7	3.9	1.5	2.0	0.9	2.9	1.0	10.6
1998	2.8	1.9	0.3	1.2	0.4	2.0	3.0	3.7	2.9	1.8	-0.4	3.0	1.8	9.9
1999	2.6	2.0	0.5	1.1	-0.3	1.6	2.2	1.8	2.0	1.2	–	2.5	1.5	9.2
2000	3.5	1.7	0.4	1.0	–	4.0	3.6	4.7	2.2	2.5	4.7	3.5	1.6	8.2
1998 Q2	2.9	1.8	0.2	1.1	0.5	2.5	3.2	4.8	2.6	2.2	0.2	3.8	1.7	10.0
Q3	2.7	2.0	0.3	1.3	0.2	1.5	2.7	3.3	3.3	1.6	-0.8	2.8	1.7	9.8
Q4	2.0	2.0	0.4	1.0	0.1	0.7	2.2	1.3	2.9	1.4	-1.7	2.8	1.8	9.6
1999 Q1	2.0	2.1	0.5	1.0	-0.3	0.4	1.7	0.5	2.3	1.1	-1.8	2.8	1.5	9.5
Q2	2.2	1.9	0.4	1.1	-0.4	0.9	1.7	0.6	1.2	1.1	-1.0	1.8	1.4	9.3
Q3	2.7	2.0	0.4	1.1	-0.3	1.9	2.4	2.2	1.9	1.2	0.5	2.7	1.6	9.1
Q4	3.5	2.0	0.5	1.2	-0.3	3.2	3.1	4.1	2.6	1.5	2.4	2.7	1.5	8.8
2000 Q1	3.6	1.7	0.4	1.1	-0.2	3.9	3.3	4.3	2.4	2.2	4.1	3.6	1.4	8.6
Q2	3.9	2.0	0.4	1.1	0.2	4.1	3.9	5.6	3.2	2.3	4.9	3.6	1.6	8.3
Q3	3.4	1.7	0.4	1.0	–	4.0	3.7	4.7	2.1	2.7	5.1	3.5	1.5	8.1
Q4	3.0	1.3	0.3	0.8	–	4.0	3.4	4.1	0.9	2.8	5.0	3.5	1.8	7.9
2001 Q1	2.6	1.2	0.4	0.5	-0.1	3.1	2.5	3.7	2.2	2.7	3.3	3.5	1.6	7.7
Q2	..	..	..	..	..	..	..	0.4	..	2.9	2.5	..	..	7.6
2000 May	..	..	..	..	..	..	..	6.3	3.7	2.2	4.9	..	..	8.3
Jun	..	..	..	..	..	..	..	4.9	1.9	2.6	5.2	..	..	8.2
Jul	..	..	..	..	..	..	..	4.7	1.9	2.5	5.0	..	..	8.1
Aug	..	..	..	..	..	..	..	5.0	1.9	2.5	4.8	..	..	8.1
Sep	..	..	..	..	..	..	..	4.5	2.8	2.9	5.4	..	..	8.0
Oct	..	..	..	..	..	..	..	3.7	–	2.8	5.5	..	..	7.9
Nov	..	..	..	..	..	..	..	3.6	0.9	2.9	5.3	..	..	7.9
Dec	..	..	..	..	..	..	..	5.0	1.8	2.7	4.4	..	..	7.8
2001 Jan	..	..	..	..	..	..	..	4.6	2.8	2.7	3.7	..	..	7.8
Feb	..	..	..	..	..	..	..	3.9	1.8	2.7	3.3	..	..	7.7
Mar	..	..	..	..	..	..	..	2.6	1.8	2.6	2.9	..	..	7.7
Apr	..	..	..	..	..	..	..	0.7	1.8	2.8	2.9	..	..	7.6
May	..	..	..	..	..	..	..	-0.5	0.9	3.1	2.6	..	..	7.6
Jun	..	..	..	..	..	..	..	1.0	..	2.9	2.1	..	..	7.6
Jul	..	..	..	..	..	..	..	..	..	2.7	1.4	..	..	7.6
Percentage change on previous quarter	ILGL	HUDY	HUDZ	HUEA	HUEB	HUEC	HUED	ILHF	ILHZ				ILIT	
1998 Q2	0.4	0.4	0.1	0.1	-0.1	0.4	0.5	0.7	0.7				1.1	
Q3	0.6	0.4	0.1	0.3	-0.1	0.1	0.3	0.1	0.7				0.7	
Q4	0.2	0.5	0.1	0.2	0.1	-0.3	0.3	-0.6	0.3				0.3	
1999 Q1	0.8	0.7	0.2	0.4	-0.1	0.3	0.6	0.3	0.7				-0.6	
Q2	0.6	0.2	–	0.3	-0.2	0.8	0.5	0.8	-0.4				1.0	
Q3	1.1	0.5	0.1	0.3	–	1.1	1.0	1.7	1.3				1.0	
Q4	1.0	0.6	0.1	0.3	0.1	1.0	1.0	1.2	1.2				0.2	
2000 Q1	0.9	0.4	0.1	0.3	–	1.0	0.8	0.5	0.3				-0.7	
Q2	0.8	0.5	0.1	0.2	0.2	0.9	1.0	2.0	0.4				1.1	
Q3	0.6	0.2	0.1	0.2	-0.2	1.1	0.8	0.9	0.3				0.8	
Q4	0.6	0.1	0.1	0.1	0.1	0.9	0.7	0.6	–				0.5	
2001 Q1	0.5	0.4	0.1	–	-0.2	0.2	–	0.2	1.5				-0.8	
Q2	..	..	..	..	..	..	..	-1.2	..				..	
Percentage change on previous month								ILKF	ILKP					
2000 Aug								0.8	–					
Sep								-0.4	–					
Oct								-0.2	-0.9					
Nov								0.7	0.9					
Dec								0.9	0.9					
2001 Jan								-1.0	0.9					
Feb								0.8	–					
Mar								-0.6	-0.9					
Apr								-1.1	–					
May								-0.3	0.9					
Jun								0.9	..					
Jul								..	..					

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

Sales = Retail Sales Volume
CPI = Consumer Prices, measurement not uniform among countries
PPI = Producer Prices (manufacturing)
Earnings = Average Wage Earnings (manufacturing), definitions of coverage

		Contribution to change in GDP												
	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
1995	1.8	1.3	0.3	−0.1	0.3	1.4	1.3	0.8	0.8	1.7	1.9	4.0	0.1	8.2
1996	0.8	0.5	0.4	−0.2	−0.4	1.3	0.8	0.7	−1.1	1.4	−1.2	3.5	−0.4	8.9
1997	1.5	0.4	0.1	0.2	−	2.9	2.0	3.7	−1.6	1.9	1.1	1.5	−0.3	9.9
1998	1.7	0.9	0.2	0.5	0.5	1.8	2.2	4.1	1.0	1.0	−0.4	1.8	1.4	9.3
1999	1.7	1.7	0.3	0.8	−0.4	1.5	2.3	1.5	0.4	0.6	−1.0	2.6	0.6	8.6
2000	3.2	0.9	0.2	0.6	0.3	4.2	3.1	6.3	1.0	1.9	3.4	2.7	0.4	7.9
1998 Q2	1.7	0.4	−	0.5	0.8	2.7	2.7	5.0	−0.9	1.4	0.2	1.8	1.7	9.5
Q3	1.6	1.2	0.3	0.5	0.3	1.2	2.0	4.3	2.4	0.7	−0.8	2.1	1.0	9.1
Q4	0.6	1.4	0.5	−	0.2	0.1	1.6	1.1	1.9	0.4	−1.7	2.2	1.8	8.9
1999 Q1	0.7	1.8	0.4	0.3	−0.4	0.1	1.6	−0.6	1.6	0.3	−2.4	2.5	0.8	8.8
Q2	1.0	1.7	0.2	0.7	−0.5	0.7	1.9	0.5	−0.2	0.5	−1.7	2.4	0.1	8.7
Q3	2.0	1.7	0.3	1.0	−0.5	2.0	2.5	1.9	−0.2	0.7	−0.7	2.7	1.1	8.6
Q4	3.0	1.6	0.4	1.2	−0.4	3.3	3.0	4.1	0.6	1.0	0.6	3.0	0.4	8.4
2000 Q1	2.9	0.6	0.3	0.9	−0.5	4.3	2.6	5.2	−1.1	1.7	2.3	2.8	0.2	8.1
Q2	4.3	1.8	0.4	0.8	0.3	4.0	2.8	6.8	4.0	1.6	2.6	2.4	0.4	7.9
Q3	3.2	1.1	0.1	0.6	0.3	4.2	3.0	7.1	1.7	2.0	3.7	3.3	0.4	7.8
Q4	2.5	0.4	0.2	0.4	1.1	4.5	4.1	5.9	−0.6	2.4	4.5	2.4	0.8	7.7
2001 Q1	1.8	0.8	0.3	−0.2	0.1	3.0	2.1	5.7	1.1	2.5	4.8	2.0	0.7	7.7
Q2	0.6	0.7	0.2	−0.5	−0.6	2.4	1.5	0.9	..	3.2	4.7	..	..	7.8
2000 Aug	..	..	..	..	..	..	..	6.5	1.8	1.8	3.5	..	..	7.8
Sep	..	..	..	..	..	..	..	7.2	3.8	2.5	4.3	..	..	7.8
Oct	..	..	..	..	..	..	..	5.8	−2.3	2.4	4.6	..	..	7.7
Nov	..	..	..	..	..	..	..	5.4	−0.3	2.4	4.7	..	..	7.7
Dec	..	..	..	..	..	..	..	6.4	0.7	2.2	4.2	..	..	7.7
2001 Jan	..	..	..	..	..	..	..	7.4	2.0	2.4	4.6	..	..	7.7
Feb	..	..	..	..	..	..	..	6.0	−1.0	2.6	4.7	..	..	7.7
Mar	..	..	..	..	..	..	..	3.7	2.2	2.5	4.9	..	..	7.8
Apr	..	..	..	..	..	..	..	1.0	−	2.9	5.0	..	..	7.8
May	..	..	..	..	..	..	..	−0.1	−2.4	3.5	4.6	..	..	7.8
Jun	..	..	..	..	..	..	..	1.8	..	3.1	4.3	..	..	7.9
Jul	..	..	..	..	..	..	..	..	..	2.6	3.1	..	..	7.9
Aug	..	..	..	..	..	..	..	..	..	2.6	..	..	..	..

Percentage change on previous quarter												
	ILGI	HUCC	HUCD	HUCE	HUCF	HUCG	HUCH	ILHC	ILHW			ILIQ
1998 Q2	−0.5	−0.4	0.1	−0.3	0.1	0.5	0.5	0.2	−0.7			1.5
Q3	0.2	0.5	0.1	0.2	−0.2	−0.4	−	0.2	0.8			−0.1
Q4	−0.1	0.6	−	−0.2	−	−0.4	0.1	−1.2	0.4			1.1
1999 Q1	1.1	1.2	0.2	0.6	−0.3	0.4	0.9	0.3	1.2			−1.7
Q2	−0.2	−0.6	−0.1	0.2	−	1.1	0.8	1.2	−2.6			0.8
Q3	1.3	0.5	0.2	0.4	−0.2	0.9	0.6	1.6	0.8			0.9
Q4	0.8	0.4	0.1	−	0.2	0.8	0.6	0.9	1.3			0.4
2000 Q1	1.0	0.2	0.1	0.3	−0.4	1.4	0.5	1.3	−0.5			−1.9
Q2	1.2	0.6	−	0.1	0.7	0.8	1.0	2.7	2.5			1.0
Q3	0.1	−0.2	−0.1	0.2	−0.1	1.1	0.9	2.0	−1.5			0.9
Q4	0.2	−0.3	0.2	−0.2	0.9	1.1	1.6	−0.3	−1.0			0.8
2001 Q1	0.4	0.6	0.2	−0.3	−1.4	−0.1	−1.3	1.2	1.2			−1.9
Q2	−	0.5	−0.1	−0.3	−0.1	0.2	0.3	−1.9	..			..

Percentage change on previous month		
	ILKC	ILKM
2000 Aug	0.6	1.6
Sep	−0.2	−0.6
Oct	−0.5	−2.3
Nov	−0.2	0.7
Dec	0.8	2.0
2001 Jan	1.0	−0.3
Feb	0.2	−0.6
Mar	−1.5	0.9
Apr	−1.2	0.6
May	0.1	2.0
Jun	0.3	..
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 Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted

Percentage change on a year earlier

	GDP	PFC	GFC	GFCF	ChgStk	Exports	less imports	IoP	Sales	CPI	PPI[1]	Earnings	Emp[2]	Unempl
	ILFZ	HUBK	HUBL	HUBM	HUBN	HUBO	HUBP	ILGT	ILHN	HXAA	ILAG	ILAP	ILIH	GABC
1995	1.9	0.8	–	0.4	0.5	1.7	1.6	2.5	–	1.7	5.2	2.4	0.9	11.7
1996	1.1	0.7	0.5	–	–0.6	0.7	0.3	0.9	–0.3	2.0	–2.7	2.6	0.2	12.3
1997	1.9	0.1	0.5	–	0.1	2.8	1.5	3.8	1.0	1.2	–0.6	2.6	0.7	12.3
1998	3.5	1.9	–	1.3	0.8	2.1	2.6	5.2	2.6	0.8	–0.9	2.2	1.5	11.8
1999	3.0	1.7	0.5	1.2	–0.4	1.0	1.0	2.1	2.4	0.5	–1.6	2.5	2.0	11.2
2000	3.4	1.5	0.5	1.2	0.3	3.6	3.7	3.4	0.6	1.7	2.1	5.2	2.5	9.5
1998 Q2	3.8	2.1	–	1.4	1.1	2.5	3.3	6.8	3.2	1.1	–0.3	2.0	1.4	11.8
Q3	3.6	2.1	–0.1	1.4	0.5	1.9	2.3	3.9	2.4	0.7	–1.4	2.1	1.7	11.7
Q4	2.9	2.0	–	1.3	0.7	0.6	1.7	2.5	2.7	0.4	–2.3	2.0	1.9	11.7
1999 Q1	2.8	1.8	0.3	1.4	–0.1	0.2	0.8	1.0	3.3	0.2	–2.7	2.0	1.9	11.6
Q2	2.5	1.5	0.4	1.1	–0.4	0.4	0.5	0.5	1.8	0.4	–2.3	2.0	1.9	11.4
Q3	3.0	1.8	0.5	1.0	–0.7	1.4	1.0	2.4	2.3	0.5	–1.6	2.7	1.9	11.0
Q4	3.7	1.8	0.6	1.1	–0.3	2.2	1.8	4.2	2.0	1.0	–	3.4	2.1	10.6
2000 Q1	3.5	1.8	0.5	1.1	0.1	3.1	3.0	4.2	2.1	1.5	1.2	5.2	2.3	10.1
Q2	3.5	1.6	0.5	1.2	–	3.7	3.7	3.8	1.4	1.5	2.1	5.4	2.5	9.7
Q3	3.4	1.4	0.6	1.3	0.8	3.4	4.1	3.4	–	1.9	2.7	5.2	2.5	9.3
Q4	3.0	1.0	0.5	1.3	0.2	4.0	4.0	2.2	–1.4	1.9	2.4	5.0	2.6	8.9
2001 Q1	2.9	1.4	0.6	1.2	–0.8	2.8	2.3	2.3	1.4	1.2	2.5	4.3	2.5	8.6
Q2	..	..	..	..	..	..	..	2.0	–0.4	2.1	1.8	..	..	8.5
2000 Aug	..	..	..	..	..	..	..	3.8	1.7	1.8	2.7	..	..	9.3
Sep	..	..	..	..	..	..	..	2.6	0.1	2.2	2.7	..	..	9.2
Oct	..	..	..	..	..	..	..	2.4	–1.2	1.9	2.5	..	..	9.0
Nov	..	..	..	..	..	..	..	1.5	–1.4	2.2	2.4	..	..	8.9
Dec	..	..	..	..	..	..	..	2.8	–1.4	1.5	2.5	..	..	8.9
2001 Jan	..	..	..	..	..	..	..	3.0	2.1	1.1	2.6	..	..	8.7
Feb	..	..	..	..	..	..	..	2.4	0.3	1.3	2.6	..	..	8.6
Mar	..	..	..	..	..	..	..	1.5	1.8	1.2	2.4	..	..	8.6
Apr	..	..	..	..	..	..	..	1.6	–0.5	1.8	2.0	..	..	8.6
May	..	..	..	..	..	..	..	2.1	–2.4	2.3	1.8	..	..	8.5
Jun	..	..	..	..	..	..	..	2.3	2.0	2.1	1.7	..	..	8.5
Jul	..	..	..	..	..	..	..	..	–1.2	2.1	..	..	..	8.5
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter

	GDP	PFC	GFC	GFCF	ChgStk	Exports	less imports	IoP	Sales	Emp[2]
	ILGJ	HUBQ	HUBR	HUBS	HUBT	HUBU	HUBV	ILHD	ILHX	ILIR
1998 Q2	1.0	0.8	–	0.5	0.1	0.3	0.6	1.4	1.1	0.5
Q3	0.5	0.3	–	0.2	–0.1	0.2	0.1	–0.5	0.7	0.5
Q4	0.4	0.4	0.1	0.2	0.2	–0.5	–	–0.1	1.1	0.4
1999 Q1	0.8	0.2	0.2	0.4	–0.3	0.3	0.1	0.2	0.5	0.5
Q2	0.7	0.5	0.1	0.2	–0.2	0.5	0.3	0.9	–0.4	0.5
Q3	1.0	0.6	0.1	0.1	–0.4	1.0	0.5	1.4	1.1	0.6
Q4	1.1	0.5	0.2	0.3	0.6	0.3	0.8	1.6	0.8	0.6
2000 Q1	0.6	0.2	0.1	0.3	0.1	1.2	1.3	0.2	0.6	0.7
Q2	0.7	0.3	0.2	0.4	–0.3	1.2	0.9	0.5	–1.0	0.7
Q3	0.9	0.5	0.1	0.2	0.4	0.7	1.0	1.0	–0.3	0.6
Q4	0.7	–	0.1	0.3	–	0.9	0.7	0.4	–0.7	0.7
2001 Q1	0.5	0.6	0.1	0.2	–0.8	–	–0.4	0.3	3.4	0.6
Q2	..	..	..	..	..	..	..	0.2	–2.8	..

Percentage change on previous month

	IoP	Sales
	ILKD	ILKN
2000 Aug	–	–0.1
Sep	–0.4	–0.3
Oct	0.5	–0.9
Nov	0.3	0.9
Dec	–	–0.2
2001 Jan	0.1	3.4
Feb	0.3	–1.0
Mar	–0.3	1.5
Apr	–0.2	–4.7
May	0.5	0.5
Jun	0.3	3.4
Jul	..	–3.3
Aug	..	..

GDP = Gross Domestic Product at constant market prices
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ChgStk = Change in Stocks at constant market prices

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

	GDP	Contribution to change in GDP					less	IoP	Sales	CPI	PPI	Earnings	Empl	Unempl
		PFC	GFC	GFCF	ChgStk	Exports	Imports							

Percentage change on a year earlier

	ILGA	HUCI	HUCJ	HUCK	HUCL	HUCM	HUCN	ILGU	ILHO	HYAA	ILAH	ILAQ	ILII	GABE
1995	2.9	1.0	−0.4	1.1	0.2	3.1	2.1	5.8	0.6	5.3	7.9	3.1	−0.6	11.6
1996	1.1	0.7	0.2	0.7	−0.7	0.2	−0.1	−1.6	1.2	4.0	1.8	3.1	0.5	11.7
1997	2.0	1.9	−	0.4	0.3	1.7	2.3	3.8	0.9	2.0	1.3	3.6	0.4	11.7
1998	1.8	1.8	0.1	0.8	0.3	1.0	2.2	1.5	1.1	2.0	0.1	2.8	1.2	11.8
1999	1.6	1.4	0.3	0.9	0.4	−	1.3	−0.1	1.1	1.7	−0.2	2.3	1.2	11.4
2000	2.9	1.8	0.3	1.2	−1.0	2.9	2.2	4.1	−0.6	2.5	5.9	2.1	1.9	10.5
1998 Q2	1.7	1.7	−	1.0	−0.5	1.4	2.0	2.5	1.6	2.1	0.6	3.1	0.9	11.9
Q3	1.9	1.8	0.1	0.8	0.2	0.4	1.4	0.4	1.0	2.1	−0.1	2.8	1.1	11.9
Q4	0.7	2.0	0.1	0.2	0.4	−0.6	1.5	−2.3	1.0	1.7	−1.2	3.0	1.5	11.7
1999 Q1	1.1	1.7	0.2	0.5	0.8	−1.2	1.0	−1.3	1.3	1.2	−1.8	3.0	1.2	11.6
Q2	1.3	1.2	0.2	0.6	1.2	−0.9	1.1	−2.4	0.3	1.4	−1.4	2.1	1.3	11.5
Q3	1.3	1.4	0.3	1.0	−0.2	0.1	1.2	0.4	0.3	1.7	−	2.3	1.2	11.3
Q4	2.8	1.3	0.3	1.5	−0.3	2.1	2.0	3.1	2.3	2.1	2.2	1.8	1.4	11.1
2000 Q1	3.3	1.5	0.3	1.4	−0.7	2.1	1.4	3.4	−0.6	2.6	4.6	1.9	1.2	11.0
Q2	3.0	2.1	0.3	1.5	−0.5	2.3	2.7	5.8	−0.3	2.6	6.2	2.5	1.5	10.6
Q3	2.7	1.8	0.2	1.2	−1.3	3.9	3.1	3.6	−	2.6	6.7	2.0	2.1	10.3
Q4	2.6	1.7	0.2	0.7	−1.4	3.2	1.7	3.4	−1.3	2.6	6.5	1.9	2.8	10.0
2001 Q1	2.4	1.0	0.2	0.5	−0.8	3.6	2.1	2.5	−0.3	2.9	4.9	2.0	3.1	9.7
Q2	..	..	..	..	..	..	..	−0.8	−1.0	3.0	3.2	1.3	..	..
2000 Aug	..	..	..	..	..	..	..	3.7	−1.9	2.6	6.5	2.0	..	10.3
Sep	..	..	..	..	..	..	..	4.0	1.0	2.6	6.8	2.0	..	10.2
Oct	..	..	..	..	..	..	..	2.3	−1.0	2.6	6.8	1.9	..	10.0
Nov	..	..	..	..	..	..	..	2.6	−1.9	2.7	6.7	1.9	..	10.0
Dec	..	..	..	..	..	..	..	5.4	−1.0	2.7	6.2	1.9	..	9.9
2001 Jan	..	..	..	..	..	..	..	3.6	−1.0	3.0	5.4	1.9	..	9.8
Feb	..	..	..	..	..	..	..	1.7	−	3.0	5.0	2.0	..	9.7
Mar	..	..	..	..	..	..	..	2.2	−	2.8	4.3	2.1	..	9.5
Apr	..	..	..	..	..	..	..	−0.1	−1.0	3.1	4.4	1.6	..	9.5
May	..	..	..	..	..	..	..	−1.6	−1.0	3.0	2.9	1.0	..	..
Jun	..	..	..	..	..	..	..	−0.6	−1.0	3.0	2.4	1.1	..	..
Jul	..	..	..	..	..	..	..	..	..	2.9	1.5	..	..	..
Aug	..	..	..	..	..	..	..	..	..	2.8	..	..	..	..

