Office for National Statistics

Economic & Labour Market Review

Contents

Vol 2 No 6
June 2008 edition

Office for National Statistics

palgrave macmillan

ISBN 978-0-230-21733-1
ISSN 1751–8326 (print)
ISSN 1751–8334 (online)

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The Director of ONS is also the National Statistician.

Palgrave Macmillan

This publication first published 2008 by Palgrave Macmillan, Houndmills, Basingstoke, Hampshire RG21 6XS and 175 Fifth Avenue, New York, NY 10010, USA

Companies and representatives throughout the world.

A catalogue record for this book is available from the British Library.

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Printed and bound in Great Britain by Latimer Trend & Company Ltd, Plymouth, Devon

Typeset by Alias Designs Ltd, Cardiff

In brief

Foreign direct investment

Foreign direct investment (FDI) occurs when an enterprise in one economy makes an investment that gives a significant degree of influence on the management of an enterprise in another economy. The statistical definition to identify FDI is that a direct investor (DI) owns equity that entitles it to 10 per cent or more of the voting power in the direct investment enterprise (DIE) abroad. This usually means that the DI owns 10 per cent or more of the ordinary shares of the DIE. The DI and the DIE are in a direct investment relationship which may be direct or indirect through a chain of ownership across different economies.

FDI statistics are fundamental to the analysis of the level and impact of globalisation in any country. This includes employment, productivity, work practices and research and development. The statistics are also an important part of the set of indicators used to assess the financial soundness and long-term economic health of a country. They are considered vital to the work of international organisations, in particular the International Monetary Fund (IMF), European Central Bank (ECB), Eurostat and the Organisation for Economic Co-operation and Development (OECD). It is important for FDI statistical analyses that countries measure their FDI in a consistent way

The Statistics Department of the IMF are conducting the global Coordinated Direct Investment Survey (CDIS) to collect consistent statistics on the levels of FDI as at end-2009. The survey will be conducted in collaboration with OECD, ECB, Eurostat and the United Nations Conference on Trade and Development. So far, over 120 countries, including the UK, have indicated their intention to participate.

A survey guide has been prepared under IMF supervision and they have developed an implementation plan that includes an IMF one-page flyer to raise awareness, a CDIS web page, and regional seminars and workshops throughout the next two years.

The prime objective is the collection of comprehensive statistics, with geographic detail, on the stock of inward and outward FDI, separately for equity and debt investment, as at 31 December 2009. Common standards and definitions will be used in each country to collect the set of core data. Collection of supplementary data will be encouraged, for example, ultimate ownership, industry breakdowns and income.

First results and metadata will be delivered to the IMF by end-September 2010, with final results to be delivered during the first half of 2011. All data delivered to IMF will be non-confidential. IMF will publish first country by country results by end-2010, and final results later in 2011.

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Local area labour markets

The latest local area labour market data show that the area with the highest employment rate was the City of London with 100 per cent (note that this estimate is based on a very small sample). Excluding the City of London, the highest employment rate was the Shetland Islands (89.7 per cent) while the lowest rate was in Tower Hamlets (56.4 per cent). There is a considerable variation within each region. For example, in the region with the highest average rate, the South West (78.5 per cent), employment varies between 85.5 per cent in Tewkesbury and 69.1 per cent in West Somerset.

The area with the highest unemployment rate in the 12 months ending September 2007 was Tower Hamlets (12.9 per cent), while the lowest rates were in Hart (Hampshire), West Oxfordshire, Mole Valley (Surrey) and Ribble Valley (Lancashire) (all with 2.5 per cent). Again, there were considerable variations within regions. In the region with the lowest average rate, the South West (3.8 per cent), unemployment varied between Plymouth (6.2 per cent) and Cotswold and Purbeck (2.6 per cent). London had the highest average rate (6.9 per cent), but individual boroughs varied between Tower Hamlets (12.9 per cent) and Richmond upon Thames (3.4 per cent).

The latest estimates of jobs density (2006) show there were 0.88 jobs per working-age resident in the UK. London had the highest jobs density at 1.02 compared with 0.78 in the lowest region, Northern Ireland. The local area with the highest jobs density was the City of London, with over 50 jobs per working-age resident, while the lowest was in Carrickfergus, Northern Ireland, with 0.39 jobs per resident.

People who work in the City of London had the highest earnings, with median full-time gross pay of £834 a week as at April 2007. The lowest pay was for people who work in Torridge, South West, at £313 a week.

The report 'Local area labour markets: Statistical indicators April 2008' was published on the National Statistics website on 12 May 2008. It also contains sections looking at economic inactivity, ethnicity and the labour market, claimants of Jobseeker's Allowance (the claimant count), and earnings by place of residence. It brings together data from a number of different sources – the Annual Population Survey, Annual Business Inquiry, Annual Survey of Hours and Earnings, and administrative data on benefits from the Department for Work and Pensions – to give an overall picture of the labour market looking at both labour supply and demand in each area. Since this report was published, Annual Population Survey data sets have been released, reweighted to population estimates published in 2007. This article is in line with these reweighted data sets, which results in some small inconsistencies from figures released in that report.

Also available are spreadsheets giving data for key indicators such as employment, unemployment, economic inactivity, claimant count and jobs for both local authorities and parliamentary constituencies.

More information

www.statistics.gov.uk/statbase/product.asp?vlnk=14160

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Eurostat project on economic impacts of Information and Communication Technologies

Over the last two years, the Office for National Statistics has been leading a project involving 13 European National Statistics offices to look at new indicators for the impact of Information and Communication Technologies (ICTs) on the behaviour and performance of businesses, and on the wider economy. The results of this work were reviewed at a project conference on 22 May, held to coincide with the Comparative Analysis of Enterprise Data meeting in Budapest, Hungary. Contributions to the conference came from Germany, Italy, Netherlands, Slovenia, Sweden and the UK; the audience included statistics offices from as far away as China.

The project has developed ways of extending the use of microdata analysis from European Union (EU) member states such as the UK, France, Netherlands and the Scandinavian countries, where it is well established, to others where similar data sources exist, but infrastructure and expertise is still in development. This has required a major review of metadata underlying technology, production and employment surveys, to enable them to be linked in exactly the same way within statistics offices across the EU, so that microdata analysis can be used for reliable international comparisons.

This metadata resource also underlies the capability, developed within the project, to create indicators on technology use and firm behaviour which are directly comparable with National Accounts data. Not only does this improve the relevance of indicators, it also enables them to be incorporated in macroeconomic analysis of productivity alongside output, investment and labour input data. This has already proved useful in modelling certain aspects of the 'knowledge economy', where investment is difficult to measure using standard National Accounts techniques.

Apart from extending the analytical capability of the EU statistical system, the project has delivered useful research results:

- confirming the positive impact of IT investment on business productivity across all the countries in the study
- showing a more differentiated picture across services, both by country and by industry
- demonstrating the importance of high-speed internet for productivity across a range of industries, but particularly those which depend on skills and knowledge
- helping to clarify relationships between ICT and other investments in new products and processes

Initial results from the project are included in the Statistical Profile prepared by the Organisation of Economic Co-operation and Development for its ministerial meeting on the Future of the Internet on 17–19 June. They were also presented at the United Nations Conference on Trade and Development event on ICT for Development, held in Geneva on 28 May, at which over 70 countries compared experiences in measuring the impact of ICT on households and business.

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Consumer inflation: perception and reality

Consumer price indexes measure the change in prices charged for goods and services bought for consumption by households in the UK. The Office for National Statistics (ONS) publishes two main measures of consumer inflation, the consumer prices index (CPI) and the retail prices index (RPI). The UK inflation figures for April 2008 show the CPI rising by 3.0 per cent and the RPI rising by 4.2 per cent.

It is clear from reports in the media that people are seeing big rises in the cost of food and fuel and are questioning the accuracy of the CPI and RPI rates. An article on the National Statistics website explains how the official figures are compiled and looks at why some people think that the estimate of inflation should be higher. This will be followed later by a more detailed article which looks at how inflation affects different goods and services and different groups of people.

More information

www.statistics.gov.uk/cci/article.asp?id=2008

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Correction

A number of errors were identified after publication of two of the tables in the Regional economic indicators article which appeared in the May edition of *Economic & Labour Market Review*. The corrected tables, along with modified text reflecting the adjusted values in these tables, appear in a revised version of the article now on the National Statistics website.

More information

www.statistics.gov.uk/cci/article.asp?id=1998

UPDATES

Updates to statistics on www.statistics.gov.uk

7 May

Index of production

Manufacturing: 0.3% quarterly rise in Q1
www.statistics.gov.uk/cci/nugget.asp?id=198

12 May

Producer prices

Factory gate inflation rises to 7.5% in April
www.statistics.gov.uk/cci/nugget.asp?id=248

UK trade

Deficit narrowed to £4.0 billion in March
www.statistics.gov.uk/cci/nugget.asp?id=199

13 May

Inflation

April: CPI up to 3.0%; RPI up to 4.2%
www.statistics.gov.uk/cci/nugget.asp?id=19

14 May

Average earnings

Pay growth steady in year to March
www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Rate increases to 74.9% in three months to March
www.statistics.gov.uk/cci/nugget.asp?id=12

21 May

Public sector

April: £0.6 billion current budget surplus
www.statistics.gov.uk/cci/nugget.asp?id=206