Percentage change on previous quarter

	ILGK	HUCO	HUCP	HUCQ	HUCR	HUCS	HUCT	ILHE	ILHY				ILIS	
1998 Q2	0.4	0.6	0.1	0.1	−0.6	0.1	−0.2	0.8	1.0				1.1	
Q3	0.6	0.3	−	0.1	0.5	−0.5	−0.2	−0.9	−				1.4	
Q4	−0.5	0.5	0.1	−	0.4	−0.7	0.7	−1.5	−0.6				−0.3	
1999 Q1	0.5	0.3	0.1	0.4	0.6	−0.1	0.7	0.4	1.0				−1.0	
Q2	0.6	0.1	0.1	0.2	−0.2	0.4	−0.1	−0.4	−				1.2	
Q3	0.7	0.4	0.1	0.4	−0.9	0.6	−0.1	2.0	−				1.3	
Q4	0.9	0.4	0.1	0.5	0.3	1.2	1.4	1.2	1.3				−0.1	
2000 Q1	1.0	0.6	0.1	0.3	0.2	−	0.1	0.7	−1.9				−1.2	
Q2	0.3	0.6	−	0.3	−	0.6	1.2	1.9	0.3				1.5	
Q3	0.4	0.2	−	0.2	−1.6	2.1	0.4	−0.2	0.3				1.9	
Q4	0.8	0.3	0.1	−	0.1	0.5	−	1.0	−				0.6	
2001 Q1	0.9	−	−	0.1	0.8	0.4	0.5	−0.2	−1.0				−0.8	
Q2	..	..	..	..	..	..	..	−1.5	−0.3				..	

Percentage change on previous month

								ILKE	ILKO					
2000 Aug								1.2	−1.9					
Sep								−0.1	1.9					
Oct								−0.7	−1.0					
Nov								1.0	1.0					
Dec								2.1	−1.0					
2001 Jan								−2.0	−1.0					
Feb								−0.2	1.0					
Mar								0.6	−1.0					
Apr								−2.1	−					
May								0.6	−					
Jun								0.1	−					
Jul								..	..					
Aug								..	..					

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

				Contribution to change in GDP									
	GDP	PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP	Sales	CPI	PPI	Earnings	Empl[1]	Unempl
Percentage change on a year earlier														
	ILGC	HUDG	HUDH	HUDI	HUDJ	HUDK	HUDL	ILGW	ILHQ	ILAA	ILAJ	ILAS	ILIK	GADO
1995	2.7	2.0	–	0.9	–0.5	1.0	0.9	4.8	3.6	2.8	2.9	2.6	1.5	5.6
1996	3.6	2.1	0.1	1.5	–	0.9	1.0	4.6	4.9	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	6.7	4.1	2.3	0.3	3.2	2.3	5.0
1998	4.3	3.2	0.2	2.0	0.2	0.3	1.6	4.7	6.4	1.6	–1.1	2.5	1.5	4.5
1999	4.1	3.3	0.3	1.6	–0.2	0.4	1.5	4.2	8.6	2.1	1.8	2.9	1.5	4.2
2000	4.1	3.3	0.4	1.4	–0.1	1.1	2.0	5.6	6.4	3.4	4.1	3.6	1.3	4.0
1998 Q2	3.8	3.5	0.2	2.1	–0.6	0.2	1.7	5.3	7.5	1.6	–0.9	2.8	1.5	4.4
Q3	3.8	3.1	0.1	1.7	0.2	–0.2	1.3	4.3	5.3	1.6	–1.0	2.5	1.1	4.5
Q4	4.8	3.4	0.3	2.1	0.2	0.3	1.5	3.2	7.7	1.5	–0.9	1.9	1.3	4.4
1999 Q1	4.0	3.3	0.4	1.8	–0.3	0.1	1.3	3.3	9.0	1.7	–	1.8	1.7	4.3
Q2	3.9	3.3	0.1	1.6	–0.1	0.3	1.4	3.8	7.8	2.2	1.1	2.4	1.4	4.3
Q3	4.0	3.4	0.3	1.6	–0.4	0.6	1.7	4.4	9.3	2.4	2.4	3.7	1.4	4.2
Q4	4.4	3.4	0.4	1.4	0.1	0.5	1.7	5.1	8.3	2.6	3.2	3.6	1.5	4.1
2000 Q1	4.2	3.6	0.3	1.6	–0.6	1.0	2.0	5.8	8.5	3.4	4.6	4.2	1.6	4.0
Q2	5.2	3.3	0.6	1.6	0.5	1.3	2.2	6.5	7.0	3.3	4.4	3.6	1.6	4.0
Q3	4.4	3.3	0.4	1.4	0.1	1.3	2.2	5.9	6.3	3.5	3.9	2.9	1.1	4.0
Q4	2.8	2.8	0.2	1.1	–0.5	0.8	1.8	4.2	4.1	3.4	3.4	3.5	1.0	4.0
2001 Q1	2.5	2.4	0.4	0.6	–0.6	0.5	0.9	0.7	1.9	3.2	2.1	2.6	0.7	4.2
Q2	1.2	2.2	0.3	–	–1.3	–0.3	–0.1	–2.2	..	3.4	2.0	3.2	–0.1	4.5
2000 Aug	..	..	..	..	..	..	..	5.9	6.0	3.4	3.6	2.7	1.0	4.1
Sep	..	..	..	..	..	..	..	6.1	6.3	3.4	3.8	2.6	1.1	3.9
Oct	..	..	..	..	..	..	..	5.0	5.7	3.4	3.6	3.5	1.0	3.9
Nov	..	..	..	..	..	..	..	4.4	3.9	3.5	3.5	3.5	0.9	4.0
Dec	..	..	..	..	..	..	..	3.1	2.6	3.4	2.9	3.5	1.1	4.0
2001 Jan	..	..	..	..	..	..	..	1.7	2.9	3.5	3.0	2.6	0.8	4.2
Feb	..	..	..	..	..	..	..	0.8	1.4	3.4	2.0	2.6	0.7	4.2
Mar	..	..	..	..	..	..	..	–0.2	1.5	2.8	1.2	2.6	0.6	4.3
Apr	..	..	..	..	..	..	..	–1.1	2.5	3.3	2.2	2.6	–0.1	4.5
May	..	..	..	..	..	..	..	–2.1	..	3.6	2.4	3.5	0.1	4.4
Jun	..	..	..	..	..	..	..	–3.3	..	3.3	1.4	3.4	–0.2	4.5
Jul	..	..	..	..	..	..	..	–3.3	..	2.7	0.6	3.4	0.2	4.5
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter										
	ILGM	HUDM	HUDN	HUDO	HUDP	HUDQ	HUDR	ILHG	ILIA	ILIU
1998 Q2	0.6	1.0	0.2	0.6	–0.8	–0.1	0.4	0.7	2.6	1.5
Q3	1.0	0.6	–	0.3	0.4	–0.1	0.2	0.9	0.5	0.6
Q4	1.6	0.8	0.2	0.5	0.1	0.4	0.4	0.8	2.9	0.2
1999 Q1	0.8	0.8	–	0.4	–	–0.2	0.3	0.9	2.6	–0.6
Q2	0.4	0.9	–	0.3	–0.6	0.1	0.5	1.2	1.5	1.2
Q3	1.1	0.7	0.2	0.3	0.1	0.3	0.5	1.5	2.0	0.6
Q4	2.0	0.9	0.2	0.3	0.6	0.3	0.4	1.4	2.0	0.3
2000 Q1	0.6	1.0	–0.1	0.6	–0.7	0.3	0.6	1.6	2.7	–0.5
Q2	1.4	0.6	0.3	0.3	0.5	0.4	0.6	1.9	0.1	1.2
Q3	0.3	0.7	–0.1	0.1	–0.3	0.3	0.5	0.9	1.4	0.1
Q4	0.5	0.5	0.1	0.1	–0.1	–0.1	–	–0.2	–0.2	0.2
2001 Q1	0.3	0.5	0.2	0.2	–0.8	–	–0.2	–1.8	0.6	–0.7
Q2	–	0.4	0.1	–0.3	–0.1	–0.4	–0.3	–1.0	..	0.4

Percentage change on previous month		
	ILKG	ILKQ	ILLA
2000 Aug	0.7	0.4	–0.4
Sep	0.2	0.2	–0.5
Oct	–0.2	–	0.6
Nov	–0.3	–0.6	–
Dec	–0.6	0.1	0.3
2001 Jan	–0.9	1.1	–1.2
Feb	–0.4	–0.4	0.2
Mar	–0.3	–0.1	0.4
Apr	–0.2	0.6	–0.1
May	–0.3	..	–
Jun	–0.8	..	0.6
Jul	–0.2	..	0.4
Aug	..	..	..

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Exports = Exports of goods and services

Sales = Retail Sales volume
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Earnings = Average Earnings (manufacturing), definitions of coverage and treatment vary among countries
Empl = Total Employment not seasonally adjusted

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	GDP	PFC	GFC	GFCF	ChgStk	Exports	less Imports	IoP[1]	Sales	CPI	PPI	Earnings[2]	Empl	Unempl
				Contribution to change in GDP										

Percentage change on a year earlier

	ILGD	HUCU	HUCV	HUCW	HUCX	HUCY	HUCZ	ILGX	ILHR	ILAB	ILAK	ILAT	ILIL	GADP
1995	1.6	0.8	0.6	–	0.6	0.3	0.9	3.0	0.1	-0.1	-0.7	2.9	–	3.1
1996	3.4	1.0	0.4	2.0	0.3	0.6	1.0	2.2	0.7	0.1	-1.7	2.6	0.5	3.4
1997	1.9	0.6	0.2	0.2	–	1.1	0.1	4.0	-1.9	1.7	0.6	2.8	1.0	3.4
1998	-1.1	0.1	0.3	-1.2	-0.6	-0.2	-0.6	-6.7	-5.5	0.7	-1.3	-0.8	-0.6	4.1
1999	0.8	0.7	0.6	-0.2	-0.2	0.1	0.2	1.0	-2.1	-0.3	-1.5	-0.7	-0.8	4.7
2000	1.5	0.3	0.6	0.2	0.1	1.2	0.8	5.2	-1.7	-0.7	0.1	1.7	-0.3	4.7
1998 Q2	0.7	1.3	0.3	-0.7	-0.6	-0.3	-0.6	-7.9	-2.4	0.4	-1.9	-0.3	-0.7	4.1
Q3	-0.8	1.0	0.3	-1.8	-0.9	-0.2	-0.6	-7.9	-3.8	-0.2	-1.8	-1.8	-0.9	4.2
Q4	-1.4	0.6	0.3	-1.5	-0.8	-0.6	-0.6	-6.7	-5.2	0.5	-2.0	-0.7	-1.0	4.4
1999 Q1	-0.4	0.2	0.5	-0.7	-0.4	-0.4	-0.3	-3.7	-4.2	-0.1	-2.1	-0.7	-1.2	4.6
Q2	1.0	1.1	0.5	-0.2	-0.2	-0.1	0.1	0.3	-2.1	-0.3	-1.8	-1.1	-1.1	4.7
Q3	2.1	1.6	0.7	-0.1	-0.1	0.3	0.3	2.7	-1.4	–	-1.4	-0.4	-0.7	4.7
Q4	0.4	-0.2	0.6	0.1	–	0.7	0.8	5.1	-0.4	-1.0	-0.6	-0.5	-0.2	4.7
2000 Q1	2.4	1.0	0.6	0.2	–	1.2	0.7	4.3	-2.9	-0.7	-0.1	2.0	-0.5	4.8
Q2	1.0	–	0.6	-0.3	0.1	1.4	0.8	6.6	-1.8	-0.7	0.4	2.3	-0.4	4.7
Q3	0.3	-0.7	0.5	–	0.1	1.2	0.8	5.3	-1.1	-0.7	0.2	1.6	-0.4	4.7
Q4	2.5	0.8	0.6	0.8	0.2	1.0	0.9	4.4	-1.1	-0.5	–	1.1	0.2	4.8
2001 Q1	-0.1	-0.2	0.4	0.2	0.1	0.2	0.7	0.6	3.0	-0.1	-0.3	0.5	0.5	4.8
Q2	..	..	..	..	..	..	..	-5.2	-0.7	-0.5	-0.6	..	-0.4	4.9
2000 Aug	..	..	..	..	..	..	..	6.8	-1.1	-0.8	0.3	2.1	-0.4	4.6
Sep	..	..	..	..	..	..	..	3.5	-1.1	-0.8	0.1	1.4	-0.5	4.7
Oct	..	..	..	..	..	..	..	5.0	-1.1	-0.9	–	1.1	0.1	4.7
Nov	..	..	..	..	..	..	..	3.3	-1.1	-0.5	-0.1	-0.2	0.3	4.8
Dec	..	..	..	..	..	..	..	4.9	-1.1	-0.2	–	2.3	0.2	4.9
2001 Jan	..	..	..	..	..	..	..	1.4	2.2	0.1	-0.2	0.1	0.1	4.9
Feb	..	..	..	..	..	..	..	1.8	4.5	-0.1	-0.3	0.8	0.7	4.7
Mar	..	..	..	..	..	..	..	-1.4	2.2	-0.4	-0.4	0.5	0.5	4.7
Apr	..	..	..	..	..	..	..	-3.9	–	-0.4	-0.6	–	-0.2	4.8
May	..	..	..	..	..	..	..	-4.8	-1.1	-0.5	-0.5	-0.1	-0.4	4.9
Jun	..	..	..	..	..	..	..	-6.9	-1.1	-0.5	-0.7	..	-0.6	4.9
Jul	..	..	..	..	..	..	..	..	..	..	-0.7	..	-0.6	5.0
Aug	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter

	ILGN	HUDA	HUDB	HUDC	HUDD	HUDE	HUDF	ILHH	ILIB				ILIV	
1998 Q2	0.1	0.2	0.2	-0.2	-0.2	-0.1	-0.3	-4.3	-2.4				2.1	
Q3	-1.1	0.3	–	-1.2	-0.2	-0.1	–	0.3	-0.7				-0.4	
Q4	0.1	-0.1	0.1	0.2	-0.1	-0.1	-0.2	-1.1	-1.8				-1.1	
1999 Q1	0.5	-0.1	0.2	0.5	0.1	–	0.2	1.4	0.7				-1.8	
Q2	1.5	1.1	0.2	0.3	–	0.2	0.2	-0.3	-0.4				2.2	
Q3	-0.1	0.7	0.2	-1.0	-0.1	0.3	0.2	2.7	–				–	
Q4	-1.5	-1.9	0.1	0.4	-0.1	0.3	0.3	1.2	-0.7				-0.6	
2000 Q1	2.4	1.1	0.2	0.6	0.2	0.5	~	0.6	-1.8				-2.1	
Q2	0.1	0.1	0.2	-0.3	0.1	0.4	0.3	1.9	0.8				2.3	
Q3	-0.7	–	0.1	-0.7	–	–	0.1	1.5	0.7				–	
Q4	0.7	-0.3	0.2	1.2	–	0.1	0.5	0.3	-0.7				–	
2001 Q1	-0.2	–	–	–	–	-0.4	-0.2	-3.1	2.2				-1.8	
Q2	..	..	..	..	..	..	..	-4.0	-2.9				1.4	

Percentage change on previous month

								ILKH	ILKR				ILLB	
2000 Aug								3.3	–				-0.1	
Sep								-3.5	-1.1				–	
Oct								1.3	–				0.4	
Nov								-0.5	–				-0.1	
Dec								1.7	–				-1.0	
2001 Jan								-3.7	2.2				-1.2	
Feb								0.6	1.1				-0.1	
Mar								-2.0	-2.2				0.4	
Apr								-2.0	-2.2				0.7	
May								-1.0	–				0.8	
Jun								-0.7	1.1				-0.2	
Jul								..	..				-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
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

	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	manufact-ures	goods

Percentage change on a year earlier

	ILIZ	ILJA	ILJB	ILJC	ILJD	ILJE	ILJF	ILJG	ILJH	ILJI	ILJJ	ILJK	ILJL	ILJM
1992	4.3	3.4	8.6	5.3	4.3	8.2	4.2	3.7	5.9	5.1	4.2	7.7	4.8	4.6
1993	4.8	2.3	15.3	4.0	1.0	12.5	4.0	2.3	9.1	3.3	0.9	10.3	4.4	3.7
1994	12.0	9.9	20.0	11.9	12.3	11.0	10.6	9.3	14.1	10.8	10.9	10.7	12.0	10.7
1995	9.6	9.9	8.6	10.9	10.4	12.4	8.9	9.4	7.8	9.9	8.9	12.2	10.3	9.4
1996	6.6	6.2	7.8	7.3	7.7	6.6	6.6	6.3	7.7	6.6	7.3	4.9	6.9	6.6
1997	11.4	11.8	10.2	10.6	11.1	9.4	10.4	10.9	9.2	9.4	9.7	8.9	11.0	9.9
1998	6.0	6.2	5.3	6.7	9.4	−0.5	5.3	5.6	4.7	5.8	8.1	−0.2	6.3	5.6
1999	6.3	5.8	8.1	7.9	10.1	1.4	5.7	5.4	6.7	6.6	8.8	0.3	7.1	6.2
2000	13.6	12.2	18.4	14.4	13.8	16.6	12.7	11.8	15.1	13.3	12.5	15.8	14.1	13.0
1995 Q2	10.0	10.3	8.9	12.2	11.6	13.8	9.6	10.2	7.8	11.3	10.4	13.7	11.1	10.4
Q3	8.5	9.1	6.9	10.5	9.6	12.9	7.8	8.2	6.7	9.3	8.0	12.7	9.5	8.5
Q4	6.8	6.9	6.3	7.4	6.3	10.2	6.2	6.0	6.6	6.4	5.1	9.7	7.1	6.3
1996 Q1	5.6	5.3	6.6	7.5	7.3	8.1	5.4	4.9	6.8	6.5	6.4	6.7	6.5	5.9
Q2	5.6	5.1	7.1	6.2	6.2	5.9	5.5	4.8	7.2	5.4	5.9	4.0	5.9	5.4
Q3	6.9	6.5	7.9	7.6	8.5	5.5	7.1	6.8	7.9	6.8	8.1	3.5	7.2	6.9
Q4	8.1	7.8	9.4	8.1	8.6	7.0	8.5	8.5	8.7	7.6	8.6	5.3	8.1	8.1
1997 Q1	8.4	7.9	10.3	8.0	8.0	8.2	8.0	7.5	9.4	7.5	7.5	7.3	8.2	7.7
Q2	12.4	12.9	10.6	11.4	12.2	9.5	11.6	12.3	9.5	10.0	10.4	9.1	11.9	10.8
Q3	13.1	13.9	10.3	11.6	12.3	10.0	11.8	12.8	9.1	10.2	10.4	9.6	12.3	11.0
Q4	11.7	12.3	9.7	11.5	12.0	10.0	10.4	11.1	8.7	10.1	10.4	9.4	11.6	10.3
1998 Q1	10.6	11.3	8.1	10.9	13.0	5.5	9.9	11.0	7.1	9.7	11.3	5.6	10.7	9.8
Q2	6.4	6.5	6.3	7.1	9.3	1.3	5.8	6.0	5.4	6.4	8.2	1.7	6.8	6.1
Q3	3.9	3.8	4.2	4.9	7.8	−2.8	3.3	3.2	3.7	4.3	6.8	−2.5	4.4	3.8
Q4	2.9	3.0	2.6	4.0	7.7	−5.8	2.3	2.3	2.4	3.0	6.3	−5.6	3.5	2.7
1999 Q1	2.5	2.5	2.4	4.2	7.1	−3.6	1.9	1.7	2.5	3.2	6.0	−4.3	3.4	2.6
Q2	4.0	3.7	4.9	6.4	8.9	−0.7	3.7	3.5	4.4	5.1	7.6	−1.9	5.2	4.4
Q3	7.8	7.1	10.3	9.1	11.1	2.9	7.3	7.0	8.2	7.6	9.6	1.6	8.4	7.5
Q4	10.9	9.9	14.7	11.9	13.5	7.1	10.0	9.4	11.6	10.3	11.8	5.8	11.4	10.2
2000 Q1	14.6	13.5	18.1	14.2	15.0	11.7	13.5	13.2	14.3	12.9	13.7	10.5	14.4	13.2
Q2	14.7	13.3	19.6	15.1	14.9	15.9	13.5	12.6	15.8	13.7	13.3	14.9	14.9	13.6
Q3	13.7	12.0	19.1	15.5	14.2	19.7	12.7	11.5	15.9	14.3	12.8	19.0	14.6	13.5
Q4	11.5	9.9	16.9	13.0	11.1	19.1	11.0	9.7	14.5	12.2	10.1	18.7	12.3	11.6
2001 Q1	..	6.1	..	..	..	..	..	..	..	..	..	..	..	..
Q2	..	..	..	..	..	..	..	..	..	..	..	..	..	..

Percentage change on previous quarter

	ILJN	ILJO	ILJP	ILJQ	ILJR	ILJS	ILJT	ILJU	ILJV	ILJW	ILJX	ILJY	ILJZ	ILKA
1995 Q2	1.1	0.9	1.6	2.2	1.9	3.3	1.0	0.8	1.6	2.4	2.0	3.2	1.7	1.7
Q3	1.0	0.9	1.5	1.1	0.7	2.2	0.9	0.6	1.6	0.9	0.5	2.0	1.1	0.9
Q4	1.5	1.6	1.3	1.8	2.1	1.1	1.4	1.3	1.6	1.3	1.5	0.8	1.7	1.4
1996 Q1	1.9	1.9	2.0	2.1	2.4	1.3	2.0	2.1	1.8	1.7	2.2	0.5	2.0	1.9
Q2	1.0	0.7	2.1	1.0	0.9	1.2	1.1	0.7	2.0	1.3	1.5	0.6	1.0	1.2
Q3	2.3	2.2	2.3	2.5	2.8	1.8	2.4	2.5	2.2	2.3	2.6	1.6	2.4	2.3
Q4	2.7	2.7	2.7	2.3	2.2	2.5	2.8	2.9	2.4	2.1	2.0	2.5	2.5	2.4
1997 Q1	2.2	2.0	2.8	2.0	1.8	2.5	1.5	1.2	2.4	1.6	1.2	2.5	2.1	1.5
Q2	4.7	5.4	2.4	4.1	4.8	2.4	4.4	5.3	2.2	3.7	4.3	2.2	4.4	4.1
Q3	2.9	3.1	2.0	2.8	2.9	2.3	2.6	2.9	1.9	2.4	2.6	2.1	2.8	2.5
Q4	1.5	1.3	2.2	2.1	2.0	2.5	1.5	1.4	2.0	2.1	1.9	2.3	1.8	1.8
1998 Q1	1.1	1.1	1.3	1.4	2.6	−1.7	1.0	1.0	0.9	1.2	2.1	−1.1	1.3	1.1
Q2	0.8	0.9	0.6	0.6	1.4	−1.7	0.6	0.6	0.6	0.6	1.4	−1.6	0.7	0.6
Q3	0.4	0.6	−	0.7	1.5	−1.8	0.2	0.2	0.2	0.4	1.2	−2.2	0.5	0.3
Q4	0.5	0.4	0.6	1.3	1.9	−0.7	0.5	0.5	0.6	0.8	1.5	−0.9	0.9	0.7
1999 Q1	0.7	0.6	1.2	1.7	2.0	0.6	0.6	0.5	1.1	1.4	1.8	0.3	1.2	1.0
Q2	2.3	2.0	3.1	2.7	3.2	1.2	2.4	2.3	2.5	2.5	3.0	0.9	2.5	2.4
Q3	4.1	3.8	5.1	3.2	3.6	1.8	3.7	3.6	3.9	2.7	3.1	1.4	3.6	3.2
Q4	3.4	3.0	4.6	3.9	4.0	3.4	3.0	2.8	3.7	3.4	3.5	3.2	3.6	3.2
2000 Q1	4.0	4.0	4.1	3.8	3.4	4.9	3.8	3.9	3.6	3.8	3.4	4.8	3.9	3.8
Q2	2.4	1.8	4.4	3.5	3.1	5.0	2.4	1.8	3.8	3.2	2.6	4.9	3.0	2.8
Q3	3.2	2.7	4.7	3.5	3.0	5.1	3.0	2.6	4.0	3.2	2.6	5.0	3.3	3.1
Q4	1.4	1.1	2.7	1.7	1.3	3.0	1.5	1.1	2.4	1.5	1.1	2.9	1.6	1.5
2001 Q1	..	0.4	..	..	..	..	..	..	..	..	..	..	..	..
Q2	..	..	..	..	..	..	..	..	..	..	..	..	..	..

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

Final Expenditure Prices Index (Experimental) – August 2001

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> *Note that further development work is ongoing and the FEPI will be available only as an experimental index until this work has been completed.*

Summary

The annual rate of inflation for the FEPI increased from 2.3 per cent in July to 2.4 per cent in August, due to higher inflation for consumer prices outweighing lower inflation for investment prices.

The FEPI annual percentage change
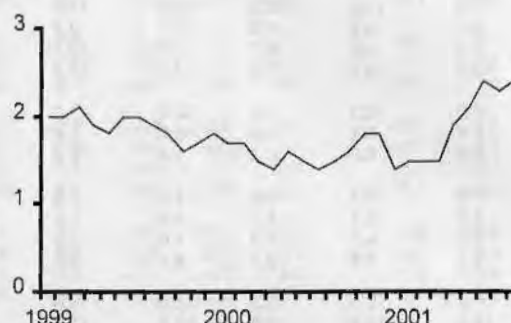
Table A

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

		ICP		IIP		IGP		INP		FEPI	
		Index	% change	Index	% change	Index	% change	Index	% change	Index	% change
2001	Mar	124.6	1.1	119.1	1.5	124.2	2.1	130.7	3.1	123.5	1.5
	Apr	125.6	1.5	119.8	2.1	125.7	2.4	132.4	3.6	124.5	1.9
	May	126.6	2.0	120.1	1.7	126.0	2.4	132.6	3.6	125.2	2.1
	Jun	126.9	2.2	120.8	2.2	127.1	3.2	133.0	3.6	125.7	2.4
	Jul	126.0	1.9	121.1	2.5	126.8	2.9	134.1	3.7	125.2	2.3
	Aug	126.5	2.3	121.2	1.9	127.0	2.9	134.7	3.9	125.6	2.4

The Index of Consumer Prices (ICP)

Consumer price inflation, as measured by the ICP, increased from 1.9 per cent in July to 2.3 per cent in August, the highest figure recorded since December 1998.

The largest upward effect came from fuels and lubricants for vehicles where petrol and oil prices fell by less this year than a year ago; the annual rate of inflation was less negative in August, at minus 4.4 per cent, than in July at minus 7.5 per cent.

Further large upward effects came from:

- Communication, where the annual rate of inflation was less negative in August, at minus 5.2 per cent, than in July at minus 8.6 per cent, due to changes in the costs of telephone services.

- Food, where the annual rate of inflation increased from 3.3 per cent in July to 3.9 per cent in August, largely due to price increases for fresh vegetables (particularly lettuces) compared with falls a year ago.

- Transport services, where the annual rate of inflation increased from 14.9 per cent in July to 16.8 per cent in August, due to higher air fares.

The ICP annual percentage change
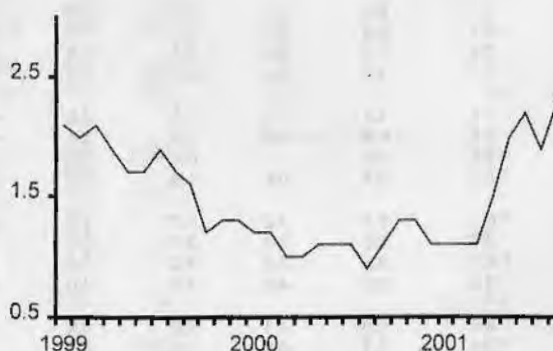
The largest downward effect came from restaurants and hotels where the annual rate of inflation fell from 4.0 per cent in July to 3.7 per cent in August; the cost of accommodation services rose by less than a year ago.

The Index of Investment Prices (IIP)

Investment price inflation, as measured by the IIP, fell from 2.5 per cent in July to 1.9 per cent in August. Lower inflation was recorded for both equipment and construction. The largest downward effect came from Other Machinery and Equipment, where the annual rate of inflation was more negative in August, at minus 2.8 per cent, than in July at minus 1.7 per cent.

The IIP annual percentage change
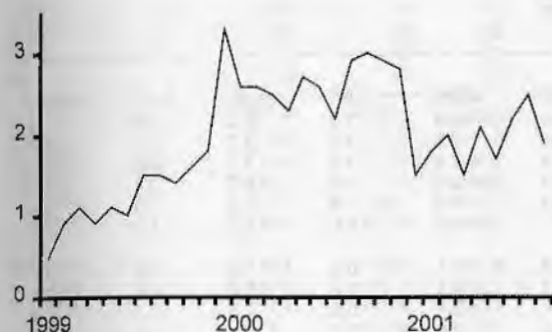
The Index of Government Prices - IGP

The rate of inflation for the IGP was 2.9 per cent in August, the same as in the previous month.

The IGP annual percentage change
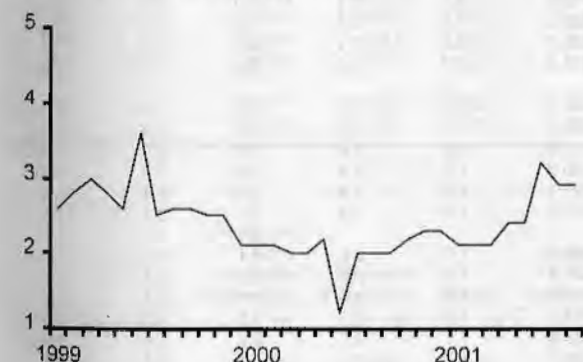
Comparison between FEPI and other inflation measures

Table B

Measures of Inflation (annual percentage changes)

		FEPI	RPIX	HICP	ICP(FEPI)	PPI
2001	Mar	1.5	1.9	1.0	1.1	1.0
	Apr	1.9	2.0	1.1	1.5	0.6
	May	2.1	2.4	1.7	2.0	0.7
	Jun	2.4	2.4	1.7	2.2	0.4
	Jul	2.3	2.2	1.4	1.9	0.0
	Aug	2.4	2.6	1.8	2.3	0.3

NOTES

1. The headline measure of inflation is the Retail Prices Index (RPI). The RPI should be used as the main indicator of inflation affecting average households.

2. The Final Expenditure Prices Index (FEPI) is a measure of the change in the prices paid by UK households, businesses, government and non-profit institutions for final purchases of goods and services. Intermediate purchases by businesses are excluded. The FEPI is made up of four components:

> The Index of Consumer Prices (ICP)
> The Index of Investment Prices (IIP)
> The Index of Government Prices (IGP)
> The Index of Non-Profit Institutions Prices (INP).

3. The ICP measures inflation affecting all consumers in the UK. The price indicators used in the ICP are taken almost entirely from the Retail Prices Index (RPI).

4. The IIP is a measure of the change in the prices paid for capital goods by businesses and by government. It also covers new construction projects and dwellings built for consumers, businesses and government. The price indicators used are mainly Producer Price Indices (PPIs), implied import deflators, construction output price indices and average house price indicators.

5. The IGP measures inflation affecting government. It covers expenditure by central and local government on pay and on procurement. The price indicators used are mainly Average Earnings Indices (to reflect labour costs), PPIs and RPIs (to reflect the cost of goods consumed by government).

6. The INP measures inflation affecting non-profit institutions serving households (NPISHs); mainly universities, higher and further education colleges and charities. The price indicators used are mainly a higher education pay and prices index and an appropriate component of the Average Earnings Index.

7. The IGP(P) is a variant version of the IGP which incorporates government output prices for a number of areas of government expenditure (which comprise around 65% of general government final consumption expenditure) and therefore reflects movements in productivity. The most significant expenditure items covered by government output prices are health, education, local authority personal social services and social security administration. The IGP(P) feeds into a variant version of the FEPI, the FEPI(P), which differs from the FEPI solely because of the inclusion of government output prices. The IGP(P) and FEPI(P) are only available as annual indices.

8. An article providing further details about the FEPI appears on the National Statistics website:
[http://www.statistics.gov.uk/themes/economy/Articles/PricesAndInflation/FEPI.asp].

9. FEPI data are available in computer readable form from the National Statistics website:
[http://www.statistics.gov.uk/press_release/experimental.asp

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Final Expenditure Prices Index (FEPI)
Summary Table

Experimental price indices

	Index of Consumer Prices ICP	Index of Investment Prices IIP	Index of Government Prices IGP	Index of NPISH Prices INP[1]	Final Expenditure Prices Index FEPI	Annual percentage changes				
						ICP	IIP	IGP	INP	FEPI
January 1992=100										
Weights										
1998	601	178	198	23	1000					
1999	607	180	190	24	1000					
2000	605	186	185	24	1000					
2001	602	188	185	24	1000					
	VASH	CUSK	CUSO	ZIUS	CUSP	MKVB	CGBF	CGBJ	ZIUT	CGBK
1997 Jul	117.5	113.4	115.9	119.2	116.2	2.6	1.3	2.2	2.8	2.3
Aug	118.1	113.6	115.5	119.9	116.6	2.6	1.2	1.7	3.1	2.2
Sep	118.6	113.7	115.8	120.0	116.9	2.4	1.6	1.7	3.0	2.1
Oct	118.7	113.4	115.4	119.3	116.9	2.5	0.9	1.7	3.1	2.1
Nov	118.8	113.5	115.4	119.0	116.9	2.5	1.4	1.6	2.9	2.1
Dec	118.9	113.2	116.1	119.5	117.1	2.3	0.8	1.6	3.0	1.9
1998 Jan	118.4	113.2	116.2	119.6	116.8	2.1	0.8	1.6	3.0	1.7
Feb	119.0	112.8	116.0	119.7	117.1	2.3	0.2	1.6	2.8	1.8
Mar	119.5	113.2	115.7	119.6	117.4	2.4	0.5	1.6	2.7	1.9
Apr	120.2	113.7	117.0	120.5	118.2	2.6	0.7	2.2	3.1	2.2
May	120.8	113.7	117.3	120.9	118.6	2.7	0.8	2.4	3.3	2.3
Jun	120.7	114.1	117.4	121.2	118.6	2.4	1.0	2.5	3.5	2.2
Jul	120.0	114.0	117.8	122.1	118.3	2.1	0.5	1.6	2.4	1.8
Aug	120.5	113.9	117.9	122.6	118.6	2.0	0.3	2.1	2.3	1.7
Sep	121.1	114.0	118.1	122.7	119.0	2.1	0.3	2.0	2.2	1.8
Oct	121.2	113.9	117.9	122.4	119.0	2.1	0.4	2.2	2.6	1.8
Nov	121.3	113.9	118.1	122.3	119.1	2.1	0.4	2.3	2.8	1.9
Dec	121.6	113.4	118.8	122.9	119.4	2.3	0.2	2.3	2.8	2.0
1999 Jan	120.9	113.8	119.2	123.5	119.1	2.1	0.5	2.6	3.3	2.0
Feb	121.4	113.8	119.2	123.5	119.4	2.0	0.9	2.8	3.2	2.0
Mar	122.0	114.4	119.2	123.5	119.9	2.1	1.1	3.0	3.3	2.1
Apr	122.5	114.7	120.3	124.4	120.5	1.9	0.9	2.8	3.2	1.9
May	122.8	115.0	120.4	124.8	120.7	1.7	1.1	2.6	3.2	1.8
Jun	122.8	115.2	121.6	125.5	121.0	1.7	1.0	3.6	3.5	2.0
Jul	122.3	115.7	120.8	126.1	120.7	1.9	1.5	2.5	3.3	2.0
Aug	122.5	115.6	121.0	126.7	120.8	1.7	1.5	2.6	3.3	1.9
Sep	123.0	115.6	121.2	126.7	121.2	1.6	1.4	2.6	3.3	1.8
Oct	122.7	115.7	120.9	126.4	120.9	1.2	1.6	2.5	3.3	1.6
Nov	122.9	115.9	121.1	126.5	121.1	1.3	1.8	2.5	3.4	1.7
Dec	123.2	117.1	121.3	126.7	121.6	1.3	3.3	2.1	3.1	1.8
2000 Jan	122.4	116.8	121.7	126.7	121.1	1.2	2.6	2.1	2.6	1.7
Feb	122.9	116.8	121.7	126.8	121.4	1.2	2.6	2.1	2.7	1.7
Mar	123.2	117.3	121.6	126.8	121.7	1.0	2.5	2.0	2.7	1.5
Apr	123.7	117.3	122.7	127.8	122.2	1.0	2.3	2.0	2.7	1.4
May	124.1	118.1	123.0	128.0	122.6	1.1	2.7	2.2	2.6	1.6
Jun	124.2	118.2	123.1	128.4	122.8	1.1	2.6	1.2	2.3	1.5
Jul	123.6	118.2	123.2	129.3	122.4	1.1	2.2	2.0	2.5	1.4
Aug	123.6	118.9	123.4	129.7	122.6	0.9	2.9	2.0	2.4	1.5
Sep	124.3	119.1	123.6	129.8	123.1	1.1	3.0	2.0	2.4	1.6
Oct	124.3	119.1	123.6	129.6	123.1	1.3	2.9	2.2	2.5	1.8
Nov	124.5	119.2	123.9	129.7	123.3	1.3	2.8	2.3	2.5	1.8
Dec	124.5	118.8	124.1	130.0	123.3	1.1	1.5	2.3	2.6	1.4
2001 Jan	123.7	118.9	124.2	130.4	122.9	1.1	1.8	2.1	2.9	1.5
Feb	124.2	119.1†	124.2	130.5	123.2	1.1	2.0†	2.1	2.9	1.5
Mar	124.6	119.1	124.2	130.7	123.5	1.1	1.5	2.1	3.1	1.5
Apr	125.6	119.8	125.7†	132.4†	124.5†	1.5	2.1	2.4†	3.6†	1.9†
May	126.6	120.1	126.0	132.6	125.2	2.0	1.7	2.4	3.6	2.1
Jun	126.9	120.8	127.1	133.0	125.7	2.2	2.2	3.2	3.6	2.4
Jul	126.0	121.1	126.8	134.1	125.2	1.9	2.5	2.9	3.7	2.3
Aug	126.5	121.2	127.0	134.7	125.6	2.3	1.9	2.9	3.9	2.4

† indicates earliest revision.