22 May

Business investment

1.4% fall in Q1 2008
www.statistics.gov.uk/cci/nugget.asp?id=258

Retail sales

Slowdown in volume of sales
www.statistics.gov.uk/cci/nugget.asp?id=256

23 May

GDP growth

Economy rose by 0.4% in Q1 2008
www.statistics.gov.uk/cci/nugget.asp?id=192

Index of services

0.5% three-monthly rise into March
www.statistics.gov.uk/cci/nugget.asp?id=558

28 May

Service prices

SPPI inflation at 3.5% in Q1 2008
www.statistics.gov.uk/cci/nugget.asp?id=253

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

3 June

Environmental accounts spring 2008 edition

Mergers and acquisitions involving UK companies – Q1 2008

6 June

Output and employment in the construction industry – Q1 2008

9 June

Producer prices – May 2008

10 June

Index of production – April 2008

MM22: Producer prices – May 2008

11 June

Labour market statistics – June 2008

MM19: Aerospace and electronics cost indices – March 2008

Public sector employment – Q1 2008

Regional labour market statistics

UK trade – April 2008

12 June

New construction orders – April 2008

Public and private breakdown of labour disputes

16 June

MM17: Price Index Numbers for Current Cost Accounting (PINCCA) – May 2008

Monthly review of external trade statistics – April 2008

UK trade in goods analysed in terms of industries – Q1 2008

17 June

Annual Business Inquiry revised results – 2006

Consumer price indices – May 2008

18 June

Digest of engineering turnover and orders – April 2008

19 June

New construction orders: additional monthly information – April 2008

Public sector finances – May 2008

Retail sales – May 2008

SDM28: Retail sales – May 2008

23 June

Focus on consumer price indices – May 2008

24 June

Public sector finances: supplementary (quarterly) data

25 June

Civil Service statistics 2007

26 June

Business investment revised results – Q1 2008

Investment by insurance companies, pension funds and trusts – Q1 2008

27 June

Balance of payments – Q1 2008

Consumer Trends – Q1 2008

Market sector gross value added

Quarterly national accounts – Q1 2008

United Kingdom Economic Accounts – Q1 2008 (web version)

30 June

Distributive and service trades – April 2008

Financial intermediation services indirectly measured – Q1 2008

Index of services – April 2008

Productivity – Q1 2008

1 July

Profitability of UK companies – Q1 2008

Economic review

June 2008

Anis Chowdhury
Office for National Statistics

SUMMARY

Growth Domestic Product output slowed modestly in 2008 quarter one compared with the previous quarter. Growth was driven by slower service sector output, offset by virtually flat total production growth. Manufacturing output returned to positive growth in the latest quarter. On the expenditure side, household spending strengthened while business investment weakened in quarter one compared with the previous quarter. The current account deficit narrowed in quarter four. The goods trade deficit widened slightly in quarter one. The labour market continues to be buoyant in 2008 but shows signs of softening; average earnings remain relatively subdued. Public sector finances showed a healthy position in April 2008. Consumer price inflation accelerated in April 2008 and was above the Government's inflation target. Producer output and input price inflation accelerated in 2008 quarter one and continued to increase in April 2008.

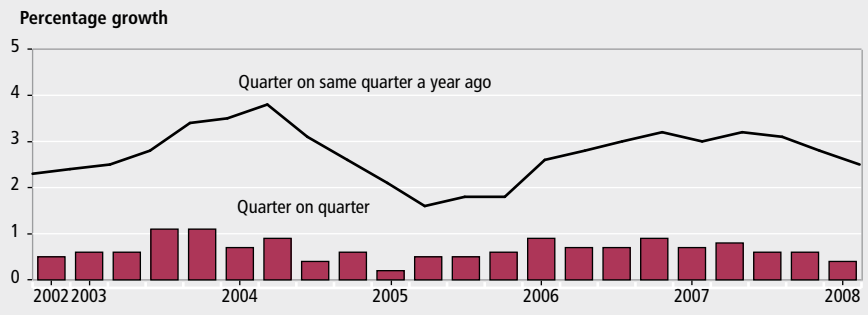
GROSS DOMESTIC PRODUCT

First quarter growth of 0.4 per cent

Gross Domestic Product (GDP) growth for the first quarter of 2008 is estimated to have slowed compared with the previous quarter. Growth was a modest 0.4 per cent, a deceleration from 0.6 per cent growth in the previous quarter. The initial estimate for the annual rate of growth was 2.5 per cent, down from 2.8 per cent growth in the previous quarter (**Figure 1**).

The growth rate in the UK economy in quarter one continued to be driven by relatively strong, although slower, service sector output compared with the previous quarter. Industrial production growth continued to display weakness for the third successive quarter, with output decelerating in the latest quarter. Within total production, there was a fall in the output of the mining & quarrying (including oil & gas) as well as the electricity, gas and water supply industries. This was offset by a modest upturn in manufacturing output. The construction sector continued to grow fairly strongly.

Figure 1
Gross domestic product



OTHER MAJOR ECONOMIES

Global growth shows mixed fortunes in quarter one

Preliminary data for 2008 quarter one are now available for most major OECD countries. Data reported a mixed but overall a strengthening picture of global growth compared with the previous quarter.

US GDP growth continued to exhibit relative weakness. Growth on the quarter was just 0.2 per cent, similar to the rate in the previous quarter, and a marked slowdown from 1.2 per cent growth achieved in 2007 quarter three. The weakness in growth was mainly due to a significant deceleration in consumer spending, partly due to negative conditions in the housing and credit markets. Fragile growth was also partly led by continued contraction in residential investment – for the ninth consecutive quarter. There was also contraction in non-residential investment following positive growth shown in previous quarters. The above weaknesses were offset by a positive inventories and net trade situation – with both contributing positively to growth.

Japan's GDP grew by 0.8 per cent in 2008 quarter one, an acceleration from 0.6 per cent growth in the previous quarter. Growth was led by a strengthening in household consumption and net exports. Residential investment also showed buoyant growth following contraction in the previous quarter. However, these were offset by a contraction in both private investment and inventories.

Euro-zone growth picked up. According to Eurostat's preliminary estimate, euro area GDP growth accelerated to a buoyant 0.7 per cent compared with modest 0.4 per cent growth in the previous quarter. Growth for the two big mainland European Union economies – Germany and France – showed an improved picture in 2008 quarter one compared with the previous quarter.

German GDP growth accelerated sharply in 2008 quarter one, increasing by 1.5 per cent, up sharply from 0.3 per cent in the previous quarter. Growth was led partly by positive growth in household consumption following negative growth in the previous

quarter. Capital and construction investment also contributed to growth with both accelerating in the latest quarter. Exports grew strongly and continued to be a key driver in Germany's economic growth.

French GDP growth showed a more modest acceleration in 2008 quarter one, rising by 0.6 per cent, from 0.3 per cent in the previous quarter. The increase was driven by a sharp acceleration in corporate investment as well as net exports, with both contributing positively to growth. On the other hand, household consumption decelerated, with virtually flat growth recorded in the latest quarter. Italy figures were not available at the time of writing this article.

FINANCIAL MARKETS

Share prices weaken; pound depreciates

Equity performance has displayed volatility in the last couple of years. In recent quarters, equity growth has been particularly weak. In 2008 quarter one, the FTSE All-Share index fell substantially, by around 9 per cent. This follows growth of just 0.5 per cent in the previous quarter. The weakness in equity growth can mainly be attributed to global growth concerns, particularly regarding the US economy, brought on by financial uncertainty and continued problems regarding the credit squeeze, attributable to the US housing and the sub-prime mortgage market. According to the latest monthly figures, there appeared to be a rebound with the FTSE All-Share index rising by 4.8 per cent.

In the currency markets, 2008 quarter one saw sterling's broad average value depreciating markedly compared with the previous quarter. The pound's value against the dollar fell by around 3 per cent compared to appreciation of around 1 per cent in the previous quarter. Against the euro, sterling's value depreciated by approximately 7 per cent, a further depreciation from around 4 per cent in 2007 quarter four. Overall, the quarterly effective exchange rate depreciated by approximately 6 per cent in 2008 quarter one following depreciation of around 3 per cent in the previous quarter. In April, the pound depreciated against the dollar by 1.1 per cent. Against the euro, the pound depreciated by 2.5 per cent. The effective exchange rate depreciated by 1.9 per cent (**Figure 2**).

The recent movements in the exchange rate might be linked to interest rate and growth factors. Exchange rate movements can be related to the perceptions of the relative strengths of the US, the euro and UK economy. The depreciation of the pound against both the dollar and euro in quarter one may have come in response to fears about lower growth in the UK economy and therefore prospects of lower interest rates to stimulate the economy. Indeed, the Bank of England reduced interest rates by 0.25 basis points in April 2008 to 5 per cent, the third cut in interest rates since December 2007 and was mainly in response to the effects of the sub-prime crisis in terms of downward risks to growth and inflation. These interest rate reductions may have made the pound less appealing to investors compared to other currencies.

Also, the depreciation of the pound against the dollar may have occurred due to perceptions amongst investors of further prospect of interest rate reductions in the UK compared with the US. However, US interest rates were lowered by a further 0.25 basis points in April 2008 to 2 per cent following a 0.75 basis points reduction in March – driven by the same growth concerns as the UK.

In contrast, in the euro area, the further depreciation of the pound against the euro in the first quarter of 2008 may have come in response to continued stability in interest rates in the euro-zone – with the likelihood that interest rates are unlikely to be cut in the medium term. The euro-zone interest rate is currently at 4 per cent, having been maintained there since the 0.25 basis point increase in June 2007, partly in response to concerns about inflationary pressures.

Figure 2
Exchange rates

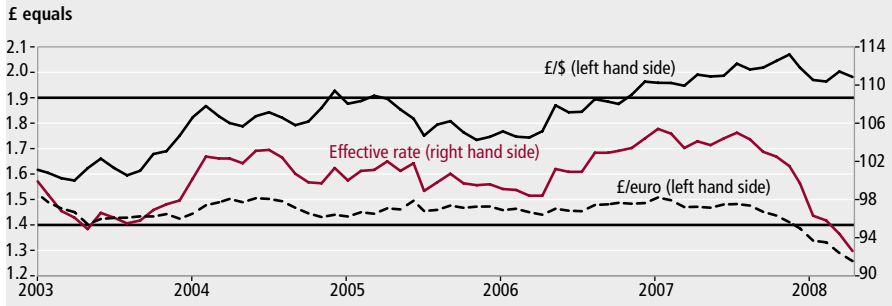
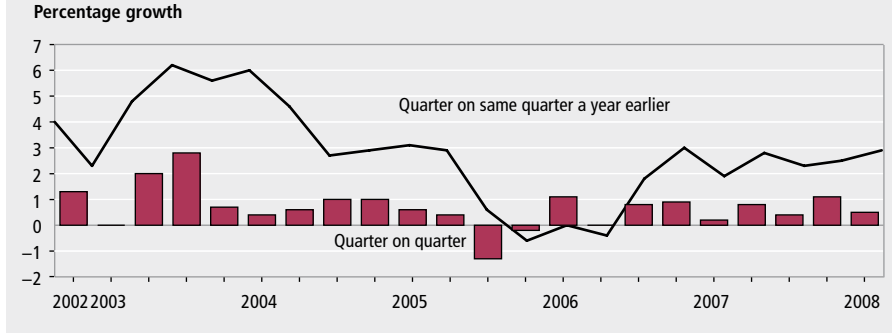


Figure 3
Construction output



OUTPUT

Services sector slows but continues to drive economic growth

GDP growth in 2008 quarter one was estimated to have grown at 0.4 per cent, a deceleration from 0.6 per cent in the previous quarter. On an annual basis it was 2.5 per cent, down from 2.8 per cent in the previous quarter.