1 NPISH = Non-profit institutions serving households.

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Experimental price indices

	Food and Non-alcoholic Beverages	Alcoholic Beverages	Tobacco	Clothing and Footwear	Actual Rentals for Housing	Housing Goods and Services	Electricity, Gas and Other Household Fuels	Furnishings, Household Equipment, etc.	Health	Purchase and Operation of Vehicles	Fuels and Lubricants for Vehicles
January 1992=100											
COICOP Division	01	02	02	03	04	04	04	05	06	07	07
Weights											
1998	124	19	29	69	46	28	38	64	17	80	30
1999	118	19	28	68	46	29	34	64	17	85	30
2000	115	19	28	66	47	30	30	64	17	85	30
2001	112	20	28	66	47	30	28	64	17	82	30
	VARP	VARQ	VARR	VARS	VART	VARU	VARV	VARW	VARX	VARY	VARZ
1999 Aug	111.8	115.7	184.6	99.6	146.0	137.3	97.5	112.0	153.4	115.6	171.7
Sep	111.8	115.5	184.7	103.5	146.3	137.1	97.8	113.0	153.7	115.2	171.5
Oct	111.7	115.7	184.6	102.6	146.5	137.1	97.9	112.0	154.7	114.6	173.0
Nov	112.2	114.7	184.7	102.8	146.6	137.6	98.2	113.5	155.0	113.8	172.3
Dec	112.4	113.6	184.7	102.0	146.9	137.9	98.9	115.5	155.2	113.0	176.7
2000 Jan	112.3	115.8	184.8	95.2	147.2	138.8	98.7	109.9	156.2	114.1	176.3
Feb	112.2	115.7	186.7	98.4	147.2	139.0	98.8	110.9	156.5	114.2	176.2
Mar	111.5	115.8	186.8	99.8	147.2	138.9	98.8	112.1	156.6	114.7	182.7
Apr	111.1	115.3	198.4	100.8	149.8	134.6	97.6	112.0	157.9	115.0	186.6
May	112.2	115.4	198.6	100.7	149.9	134.7	96.9	112.4	158.2	115.5	185.7
Jun	112.4	115.5	198.9	100.0	150.2	134.7	96.4	111.9	158.4	114.9	194.9
Jul	113.4	115.1	199.0	93.0	150.7	135.0	96.4	109.8	159.9	114.1	196.5
Aug	112.5	114.9	200.2	94.6	150.9	135.5	96.4	110.5	160.2	113.5	188.1
Sep	112.7	115.4	201.5	98.0	151.2	135.7	97.2	112.2	160.4	113.2	191.7
Oct	112.9	115.2	201.6	98.0	151.6	136.0	97.6	111.0	161.7	112.8	186.8
Nov	113.5	114.9	201.6	98.5	151.8	136.2	97.4	112.4	161.8	112.3	191.6
Dec	113.7	113.6	201.6	97.8	152.0	136.7	97.2	114.2	162.3	112.0	188.3
2001 Jan	113.9	115.7	201.6	91.7	152.2	136.9	96.8	109.8	164.1	113.6	180.4
Feb	114.0	116.0	203.6	94.4	152.2	137.5	96.9	111.3	164.2	113.8	181.1
Mar	115.3	116.0	206.4	96.0	152.3	137.3	96.8	112.9	165.6	114.3	175.8
Apr	115.8	116.2	207.2	95.1	155.5	140.3	98.2	112.4	167.8	114.8	177.5
May	118.8	115.9	207.3	95.2	155.8	140.5	98.4	113.2	168.6	115.5	182.7
Jun	119.4	116.5	207.3	95.1	155.9	140.9	98.5	113.0	168.1	116.0	184.3
Jul	117.1	116.3	207.4	89.3	156.0	139.9	98.4	110.9	170.0	116.5	181.7
Aug	116.9	116.7	207.4	91.6	156.0	140.8	98.3	111.9	170.2	116.6	179.8

Annual Percentage Changes

	Food and Non-alcoholic Beverages	Alcoholic Beverages	Tobacco	Clothing and Footwear	Actual Rentals for Housing	Housing Goods and Services	Electricity, Gas and Other Household Fuels	Furnishings, Household Equipment, etc.	Health	Purchase and Operation of Vehicles	Fuels and Lubricants for Vehicles
COICOP Division	01	02	02	03	04	04	04	05	06	07	07
	VASK	VASL	VASM	VASN	VASO	VASP	MKUP	MKUQ	MKUR	MKUS	MKUT
1999 Aug	−1.1	1.0	13.2	−2.3	3.1	2.9	0.4	0.4	7.3	−1.4	10.4
Sep	−0.8	0.6	13.2	−2.9	3.0	2.6	0.6	0.5	7.5	−1.9	10.9
Oct	−1.1	0.6	13.0	−2.7	2.9	2.4	0.4	0.4	6.0	−1.9	12.2
Nov	−0.4	1.0	13.0	−3.2	2.8	2.5	0.8	0.3	6.2	−2.0	12.5
Dec	−1.1	0.4	9.8	−3.4	2.8	2.8	1.7	−0.3	6.3	−1.9	17.1
2000 Jan	−1.7	0.6	7.4	−3.4	3.1	3.2	1.5	−0.4	6.8	−2.3	17.9
Feb	−1.9	0.2	8.5	−2.4	3.2	3.5	1.6	−1.0	6.8	−2.2	18.3
Mar	−1.9	0.5	4.9	−2.6	3.1	3.3	1.4	−1.6	6.8	−1.9	16.1
Apr	−1.7	0.3	9.8	−1.8	3.0	−1.3	0.3	−0.3	5.5	−2.0	12.7
May	−1.3	0.1	9.9	−2.4	3.0	−1.2	−0.2	−1.1	5.5	−1.4	12.3
Jun	−0.7	−0.5	9.8	−3.0	3.2	−1.6	−0.7	−0.9	5.5	−1.8	18.3
Jul	1.0	−0.2	8.0	−5.3	3.4	−1.5	−1.0	−0.8	4.4	−1.9	17.6
Aug	0.6	−0.7	8.5	−5.0	3.4	−1.3	−1.1	−1.3	4.4	−1.8	9.6
Sep	0.8	−0.1	9.1	−5.3	3.3	−1.0	−0.6	−0.7	4.4	−1.7	11.8
Oct	1.1	−0.4	9.2	−4.5	3.5	−0.8	−0.3	−0.9	4.5	−1.6	8.0
Nov	1.2	0.2	9.1	−4.2	3.5	−1.0	−0.8	−1.0	4.4	−1.3	11.2
Dec	1.2	−	9.1	−4.1	3.5	−0.9	−1.7	−1.1	4.6	−0.9	6.6
2001 Jan	1.4	−0.1	9.1	−3.7	3.4	−1.4	−1.9	−0.1	5.1	−0.4	2.3
Feb	1.6	0.3	9.1	−4.1	3.4	−1.1	−1.9	0.4	4.9	−0.4	2.8
Mar	3.4	0.2	10.5	−3.8	3.5	−1.2	−2.0	0.7	5.7	−0.3	−3.8
Apr	4.2	0.8	4.4	−5.7	3.8	4.2	0.6	0.4	6.3	−0.2	−4.9
May	5.9	0.4	4.4	−5.5	3.9	4.3	1.5	0.7	6.6	−	−1.6
Jun	6.2	0.9	4.2	−4.9	3.8	4.6	2.2	1.0	6.1	1.0	−5.4
Jul	3.3	1.0	4.2	−4.0	3.5	3.6	2.1	1.0	6.3	2.1	−7.5
Aug	3.9	1.6	3.6	−3.2	3.4	3.9	2.0	1.3	6.2	2.7	−4.4

Final Expenditure Prices Index (FEPI)
Index of Consumer Prices (ICP)
Experimental price indices

	Transport Services	Communication	Major Durables for Recreation and Culture	Other Recreation and Culture	Education	Restaurants and Hotels	Miscellaneous Goods and Services	Index of Consumer Prices ICP	Of which: goods	Of which: services
January 1992=100										
COICOP Division	07	08	09	09	10	11	12			
Weights										
1998	38	22	29	99	15	126	129	1000	556 .	444
1999	39	22	31	100	16	126	128	1000	554	446
2000	41	22	34	100	16	126	130	1000	548	452
2001	42	23	35	101	15	129	131	1000	544	456
	VASA	VASB	VASC	VASD	VASE	VASF	VASG	VASH	VASI	VASJ
1999 Jul	130.1	84.8	82.9	120.5	139.0	134.7	134.7	122.3	114.1	133.5
Aug	130.2	85.0	81.8	120.4	139.0	135.0	134.7	122.5	114.4	133.6
Sep	130.0	84.5	81.2	120.4	145.0	135.2	135.0	123.0	114.8	134.1
Oct	129.5	83.2	80.7	120.7	146.5	135.5	133.8	122.7	114.5	133.9
Nov	129.6	83.3	80.3	120.8	146.5	135.6	134.3	122.9	114.5	134.3
Dec	129.7	83.8	80.3	120.8	146.5	135.7	134.8	123.2	114.8	134.5
2000 Jan	130.3	83.6	79.6	120.5	146.5	136.2	135.1	122.4	113.2	135.0
Feb	130.4	83.2	79.4	120.9	146.5	136.5	135.3	122.9	113.8	135.2
Mar	130.4	83.1	78.6	121.1	146.5	136.9	135.7	123.2	114.2	135.5
Apr	132.7	82.5	78.6	121.6	146.5	137.7	135.5	123.7	114.7	136.1
May	133.1	82.1	78.5	122.0	146.5	138.6	136.0	124.1	114.9	136.6
Jun	133.5	81.9	77.2	122.0	146.5	139.0	136.3	124.2	114.9	137.0
Jul	134.5	82.8	76.2	121.7	146.5	139.6	136.0	123.6	113.6	137.3
Aug	135.1	81.2	76.5	121.7	146.5	140.3	136.3	123.6	113.4	137.6
Sep	134.7	80.6	76.0	122.3	150.5	140.7	136.9	124.3	114.3	138.0
Oct	135.4	80.3	75.6	122.4	153.9	141.0	136.9	124.3	114.0	138.4
Nov	135.3	80.4	75.2	121.8	153.9	141.3	137.3	124.5	114.4	138.5
Dec	135.4	79.4	74.4	121.9	153.9	141.5	137.3	124.5	114.3	138.5
2001 Jan	137.0	77.1	73.2	121.6	153.9	141.7	137.9	123.7	112.6	139.0
Feb	133.4	76.2	73.8	122.1	153.9	142.0	138.5	124.2	113.5	138.9
Mar	134.3	75.0	73.8	122.2	153.9	142.6	138.5	124.6	114.2	139.1
Apr	144.1	74.7	73.3	122.9	153.9	143.6	139.8	125.6	114.3	141.3
May	147.2	75.0	73.8	123.2	153.9	144.2	140.6	126.6	115.4	142.1
Jun	147.4	74.9	73.5	123.4	153.9	144.7	141.0	126.9	115.6	142.5
Jul	154.8	75.7	73.5	123.0	153.9	145.2	139.2	126.0	113.8	143.0
Aug	157.8	77.0	73.1	123.4	153.9	145.5	139.5	126.5	114.2	143.7

Annual Percentage Changes

	Transport Services	Communication	Major Durables for Recreation and Culture	Other Recreation and Culture	Education	Restaurants and Hotels	Miscellaneous Goods and Services	Index of Consumer Prices ICP	Of which: goods	Of which: services
COICOP Division	07	08	09	09	10	11	12			
	MKUU	MKUV	MKUW	MKUX	MKUY	MKUZ	MKVA	MKVB	MKVC	MKVD
1999 Aug	2.8	−1.8	−9.2	1.3	5.7	3.4	4.2	1.7	0.2	3.6
Sep	2.8	−2.3	−9.1	1.0	5.4	3.2	4.4	1.6	−	3.6
Oct	3.0	−3.8	−8.9	1.0	5.4	3.2	2.5	1.2	−0.1	3.0
Nov	3.0	−3.6	−9.3	1.0	5.4	3.0	2.4	1.3	−0.2	3.1
Dec	3.1	−3.0	−9.0	0.9	5.4	2.8	2.5	1.3	−0.3	3.1
2000 Jan	2.8	−3.2	−8.5	0.8	5.4	2.9	3.1	1.2	−0.4	3.3
Feb	2.4	−3.7	−8.0	0.9	5.4	2.9	3.0	1.2	−0.4	3.3
Mar	2.4	−3.8	−8.4	0.7	5.4	3.0	3.0	1.0	−0.8	3.3
Apr	3.1	−4.2	−7.7	0.6	5.4	3.1	2.0	1.0	−0.4	2.8
May	3.0	−4.0	−7.6	0.7	5.4	3.4	2.3	1.1	−0.6	2.9
Jun	2.9	−3.9	−8.2	0.8	5.4	3.3	2.3	1.1	−0.3	3.0
Jul	3.4	−2.4	−8.1	1.0	5.4	3.6	1.0	1.1	−0.4	2.8
Aug	3.8	−4.5	−6.5	1.1	5.4	3.9	1.2	0.9	−0.9	3.0
Sep	3.6	−4.6	−6.4	1.6	3.8	4.1	1.4	1.1	−0.4	2.9
Oct	4.6	−3.5	−6.3	1.4	5.1	4.1	2.3	1.3	−0.4	3.4
Nov	4.4	−3.5	−6.4	0.8	5.1	4.2	2.2	1.3	−0.1	3.1
Dec	4.4	−5.3	−7.3	0.9	5.1	4.3	1.9	1.1	−0.4	3.0
2001 Jan	5.1	−7.8	−8.0	0.9	5.1	4.0	2.1	1.1	−0.5	3.0
Feb	2.3	−8.4	−7.1	1.0	5.1	4.0	2.4	1.1	−0.3	2.7
Mar	3.0	−9.7	−6.1	0.9	5.1	4.2	2.1	1.1	−	2.7
Apr	8.6	−9.5	−6.7	1.1	5.1	4.3	3.2	1.5	−0.3	3.8
May	10.6	−8.6	−6.0	1.0	5.1	4.0	3.4	2.0 ·	0.4	4.0
Jun	10.4	−8.5	−4.8	1.1	5.1	4.1	3.4	2.2	0.6	4.0
Jul	14.9	−8.6	−3.5	1.1	5.1	4.0	2.4	1.9	0.2	4.2
Aug	16.8	−5.2	−4.4	1.4	5.1	3.7	2.3	2.3	0.7	4.4

† indicates earliest revision.

Experimental price indices

	Equipment				Construction				Index of Investment Prices IIP
	Transport Equipment	Other Machinery and Equipment	Intangible Fixed Assets[1]	Total Equipment	Dwellings	Other Buildings and Structures	Transfer Costs of Land and Buildings	Total Construction	

January 1992=100

Weights

1998	97	392	33	521	181	263	35	479	1000
1999	98	389	32	519	178	260	42	481	1000
2000	99	382	32	513	179	267	41	487	1000
2001	109	376	28	514	174	263	49	486	1000

	CUSH	CUSG	MJYL	ZIWS	CUSJ	CUSF	CUSI	ZIWT	CUSK
1999 Aug	121.1	94.4	125.2	101.0	132.0	126.3	192.4	132.9	115.6
Sep	120.9	93.9	124.9	100.5	133.4	126.5	193.7	133.7	115.6
Oct	121.0	93.2	124.9	100.0	134.0	126.7	199.0	134.4	115.7
Nov	122.5	93.8	124.5	100.7	133.1	127.0	196.5	134.0	115.9
Dec	123.1	94.0	124.5	101.0	138.6	127.1	201.4	136.5	117.1
2000 Jan	121.7	93.6	125.9	100.5	137.3	127.3	205.4	136.4	116.8
Feb	121.8	93.8	126.1	100.7	137.0	127.5	203.2	136.3	116.8
Mar	121.7	93.1	125.8	100.1	140.7	127.9	209.1	138.1	117.3
Apr	119.9	92.4	126.4	99.3	142.4	128.3	215.9	139.4	117.3
May	120.7	93.1	127.4	100.0	143.7	128.7	217.1	140.2	118.1
Jun	121.5	92.8	127.3	99.9	143.8	129.1	218.5	140.5	118.2
Jul	122.2	92.6	127.1	99.9	143.4	129.6	218.6	140.7	118.2
Aug	121.3	93.1	126.8	100.1	145.9	130.0	222.1	142.1	118.9
Sep	122.1	93.3	127.1	100.4	145.4	130.3	224.3	142.2	119.1
Oct	121.6	92.8	126.9	99.9	146.7	130.6	225.0	142.9	119.1
Nov	119.9	92.5	127.7	99.4	147.8	131.4	226.4	143.8	119.2
Dec	120.6	92.0	128.0	99.2	146.4	131.6	223.7	143.2	118.8
2001 Jan	120.3	91.7	127.7	98.9	147.2	131.9	227.0	143.9	118.9
Feb	121.1	91.6[†]	129.0	99.0[†]	146.8	132.1[†]	228.4	144.0	119.1[†]
Mar	120.9[†]	91.2	129.1	98.6	148.1	132.4	230.5	144.7	119.1
Apr	120.9	90.8	130.7	98.3	152.3	132.6	238.5	146.8[†]	119.8
May	120.2	91.0	131.4	98.5	153.4	132.8	240.9	147.5	120.1
Jun	119.9	90.8	131.7[†]	98.2	157.8	132.9	247.7[†]	149.5	120.8
Jul	120.0	91.0	131.2	98.4	158.7[†]	133.0	249.5	150.0	121.1
Aug	120.0	90.5	130.8	98.0	160.1	133.1	252.3	150.8	121.2

Annual Percentage Changes

	Equipment				Construction				Index of Investment Prices IIP
	Transport Equipment	Other Machinery and Equipment	Intangible Fixed Assets[1]	Total Equipment	Dwellings	Other Buildings and Structures	Transfer Costs of Land and Buildings	Total Construction	
	CGBC	CGBB	MJYM	ZIWU	CGBE	CGBA	CGBD	ZIWV	CGBF
1999 Aug	2.5	−4.8	2.4	−3.0	9.7	2.9	12.8	6.2	1.5
Sep	2.3	−4.5	1.5	−2.8	9.5	2.7	12.6	6.1	1.4
Oct	1.9	−4.8	1.6	−3.2	10.5	2.7	14.9	6.7	1.6
Nov	2.5	−4.0	0.9	−2.4	10.0	2.7	13.8	6.3	1.8
Dec	2.6	−3.3	0.5	−1.9	16.6	2.6	17.9	9.0	3.3
2000 Jan	1.6	−4.0	1.2	−2.6	14.3	2.6	18.0	8.3	2.6
Feb	1.1	−3.7	0.9	−2.5	14.6	2.6	16.2	8.3	2.6
Mar	1.1	−4.0	0.9	−2.7	14.6	2.6	16.4	8.2	2.5
Apr	−0.5	−4.5	1.1	−3.4	14.6	2.8	17.2	8.4	2.3
May	0.1	−3.2	1.8	−2.2	13.7	2.9	15.9	8.0	2.7
Jun	0.7	−3.2	1.5	−2.2	12.7	2.9	15.4	7.6	2.6
Jul	1.5	−2.9	1.0	−1.8	9.5	2.9	14.4	6.3	2.2
Aug	0.2	−1.4	1.3	−0.9	10.5	2.9	15.4	6.9	2.9
Sep	1.0	−0.6	1.8	−0.1	9.0	3.0	15.8	6.4	3.0
Oct	0.5	−0.4	1.6	−0.1	9.5	3.1	13.1	6.3	2.9
Nov	−2.1	−1.4	2.6	−1.3	11.0	3.5	15.2	7.3	2.8
Dec	−2.0	−2.1	2.8	−1.8	5.6	3.5	11.1	4.9	1.5
2001 Jan	−1.2	−2.0	1.4	−1.6	7.2	3.6	10.5	5.5	1.8
Feb	−0.6	−2.3[†]	2.3	−1.7[†]	7.2	3.6[†]	12.4	5.6	2.0[†]
Mar	−0.7[†]	−2.0	2.6	−1.5	5.3	3.5	10.2	4.8[†]	1.5
Apr	0.8	−1.7	3.4	−1.0	7.0	3.4	10.5	5.3[†]	2.1
May	−0.4	−2.3	3.1	−1.5	6.8	3.2	11.0	5.2	1.7
Jun	−1.3	−2.2	3.5[†]	−1.7	9.7	2.9	13.4[†]	6.4	2.2
Jul	−1.8	−1.7	3.2	−1.5	10.7[†]	2.6	14.1	6.6	2.5
Aug	−1.1	−2.8	3.2	−2.1	9.7	2.4	13.6	6.1	1.9

[†] Indicates earliest revision.

1 This covers mineral exploration, computer software and entertainment, literary and artistic originals.

4

Final Expenditure Prices Index - FEPI
Index of Government Prices - IGP
Experimental price indices

	Local Government Pay & Procurement	Central Government Pay & Procurement	Index of Government Prices	Annual percentage changes		
				Local Government Pay & Procurement	Central Government Pay & Procurement	Index of Government Prices
January 1992=100						
Weights						
1998	383	617	1000			
1999	382	618	1000			
2000	382	618	1000			
2001	393	607	1000			
	CUSL	CUSM	CUSO	CGBG	CGBH	CGBJ
1999 Aug	124.7	118.7	121.0	3.1	2.3	2.6
Sep	125.3	118.7	121.2	3.2	2.2	2.6
Oct	125.2	118.2	120.9	3.3	2.1	2.5
Nov	125.4	118.4	121.1	3.3	2.0	2.5
Dec	125.5	118.8	121.3	2.6	1.9	2.1
2000 Jan	125.6	119.4	121.7	2.7	1.8	2.1
Feb	125.6	119.3	121.7	2.8	1.7	2.1
Mar	125.5	119.2	121.6	2.6	1.6	2.0
Apr	127.7	119.7	122.7	3.0	1.4	2.0
May	127.8	120.0	123.0	3.1	1.5	2.2
Jun	127.9	120.1	123.1	1.4	1.1	1.2
Jul	127.9	120.2	123.2	2.6	1.4	2.0
Aug	128.0	120.5	123.4	2.6	1.5	2.0
Sep	128.5	120.6	123.6	2.6	1.6	2.0
Oct	128.5	120.6	123.6	2.6	2.0	2.2
Nov	128.8	120.9	123.9	2.7	2.1	2.3
Dec	128.8	121.2	124.1	2.6	2.0	2.3
2001 Jan	128.8	121.4	124.2	2.5	1.7	2.1
Feb	128.9	121.4	124.2	2.6	1.8	2.1
Mar	128.8	121.4	124.2	2.6	1.8	2.1
Apr	130.6	122.7†	125.7†	2.3	2.5†	2.4†
May	130.8†	123.1	126.0	2.3	2.6	2.4
Jun	133.3	123.3	127.1	4.2†	2.7	3.2
Jul	131.8	123.7	126.8	3.0	2.9	2.9
Aug	131.9	123.9	127.0	3.0	2.8	2.9

† Indicates earliest revision.

5 Final Expenditure Prices Index - FEPI(P)
Incorporating implied government output prices
Experimental price indices

	Index of Consumer Prices ICP	Index of Investment Prices IIP	Index of Government Prices IGP(P)	Index of NPISH Prices INP[1]	Final Expenditure Prices Index FEPI(P)	Annual percentage changes				
						ICP	IIP	IGP(P)	INP	FEPI(P)
January 1992=100										
Weights										
1998	601	178	198	23	1000					
1999	607	180	190	24	1000					
2000	605	186	185	24	1000					
2001	602	188	185	24	1000					
	VASH	CUSK	LGTZ	ZIUS	LGUA	MKVB	CGBF	GXVN	ZIUT	GXVO
1992	102.1	98.8	100.9†	102.0	101.2	..	..	..	..	..
1993	105.5	99.8	103.6	106.3	103.9†	3.3	1.0	2.7†	4.2	2.7†
1994	108.2	103.0	106.3	109.4	106.7	2.6	3.2	2.6	2.9	2.7
1995	111.6	108.5	108.0	112.4	110.1	3.1	5.3	1.6	2.7	3.2
1996	114.8	111.8	110.3	115.3	113.2	2.9	3.0	2.1	2.6	2.8
1997	117.7	113.1	111.6	118.1	115.4	2.5	1.2	1.2	2.4	1.9
1998	120.4	113.7	114.1	121.4	117.7	2.3	0.5	2.2	2.8	2.0
1999	122.4	115.2	119.5	125.4	120.3	1.7	1.3	4.7	3.3	2.2
2000	123.8	118.2	123.6	128.6	122.6	1.1	2.6	3.4	2.6	1.9

† Indicates earliest revision.

1 NPISH = Non-profit institutions serving households.

6 Final Expenditure Prices Index - FEPI(P)
Index of Government Prices incorporating implied output prices - IGP(P)
Experimental price indices

	Local Government Pay & Procurement	Central Government Pay & Procurement	Index of Government Prices	Annual percentage changes		
				Local Government Pay & Procurement	Central Government Pay & Procurement	Index of Government Prices
January 1992=100						
Weights						
1998	383	617	1000			
1999	382	618	1000			
2000	382	618	1000			
2001	393	607	1000			
	LGTU	LGTX	LGTZ	GXVL	GXVM	GXVN
1992	100.1	101.4†	100.9†	..	..	..
1993	101.1	105.3	103.6	1.0	3.8	2.7†
1994	103.6†	108.0	106.3	2.5†	2.6†	2.6
1995	106.1	109.2	108.0	2.4	1.1	1.6
1996	108.2	111.7	110.3	2.0	2.3	2.1
1997	110.5	112.4	111.6	2.1	0.6	1.2
1998	113.1	114.8	114.1	2.4	2.1	2.2
1999	118.7	120.1	119.5	5.0	4.6	4.7
2000	122.1	124.6	123.6	2.9	3.7	3.4

† Indicates earliest revision.

Measuring E-commerce: Developments in the United Kingdom

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Overview

The Office for National Statistics (ONS) has a substantial programme of work to improve measurement of e-commerce and associated activities. This article provides an overview of the work currently taking place and future plans. We are running two surveys of businesses – a general inquiry and a survey of ISPs, as well as adding internet questions to our large Annual Business Inquiry. Internet-related questions have been added to three household surveys and one survey of individuals to provide breakdowns of internet access by a range of household characteristics. Supporting this, a range of projects are also under way to improve measurement of the ICT sector supplying e-commerce equipment and expertise. Future plans include further analysis and cross-validation of survey results, and broader analysis of the impact of the internet on business and household activity.

This article is based upon a paper first presented to the IAOS Satellite Meeting on Statistics for the Information Society in Tokyo on August 30 and 31 2001.

Introduction

ONS has a range of activities in hand to measure the extent of e-commerce, the industries that supply goods and services for carrying out e-commerce, and the impact of e-commerce. This article starts with an assessment of the economics of e-commerce. It goes on to describe the surveys and analysis currently carried out in ONS's business and social surveys, and provide some results. An overview is provided of future plans, followed by a concluding section.

Economics of e-commerce

Trades conducted over the internet and paid for electronically differ from conventional trades in several respects. Most fundamentally, the internet offers considerable "network externalities": access becomes more valuable when others have it (as with telephones or faxes).

On the demand side, buyers have lower search costs, but lose their anonymity – when they log in to a site where they have bought before, the seller immediately has information on where they live and what they have previously bought. On the supply side, sellers become more anonymous in the sense that buyers are not physically visiting their premises, which means reputation becomes very important. But the cost of physically setting up a website is far less than the cost of establishing one or more stores, which in theory means entry to the market is easier.

E-commerce can improve firm-level efficiency in a range of ways. Procurement costs can be reduced through administrative savings; lower search costs, and better supply chain management leading to a reduction in inventory levels. E-commerce can support better information flows within organisations and better demand forecasting, facilitating closer integration of production processes and lower stocks of work in progress. It may also reduce product development times.

There can be significant savings in selling over the internet, as the internet can replace physical shops and more expensive product and promotion media. Firms can place product information on line, making it easier for customers to make their choice and providing help manuals to support after-sales performance. This should reduce

the need for sales staff and after-sales service. On the retail side, some observers have suggested that the low usage of mail order shopping means that a large proportion of consumers may resist buying non-standard goods over the internet, but there may well be greater scope for sustained growth in business to business e-commerce.

E-commerce could potentially improve competition in a range of ways. The reduction in search costs makes it easier to compare products from a wide range of suppliers. The low cost of establishing a new web site should in principle make it easier to enter the market and this threat of entry places pressure on incumbent firms to maintain efficiency. The relative ease of trading internationally through the internet should also increase competitive pressure through facilitating globalisation. The use of e-commerce is still in its early stages; in the longer term the internet's potential for reducing the constraints of space and time may deliver more radical change.

However, some features of e-commerce will tend to reduce competition. As noted above, the anonymity of the seller means reputation becomes much more important, which is likely to favour established brands and require heavy advertising for potential market entrants. E-commerce might also lead to greater price discrimination: as firms are able to gather more information about their customers, they can market and price products more closely to match the tastes of different market segments, and may also be able to tailor the products more closely to their needs. Lastly, there are great benefits to being the first provider of a new product, and this may also reduce competition.

E-commerce is also changing the labour market – the demand for computer-literate staff will increase with the growth in the use of e-commerce, but if firms replace physical outlets with web sales the need for retail sales staff will fall. It also broadens the scope for flexible. In their leisure time individuals with web access will benefit from much easier access to information and the facility to buy over the internet rather than needing to spend time visiting shops. However, this will tend to widen the divide between those who have internet access and those who don't.

Business surveys

ONS's strategy for measuring e-commerce through business surveys has had four main elements:

- a new annual survey devoted to e-commerce and related topics;
- a new monthly survey to Internet Service Providers,

supplemented by an annual survey;
- questions on ONS' large Annual Business Inquiry;
- specific examination of existing surveys.

We use the OECD's definitions of e-commerce. E-commerce is determined by the use of electronic networks to place an order, rather than the payment or delivery channels. The narrow definition simply covers the use of the internet to place orders, while the broad definition also includes the use of other computer-mediated networks like EDI.

Business E-commerce Inquiry

In January 2001 the ONS launched a new "stand alone" annual survey of 9,000 UK businesses asking about their use of the internet and e-commerce, and their attitudes to them. This was part of an EU initiative to produce comparable data for the EU countries. The results were published on 15 May 2001.[1,2] They showed that in 2000, 92 per cent of UK businesses used computers; when weighted by employment this figure rises to 98 per cent. 63 per cent had web access, with access increasing with size – 94 per cent of firms with more than 1,000 employees had web access (Chart 1). 61 per cent of businesses had a web site, and a further 19 per cent were planning to do so within a year.

Internet sales were estimated as being worth nearly £60 billion,

Chart 1
Web Access

Per cent of businesses

Legend:
- Using web
- Planning to use web
- Not planning to use web

Employment categories: All size bands, 10–49, 50–249, 250–999, 1000+
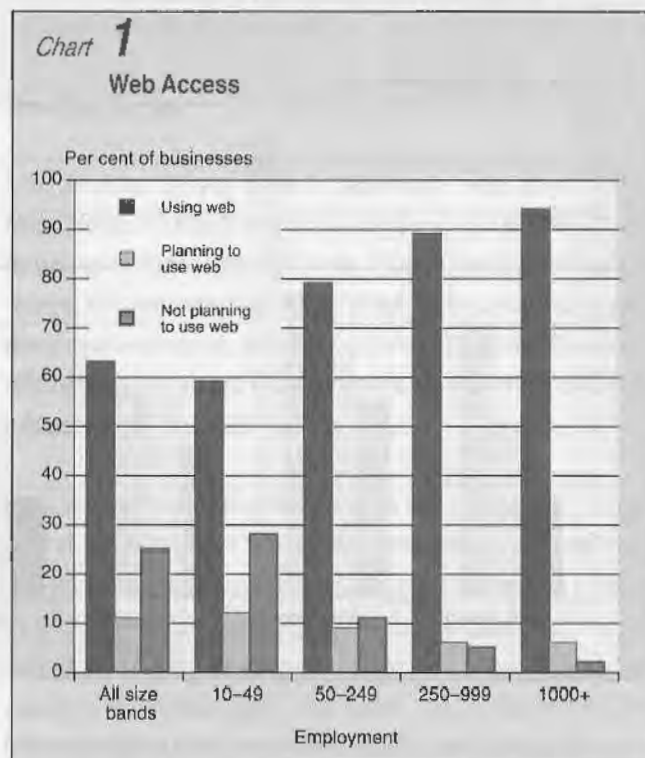
representing 2 per cent of total sales, while sales via all electronic networks, including EDI, totalled £160 billion, or 5.8 per cent of sales. 16 per cent of companies used a computer-mediated network for sales, and a further 12 per cent planned to do so in the next year. The financial sector was a big user of e-commerce; excluding the financial sector e-commerce was used for just 0.9 per cent of sales. The insurance, air travel, and computing and office machinery manufacturing sectors carried out relatively high levels of internet sales – around 30 to 40 per cent of sales are via electronic networks. Less than a fifth of internet sales were to households, with an estimated value of £10 billion; of this, £9 billion of sales were by the financial sector. The average length of time that businesses had used e-commerce for sales was only a few months, and still less than a year for the largest companies.

A third of companies used e-commerce for purchases, and a further 9 per cent intended to use it in the next year. However, the value of internet purchases was estimated at £17 billion excluding the financial sector, slightly more than the value of sales excluding the financial sector, suggesting that the UK is a net importer over the internet.

Purchases over all electronic networks was estimated at £118 billion excluding the financial sector, again higher than the value of sales. The average length of time that e-commerce had been used for placing orders was less than a year.

As the economics literature focuses on the potential economic benefits of e-commerce, it is particularly helpful to have survey responses on firms' perception of the benefits. The most common perceived benefit of selling over the internet was the potential to reach more customers, but far fewer smaller companies saw any benefits.

One in five respondents considered that a benefit of e-commerce was lower purchase costs, and one in four saw speed as a benefit; these levels rose to nearly one in two for the largest businesses.

Firms were also asked about barriers to using the internet. The most significant barrier was the lack of security due to viruses and hackers – 64 per cent of respondents said this was a barrier, rising to 80 per cent for those with over 1,000 employees. About half the firms thought

Chart **2**

Benefits of selling through e-commerce

Per cent of businesses

Legend: 10–49 Employment, 50–249 Employment, 250–999 Employment, 1000+ Employment

Categories: Cost savings, Reaching customers, Geographic expansion of market, Improved service quality, Speed, Simplification, Avoiding loss of market share
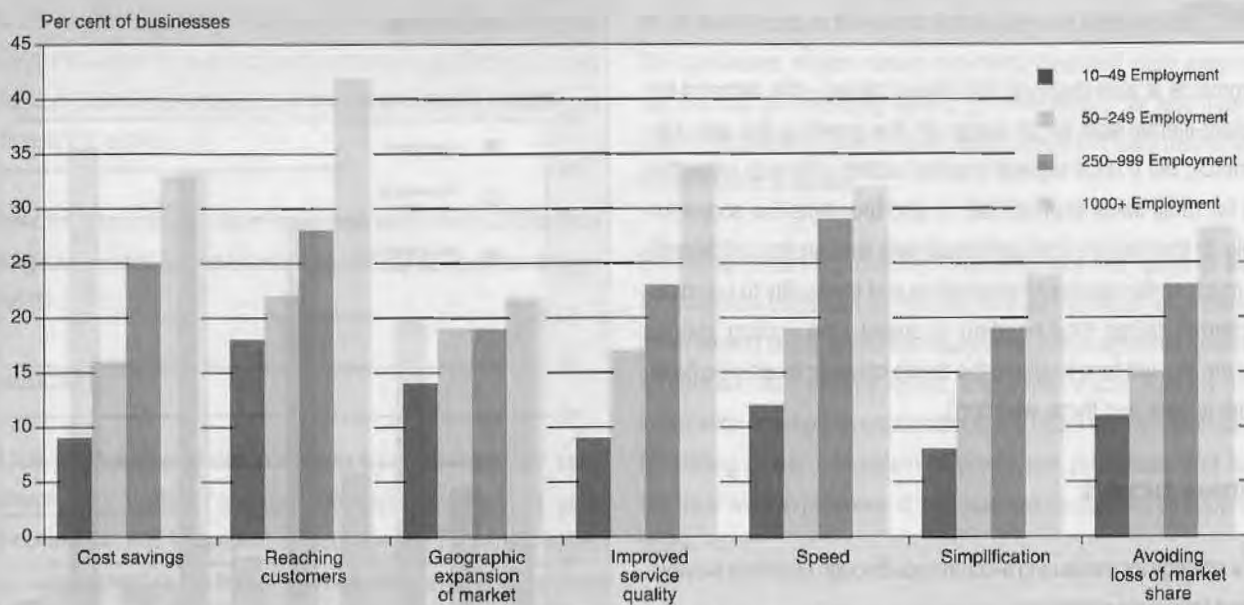
the following were of at least some importance: cost of provision and access charges, lack of knowledge, no perceived benefits, lost working time through "surfing", slow or unstable data communication.

Survey of Internet Service Providers

ONS initiated a monthly inquiry to 100 internet service providers (ISPs) in January 2000, modelled on the Australian ISP survey. The monthly inquiry has just 10 questions, asking about the number of subscribers, services provided, and technologies used to access the internet. This will be supplemented by a more detailed annual inquiry. Initially this was a voluntary survey, but response rates were low so it has been made compulsory, and publication held back until the results are more robust. Results were expected to be published in August 2001, as the UK "index of connectivity".

Annual Business Inquiry

The Annual Business Inquiry has a sample size of 70,000, stratified by employment and industry. The 2000 inquiry included tick-boxes on e-commerce, asking whether the respondent carries out sales and purchases over the internet, and whether they have a web site. These could be used as filters for more detailed inquiries, as well as being of interest in their own right. The ABI includes a wide range of other questions and can be linked to other surveys, so will be able to provide rich information on the type of firms that use e-commerce.

Work on Existing Surveys

In May 2000 a review was carried out of all ONS's business surveys and some of the social surveys to establish whether the effect of e-commerce was being satisfactorily addressed.[3] The broad conclusions of this review was that in general, statistical coverage of e-commerce transactions is no better nor worse than for any other types of transaction because inquiries to businesses operating in the UK aim to cover all UK-based output, irrespective of how it is sold. The main deficiencies in coverage are likely to relate to transactions involving non-UK suppliers of goods or services, particularly within the EU. This survey identified the need to ensure that new high technology firms are picked up in the business register early enough to ensure that they are appropriately represented in the sampling frame for statistical inquiries.

All ONS's economic inquiries have therefore considered the potential impact of e-commerce. Particular efforts have been made to capture the effect on the retail price index (RPI), retail sales, and trade in services. The prices of products sold over the internet are collected and included in the RPI for specific products or services where the

FES indicates that internet sales are significant. Retailers have been contacted to ensure they are including e-commerce in their returns on the value of sales, and care has been taken to ensure that e-commerce retailers are adequately represented in the retail sales inquiry during their recent rapid growth. For trade in services we are considering how to handle potential coverage problems, and will make specific references in the survey to digitizable products such as books and CDs once international agreement is reached on how they should be recorded.

Household surveys

ONS's data collection strategy for the household surveys aims to provide a consistent and integrated picture of e-commerce as it relates to individuals and households, and more widely of e-society. It is designed to inform policy decisions – for example by identifying inequalities in internet access. Questions about the internet and e-commerce are being placed on four diverse surveys of households and individuals: the National Statistics "Omnibus" Survey, the Family Expenditure Survey (FES), the General Household Survey (GHS), and the Time Use Survey (TUS). These provide information on who has access to the internet, what it is used for, frequency of use, and barriers to access. The surveys provide a good spread of information for analysing the characteristics of e-commerce. The same core set of questions are asked on the FES, GHS and TUS, to allow for cross-checking and for cross-cutting analyses. Results are published in ONS's quarterly "Internet Access" data release; the most recent publication was 26 September 2001.[4]

Omnibus Survey

The Omnibus Survey goes to individuals, with about 1,700 respondents. It is a multi-purpose survey developed by ONS for use by a range of bodies, run eight times a year. It provides information on age, sex, car ownership, martial status, educational attainment, gross personal income, employment status and sector. Questions relating to internet access and e-commerce have been included once a quarter since July 2000.

Results from the Omnibus Survey show that in April 2001 51 per cent of adults in Britain had accessed the internet at some time. This proportion decreased steadily with age – 82 per cent of 16 to 24 year olds had accessed the internet, as compared with 16 per cent of those aged 65 or older. 71 per cent of adults who had accessed the internet used it for e-mail and 73 per cent to find information about goods or services, while 35 per cent reported using it to buy or order goods or services – this represents 17 per cent of the adults in Great Britain.

Adults who have accessed the Internet by purpose of Internet use
(personal use only)

Activities	January 2001	April 2001
Per cent		
Finding information about goods/services	67	73
Using e-mail	65	71
General browsing or surfing	54	61
Finding information related to education	28	38
Buying or ordering tickets/goods/services	30	35
Personal banking/financial/investment activities	23	25
Looking for work	18	18
Downloading software, including games	20	25
Using chat rooms or sites	13	17
Playing or downloading music	15	20
Using or accessing government/official services	18	20
Other things	5	4

Source - National Statistics Censuses Survey - April 2001

Note: percentages do not add to 100 per cent as respondents may give more than one answer

A wide range of reasons were given for why respondents did not access the internet, and respondents could give more than one reason. Of those who didn't access the internet, 45 per cent were not interested, 20 per cent said they did not have access to the internet, and 19 per cent said they lacked the confidence or skills to do so. These results can also be analysed according to: sex, car ownership, marital status, educational attainment, gross personal income, employment status and sector.

Family Expenditure Survey

The Family Expenditure Survey (FES) collects detailed information on household spending patterns from a nationally representative achieved sample of about 7,000 households, partly from an expenditure diary kept for two weeks, and partly from a household interview. The interview covers regular payments such as insurance, and a number of "big ticket" items. The FES is an annual survey, although the sample design allows for quarterly information on household internet access to be produced.

Households have been asked whether they have access to the internet since April 1998, providing ONS's longest run of data on internet access. The percentage of households with access to the internet has risen from about 9 per cent in the second quarter of 1998 to 37 per cent in the first quarter of 2001. Levels of access depend very strongly on income – in 2000–01, 71 per cent of the top 10 per cent of households by income had home access to the internet, compared with just 7 per cent of the bottom 10 per cent. The FES also provides information according to a range of social variables including region, type of household, and ethnic origin.

From April 2000, FES respondents were asked to record "Internet" in the column on the expenditure diary usually reserved for "Name of shop where bought". However, over the survey year it became apparent that respondents did this rather patchily. The main deficiency seems to have been where internet purchases were made from mainstream retailers, particularly supermarkets, where respondents have simply recorded the name of the supermarket. From April 2001 the instructions on the expenditure diary have been improved and it is hoped that more robust data will be available in Autumn 2002.

As part of the FES interview which asks about regular payments and "big ticket" items, respondents have been asked whether they ordered or purchased any of the specific items mentioned over the internet. Where there was more than one purchase this does not

identify how many were bought over the internet, but will provide some guide as to the split between internet and other purchases.

General Household Survey

The General Household Survey (GHS) is an annual survey asking a range of general questions about the characteristics of households. The achieved sample size is about 8,000 respondent households. The range of variables which may be used for analysis are: location; income; recent moves; ethnic group; country of birth; ownership of consumer durables; and information about the household, e.g. how many people live there, their marital status, whether their accommodation is owned or rented. The GHS was revamped in 1999 and the "new" GHS went into the field in April 2000. Results will be available by the end of 2001.