Construction activity weakened in the latest quarter but still grew modestly. Construction output is estimated to have grown by 0.5 per cent, down from 1.1 per cent growth in the previous quarter. Comparing the quarter on the same quarter a year ago, construction output rose by 2.9 per cent, up from 2.5 per cent growth in the previous quarter (**Figure 3**).

External surveys also signalled weakening activity – putting this down partly to the

slowing housing market. The survey by the Chartered Institute of Purchase and Suppliers (CIPS) recorded an average headline index of 51.2 in the latest quarter, a decrease from 55.9 in the previous quarter but still indicative of fairly buoyant growth . In April the headline index declined to 46.1. The Royal Institute of Chartered Surveyors construction survey for 2008 quarter one reported a sharp fall in the growth of construction workloads to a balance of plus one, down from plus 16 in the previous quarter.

Total output from the production industries weakened in the latest quarter, reversing the subdued upturn in the previous quarter. Growth fell by 0.2 per cent following growth of just 0.2 per cent in 2007 quarter four. On an annual basis output grew by 0.6 per cent, down slightly from 0.7 per cent growth in the previous quarter.

The weakness in total production was driven by a contraction in the output of the mining and quarrying industries which fell by 4.6 per cent compared with the virtually flat growth in the previous quarter. On an annual basis, output contracted by 4.5 per cent compared with growth of 1.8 per cent in the previous quarter. Weaker total production growth was also partly led by a fall in the output of the electricity, gas and water supply industries which decreased by 1.3 per cent after output increased by 2.8 per cent in the previous quarter. On an annual basis, growth was 1.7 per cent, down from 4.6 per cent growth in the previous quarter.

Manufacturing output in contrast showed a modest revival. Output grew by 0.3 per cent compared with flat growth in the previous quarter. On an annual basis, manufacturing output grew by 1.0 per cent, up from 0.2 per cent growth in the previous quarter (**Figure 4**).

Production growth has generally been slow since the second quarter of 2006 due to weakness in mining and quarrying and utilities output, offset through most of this period by relatively strong manufacturing output. There was a pick up in production in 2007 quarter two, but this appears not to have been sustained in the following two quarters, due to weak manufacturing output growth. Manufacturing output has displayed volatility in the recent past. In the latest quarter there appears to be some sort of reversal with manufacturing output showing a modest upturn – but it remains to be seen whether this can be sustained.

The output of the agriculture, forestry and fishing industries weakened in the latest quarter with output increasing by 0.7 per cent, decelerating from growth of 2.1 per cent in the previous quarter. On an annual basis growth was 2.4 per cent, down from 2.8 per cent growth in the previous quarter.

External surveys of manufacturing for 2008 quarter one showed a deteriorating picture compared with the previous quarter (**Figure 5**). In the past, it has not been unusual for the path of business indicators and official data to diverge over the short term. These differences happen partly because the series are not measuring exactly the same thing. External surveys measure the direction rather than the magnitude of a change in output and often inquire into expectations rather than actual activity.

The CIPS average headline index for manufacturing indicated a slow-down but still painted a fairly robust picture in the latest quarter. The headline index was 51.1, down from 53.0 in the previous quarter. According to the latest April figure, the index was at 51.0. The Confederation of British Industry (CBI) in its 2008 quarter one Industrial Trends survey reported a weakening in its total order books with the balance dropping to minus 13, from plus two in the previous quarter. In April, the total order book balance was at minus 13. The British Chambers of Commerce (BCC) in its 2008 quarter one survey also reported a weakening picture of manufacturing activity. The home sales balance dropped to

Figure 4
Manufacturing output

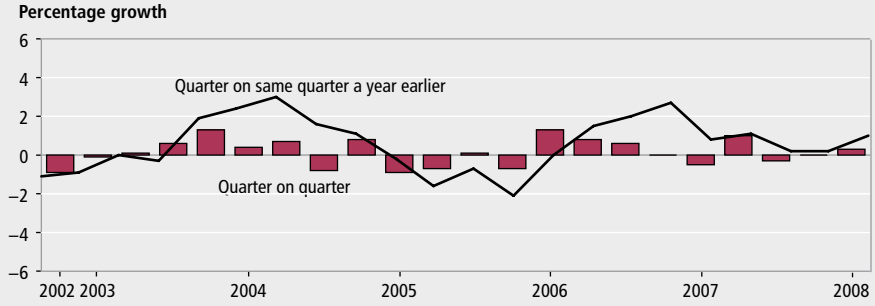


Figure 5
External manufacturing

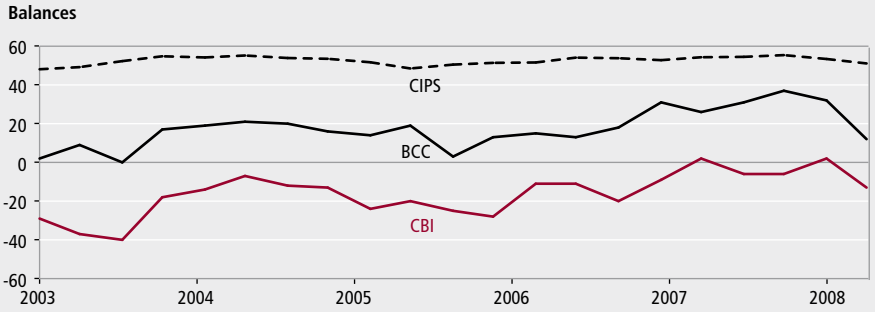
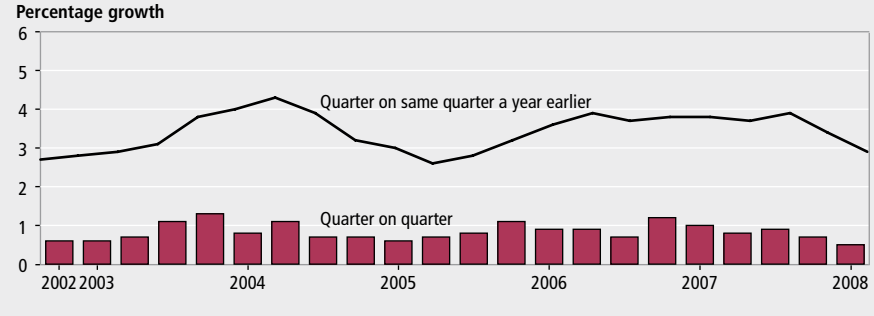


Figure 6
Services output



plus 12 from plus 32 in the previous quarter – the lowest since 2005 quarter three.

Overall the service sector, the largest part of the UK economy, continues to be the main driver of UK economic growth. Growth continued to be fairly buoyant despite easing in the latest quarter compared with the previous quarter.

Services output grew by 0.5 per cent in 2008 quarter one, a reduction from 0.7 per cent growth in the previous quarter and a further slow-down from growth of 0.9 per cent recorded in 2007 quarter three (**Figure 6**). On an annual basis services output expanded by 2.9 per cent, down from 3.4 per cent in the previous quarter.

Growth was recorded in varying degrees across all four broad sectors, with a slow-down overall. The main contribution to the decline in services output growth came from businesses services and finance, where output decelerated to 0.4 per cent from 0.6 per cent in the previous quarter. On an annual basis growth was 3.8 per cent, down from 4.4 per cent in the previous quarter. The output of the transport, storage and communication industries also decelerated with growth of 1.0 per cent, down from 1.7 per cent in the previous quarter. On an annual basis growth was 3.2 per cent, down from 3.9 per cent in the previous quarter. There was also a weakening in the output of government and other services, which grew by 0.5 per cent, down from 0.7 per cent in the previous quarter. On an annual basis growth was 2.0 per cent, down from 2.1 per cent in 2007 quarter four. This was partially offset by stronger growth in the output of the distribution, hotels and catering industries. Growth accelerated to 0.7 per cent from 0.2 per cent in the previous quarter. On an annual basis, growth was 2.5 per cent, down from 3.0 per cent in the previous quarter.

The external surveys on services showed a mixed picture of service sector activity in 2008 quarter one. The CIPS survey pointed to a stable but still healthy picture of service sector activity. The average headline index in 2008 one was 52.9, up from 52.5 in the previous quarter. In April the index had slowed to 50.4. It should be noted that the CIPS survey has a narrow coverage of the distribution and government sectors.