Time Use Survey

The UK's first major Time Use Survey was carried out during 2000–01. It asks respondents to complete two diaries each recording all their activities over a 24-hour period. If they do record these in enough detail it should be possible to establish when and how they are using computers and the internet. The respondents also complete general questionnaires that will allow analysis of the data using the same household and consumer durables questions as the GHS, and provide detailed information on their receipt of help and services. The results are expected to be published in early 2002.

Labour Force Survey

The revision of the Standard Occupational Classification will help identify the impact of e-commerce and wider ICT developments on the labour market. In addition, the Labour Force Survey currently includes questions on teleworking and the use of a computer in this work – these questions will be adapted in line with forthcoming Eurostat recommendations. The survey also asks respondents if they use the internet or a CD-ROM for learning purposes.

Analysis of ISP subscribers

These ONS surveys have been supplemented by a study by the UK Department of Trade and Industry and Paul Foley, from De Montfort University, which has analysed the post codes of ISP subscribers, both business and households, and related this to the household's socio-economic clustering. We will be able to relate this to household-based survey results.

ICT measurement

The information and communications technologies sectors, producing computers and telecommunications hardware and services, supply the equipment and services for e-commerce. These fast-moving industries are particularly difficult to measure, but are significant elements of GDP. ONS's work programme covers all the main areas of interest: measurement of prices, investment and capital stock.

We have a collaborative programme of research into ICT prices bringing together staff working on retail prices, producer prices, and corporate services prices. The first stage is to test a range of quality adjustment techniques on computer prices. A price index is also being developed for computer services, drawing on a survey to measure the sales from the computer services industry by product.

The ONS recently published a sensitivity analysis examining the effect of different movements in ICT deflators on the National Accounts.[5] This used double deflation for both the output measure of GDP – deflating outputs and inputs – and for the expenditure measure – deflating each element of expenditure and of imports. Compared with simply deflating output, double deflation reduced the effect of price changes by a factor of three.

The work on investment and capital includes the evaluation of expenditure on software investment, where it has been suggested that ONS is under-recording software spends, and disentangling ICT capital formation spends from plant and machinery.

Future plans

On the business side, we plan to use the ABI results to provide a detailed assessment of the types of firms that access the internet. We will carry out further analysis of the "standalone" inquiry. We plan to look in rather more detail at the benefits of e-commerce. We will also do more cross-references, such as working out whether businesses with broadband are more likely to buy and sell over the internet, and whether firms with no internet access are more likely to have security concerns.

Results from the "standalone" inquiry can be compared with ABI findings to check their robustness, and the ABI can be used to analyse the characteristics of firms giving particular responses in the "standalone" inquiry. For example, we will investigate whether the firms engaging in e-commerce are experiencing relatively high levels of productivity growth, and whether there is an identifiable relationship between responses on the benefits of e-commerce and actual

business performance. We could investigate whether the firms claiming that the internet enables them to reach more customers are actually experiencing a boost in sales, and whether those stating cost savings are seeing an overall reduction in costs. We will also investigate ways of analysing the nature of changes in competitive pressure – one avenue is through our work with academics on the dynamics of firms' births and deaths.[6]

A lot of the issues of interest to economic policy makers are less precise than the usual questions asked in business surveys – for example, the organisational changes resulting from wider internet use, and changes in the nature of competition. We will be considering whether there are routes to get answers to these questions, perhaps through adding a section to the e-commerce inquiry which asks different questions over time, akin to the Omnibus Survey for social statistics. These issues are best answered by considering the behaviour of cross-national market entities, rather than being limited to having data on their activities in a single country; so we will need to maintain close contact with other statistical offices on this initiative.

The social surveys also provide a rich source of information on the types of individuals and households that access the internet. The Time Use Survey will provide a useful supplement, particularly if it proves possible to establish the time spent on the internet. It is hoped that the FES can be developed to deliver robust results on internet purchases. The results from the three household surveys will be compared to check their robustness. Their harmonised questions will also be used to carry out cross-cutting assessment of the characteristics of households according to their use of the internet. The information on internet purchases from the FES can be compared with business survey findings on the level of retail sales carried out through the internet, broken down by industrial sector.

More generally, we plan to investigate the impact of e-commerce on the labour market, looking at the changing nature of many jobs, changes in working patterns, and the implications for education and training. We also plan to research the impact on social exclusion of not having access to the internet, the usage of government services over the internet, and the impact of the internet on shopping patterns and prices. The current coverage of social surveys is felt to be satisfactory - we have no immediate plans to extend it.

Lastly, ONS has been commissioned by the British government's "Office of the e-Envoy" to produce a database of comparative data on the extent of e-commerce in the UK and elsewhere. The aim of this work is to establish whether the UK has become the "best place in the world for e-commerce", so we have been asked to investigate the scope for producing a single index encapsulating this aim.

ONS plans to produce a publication on e-commerce early in 2002, which will bring together the findings from business surveys and household surveys, linking it with work on ICT measurement, to produce a coherent picture of ICT and internet usage across the board.

Conclusions

ONS has developed a wide range of information sources on e-commerce and internet use over the past 3½ years, spanning business and household surveys. These can tell us a lot about the type of individuals and businesses using the internet, and provide some information on their use for sales and purchases. More data will come on stream during coming months, and further analysis of the results is planned.

However, to go one step further and assess how the internet and e-commerce are changing individuals' lives and the way firms operate, we need to draw on data from a broader range of sources, and consider more innovative questions. This will be the next stage in ONS' programme of work on e-commerce.

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The effects of annual chain-linking on the output measure of GDP

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Overview

The Office for National Statistics will be introducing annually chain-linked volume measures to the United Kingdom National Accounts with the *Blue Book* 2003 edition. This will improve the quality of growth estimates and is in line with developments in other countries in the European Union. A system has been developed for the output measure of Gross Domestic Product, implementing annual chain-linking at a detailed level in the Standard Industrial Classification (SIC). For the purpose of this article, value added weights for years other than 1995 have been constructed using information from the industry breakdown available in UK Input-Output Supply and Use Tables and from other sources. The resulting growth estimates based on annual chain-linking are compared with the fixed base estimates (1995=100) published in *Blue Book* 2001. The comparisons suggest that annual chain-linking will cause estimates of the overall growth of GDP, measured by industry, to be revised slightly downwards. One presentational issue for users will be the loss of additivity for all but the most recent years of annual estimates.

Introduction

Annual chain-linking is a method for aggregating the volume measures which are used to estimate economic growth. An accurate estimate of economic growth, embodied by the estimate of Gross Domestic Product (GDP) in constant prices, is important to help determine the effectiveness of economic policy and allow comparisons between countries[1]. In the UK, GDP is estimated using three different approaches (output, expenditure and income) which are then "balanced" to produce a single GDP estimate. This article investigates the effects of introducing annual chain-linking as a methodology, requiring more up-to-date, and hence more relevant weights to aggregate volume measures, in this case for the output measure of GDP or GDP(O).

The next section describes the current fixed base methodology and some of its limitations. Then annual chain-linking is described with the benefits of introducing this methodology and the issues for users. The remainder of the article describes the approach used for calculating an annual chain-linked output measure GDP for annual estimates and shows a comparison of annual chain-linked estimates with published fixed base estimates. The terminology for describing aspects of the calculation of volume measure growth are not applied consistently across sources, so clarification has been provided (see Box 1).

Current methodology

To calculate the output measure of GDP(O), data from each industry are collected to reflect the volume growth in Gross Value Added (GVA)[2,3]. Industry level estimates, in the form of indices referenced to 100, are aggregated using GVA weights (see Box 2). The "base" year used for the weights is updated at five-yearly intervals to give a new structure of weights and a link year is used to join the indices with the latest weight structure to indices weighted with earlier weight structures. This linking process is carried out by treating the ratio of indices in the link year as a link factor, which is then used to re-scale all previous indices. The most recent "base" year used for the weights is also used as the indexing reference year[14].

A similar process is carried out for the constant price expenditure measure of GDP, although, in this case, volume growth is represented by constant prices in £ million.

Box 1

Some Helpful Terminology

'Fixed Base': the term used to describe the present basis of constant price National Accounts estimates. As the description of the method makes clear, the present National Accounts estimates are actually chain-linked and the term 'fixed base' is used here as an abbreviation for 'fixed base chain-linking' as linking still occurs between series weighted with weights from different base years.

'Chain-linking': used to refer to the improved method of annual chain linking explained here.

'Weight' (and 'weighting'): these terms are usually used in GDP(O) to describe how important an industry is to the whole economy (in terms of its Gross Value Added). The 'weight' of an industry is usually given as so many 'parts per thousand' of the whole economy.

'Growth': used for simplicity in this discussion of economic change; contraction does occur.

Box 2

Weights for the output measure of GDP

- Weights used for aggregating components of GDP(O) reflect the contribution of each industry to the overall economy in current prices.
- Detailed weights are calculated from a breakdown of GVA totals produced by the ONS in Current Price Input-Output tables Supply and Use Tables[12] together with other more detailed information.
- For 'fixed base' estimates, detailed weights are re-calculated every five years.
- Volume measures now published for 1994 to 2000 in *Blue Book* 2001[4] use the weight structure in 1995, and are referred to as being at "1995 prices".

Constant Price estimates in £million for the expenditure measure of GDP

- Volume measures for expenditure are represented in constant prices £mill.
- Constant Prices in £mill are made up of two components: volume measure indices and current prices in the most recent base year, currently 1995.
- For estimates for years including and subsequent to the most recent link year, constant prices in £mill are effectively pre-weighted volume measure indices.

Limitations of current methodology

A number of problems are considered to exist with fixed base estimates[5].

- For industries where the contribution to overall GVA is changing rapidly, a volume measure with a weight from several years before would be "over-weighted" if price fall was steeper than volume growth or volume contraction was steeper than price increases. The volume measure would be "under-weighted" if price fall was less steep than volume growth or vice versa. Estimates published in UK Input-Output Supply Use Tables show that GVA weights do change significantly over time (see Figure 1). This is most likely to be an issue as we enter times of increasingly rapid technological change and the rate of change of weights speeds up.
- Five-yearly rebasing can result in big revisions to estimates.
- For most industries, turnover is used as a proxy for GVA, the assumption being that the turnover to GVA ratio changes little over time. The assumption becomes less valid as time passes.
- When the fixed base year is updated, choosing a link year is a subjective process and the "best" link year will differ from one industry group to another.
- Operations which occur on a five year basis are hard to manage and resource.

Annual Chain-linking

The *System for National Accounts 1993 (SNA93)*[1] recommended that "chained indices" should be used (linking volume growth between consecutive time periods) if the objective is to measure the actual movement of volumes from period to period. The potential benefits

Figure 1

Gross Value Added weights for two major industry groups, Manufacturing and Business services (including Financial Intermediation).
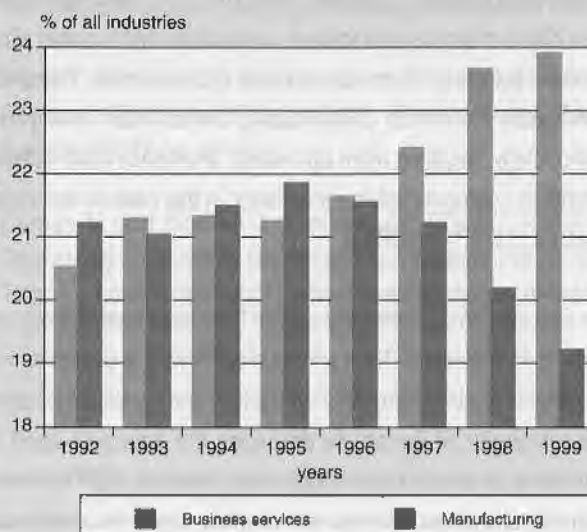
of moving to annual chain-linking have long been recognised in the UK[6].

Chain-linked indices differ from fixed base indices in that the growth from one year to the next is estimated by weighting the components using the contribution to current price GVA (or weight) in the immediately preceding year (effectively rebasing every year). This series of annually re-weighted annual growths is then 'chain-linked' to produce a continuous series (see Box 3).

Benefits of annual chain-linking

Replacing fixed base estimates with annual chain-linking would reduce many of the limitations of the fixed base methodology:

- Annual weights would be more up-to-date and therefore more relevant.
- Rebasing revisions will occur to a much lesser extent. After the initial introduction of annual chain-linking, most remaining revisions will occur as a result of an improvement in the quality of input data for the production of indices or weights.
- Annual chain-linking reduces the inaccuracies caused by the assumption of a stable relationship between GVA and turnover. When annual weights are used, the assumption has to be maintained only from one year to the next, but only from the level at which annual chain-linking is implemented.
- For annual chain-linking, every year is automatically a link year, so no subjective choice is required.
- Annual operations are easier to manage and resource than operations which occur on a five-yearly basis. For detailed aggregation at a lower than 4 digit level, five-yearly rebasing will need to continue but the production of annual weights should facilitate this process.

Apparent drawbacks of annual chain-linking

- Except for estimates after the last year which is used as a base year, volume measure estimates will no longer aggregate to totals (as fixed base estimates do from the latest link year onwards).
- Annual chain-linking will require detailed weights for every year, not simply the base year and this will require more work and may increase statistical variation.
- Revisions to Current Price Input-Output Supply and Use Tables will have a greater impact on revisions to constant price GDP.

Box 3

Annual chain-linked indices

The process for calculating annual chain-linked indices for annual data can be divided into a number of separate stages (where "p" indicates the price component "q" indicates the volume component, "t" is the current time period and "O" is the base time period):

- Calculating year on year volume growth for an industry i (where n such series are aggregated to form GDP):

$$= \frac{p_{i,0}q_{i,t}}{p_{i,0}q_{i,t-1}}$$

- Weighting these year on year growths with GVA weights from the previous year. (The resulting estimates are called "previous years' price" estimates.)

$$= p_{i,t-1}q_{i,t-1} \cdot \frac{p_{i,0}q_{i,t}}{p_{i,0}q_{i,t-1}}$$

$$= p_{i,t-1}q_{i,t}$$

- Aggregating the previous years' prices for all n component series.

$$= \sum_{1}^{i=n} p_{i,t-1}q_{i,t}$$

- Dividing the resulting aggregated previous years' prices by total weight from the previous year to give base-weighted or Laspeyres indices.

$$= \frac{\sum_{1}^{i=n} p_{i,t-1}q_{i,t}}{\sum_{1}^{i=n} p_{i,t-1}q_{i,t-1}} = I_{L,t}$$

- Chain-linking these indices to form a series in which:
  Value for year "t" divided by value for year "$t-1$" = $I_{L,t}$
  Value for year "$t+1$" divided by value for year "t" = $I_{L,t+1}$
  Value for year "$t+2$" divided by value for year "$t+1$" = $I_{L,t+2}$
  ... and so on

  and in which the last year for which a weight is available is given the value 100.

The European Dimension

The *European System of Accounts 1995 (ESA95)*[7] and the *1997 European Union Stability and Growth Pact* [8] require comparable volume measures for GDP from different EU member states. This has provided the necessary impetus for harmonising member states' methods for producing volume measures. An outline methodology has been agreed between EU partners (see Box 4 and reference[7] for an explanation of the different index types).

Technical decisions which will affect users

A number of specific technical decisions have been made for implementing annual chain-linking in the UK National Accounts, taking the wide range of users' needs into account (see Box 5).

Consultation suggests that there will be a number of issues for users in changing from fixed base to annual chain-linking.

- **Additivity**: Components in fixed base constant prices (expressed as £million or index numbers), when added up, agree with corresponding aggregate totals, for each year from the latest link year, currently 1994, to the present. This property of the component series is described as "showing additivity". (Prior to the last link year – at present 1994 – components at constant prices do not even now add to corresponding aggregates). With annual chain-linking, much of this additivity for recent years is lost: the extent of the loss depending on the chain-linking method chosen. The UK has decided to use Laspeyres indices for annual chain-linking and to re-reference the chain-linked series to the latest year for which weights are available. This will mean that all estimates from the last base year onwards will still "show additivity". A final decision on which year this will be, has not yet been made. Re-referencing the index number series each year, which is necessary to achieve this additivity, will unavoidably cause some users inconvenience. (Other options, such as Fisher indices, would have resulted in only annual and sub-annual estimates from the last weights year being additive, not estimates before or after that).

- **Continuity**: For series which are used in econometric models, annual chain-linked estimates will be produced as a priority back to 1970, although for the earlier part of this period annual chain-linking will have to be introduced at a higher level of aggregation.

Box 4

Eurostat principles for producing volume measures[11]

1 In the measurement of prices and volumes, a detailed level of aggregation of products shall be used. This level of aggregation, which is referred to as the elementary level of aggregation, shall be at least as detailed as the P60 level of *ESA95*, for output as well as all categories of (intermediate and final) use.

2 Volume measures available at the elementary level of aggregation shall be aggregated using the Laspeyres (or Fisher) formula to obtain the volume measures of all national accounts aggregates.

3 Volume measures derived at the elementary level of aggregation shall be aggregated using weights derived from the previous year.

Box 5

Technical decisions made for introducing Annual Chain-linking into the UK National Accounts

- Annual chain-linking will be carried out using Laspeyres indices and series will be referenced to the last weights year to preserve additivity in the most recent data.

- Annual chain-linking will be applied to historic data back to 1970 at a level at which weights and indices are consistent with current structures. Historic annual chain-linked series will be linked to recent annual chain-linked series.

- Annual chain-linked **quarterly** data will be linked using an overlap on quarter four. Any resultant drift away from the annual growth path will be removed by benchmarking to annual data. The decision was made to use a quarterly overlap method rather than alternatives suggested by Eurostat because it best preserves the quarterly growth path.

- Annual chain-linked **monthly** data will also be linked on quarter 4 and benchmarked to annual data. This will minimise the impact of December to January effects and provides estimates which follow the quarterly growth path.

- The level at which annual chain-linking will be implemented for GDP(O) will meet Eurostat requirements and will be implemented at an even lower level where constant price data is consistently available and modelling has shown that this chain-linking may significantly alter growth estimates.

- The monthly Index of Production will also be annual chain-linked to give consistency between monthly, quarterly and annual published estimates.

* **Consistency between measures**: Two approaches for producing annual chain-linked growth estimates have been identified in the UK[5]. Annual chain-linked estimates of GDP could be calculated independently using the output and expenditure measures and then any differences resolved as they are now. Alternatively, growth measures weighted using the previous years' prices could be aggregated up to the Input-Output level, balanced in Constant Price Input-Output tables each year and then the balanced figures aggregated and chain-linked from one year to the next. In the UK, the development of Constant Price Input-Output tables and annual chain-linked estimates will occur independently to meet the deadlines of 2002 for experimental Constant Price Input-Output tables and 2003 for publishing annual chain-linked GDP. However, in the long-term, a UK objective is to fully integrate the two developments to provide a check on numerical consistency and reliability of the set of measures as a whole.

Anticipated effects of annual chain-linking on the estimates

As described in the section on the limitations of fixed base methodology, out-of-date weights could potentially over- or under-weight volume measures, or have no effect if weights remained stable over time. Economic theorists have suggested that introducing GVA weights from a more recent period will tend to result in lower growth estimates in GDP[15]. They hypothesise that this will occur because industries with fast-growing volumes are both the most important part of an economy and are often associated with even faster falling prices[9]. Analysis of the effects of rebasing in 1998 support this, as overall GDP growth was revised slightly downwards for most recent years when the year used for the base weights was updated[10]. The results from this investigation into the effects of annual chain-linking should test this hypothesis further.

Methodological specifications for annual chain-linking GDP(O)

Level of Implementing Annual Chain-linking in GDP(O)

EU requirements mean that member states' annual chain-linking must be implemented using at least the 'P60' breakdown, which approximates to the SIC92 (Standard Industrial Classification 1992) two digit industry level.[7] A comparison was made of the effects on growth of implementing annual chain-linking at broadly 2 digit level against a more detailed broadly 4 digit SIC level using an aggregation structure which was a simplified version of that used in *Blue Book 2000*[13]. In practice, there were over 300 input series at broadly 4 digit level, compared with less than 60 series at broadly 2 digit level.

Annual detailed weights for each of these were constructed by interpolating and extrapolating from 1995 detailed weights. The results showed some significant growth differences with the 4 digit level implementation producing the lowest estimates of growth (see Table 1). For example, the fixed base growth from this simplified structure in 1999 was 2.8 per cent, whereas implementation of annual chain-linking at 2 digit level would have given 2.6 per cent and 2.3 per cent at 4 digit level. The decision was therefore made to introduce annual chain-linking in the UK at the broadly 4 digit level, despite the extra work, because it was felt that an improvement would result in the growth estimates. (For components of the expenditure measure of GDP, annual chain-linking will be introduced at a level of aggregation comparable to the 4 digit level of the output measure, where that is practical.)

Where 4 digit series are compiled from lower level series, lower level aggregation will take place using the fixed base method as in the present system. This will necessitate full rebasing every 5 years, as at present, to update these more detailed weights. Investigations will be carried out to determine the viability of introducing annual chain-linking at a lower level for industries where prices are often volatile.

Where data are supplied from external sources at a higher level of aggregation than 4 digit level (see Table 2), GDP(O) will implement annual chain-linking at this level of input. In the long-term, the aim is for annual chain-linking to be introduced at a lower level, either by the external suppliers themselves or by asking the external supplier to deliver more detailed information (either by SIC or another further disaggregation) to the National Accounts. This will ensure that the effects of annual chain-linking are not biased towards industries for which data are available at a detailed level.