The CBI and BCC reported a generally weakening picture of service sector activity (**Figure 7**). The CBI service sector survey for February 2008 reported falling sentiment and business volumes for the business and professional services sector and the consumer service sector compared

Figure 7
External services

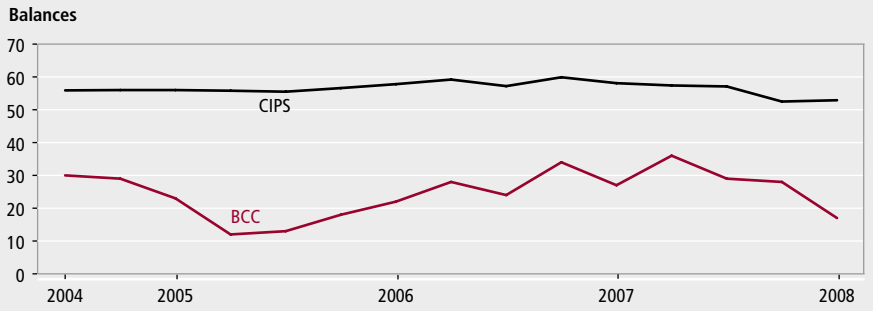
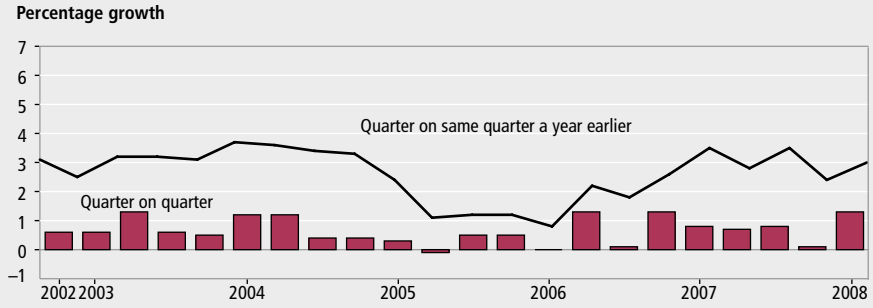


Figure 8
Household demand



to the previous quarter. The consumer services volume balance was at minus seven, down from plus four in the previous quarter. For business and professional services, the balance was at plus six, down from plus 26 in the previous quarter. The BCC survey for 2008 quarter one reported a weakening picture of service sector activity, but overall balances for home orders and sales remained positive at plus 14 and plus 17, from plus 18 and plus 28 respectively.

EXPENDITURE

Consumers' spending strengthens

Household consumption expenditure accelerated in 2008 quarter one from the previous quarter. Growth was 1.3 per cent, up markedly from that of 0.1 per cent in quarter four. Compared with the same quarter a year ago, growth was 3 per cent, up from 2.4 per cent in the previous quarter (**Figure 8**). Higher spending was primarily driven by a rise in durable and semi-durable goods expenditure. This was offset by slower growth in non-durable goods expenditure. There was modest growth in services expenditure.

One key indicator of household expenditure is retail sales. Retail sales strengthened in 2008 quarter one compared with the previous quarter, contributing to a certain extent to buoyant consumer spending in quarter one. Retail sales volumes grew by 2.0 per cent in quarter one, an acceleration from growth of 0.6 per cent in 2007 quarter four. The robustness in retail sales in the latest quarter may be partly attributed to continued, widespread discounting which is reflected in the price deflator (i.e. shop prices). This fell on average by 0.9 per cent in 2008 quarter one.

Retail sales figures are published on a monthly basis and the latest available figures for April 2008 showed a slowing, but still fairly robust, picture (**Figure 9**). In the three months to April the volume of retail sales increased by 1.5 per cent compared with an increase of 1.9 per cent increase in the three months to March. On an annual basis in April, the latest three months growth compared with the same three months a year ago recorded strong growth of 4.8 per cent, down from 5.5 per cent in March.

In the latest month, discounting continued to play a part in retail sales growth but to a lower extent compared with the previous month. The price deflator fell by 0.9 per cent in April 2008 compared with a fall of 1.1 per cent in March.

Retail sales can be disaggregated into

'predominantly food' and 'predominantly non-food' sectors. In the three months to April 2008, retail sales growth in volume terms was driven by the 'predominantly non-food stores' and to a lesser extent the 'predominantly food stores' sector. The 'predominantly non-food stores' sector grew by 1.7 per cent, similar to the rate in the previous month. Within this sector 'household goods stores' weakened with growth falling by 1.9 per cent compared with a decrease of 0.4 per cent in the previous month. The 'non-store retailing and repair stores' also showed a slowdown, with growth of 3.3 per cent, down from 5.5 per cent in March. This was offset by a rebound in 'non-specialised stores', which grew by 1.6 per cent following a 0.5 per cent contraction in the previous month. The 'textile, clothing and footwear stores' grew buoyantly at 1.7 per cent, unchanged from the previous month. The 'predominantly food stores' sector in contrast slowed with growth of 1 per cent, compared with 1.5 per cent in the previous month.

External surveys for retail sales presented a mixed picture of growth in 2008 quarter one. The CBI reported an average balance of plus one in the latest quarter, down from plus ten in the previous quarter. The latest balance in April according to the monthly Industrial Trends survey had deteriorated further to minus 26. The BRC reported average growth of 3.3 per cent in 2008 quarter one on a total sales basis, up from 2.8 per cent in 2007 quarter four. According to the latest April figures, total sales growth was 1 per cent (**Figure 10**).

Another indicator of household consumption expenditure is borrowing. Household consumption has risen faster than disposable income in recent years as the household sector has become a considerable net borrower and therefore accumulated high debt levels. Bank of England data on stocks of household debt outstanding to banks and building societies shows household debt at unprecedented levels relative to disposable income.

There are two channels of borrowing available to households: i) secured lending, usually on homes; and ii) unsecured lending, for example on credit cards. On a general level, increases/decreases in interest rates raises/lowers debt servicing costs. The recent reductions in interest rates may have begun to fed through to increased spending decisions, by providing households' the incentive to borrow, particularly on unsecured credit. This may have contributed partly in the rebound of household expenditure in the latest quarter.

Despite the credit crunch, Bank of England figures show both secured and unsecured lending holding up remarkably well, with a strengthening in the latter. In recent years, secured borrowing has been particularly strong compared to weaker unsecured credit growth. This appears to have reversed in the latest quarter as a result of the credit crunch, in terms of the tight lending criteria adopted by banks and building societies on secured credit; possibly suggesting that households could be resorting to unsecured lending for spending purposes. Bank of England data showed total lending was £26.2 billion in 2008 quarter one roughly similar to £26.9 billion in the previous quarter. Within total lending there was a slow-down in lending on secured dwellings to £21.5 billion, down from £23.6 billion in 2007 quarter four. This was offset by in increase in unsecured lending to £4.6 billion in the latest quarter, up from £3.3 billion in the previous quarter.

An alternative measure of expenditure also showed a buoyant picture. M4 (a broad money aggregate of UK money supply) rose sharply in the latest quarter to £43.1 billion, up from £34.3 billion in 2007 quarter four. M4 (i.e. bank cash deposits) lending also rose to £55.3 billion in 2008 quarter one, up from £51.7 billion in the previous quarter.

Figure 9
Retail sales

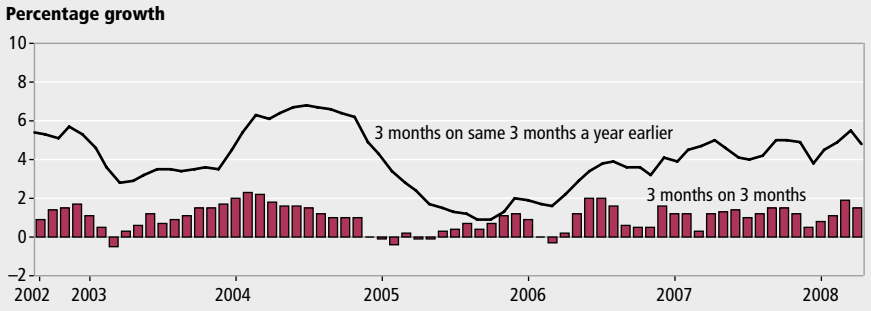
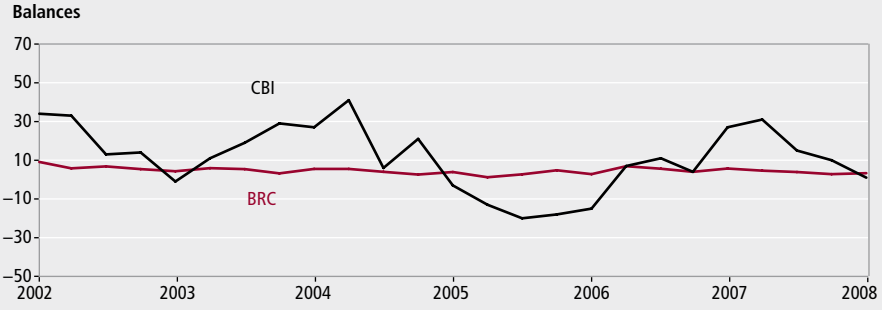


Figure 10
External retailing



BUSINESS DEMAND

Business investment weakens

Total investment fell by 1.6 per cent in 2008 quarter one compared with growth of 1.8 per cent in the previous quarter. On an annual basis, total investment fell by 1.1 per cent, a slow-down from 4.1 per cent growth in the previous quarter. The decrease in total investment was primarily due to a contraction in machinery and capital equipment investment (**Figure 11**).

Business investment decelerated markedly in 2008 quarter one, contracting 1.4 per cent – the first quarterly drop in three years – following growth of 1.8 per cent in 2007 quarter four. On an annual basis, business investment grew by 3.7 per cent in the latest quarter, a slow-down from 5.3 per cent growth in the previous quarter. The slow-down in business investment was due to sharp declines in construction, consumer goods manufacturing and distribution.

Business investment could have slowed for a number of reasons. Firstly, increased uncertainty and pessimism, particularly in regards to global demand, may have deterred investment; secondly, the

downturn in investment could have come on the back of lower corporate profits; thirdly, the weakness in the equity market in recent quarters may have constrained revenue generation and hence investment; last, but not least, the general weakness in the property market in terms of lower price growth may have inhibited investment spending.

Evidence on investment intentions from the latest BCC and CBI surveys painted a weak picture. According to the latest quarterly BCC survey, the balance of manufacturing firms planning to increase investment in plant and machinery fell by nine points to plus 12 – the lowest since 2005 quarter four. The CBI's Quarterly Industrial Survey in 2008 quarter one also reported a bleaker investment picture, with the investment balance of plant and machinery weakening to minus 18 from minus 12 in the previous quarter.

Figure 11
Total fixed investment

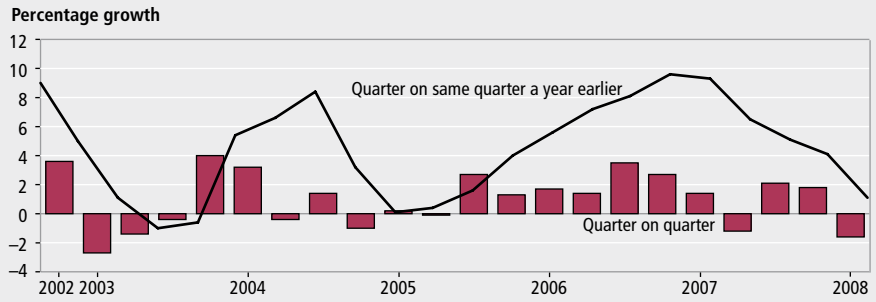
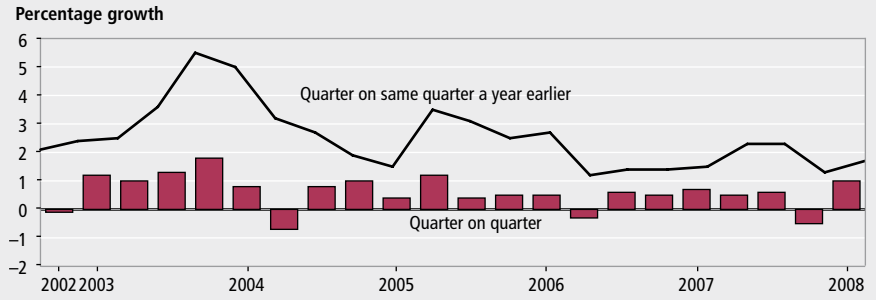


Figure 12
Government spending



GOVERNMENT DEMAND

Government expenditure increases

Government final consumption expenditure accelerated in the latest quarter. Growth jumped to 1 per cent after contracting by 0.5 per cent in the previous quarter. On an annual basis, growth was 1.7 percent, up from 1.3 per cent in the previous quarter (**Figure 12**).

Public sector finances improves

The latest figures on the public sector finances to April 2008 illustrated a positive picture. The figures showed a current budget surplus together with a net lending situation. Overall, however, in financial year terms, the Government continued to operate a financial deficit, with government expenditure continuing to exceed revenues reflected in a budget deficit and net borrowing. In April 2008, the current budget was in surplus by £0.6 billion; this compares with a deficit of £0.1 billion in April of 2007. In the financial year 2007/08, the deficit was £5.7 billion. Public sector net borrowing fell by £0.5 billion (that is, net lending) in April 2008; this compares with net borrowing of £0.2 billion in April 2007. In the financial year 2007/08, net borrowing was £34.3 billion. The positive monthly picture mainly reflected lower growth in both central government expenditure and revenues combined with buoyant petroleum tax receipts.

Since net borrowing became positive in 2002, following the current budget moving from surplus into deficit, net debt as a proportion of annual GDP has risen steadily. Public sector net debt in April 2008 was 36.5 per cent of GDP, up from 36.1 in April 2007. In the financial year 2006/07, net debt as a percentage of GDP was 36.7 per cent.

TRADE AND THE BALANCE OF PAYMENTS

Current account deficit narrows; goods deficit widens

The publication of the latest quarterly Balance of Payments figures shows that the current account deficit narrowed in 2007 quarter four to £8.5 billion, from a deficit of £19.1 billion in the previous quarter (**Figure 13**). As a proportion of GDP, the deficit fell to 2.4 per cent of GDP from 5.5 per cent in 2007 quarter three. The narrowing in the current account deficit in 2007 quarter four was due to a switch from a deficit on income to a surplus on income, together with a higher surplus on services. The surplus on income stood at £9.3 billion and the surplus on trade in services widened to £10.1 billion. The deficit on trade in goods was unchanged at £23.2 billion compared with the previous quarter.

The run of current account deficits since 1998 reflects the sustained deterioration in the trade balance. The UK has traditionally run a surplus on the trade in services, complemented by a surplus in investment income, but this has been more than offset by the growing deficit in trade in goods partly due to the UK's appetite for cheaper imports.

In the latest quarter, the deficit on trade in goods and services widened to £13.4 billion, from a £13.1 billion deficit in the previous quarter. There was a lower surplus on trade in services which exceeded the narrowing in the goods trade deficit. The latest figures show a continuation in the goods trade deficit. The goods trade deficit was £22.9 billion in 2008 quarter one, down from £23.2 billion in the previous quarter. The balance on trade in services was £9.6 billion in the latest quarter compared with £10.1 billion in the previous quarter. In terms of growth, exports of goods grew by 0.5 per cent while goods imports fell by 1.1 per cent. Services exports fell by 0.8 per cent and services imports grew by 0.8 per cent. Over the quarter, total trade contracted by 0.6 per cent following a decrease of 1 per cent in the previous quarter.

External surveys on exports reported

Figure 13
Balance of payments

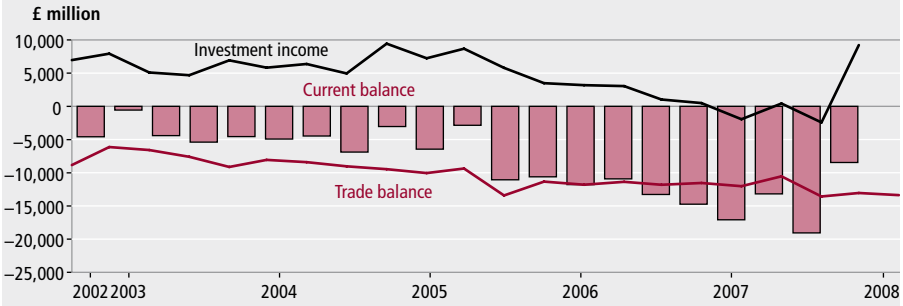


Figure 14
Employment and unemployment

a subdued picture for the latest quarter. The BCC reported that the export sales net balance fell by six points to plus 16 – the lowest position since 2005 quarter four. The latest CBI quarterly survey also reported a weaker picture. The export orders balance was minus 12 in 2008 quarter one, deteriorating from minus four in the previous quarter. According the latest figures in May, the export orders balance was unchanged at minus 12.

LABOUR MARKET

Labour market activity buoyant but shows signs of softening

The labour market in the latest reference period illustrated a mixed but, overall, still buoyant picture – with relatively high levels of employment and low levels of unemployment seen throughout 2006 and in 2007. The weakening in certain indicators of the labour market in the latest period may reflect the lagged effect of the slow-down in the economy which began in the third quarter of 2007 and which has quickened in the latest quarter, starting to feed through to the labour market.

The latest figure from the Labour Force Survey (LFS) pertains to the three-month period up to March 2008. The number of people in employment and the employment rate rose. The number of unemployed people rose but the unemployment rate was unchanged. The claimant count increased. The inactivity rate and the number of inactive people of working age have both fallen. The number of vacancies rose. Average earnings including bonuses rose, while the figure excluding bonuses was unchanged. Overall average earnings remain subdued with weak real wage growth.

Employment continues to proceed at record levels. The current working age employment rate was 74.9 per cent in the three months to March 2008, up 0.1 percentage point from the three months to December 2007 and up 0.6 percentage points from a year earlier. The number of people in employment rose by 117,000 in the three months to March 2008 compared to the previous quarter to an employment level of 29.54 million – the highest since comparable records began in 1971. Unemployment levels, on the other hand, rose on the quarter, marking the first rise in the year. The number of unemployed people increased by 14,000 but was down 83,000 from a year earlier, leaving the unemployment level at 1.61 million in the three months to March 2008. However, the unemployment rate was 5.2 per cent in the three months to March 2008, unchanged from the three months to December 2007, but down 0.3 percentage points from a year earlier (**Figure 14**).

Looking at a detailed level, the increase in the employment level was mainly driven by employees and full-time employment. The increase was led by a rise in employees of 69,000 and a 39,000 rise in self-employment. In terms of full- and part-time workers, the numbers of people in full-time employment rose by 84,000 while the number of people in part-time employment increased by 33,000.

Workforce jobs increases

According to employer surveys, there was an increase of 13, 000 jobs in the three months to December 2007. The largest quarterly contribution to the increase came from distribution, hotels and restaurants (up 43,000), followed by transport and communication (up 18,000), and education, health and public administration (up 10,000). This was offset by decreases across a number of sectors with the largest decrease in manufacturing (down 29,000), followed by construction (down 19,000) and other services (down 13,000). Over the year, total workforce jobs increased by 208,000. Of the total, the largest contribution to the increase over the year came from finance and business services (up 149,000), followed by distribution, hotels and restaurants (up 103,000) and education, health and public administration (up 23,000). The manufacturing sector, in contrast, lost the largest number of jobs on the year (down 53,000), followed by other services (down 12,000).

Claimant count level increases

The claimant count measures the number of people claiming the Jobseeker's Allowance. The latest figures for April 2008 showed the claimant count level rose by 7,200, but was down 82,300 on a year earlier to reach a level of 806,300. However, this figure is still close to lowest levels for 30 years. The claimant count rate in April 2008 was 2.5 per cent, unchanged from the previous month but down 0.3 percentage points from a year earlier.

Vacancies rise

The number of vacancies created in the UK continued to show a healthy demand position for the economy. There were 682,800 job vacancies in the three months to April 2008, up 6,700 from the previous three months and up 44,600 from the same period a year earlier.

Inactivity level falls

The working age inactivity rate was 20.9 per cent in the three months to March 2008, down 0.1 percentage point on the three months to December 2007 and down 0.3 percentage points from a year earlier. In level terms, the number of economically inactive people of working age was down 33,000 over the quarter and by 80,000 over the year to reach a level of 7.88 million in the three months to March 2008. Inactivity falls in level terms were recorded across most groups. The largest level fall in inactivity was recorded for those categorised as 'temporary sick' (down 13,000) followed by the 'long-term sick' category (down 11,000). This was offset by increases in a couple of categories, with the largest increase in inactivity amongst the 'discouraged' category (up 8,000) followed by the 'student' category (up 5,000).