Construction of annual weights for these estimates

At present, a full set of detailed Gross Value Added weights to broadly 4 digit level (lower where necessary) are calculated every five years using Current Price Input-Output GVA totals[12] and other more detailed sources. Annual chain-linking needs detailed weights calculated every year. For *Blue Book 2003*, it is intended that a routine procedure for producing detailed annual weights will be operational. However, for these present estimates of the effects of annual chain-linking on GDP(O), approximate weights have been constructed for the period 1994 to 1999. This has been carried out using the detailed weights now available for 1990 and 1995, then constraining the component totals to published UK Input-Output group industry sub-totals for 1994 and for years following 1995 (see Annex A). An example of the calculations for annual chain-linking (see Box 3), showing how these annual weights are applied, can be seen in Annex B.

Table 1 Modelled growth estimates for the output measures of GDP using three different approaches

	Fixed base	Annual chain-linking introduced at 2 digit level	Annual chain-linking introduced at 4 digit level
1995	2.8	2.9	3.2
1996	3.3	3.3	3.3
1997	3.4	3.3	3.4
1998	3.3	3.3	3.3
1999	2.8	2.6	2.3

The aggregation structure and inputs used to create Table 1 were broadly consistent with *Blue Book* 2000. Annual detailed weights for the annual chain-linking methods were constructed by interpolating and extrapolating from 1995 detailed weights. Growth is published to one decimal place.

Table 2 Data supplied to GDP(O) at a level above 4 digit SIC detail.

External supplier	Components of GDP(O)	SIC Level of delivery
Department of Environment, Food and Rural Affairs (formerly supplied by MAFF).	Section A: Agriculture, hunting and forestry	2 digit level
	Section B: Fishing	2 digit level
Department of Trade and Industry (construction formerly supplied by DETR)	Section E: Electricity, Gas and Water supply	2/3 digit level
	Section F: Construction	2 digit level
Civil Aviation Authority	Division 62 Air Transport in Section I: Transport, storage and communication	2 digit level

Adjustments in the annual chain-linked GDP(O) estimates

In the current fixed base GDP(O) system, additive adjustments for data quality and to achieve alignment between GDP measures are taken on at 2 digit industry level[2]. For comparative purposes, the annual chain-linking system, described here, takes on the same adjustments at 2 digit level. It is not possible to replicate exactly the effects of these adjustments in the fixed base system, but, by taking them on in the annual chain-linked system, it improves comparability. The fixed base system also includes small additive adjustments in some industrial groups to ensure published totals match previously calculated totals for 1994 to 1997. These would be impossible to remove. Although the effect of these adjustments is very small individually, in some cases the combination has affected the comparability of estimates. Therefore, the expected result of zero growth differences for 1996, between fixed base and annual chain-linked estimates (because both use 1995 weights in this year) is not always achieved.

The input data for the annual chain-linked system also includes the effect of multiplicative annual coherence adjustments, shown in *Blue Book* 2001 as in previous *Blue Books* to balance the three measures

of GDP. Their inclusion also increase the comparability of the two aggregation methods, fixed base and annual chain-linking.

Annual chain-linked estimates compared with *Blue Book* 2001 estimates

In addition to a comparison of the overall GDP(O) estimates, as recently published in *Blue Book* 2001, with the corresponding overall estimates of GDP(O) from the annual chain-linking system, some detailed chain-linked series in Section I (Transport, Storage and Communications industries) were compared with their fixed base counterparts. Section I was chosen because it includes both "high tech" (telecommunications) and "lower tech" industries (transport), in addition to a series, "Air transport", which is supplied to compilers at a high level of aggregation and so cannot be annual chain-linked here.

Annual chain-linking using constructed annual weights shows a small effect on overall GDP with a tendency to depress growth slightly in the latest years (see Figure 2). This suggests that at the level of overall GDP, the introduction of annual chain-linking will not produce

large revisions for years up to and including 2000. For example, the effect is to reduce 2000 growth by 0.3 per cent.

For the production industries (the Index of Production), annual chain-linking (using constructed weights) has a mixed effect on growth (see Figure 3).

For Total Services, annual chain-linking using constructed weights has also had the effect of reducing growth, by 0.5 percentage points in 1999 and 2000 (see Figure 4).

Figure 5 shows the growth estimates for Section I: Transport, Storage and Telecommunications, approximately one eighth of Total Services. In the same way as for total services, annual chain-linking has tended to reduce growth in the latest years of Section I, particularly 1999 (by 0.9 per cent), though less for 2000 (by 0.7 per cent). The three biggest component industries in Section I are "Post and Telecommunications", "Land transport" and "Transport support" in order of size of their GVA weights (see Table 3). Two of them, Post and Telecommunications and Transport support show a reduction in volume growth from 1999 to 2000 (Figures 6 to 8) and have lower weights in 1998 (used to weight 1999 indices) than in 1995 (the latter is used to weight the indices in the fixed base system). The combined effects of these appear to have counteracted the higher growth estimate in Land Transport and driven the reduction in growth for Section I in 1999.

Figure 3

Annual growth for the Index of Production comparing fixed base and annual chain-linking

Figure 2

Annual growths for the overall output measure of Gross Domestic Product, comparing fixed base and annual chain-linking
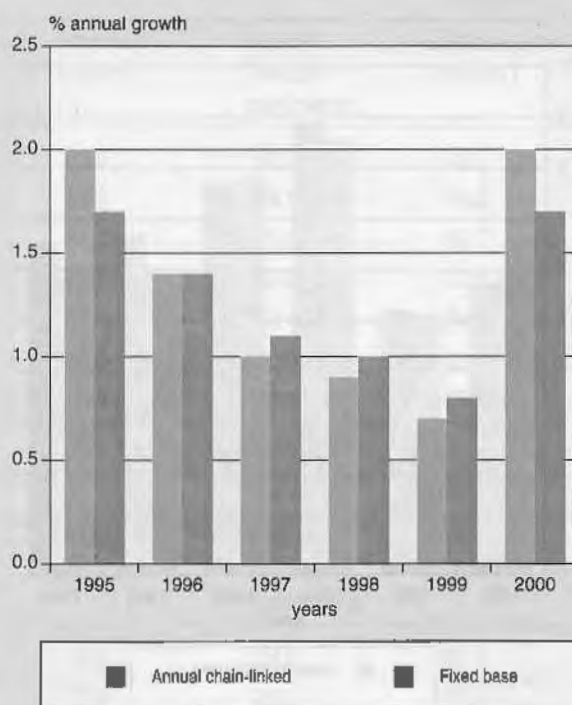
Figure 4

Annual growth for Total Services comparing fixed base and annual chain-linking
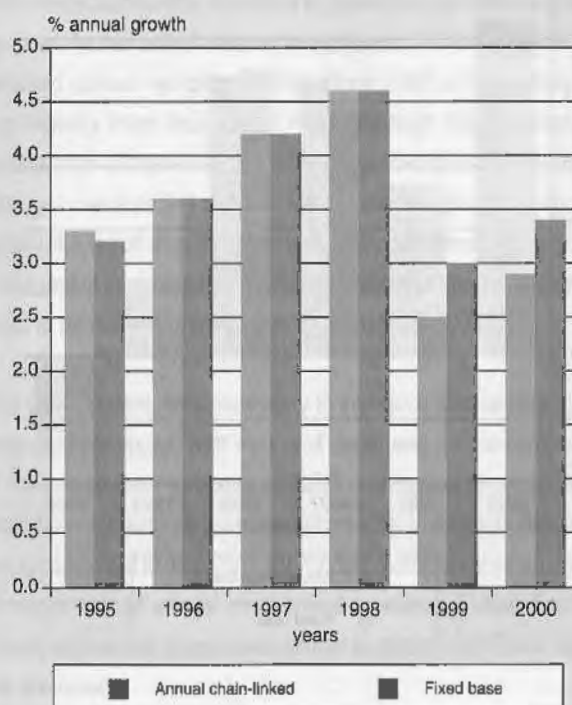
Figure 5

Annual growth for Section I of Services (Transport, Storage and Communication) comparing fixed base and annual chain-linking

% annual growth

years

- Annual chain-linked
- Fixed base
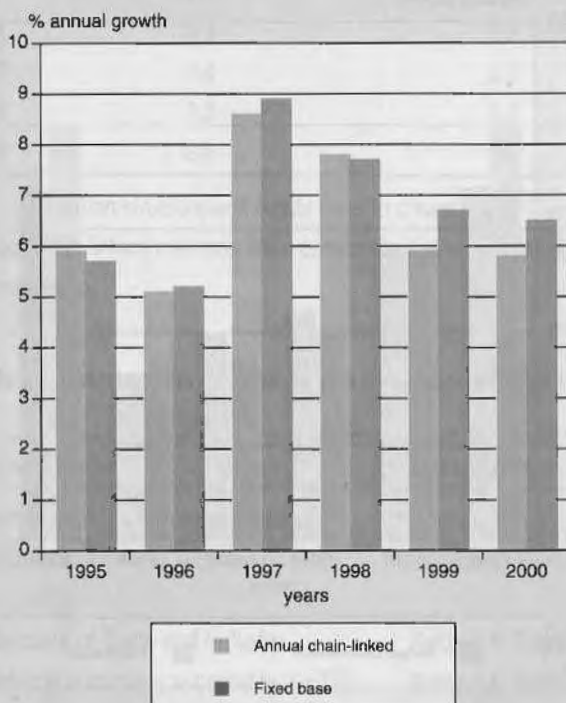
Figure 7

Annual growth for Division 63 (Support and auxiliary transport activities) comparing fixed base and annual chain-linking

% annual growth

years

- Annual chain-linked
- Fixed base
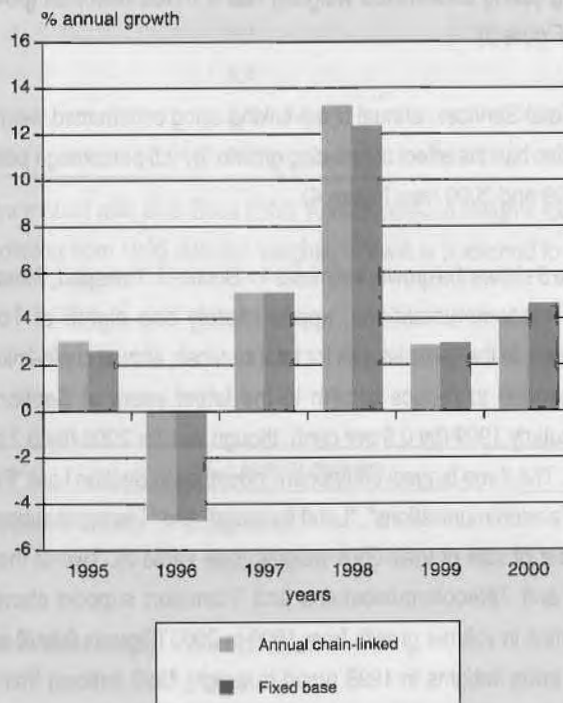
Figure 6

Annual growth for Division 60 (Land transport) comparing fixed base and annual chain-linking

% annual growth

years

- Annual chain-linked
- Fixed base
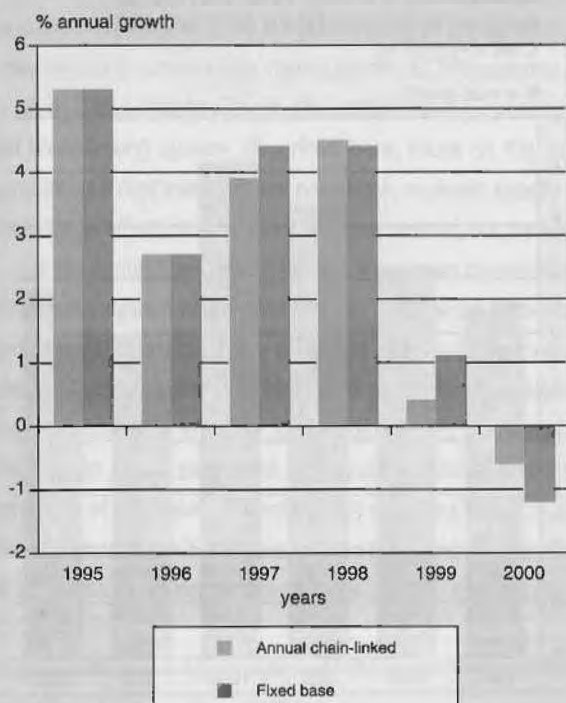
Figure 8

Annual growth for Division 64 (Post and telecommunications) comparing fixed base and annual chain-linking

% annual growth

years

- Annual chain-linked
- Fixed base
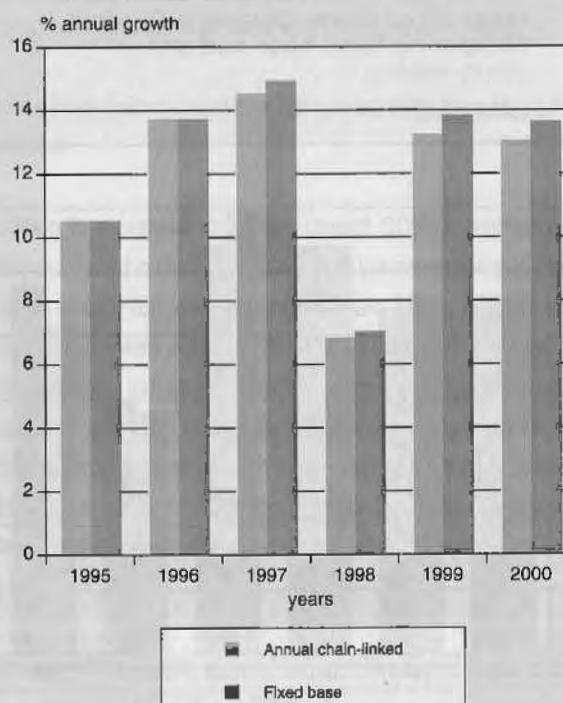
Table 3 Section I (Transport and Telecommunications) volume measure indices (a) and constructed GVA weights (b) at 2 digit and then division level.

a) annual chain-linked indices

	Land Transport	Water Transport	Air Transport	Transport support	Post and Telecom-munications	Total Section I
1994	84.9	96.4	68.1	83.3	57.5	72.5
1995	89.4	94.6	74.7	85.8	63.5	76.8
1996	91.8	101.6	79.6	81.7	72.2	80.7
1997	95.4	97.6	88.3	85.9	82.7	87.6
1998	99.6	104.9	95.9	97.3	88.4	94.5
1999	100.0	100.0	100.0	100.0	100.0	100.0
2000	99.4	85.7	105.5	103.9	113.0	105.8

b) GVA annual weights

	Land Transport	Water Transport	Air Transport	Transport support	Post and Telecom-munications	Total Section I
1994	25.9	2.5	6.2	17.0	29.9	81.5
1995	25.1	2.6	6.5	17.4	28.6	80.2
1996	23.7	2.7	7.0	18.2	27.2	78.8
1997	23.6	2.6	7.1	18.4	27.7	79.4
1998	23.7	2.4	6.9	19.0	29.4	81.4
1999	23.8	2.1	6.7	19.1	31.0	82.7
2000	-	-	-	-	-	-

Further comparisons for other sections between fixed base and annual chain-linked estimates can be made using Appendices 1 to 3.

Conclusions

The figures in this article show the effects of introducing annual chain-linking on the output measure of GDP. The annual weights used have been constructed by interpolating and extrapolating relative weights from those published for 1990 and 1995 and summing the resulting relative weights to Current Price Input-Output totals. In comparison with fixed base, annual chain-linked shows lower growth estimates in 1999 and 2000 for total service industries (sections G to Q) and overall GDP. This would suggest that industries with fast growing volumes but even faster falling prices have a strong influence on estimates of growth in the UK economy[9,15]. As described earlier, the reduction in growth is driven by likely reductions in weight of "high tech" and other fast-growing industries, as their volume growth fails to compensate for price falls

The results are consistent with the downward revision of rebasing in 1998. It is likely that estimates for 2001 and 2002 may show an even more pronounced reduction in growth as the 1995 weights will be even further out-of-date for these years. It is also likely that the detailed annual weights in *Blue Book* 2003 will not differ too significantly from those used here, although the mathematical construction of these weights will have tended to artificially smooth changes over a period of years. Most of the constructed weights are simply the result of a mathematical process without an attempt to make use of information on price and volume changes which will be used to produce annual weights for *Blue Book* 2003.

The development work necessary to introduce annual chain-linked estimates continues, with work well under way for the components of the expenditure measure of GDP. We expect to see a similar reduction of growth on the expenditure side. Investigations are also being carried out to determine appropriate methods for reconstruction of longer runs of annual chain-linked estimates. Future *Economic Trends* articles will share development progress and results as they are produced.

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Annex A

Constructing detailed weights for 1994 to 1999

Detailed weights at a broadly 4 digit level in Standard Industrial Classification, derived as described in Box 1, exist for 1990 and 1995. For years between 1990 and 1995 and after 1995, no detailed weights currently exist. Balanced GVA totals at 123 level have been calculated for these years and can be found in Current Price Input-Output tables.

For the purpose of producing annual chain-linked volume measures, detailed weights were needed for the time period 1994 to 1999. Weights were constructed for 1994, 1996, 1997, 1998 and 1999 using the following method:

The input data were:
- 1990 detailed weights published in the *Government Statistical Service Methodology Guide* No. 5[12],
- 1995 detailed weights used to aggregate *Blue Book* 2001 volume measures
- and GVA totals from Current Price Input-Output tables from 1994, 1996, 1997, 1998 and 1999.

The following procedure was used:
- The detailed weights in parts per thousand of GDP(O) were interpolated between 1990 and 1995 and extrapolated from 1995 to 1999 using a multiplicative function of the ratio of the weight in 1995 to the weight in 1990.
- The interpolated and extrapolated weights were then constrained to the Input-Output 123 level totals which had been converted into parts per thousand for 1994, 1996, 1997, 1998 and 1999[1].
- Where detailed weights existed for 1995 but not 1990, the compiler was asked to use further information to construct a 1990 weight for all the series contributing to the same Input-Output total.

Notes:
[1] In most cases, detailed weights add directly to Input-Output totals, although for Public Administration, Education and Health, adjustments are made. Teachers' pay is moved from the Input-Output total for Education to Public Administration and NHS administration is moved from Public Administration to Health & Social Work. In the construction of interpolated and extrapolated weights, the adjustment was made using the same proportion of adjustment to total as in 1995 and applied to Input-Output totals before constraining was carried out.

Annex B

Annual chain-linking for annual and quarterly data

This flowchart shows how annual and quarterly data are aggregated using the annual chain-linking method for two hypothetical industries A and B which are aggregated to industry group C. In this example, 1996 is taken to be the "last balanced year" from which weights are available and so this year is referenced to 100. Note that the annual averages of the quarterly estimates are not identical to the annual estimates, showing the need for benchmarking.

- Previous Years' prices are created by multiplying the change in constant prices from one year to the next by the weight in the first year of the pair.
- Previous Years' prices are converted to Laspeyres indices before chain-linking by dividing by total weight in the previous year.
- Annual Laspeyres indices are chain-linked by setting the annual figure for 1996 (the last balanced year) to 100, and using the growth implied in the Laspeyres indices to create figures for 1995 and 1997.
- Quarterly Laspeyres indices are chain-linked by using the ratio of quarter 4 for 1996 in "own years' prices" (OYPs) to quarter 4 in PYP to provide a link factor.