Average earnings subdued

Growth in whole economy average earnings showed a mixed picture in the three months to March 2008, but overall remains relatively subdued. Average earnings including bonuses increased by 4.0 per cent in the three months to March 2008, up 0.3 percentage points from the previous month. Average earnings excluding bonuses rose by 3.8 per cent, unchanged from the previous month. In terms of the public and private sector split, the gap in average earnings (excluding bonuses) widened in March 2008. Public sector wage growth was 3.9 per cent, up 0.1 percentage point from the previous month. Private sector wages grew by 3.7 per cent, unchanged from the previous month.

Overall, the numbers still point to a fairly buoyant labour market, with employment at high levels and unemployment at a fairly stable level. However, the slowing economy may have started to impact on the labour market in terms of higher unemployment levels. Average earnings show stable but fairly modest growth, consistent with increased supply in the labour force.

PRICES

Producer output and input prices accelerate

Industrial input and output prices are an indication of inflationary pressures in the economy. During the first quarter of 2008, output prices exhibited further signs of an acceleration of growth from quarter four 2007 and therefore provided signs of continued inflationary pressures. Input prices also accelerated in the first quarter of 2008 compared with quarter four 2007. This suggests that firms were attempting to maintain their profit margins by passing on the higher costs of inputs to customers. However, the slower rate of growth of output inflation in the latest quarter compared to faster input price growth may suggest that firms have been tempered in part in passing higher input price rises to customers, due to spending pressures faced by households – with possible impact on firms' profits.

Input prices on average rose by around 20 per cent in 2008 quarter one. This compares with around 11 per cent in 2007 quarter four. The core input price index, excluding food, beverages, tobacco and petroleum, rose by an average of around 9 per cent in 2008 quarter one (12 month non-seasonally adjusted growth), an acceleration from growth of around 3 per cent in the previous quarter. The sharp rise in input prices came mainly on the back of rising crude oil and home food materials prices. According to the latest monthly figures, the annual rate of input price inflation rose by 23.3 per cent in the 12 months to April 2008, driven by a 62.6 per cent increase in the price of crude oil on the year.

Output prices grew on average by around 6 per cent in 2008 quarter four, an acceleration from growth of around 4.5 per cent in the previous quarter. The underlying picture also suggests inflationary pressures. On the core measure which excludes food, beverages, tobacco and petroleum, producer output prices rose on average by around 3 per cent in 2008 quarter one, up from 2.3 per cent in the previous quarter. The main contributions to the increase in output prices were provided by rises in petroleum products and food prices. According to the latest monthly figures, annual output price inflation rose by 7.5 per cent in the 12 months to April – mainly driven by petroleum products which rose 25.4 per cent on the year.

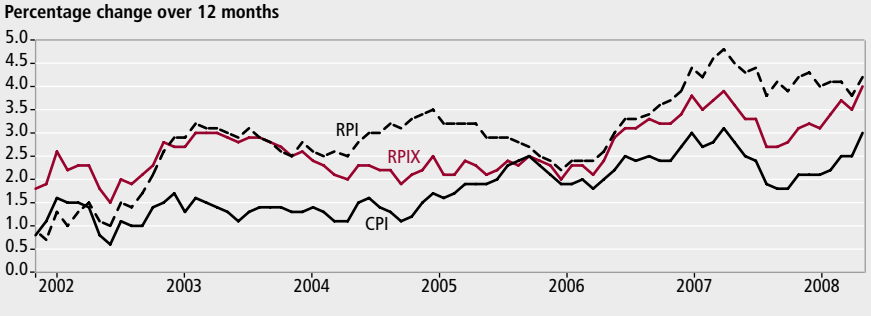
Consumer prices accelerate and above target

Growth in the Consumer Prices Index (CPI) – the Government's target measure of inflation – was 3.0 per cent in April 2008, a jump from 2.5 per cent in March. This is lower than the peak in March 2007 when inflation reached 3.1 per cent but above Government's 2 per cent inflation target (**Figure 15**).

The largest upward contribution to the change in the CPI annual rate came from housing and household services due to changes in the price of gas, electricity and heating oil. There were further large upward contributions from: food and non-alcoholic beverages, particularly meat, fruit, some breads and cereals and fish; miscellaneous goods and services where prices rose this year but fell last year, principally due to banking services; and restaurants and hotels where the effect mainly came from alcoholic drinks sold in restaurants and cafes, reflecting the increase in excise duty which was larger than last year.

The largest downward contribution came from: transport costs, mainly due to air

Figure 15
Inflation



transport and fuels and lubricants;

air fares, which fell in April compared with rises last April; and the price of fuels and lubricants which rose this year by less than last year. The average price of petrol increased by 1.9 pence per litre between March and April this year, to stand at 108.2 pence, compared with a rise of 3.4 pence last year. By contrast, diesel prices rose by more than last year but have a smaller effect on the fuels index. There was a further large downward contribution from clothing and footwear.

Retail Price Index (RPI) inflation rose to 4.2 per cent in April, up from 3.8 per cent in March. The main factors affecting the CPI also affected the RPI.

Additionally, there were downward contributions to RPI from house depreciation, council tax and vehicle excise duty; and the differences in coverage and weights between RPI and CPI for financial services result in a smaller upward contribution for RPI than CPI.

RPIX inflation – the all items RPI excluding mortgage interest payments – was 4.0 per cent in April, up from 3.5 per cent in March.

Independent forecasts

May 2008

UK forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the UK economy. The tables show the average and range of independent forecasts for 2008 and 2009 and are extracted from HM Treasury's Forecasts for the UK Economy.

2008

	Average	Lowest	Highest
GDP growth (per cent)	*1.7*	*–0.1*	*2.0*
Inflation rate (Q4, per cent)			
CPI	*2.8*	*2.1*	*3.8*
RPI	*3.1*	*1.5*	*4.2*
Claimant count (Q4, million)	0.87	0.76	1.00
Current account (£ billion)	–56.2	–77.5	–32.8
Public Sector Net Borrowing (2007–08, £ billion)	42.8	32.3	48.0

2009

	Average	Lowest	Highest
GDP growth (per cent)	*1.6*	*-1.3*	*2.7*
Inflation rate (Q4, per cent)			
CPI	*2.1*	*1.1*	*3.9*
RPI	*2.4*	*1.1*	*4.1*
Claimant count (Q4, million)	0.96	0.72	1.20
Current account (£ billion)	–50.3	–88.9	–20.7
Public Sector Net Borrowing (2008–09, £ billion)	43.8	36.5	53.5

Notes

Forecast for the UK economy gives more detailed forecasts, and is published monthly by HM Treasury. It is available on the Treasury's website at: www.hm-treasury.gov.uk/economic_data_and_tools/data_index.cfm

Selected world forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the world economy. The tables show forecasts for a range of economic indicators taken from Economic Outlook (Dec 2007), published by OECD (Organisation for Economic Co-operation and Development).

2007

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	*2.2*	*1.9*	*2.6*	*2.7*
Consumer price (percentage change from previous year)	*2.8*	*0.0*	*2.1*	*4.5*
Unemployment rate (per cent of the labour force)	*4.6*	*3.8*	*6.8*	*5.4*
Current account (as a percentage of GDP)	*–5.6*	*4.7*	*0.2*	*–1.4*
Fiscal balance (as a percentage of GDP)	*–2.8*	*–3.4*	*–0.7*	*–1.6*

2008

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	*2.0*	*1.6*	*1.9*	*2.3*
Consumer price (percentage change from previous year)	*2.7*	*0.3*	*2.5*	*4.2*
Unemployment rate (per cent of the labour force)	*5.0*	*3.7*	*6.4*	*5.4*
Current account (as a percentage of GDP)	*–5.4*	*4.8*	*–0.1*	*–1.4*
Fiscal balance (as a percentage of GDP)	*–3.4*	*–3.8*	*–0.7*	*–2.0*

Notes

The OECD *Economic Outlook* is published biannually. Further information about this publication can be found at www.oecd.org/eco/Economic_Outlook

Key indicators

The data in this table support the Economic review by providing some of the latest estimates of Key indicators.