Constant prices in 95 prices

	A	B
1995	100.0	100.0
1996	95.5	105.5
1997	90.3	104.7

weights

	A	B
1995	1.7	20.7
1996	1.9	21.3

Constant prices in 95 prices

		A	B
1995	Q1	93.9	101.3
	Q2	100.7	98.8
	Q3	103.2	98.8
	Q4	102.2	101.2
1996	Q1	101.3	103.4
	Q2	98.4	105.6
	Q3	90.6	107.1
	Q4	91.6	105.7
1997	Q1	95.4	103.8
	Q2	93.3	104.6
	Q3	89.4	107.5
	Q4	83.2	103.1

Previous Years' Prices (PYP's)

	A	B
1995		
1996	1.6	21.9
1997	1.8	21.1

Previous Years' Prices (PYP's)

		A	B
1995	Q1		
	Q2		
	Q3		
	Q4		
1996	Q1	1.7	21.4
	Q2	1.6	21.9
	Q3	1.5	22.2
PYP	Q4	1.5	21.9
OYP	Q4	1.8	21.3
1997	Q1	1.9	20.9
	Q2	1.8	21.1
	Q3	1.8	21.7
	Q4	1.6	20.8

	PYPs C	Laspeyres C
1995		
1996	23.5	1.05
1997	22.9	0.99

Aggregated weights

	C
1995	22.4
1996	23.1

		PYPs C	Laspeyres C
1995	Q1		
	Q2		
	Q3		
	Q4		
1996	Q1	23.1	1.03
	Q2	23.5	1.05
	Q3	23.7	1.06
PYP	Q4	23.4	1.05
OYP	Q4	23.1	1.00
1997	Q1	22.8	0.99
	Q2	22.9	0.99
	Q3	23.4	1.01
	Q4	22.4	0.97

Creating and Linking indices

	C
1995	95.5
1996	100.0
1997	98.9

Benchmarking quarterly data to annual data

Creating and Linking indices

		C
1995	Q1	
	Q2	
	Q3	
	Q4	
1996	Q1	98.6
	Q2	100.3
	Q3	101.1
	Q4	100.0
1997	Q1	98.6
	Q2	99.1
	Q3	101.3
	Q4	96.9

Appendices

2.4 Gross value added at 1995 basic prices: by industry[1,2,3]
Index numbers

Indices 1995=100

		Weight per 1000[1] 1995		1992	1993	1994	1995	1996	1997	1998	1999	2000
A,B	**Agriculture, hunting, forestry and fishing**	18.4	GDQA	111.5	102.5	101.2	100.0	99.1	98.2	99.9	102.2	99.9
C,D,E	**Production**											
C	Mining and quarrying											
CA	Mining and quarrying of energy producing materials											
C10	Mining of coal	1.9	CKZP	181.8	142.3	94.6	100.0	95.5	90.3	76.5	69.1	59.3
C11	Extraction of mineral oil and natural gas	21.4	CKZO	68.4	77.5	96.1	100.0	105.6	104.7	107.5	112.2	110.7
CB	Other mining and quarrying	2.3	CKZQ	103.4	105.6	105.3	100.0	88.7	87.3	97.0	103.6	111.0
C	Total mining and quarrying	25.6	CKYX	78.9	84.2	96.8	100.0	103.3	102.1	104.3	108.2	106.9
D	Manufacturing											
DA	Food; beverages and tobacco	28.5	CKZA	98.9	99.2	101.7	100.0	100.9	103.2	101.5	100.8	99.6
DB	Textiles and textile products	10.7	CKZB	101.9	101.3	103.6	100.0	98.2	95.9	89.0	81.9	78.2
DC	Leather and leather products	1.5	CKZC	95.8	99.1	98.6	100.0	98.6	103.5	89.5	86.6	79.1
DD	Wood and wood products	3.0	CKZD	97.8	100.0	107.8	100.0	98.1	95.5	94.6	89.7	91.6
DE	Pulp, paper and paper products; publishing and printing	27.5	CKZE	93.0	96.0	98.5	100.0	98.0	98.2	98.9	99.1	99.0
DF	Coke, petroleum products and nuclear fuel	4.6	CKZF	88.6	89.0	89.8	100.0	91.8	93.8	88.3	79.4	82.8
DG	Chemicals, chemical products and man-made fibres	23.9	CKZG	88.5	90.4	95.1	100.0	100.6	102.4	104.0	107.4	111.8
DH	Rubber and plastic products	10.6	CKZH	85.1	88.8	97.9	100.0	98.8	98.5	101.6	100.9	100.2
DI	Other non-metallic mineral products	8.1	CKZI	94.7	99.1	102.7	100.0	96.6	99.3	96.9	95.7	95.8
DJ	Basic metals and fabricated metal products	25.2	CKZJ	96.0	95.0	97.3	100.0	99.9	101.1	99.2	95.3	95.5
DK	Machinery and equipment not elsewhere classified	19.2	CKZK	94.7	94.6	99.8	100.0	98.0	95.7	95.8	90.0	89.8
DL	Electrical and optical equipment	27.8	CKZL	79.0	83.4	93.5	100.0	104.9	108.1	114.8	126.0	144.4
DM	Transport equipment	20.4	CKZM	99.9	98.1	100.8	100.0	107.7	112.1	118.2	120.1	115.2
DN	Manufacturing not elsewhere classified	7.6	CKZN	97.2	98.6	101.7	100.0	102.0	104.0	105.3	106.6	104.5
D	Total manufacturing	218.5	CKYY	92.8	94.1	98.5	100.0	100.7	102.0	102.8	103.1	105.1
E	Electricity, gas and water supply	24.4	CKYZ	92.9	96.8	97.7	100.0	105.1	105.7	107.5	109.4	113.1
C,D,E	Total production	268.4	CKYW	91.3	93.3	98.3	100.0	101.3	102.4	103.4	104.2	106.0
F	**Construction**	51.6	GDQB	97.5	96.3	100.0	100.0	102.7	105.7	107.0	107.8	109.7
G-Q	**Service industries**											
G	Wholesale and retail trade (including motor trade); repair of motor vehicles, personal and household goods	116.6	GDQC	87.7	92.8	97.8	100.0	104.3	107.3	110.8	113.9	117.4
H	Hotels and restaurants	28.5	GDQD	96.0	98.1	100.8	100.0	102.9	103.5	104.5	104.6	101.7
I	Transport, storage and communication											
	Transport and storage	51.6	GDQF	88.1	89.9	96.9	100.0	101.1	106.6	114.5	116.7	118.7
	Communication	28.6	GDQG	79.4	83.5	90.5	100.0	112.7	128.9	139.4	158.8	179.4
I	Total	80.2	GDQH	84.9	87.6	94.6	100.0	105.2	114.6	123.4	131.7	140.3
J	Financial intermediation	65.8	GDQI	93.4	95.5	96.5	100.0	103.7	108.5	113.8	115.3	119.8
-P.119	Adjustment for financial services	−39.4	GDQJ	87.7	88.4	92.5	100.0	106.8	114.1	122.9	125.9	132.1
K	Real estate, renting and business activities Letting of dwellings, including imputed rent											
	of owner occupiers	70.5	GDQL	94.9	96.1	97.4	100.0	101.2	103.2	105.8	107.6	107.9
	Other real estate, renting and business activities	115.6	GDQK	82.0	84.1	92.8	100.0	107.4	118.7	131.6	138.3	147.5
K	Total	186.0	GDQM	86.8	88.9	94.5	100.0	105.1	112.8	121.8	126.7	132.5
L	Public administration and defence	61.0	GDQO	104.6	102.5	100.9	100.0	99.2	98.4	97.4	96.8	98.0
M	Education	55.5	GDQP	95.0	95.0	98.7	100.0	101.3	102.4	102.9	103.7	104.1
N	Health and social work	64.7	GDQQ	89.4	93.5	95.9	100.0	103.2	106.5	110.2	113.7	116.7
O,P,Q	Other social and personal services, private households with employees and extra-territorial organisations	42.6	GDQR	83.5	90.5	96.1	100.0	105.4	107.5	112.8	115.0	119.3
G-Q	Total service industries	661.6	GDQS	89.8	92.5	96.9	100.0	103.6	108.0	112.9	116.3	120.3
B.1g	**All industries**	1 000.0	CGCE	90.6	92.8	97.3	100.0	102.7	106.0	109.4	111.6	114.8

1 The weights are in proportion to total gross value added in 1995. The GVA for sections L, M, and N in this table follows the SIC(92) and differs from that shown in Table 2.3, which is based on Input-Output groups. Central government expenditure on teachers' pay is included in Education in Table 2.4 but in PAD in Table 2.3. The administration costs of the NHS are included in PAD in Table 2.4 but are included in Health and social work in Table 2.3.

2 The output analysis of gross value added is estimated in terms of change and expressed in index number form. It is therefore inappropriate to show as a statistical adjustment any divergence of an output measure of GDP derived from it from other measures of GDP. Such an adjustment does, however, exist implicitly.

3 See footnote 2 to Table 2.3.

Appendix 2

2.4CHNI Annual Chain-linked Gross Value Added indices for Economic Trends Article: by industry[1]

Index numbers

Indices 1999=100

			1994	1995	1996	1997	1998	1999	2000
Agriculture, hunting, forestry and fishing	FUDY	A,B	98.5	97.4	96.5	95.6	97.8	100.0	97.5
Production		C,D,E							
Mining and quarrying		C							
Mining and quarrying of energy producing materials		CA							
Mining of coal	FUBI	C10	136.8	144.6	136.1	130.6	110.7	100.0	85.8
Extraction of mineral oil and natural gas	FUBJ	C11	85.7	89.1	94.1	93.3	95.8	100.0	98.7
Other mining and quarrying	CKZQ	CB	110.4	102.3	90.7	86.6	93.7	100.0	115.7
Total mining and quarrying	BCXH	C	89.6	92.4	95.5	94.2	96.3	100.0	99.9
Manufacturing		D							
Food; beverages and tobacco	CKZA	DA	99.8	98.7	99.6	102.1	100.1	100.0	99.7
Textiles and textile products	CKZB	DB	127.2	122.9	120.7	117.8	109.2	100.0	96.3
Leather and leather products	CKZC	DC	115.0	116.7	115.0	120.6	104.1	100.0	94.0
Wood and wood products	CKZD	DD	119.4	110.9	108.8	106.3	105.4	100.0	102.9
Pulp, paper and paper products; publishing & printing	CKZE	DE	99.1	100.8	98.8	98.7	99.7	100.0	100.2
Coke, petroleum products and nuclear fuel	CKZF	DF	112.7	127.3	116.8	119.9	112.5	100.0	105.8
Chemicals, chemical products and man-made fibres	CKZG	DG	87.9	92.6	93.1	94.9	96.4	100.0	105.4
Rubber and plastic products	CKZH	DH	96.3	98.7	97.5	97.4	100.4	100.0	99.3
Other non-metallic mineral products	CKZI	DI	107.4	105.0	101.5	104.2	101.1	100.0	100.9
Basic metals and fabricated metal products	CKZJ	DJ	101.0	104.1	104.0	105.4	103.8	100.0	100.9
Machinery and equipment not elsewhere classified	CKZK	DK	110.4	111.3	109.0	106.6	106.7	100.0	99.7
Electrical and optical equipment	CKZL	DL	73.8	79.5	83.4	85.9	90.6	100.0	114.4
Transport equipment	CKZM	DM	84.4	83.4	89.8	93.3	98.1	100.0	96.0
Manufacturing not elsewhere classified	CKZN	DN	94.3	93.0	94.9	96.8	98.2	100.0	99.6
Total manufacturing	BCXI	D	95.2	97.0	97.7	99.0	99.7	100.0	102.1
Electricity, gas and water supply	BCXJ	E	89.4	91.7	96.4	96.9	98.5	100.0	103.1
Total production	FUDZ	C,D,E	94.2	96.1	97.4	98.4	99.3	100.0	102.0
Construction	ZSEC	F	92.8	92.8	95.3	98.0	99.3	100.0	101.9
Service industries		G-Q							
Wholesale and retail trade (including motor trade); repair of motor vehicles, personal & household goods	ZUNY	G	85.6	87.6	91.5	94.3	97.6	100.0	102.2
Hotels and restaurants	ZSGI	H	97.9	97.2	99.9	99.8	100.0	100.0	96.7
Transport, storage and communication		I							
Transport and storage	FUYA		82.8	85.6	86.3	91.3	98.4	100.0	101.9
Communication	FTLQ		57.7	63.7	71.8	81.9	88.3	100.0	112.2
Total	FVHV	I	72.5	76.8	80.7	87.6	94.5	100.0	105.8
Financial intermediation	FVHS	J	85.4	88.5	91.8	95.6	98.5	100.0	102.6
Adjustment for financial services	ZOXO	-P,119	74.9	81.3	86.9	92.3	97.5	100.0	104.2
Real estate, renting and business activities		K							
Letting of dwellings, including imputed rent of owner occupiers	FUDS		90.5	92.9	94.1	95.9	98.3	100.0	100.3
Other real estate, renting and business activities	FVHT		68.4	73.8	79.1	87.3	97.0	100.0	106.3
Total	FVHA	K	75.6	80.0	84.0	90.1	97.4	100.0	104.3
Public administration and defence	FTVT	L	103.8	102.9	102.2	101.7	100.7	100.0	101.4
Education	FVHC	M	95.2	96.4	97.7	98.8	99.2	100.0	100.4
Health and social work	FVHP	N	84.4	88.0	90.7	93.7	96.9	100.0	102.6
Other social and personal services, private households with employees and extra-territorial organisations	FUEB	O,P,Q	81.9	85.3	90.2	92.4	96.9	100.0	104.0
Total service industries	FUEA	G-Q	83.7	86.5	89.6	93.3	97.6	100.0	102.9
All industries	FTTC	B.1g	87.0	89.4	91.9	94.8	98.1	100.0	102.6

1 The output analysis of gross value added is estimated in terms of change and expressed in index number form. It is therefore inappropriate to show as a statistical adjustment any divergence of an output measure of GDP derived from it from other measures of GDP. Such an adjustment does, however, exist implicitly.

Appendix 3

2.4GWDIF

Yr-on-yr growth rates. Chain-linked minus Nonchain-linked GVA for Economic Trends Article: by industry[1,2]
Percentage difference

		1995	1996	1997	1998	1999	2000
Agriculture, hunting, forestry and fishing	A,B	–	–	–	0.6	-0.1	-0.2
Production	C,D,E						
Mining and quarrying	C						
Mining and quarrying of energy producing materials	CA						
Mining of coal	C10	–	–	–	–	–	–
Extraction of mineral oil and natural gas	C11	-0.1	–	–	–	–	–
Other mining and quarrying	CB	-2.3	–	-3.0	-2.9	–	8.5
Total mining and quarrying	C	-0.1	–	-0.2	–	0.1	1.1
Manufacturing	D						
Food; beverages and tobacco	DA	0.5	–	0.2	-0.3	0.6	0.9
Textiles and textile products	DB	0.1	–	-0.1	–	-0.5	0.8
Leather and leather products	DC	–	–	-0.1	-0.2	-0.7	2.7
Wood and wood products	DD	0.1	–	0.4	0.1	–	0.8
Pulp, paper and paper products; publishing & printing	DE	0.1	–	-0.2	0.2	0.1	0.3
Coke, petroleum products and nuclear fuel	DF	1.6	–	0.4	-0.3	-1.0	1.6
Chemicals, chemical products and man-made fibres	DG	0.2	–	0.2	–	0.4	1.4
Rubber and plastic products	DH	0.4	–	0.2	-0.1	0.3	–
Other non-metallic mineral products	DI	0.4	–	-0.1	-0.6	0.1	0.8
Basic metals and fabricated metal products	DJ	0.3	–	0.1	0.4	0.3	0.7
Machinery and equipment not elsewhere classified	DK	0.6	–	0.1	–	-0.2	-0.1
Electrical and optical equipment	DL	0.8	–	–	-0.7	0.6	-0.2
Transport equipment	DM	-0.5	–	-0.2	-0.4	0.4	–
Manufacturing not elsewhere classified	DN	0.3	–	–	0.2	0.6	1.6
Total manufacturing	D	0.4	–	0.1	-0.1	–	0.1
Electricity, gas and water supply	E	0.2	–	-0.1	-0.1	-0.2	-0.2
Total production	C,D,E	0.4	–	-0.1	-0.1	-0.1	0.2
Construction	F	–	–	-0.1	–	–	0.2
Service industries	G-Q						
Wholesale and retail trade (including motor trade); repair of motor vehicles, personal & household goods	G	–	0.1	0.2	0.3	-0.3	-0.9
Hotels and restaurants	H	–	-0.1	-0.7	-0.7	-0.1	-0.6
Transport, storage and communication	I						
Transport and storage		0.1	-0.2	0.3	0.4	-0.3	0.2
Communication		–	–	-0.4	-0.3	-0.6	-0.7
Total	I	0.2	-0.1	-0.4	0.1	-0.9	-0.7
Financial intermediation	J	–	–	-0.5	-1.8	0.2	-1.3
Adjustment for financial services	-P.119	0.4	–	-0.5	-2.1	0.1	-0.7
Real estate, renting and business activities	K						
Letting of dwellings, including imputed rent of owner occupiers		–	0.1	-0.1	–	–	–
Other real estate, renting and business activities		0.1	-0.1	-0.2	0.2	-2.0	-0.4
Total	K	–	-0.1	-0.1	0.1	-1.4	-0.3
Public administration and defence	L	–	0.1	0.2	–	–	0.2
Education	M	–	–	–	–	–	–
Health and social work	N	–	-0.1	–	–	–	–
Other social and personal services, private households with employees and extra-territorial organisations	O,P,Q	–	0.4	0.5	–	1.2	0.3
Total service industries	G-Q	0.1	–	–	–	-0.5	-0.5
All industries	B.1g	–	0.1	-0.1	0.3	-0.1	-0.3

1 As 1996 growth rates using fixed base methodology and annual chain-linking methodology both use 1995 weights, the differences for 1996 should all read zero (represented by a dash). The small discrepancies displayed are a result of: a) additive adjustments made to data (which although taken on in the annual chain-linked system, will not have an identical effect to those in the fixed base system); b) the inclusion of adjustments in the fixed base system which ensure published totals match previously calculated totals for 1994 to 1997; c) the effects of rounding in the fixed base system.

2 Series which show zero differences in all years are those which have not been annually chain-linked at the published level because input data is supplied at this level.

Appendix 4

2.4CHNW Annual GVA weights for Economic Trends Article: by industry[1]

		Weight per 1000[1] 1994	1995	1996	1997	1998	1999
Agriculture, hunting, forestry and fishing	A,B	17.4	18.4	17.3	14.1	12.6	11.9
Production	C,D,E						
Mining and quarrying	C						
Mining and quarrying of energy producing materials	CA						
Mining of coal	C10	1.7	1.9	1.5	1.4	1.1	0.8
Extraction of mineral oil and natural gas	C11	20.5	21.4	25.2	21.4	17.4	18.7
Other mining and quarrying	CB	2.0	2.3	2.4	2.4	2.2	2.1
Total mining and quarrying	C	24.3	25.6	29.1	25.2	20.6	21.5
Manufacturing	D						
Food; beverages and tobacco	DA	30.0	28.5	29.4	28.3	26.4	25.7
Textiles and textile products	DB	10.6	10.7	10.8	10.7	9.1	8.1
Leather and leather products	DC	1.7	1.5	1.3	1.2	1.1	1.0
Wood and wood products	DD	2.9	3.0	3.0	3.1	3.0	2.7
Pulp, paper and paper products; publishing & printing	DE	26.3	27.5	26.4	25.2	24.7	25.2
Coke, petroleum products and nuclear fuel	DF	4.4	4.6	3.7	3.3	3.4	3.5
Chemicals, chemical products and man-made fibres	DG	22.9	23.9	23.3	21.5	19.9	18.8
Rubber and plastic products	DH	10.4	10.6	10.7	11.1	10.8	9.8
Other non-metallic mineral products	DI	7.7	8.1	7.7	7.2	6.6	6.1
Basic metals and fabricated metal products	DJ	23.2	25.2	24.0	23.6	23.1	21.2
Machinery and equipment not elsewhere classified	DK	18.2	19.2	18.4	18.7	17.9	15.9
Electrical and optical equipment	DL	27.2	27.8	27.5	27.9	26.5	26.2
Transport equipment	DM	21.9	20.4	21.2	21.7	21.1	20.3
Manufacturing not elsewhere classified	DN	7.3	7.6	8.0	8.4	8.2	8.0
Total manufacturing	D	214.8	218.5	215.3	212.1	201.7	192.4
Electricity, gas and water supply	E	26.2	24.4	23.7	22.4	21.1	20.2
Total production	C,D,E	265.3	268.4	268.1	259.6	243.5	234.2
Construction	F	51.3	51.6	50.9	51.2	50.6	51.8
Service industries	G-Q						
Wholesale and retail trade (including motor trade); repair of motor vehicles, personal & household goods	G	117.7	116.6	116.8	119.9	122.8	125.6
Hotels and restaurants	H	27.7	28.5	29.8	31.1	32.0	32.2
Transport, storage and communication	I						
Transport and storage		51.6	51.6	51.6	51.7	51.9	51.8
Communication		29.9	28.6	27.2	27.7	29.4	31.0
Total	I	81.5	80.2	78.8	79.4	81.4	82.7
Financial intermediation	J	69.6	65.8	60.2	56.3	59.5	53.7
Adjustment for financial services	-P.119	−38.0	−39.4	−33.2	−31.1	−36.8	−38.8
Real estate, renting and business activities	K						
Letting of dwellings, including imputed rent of owner occupiers		69.6	70.5	68.7	69.7	72.8	73.8
Other real estate, renting and business activities		112.0	115.6	120.6	129.0	140.9	149.9
Total	K	181.6	186.0	189.3	198.7	213.8	223.7
Public administration and defence	L	64.3	61.0	57.8	54.5	51.8	49.7
Education	M	56.0	55.5	55.7	55.7	56.1	58.0
Health and social work	N	63.5	64.7	64.2	63.7	63.8	65.3
Other social and personal services, private households with employees and extra-territorial organisations	O,P,Q	42.1	42.6	44.2	46.9	48.9	50.0
Total service industries	G-Q	665.9	661.6	663.7	675.1	693.2	702.1
All industries	B.1g	1 000.0	1 000.0	1 000.0	1 000.0	1 000.0	1 000.0

1 The weights are in proportion to total gross value added in each year. The GVA for section L, M and N in this table follows the SIC(92) and differs from that shown in the UK Input-Output Supply and Use Tables for each year. Central government expenditure on teachers' pay is included in Education in PAD in Input-Output Tables. The administration costs of the NHS are included in PAD in Table 2.4 but are included in Health and Social Work in Input-Output tables.