Seasonally adjusted unless otherwise stated

	Source CDID	2006	2007	2007 Q3	2007 Q4	2008 Q1	2008 Feb	2008 Mar	2008 Apr
GDP growth - chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	2.9	3.0	0.6	0.6	0.4	..	..	..
Output growth - chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	3.0	2.9	0.6	0.6	0.4	..	..	..
Industrial production	CKYW	0.3	0.3	-0.3	0.2	–0.2	0.2	–0.4	..
Manufacturing	CKYY	1.6	0.6	-0.3	0.0	0.3	0.4	–0.5	..
Construction	GDQB	1.0	2.3	0.5	1.1	0.5	..	..	..
Services	GDQS	3.6	3.8	0.9	0.7	0.5	..	..	..
Oil and gas extraction	CKZO	–9.4	–2.6	–1.6	1.0	–3.5	–1.1	0.6	..
Electricity, gas and water supply	CKYZ	–2.0	0.0	0.7	2.7	–1.3	0.7	–1.5	..
Business services and finance	GDQN	5.4	4.8	1.3	0.7	0.3	..	..	..
Household demand									
Retail sales volume growth	EAPS	3.2	4.3	1.5	0.5	1.9	0.9	–0.2	–0.1
Household final consumption expenditure growth (CVM)	ABJR	1.9	3.0	0.8	0.1	1.3	..	..	..
GB new registrations of cars (thousands)[1]	BCGT	2,340	2,390	671	468	675	68	449	173
Labour market[2,3]									
Employment: 16 and over (thousands)	MGRZ	29,027	29,233	29,262	29,421	29,538	29,538	..	..
Employment rate: working age (%)	MGSU	74.6	74.5	74.5	74.8	74.9	74.9	..	..
Workforce jobs (thousands)	DYDC	31,294	31,536	31,607	31,620	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	928.6	936.3	938.9	937.0	948.4	948.4	..	..
Unemployment: 16 and over (thousands)	MGSC	1,671	1,652	1,656	1,599	1,612	1,612	..	..
Unemployment rate: 16 and over (%)	MGSX	5.4	5.4	5.4	5.2	5.2	5.2	..	..
Claimant count (thousands)	BCJD	944.7	863.3	845.8	816.1	796.5	795.5	799.1	806.3
Economically active: 16 and over (thousands)	MGSF	30,698	30,885	30,919	31,020	31,151	31,151	..	..
Economic activity rate: working age (%)	MGSO	78.9	78.9	78.9	79.0	79.1	79.1	..	..
Economically inactive: working age (thousands)	YBSN	7,861	7,946	7,953	7,911	7,878	7,878	..	..
Economic inactivity rate: working age (%)	YBTL	21.0	21.1	21.1	21.0	20.9	20.9	..	..
Vacancies (thousands)	AP2Y	597.1	655.9	666.0	675.6	691.2	678.5	691.2	682.8
Redundancies (thousands)	BEAO	139	128	133	111	111	111	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses)[3]	LNNC	..	..	4.1	3.8	4.0	3.7	4.0	..
GB average earnings (excluding bonuses)[3]	JQDY	..	..	3.7	3.7	3.8	3.8	3.8	..
Whole economy productivity (output per worker)	A4YN	..	..	2.3	1.7	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	2.9	3.0	..
Unit wage costs: whole economy	LOJE	..	..	1.8	2.7	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	0.8	0.8	..
Business demand									
Business investment growth (CVM)	NPEL	–4.6	7.9	2.7	1.8	–1.4	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	1.7	1.9	0.6	–0.5	1.0	..	..	..
Prices (12-monthly percentage change – except oil prices)									
Consumer prices index[1]	D7G7	2.3	2.3	1.8	2.1	2.4	2.5	2.5	3.0
Retail prices index[1]	CZBH	3.2	4.3	3.9	4.2	4.0	4.1	3.8	4.2
Retail prices index (excluding mortgage interest payments)	CDKQ	2.9	3.2	2.7	3.1	3.5	3.7	3.5	4.0
Producer output prices (excluding FBTP)[4]	EUAA	2.3	2.4	2.3	2.5	3.4	3.4	3.5	4.5
Producer input prices	EUAB	9.7	3.4	3.0	11.4	20.1	20.2	20.5	23.1
Oil price: sterling (£ per barrel)	ETXR	35.93	36.11	36.93	43.51	48.72	48.17	51.34	55.72
Oil price: dollars ($ per barrel)	ETXQ	66.11	72.44	74.67	88.91	96.47	94.66	102.85	110.35

Seasonally adjusted unless otherwise stated

	Source CDID	2006	2007	2007 Q3	2007 Q4	2008 Q1	2008 Feb	2008 Mar	2008 Apr
Financial markets									
Sterling ERI (January 2005=100)	BK67	101.2	103.5	104.1	101.2	95.5	95.8	94.4	92.6
Average exchange rate /US$	AUSS	1.8429	2.0018	2.0211	2.0444	1.9789	1.9638	2.0032	1.9817
Average exchange rate /Euro	THAP	1.4670	1.4619	1.4705	1.4129	1.3212	1.3316	1.2897	1.2580
3-month inter-bank rate	HSAJ	5.26	5.95	6.18	5.95	5.95	5.68	5.95	5.76
Selected retail banks: base rate	ZCMG						5.25	5.25	5.00
3-month interest rate on US Treasury bills	LUST	4.89	3.29	3.62	3.29	1.36	1.81	1.36	1.44
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	–77,555	–87,649	–23,169	–23,191	–22,938	–7,587	–7,437	..
Exports of services (£m)	IKBB	127,157	138,424	34,805	35,271	35,783	11,781	11,927	..
Non-EU balance on trade in goods (£m)	LGDT	–45,468	–47,285	–12,948	–12,869	–12,124	–4,085	–3,772	..
Non-EU exports of goods (excl oil & erratics)[5]	SHDJ	118.0	116.5	119.2	115.5	123.1	125.8	123.6	..
Non-EU imports of goods (excl oil & erratics)[5]	SHED	124.5	131.6	135.5	134.6	131.8	132.9	133.3	..
Non-EU import and price index (excl oil)[5]	LKWQ	103.9	104.2	103.5	104.1	109.5	109.7	110.4	..
Non-EU export and price index (excl oil)[5]	LKVX	101.5	102.5	102.2	104.0	106.5	106.6	106.8	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth)[6]	VQUU	5.1	5.8	5.4	5.8	6.7	6.6	6.7	6.7
M4 (year on year percentage growth)	VQJW	12.9	12.8	13.0	12.4	12.0	12.3	12.0	11.1
Public sector net borrowing (£m)	–ANNX	29,161	37,733	7,060	16,896	–5,635	–754	10,245	–518
Net lending to consumers (£m)	RLMH	13,191	11,814	3,661	3,200	4,087	2,118	1,167	940

External indicators – non-ONS statistics

		2007 Oct	2007 Nov	2007 Dec	2007 Jan	2008 Feb	2008 Mar	2008 Apr	2008 May
Activity and expectations									
CBI output expectations balance	ETCU	10	9	3	9	11	18	0	0
CBI optimism balance	ETBV	–13			–18			–23	
CBI price expectations balance	ETDQ	15	23	17	14	19	21	23	28

Notes:

1 Not seasonally adjusted.
2 Annual data are the average of the four quarters except for workforce jobs (June).
3 Monthly data for vacancies and average earnings are averages of the three months ending in the month shown. Monthly data for all other series except claimant count are averages of the three months centred on the month shown.
4 FBTP: food, beverages, tobacco and petroleum.
5 Volumes, 2003 = 100.
6 Replacement for series M0 which has ceased publication.

Further explanatory notes appear at the end of the 'Key time series' section.

FEATURE

Labour disputes in 2007

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SUMMARY

The article analyses the three main measures of labour disputes – working days lost, stoppages and workers involved – by industry, region, cause, size and duration. The statistics are put into context by considering estimates of working days lost per 1,000 employees and working time lost through strikes as a proportion of time actually worked.

Data are taken from a number of sources including regular centralised returns from some industries and public bodies, as well as directly from the employer or trade union involved after the Office for National Statistics has been notified of a dispute from press reports.

In 2007, just over a million working days were lost in the UK from 142 stoppages of work arising from labour disputes, with 96 per cent of these being lost in the public sector. This article analyses the disputes by industry, region, cause, size and duration, and also compares the 2007 figures with previous years.

The article presents final figures on labour disputes for 2007 and analyses the figures in more depth than the provisional estimates published in the monthly Labour Market Statistics First Release.

Annual changes

A comparison of statistics on labour disputes in 2006 and 2007 is shown in **Table 1**. There are three core components to the figures: the number of working days lost through stoppages, the number of workers involved in those stoppages and the number of stoppages.

The 2007 total of 1,041,100 working days lost is significantly higher than the 2006 total (754,500). The 2007 total is also higher than the average number of working days lost per year in the 1990s (660,000). However, it is considerably lower than the average for both the 1980s (7.2 million) and the 1970s (12.9 million).

The 142 stoppages total in 2007 is lower than the 2006 total of 158. There were six stoppages beginning in 2006 which continued into 2007. The number of stoppages has fallen sharply since the 1980s when the average annual number was 1,129. The average number in the 1990s was 273 per year.

Table 1
Number of stoppages, workers involved and working days lost

United Kingdom

	2006	2007
Working days lost through stoppages		
In progress in year[1]	754,500	1,041,100
Beginning in year	747,800	1,034,400
Workers involved in stoppages		
In progress in year[2]	713,300	744,800
of which		
Directly involved	690,200	742,200
Indirectly involved	23,100	2,600
Beginning in year	710,800	740,400
of which		
Directly involved	687,800	739,600
Indirectly involved	23,000	800
Stoppages		
In progress in year	158	142
Beginning in year	155	136

Notes:

1 Stoppages that began in 2006 and continued into 2007 accounted for 6,700 days lost in 2007.
2 Workers in progress figures also include workers who did not strike initially, but who joined at a later date.

There were 744,800 workers involved in labour disputes during 2007; this compares with 713,300 in 2006. The number of workers involved is higher than the average number involved in the 1990s (201,600) but below the average in the 1980s (1,040,300).

Table 2
Number of stoppages and working days lost

United Kingdom

	Working days lost (000s)	Working days lost per thousand employees[1]	Workers involved (000s)	Stoppages[2]	Stoppages involving the loss of 100,000 working days or more
1988	3,702	157	790	781	8
1989	4,128	172	727	701	6
1990	1,903	78	298	630	3
1991	761	32	176	369	1
1992	528	23	148	253	–
1993	649	28	385	211	2
1994	278	12	107	205	–
1995	415	18	174	235	–
1996	1,303	55	364	244	2
1997	235	10	130	216	–
1998	282	11	93	166	–
1999	242	10	141	205	–
2000	499	20	183	212	1
2001	525	20	180	194	1
2002	1,323	51	943	146	2
2003	499	19	151	133	–
2004	905	34	293	130	3
2005	157	6	93	116	–
2006	755	28	713	158	1
2007	1,041	38	745	142	4

Notes:

1 Based on the September 2007 estimates of employee jobs.
2 Stoppages in progress during year.

Figure 1
Working days lost

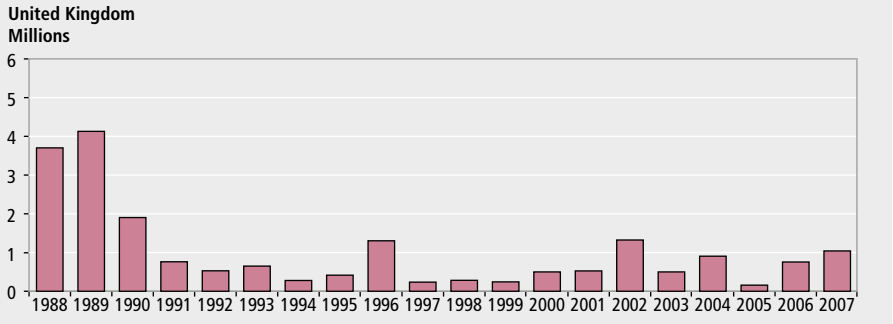
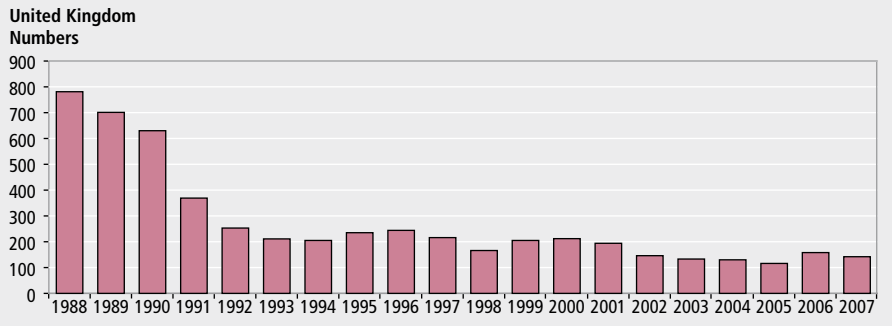


Figure 2
Stoppages in progress



Review of 1988 to 2007

Table 2 presents labour dispute figures for the period 1988 to 2007 and **Figure 1** and **Figure 2** illustrate working days lost and the number of stoppages. The high number of days lost in 1996 was due to one very large stoppage in the transport, storage and communication group. This shows the impact that large disputes can have on the statistics. This was also evident in 2002, when two disputes in public administration accounted for 60 per cent of the total days lost over the year.

Both Figures 1 and 2 show a substantial decline in strike activity in the 1990s. Figure 2 in particular shows that the number of strikes has been on a downward trend over the last 20 years.

The second column of Table 2 shows working days lost per 1,000 employees for each year from 1988 to 2007. This is the standard method that has been used to convert working days lost into a strike rate, taking account of the size of the labour force. This also enables comparisons to be made across industries and regions that differ in size. Since the number of employee jobs has not changed dramatically over the last 20 years, the rates for the UK as a whole show the same pattern of general decline. Occasional peaks can be seen on the working days lost series. The 1,041,100 working days lost in 2007 is equivalent to 38 working days lost per 1,000 employees.

An alternative way of putting strike statistics into a wider context is to consider working time lost through strikes as a proportion of time actually worked. In 2007, an estimated 42.1 billion hours were worked in the UK. Comparing this with 8.1 million hours lost through strikes shows that approximately one in every 5,200 potential working days were lost through strikes in 2007. The equivalent figure for 2006 was one in every 7,100.

Industrial analyses

Historically, certain industries have been more prone to strike than others, and breaking the strike statistics down into separate industries can reveal some interesting patterns and shifts over time. However, it should be noted that comparisons between industries can also be affected by the methodology that is used for compiling the figures. For example, because small stoppages are excluded from the figures, it is more likely that industry groups with large firms will have disputes included in the statistics.

Table 3 shows labour dispute statistics for 2007 broken down into 27 industrial

Table 3
Number of stoppages and working days lost: by industry, 2007

United Kingdom

Industry group (SIC 2003)	SIC class	Working days lost (000s)[1]	Workers involved (000s)[1]	Stoppages[2]
All industries and services[3]		**1,041.1**	**744.8**	**142**
Mining, energy and water	10–14, 40, 41	–	–	–
Manufacturing	15–37	15.6	13.5	22
Services	50–99	1,023.2	730.5	118
Agriculture, hunting, forestry and fishing	01, 02, 05	–	–	1
Mining and quarrying	10, 14	–	–	-
Manufacturing of:				
Food products, beverages and tobacco	15, 16	3.1	2.6	3
Textiles and textile products	17, 18	–	–	–
Leather and leather products	19	–	–	–
Wood and wood products	20	–	–	1
Pulp, paper and paper products; printing and publishing	21, 22	0.3	0.3	2
Coke, refined petroleum products and nuclear fuels	23	–	–	–
Chemicals, chemical products and man-made fibres	24	–	–	–
Rubber and plastic products	25	–	–	–
Other non-metallic mineral products	26	0.4	–	1
Basic metals and fabricated metal products	27, 28	3.3	0.2	4
Machinery and equipment not elsewhere specified	29	–	–	–
Electrical and optical equipment	30–33	0.3	0.3	1
Transport equipment	34, 35	6.9	8.1	6
Manufacturing not elsewhere specified	36, 37	1.2	1.8	4
Electricity, gas and water supply	40, 41	–	–	–
Construction	45	2.3	0.8	4
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	50–52	–	–	–
Hotels, restaurants, canteens and catering	55	–	–	–
Transport, storage and communication	60–64	657.5	399.3	55
Financial intermediation	65–67	–	–	–
Real estate, renting and business activities	70–74	2.2	1.5	6
Public administration and defence; compulsory social security	75	324.7	317.4	20
Education	80	30.5	8.7	21
Health and social work	85	4.7	2.1	12
Other community, social and personal service activities, private households with employed persons, extra-territorial organisations and bodies	90–93, 95, 99	3.5	1.6	11

Notes:

1 The figures for working days lost and workers have been rounded and consequently the sums of constituent items may not agree precisely with the totals.
2 Some stoppages involved workers in more than one of the above industry groups, but have each been counted as only one stoppage in the totals for all industries and services.
3 Stoppages in progress during year.
– Nil or negligible

groups (classified according to the Standard Industrial Classification 2003). **Table 4** shows working days lost per 1,000 employees in 2006 and 2007 for the same industries.

Some 63 per cent of the working days lost in 2007 were a result of 55 stoppages in transport and 31 per cent of the days lost were from 20 stoppages in public administration. There were also 22 stoppages in manufacturing, which resulted in 15,600 working days being lost. Of these 15,600 days lost, 44 per cent were from six stoppages in the manufacturing of transport equipment. There were also four stoppages in the basic metals sector, which resulted in 3,300 working days lost.

Table 4 presents the strike rates for 2006 and 2007. The rate for mining has decreased significantly from 74 in 2006 to zero in 2007. There were no strikes recorded in this sector for 2007 and there is also a decrease in employment rates. The rise in services' strike rates between 2006 and 2007 is due to transport, which has increased from 25 in 2006 to 422 in 2007. The strike rate for manufacturing decreased slightly from six in 2006 to five in 2007. In this sector, there was a significant fall in the rates for manufacturing of both rubber and plastic products, and textiles and textile products. Conversely, there was a significant rise for transport equipment.

Table 5 shows strike rates over time for the mining, energy and water supply industries, manufacturing and services sectors. In recent years, the services sector strike rate has tended to be higher than the rate in manufacturing. The mining, energy and water rate has tended to be erratic. It is worth noting that this is only the second year on record that the mining, energy and water supply industries group had a nil strike rate. In 1999, the level of employee jobs in these industries was also at a record low. **Figure 3** shows the strike rates for the manufacturing and services sectors separately for the period between 1998 and 2007. This shows the large increase in the services sector over the last five years. Although this is the case, the figures are generally high due to large strikes in the public administration sector.

Regional analyses

Table 6 shows regional strike rates for Government Office Regions between 2002 and 2007, with a further breakdown of the figures for 2007 by industry. The rates for 2007 are also illustrated in **Map 1**. When interpreting these figures, it is important to bear in mind that the industrial

Table 4
Working days lost per thousand employees: by industry[1]

United Kingdom

Industry group (SIC 2003)	SIC Class	2006	2007
All industries and services		28	38
Mining, energy and water	10–14, 40, 41	74	–
Manufacturing	15–37	6	5
Services	50–99	32	46
Agriculture, hunting, forestry and fishing	01, 02, 05	–	–
Mining and quarrying	10,14	476	–
Manufacturing of:			
Food products, beverages and tobacco	15, 16	6	8
Textiles and textile products	17, 18	17	–
Leather and leather products	19	–	–
Wood and wood products	20	–	1
Pulp, paper and paper products; printing and publishing	21, 22	6	1
Coke, refined petroleum products and nuclear fuels	23	–	–
Chemicals, chemical products and man-made fibres	24	–	–
Rubber and plastic products	25	17	–
Other non-metallic mineral products	26	4	4
Basic metals and fabricated metal products	27, 28	6	9
Machinery and equipment not elsewhere classified	29	3	-
Electrical and optical equipment	30–33	–	1
Transport equipment	34, 35	14	23
Manufacturing not elsewhere classified	36, 37	–	7
Electricity, gas and water supply	40, 41	–	–
Construction	45	11	2
Wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods	50–52	–	–
Hotels, restaurants, canteens and catering	55	–	–
Transport, storage and communication	60–64	25	422
Financial intermediation	65–67	–	–
Real estate, renting and business activities	70–74	1	–
Public administration and defence; compulsory social security	75	412	215
Education	80	13	13
Health and social work	85	1	1
Other community, social and personal service activities, private households with employed persons, extra-territorial organisations and bodies	90–93, 95, 99	1	2

Notes:

1 Based on the latest (September 2007) estimates of employee jobs.

– Nil or negligible

Table 5
Working days lost per thousand employees: by industry group[1]

United Kingdom

	Mining, energy and water	Manufacturing	Services	All industries and services
1998	1	8	12	11
1999	–	14	7	10
2000	17	13	20	20
2001	141	11	22	20
2002	1	6	62	51
2003	2	18	20	19
2004	29	6	41	34
2005	34	5	6	6
2006	74	6	32	28
2007	–	5	46	38

Notes:

1 Based on the latest available (September 2007) estimates of employee jobs.

– Nil or negligible

composition of employment in a region is a major influencing factor on the scale of labour disputes it experiences. Having noted this point, the region with the highest number of working days lost per thousand employee jobs in 2007 was the North West with 55. Significantly, nine of the 12 regions saw an increase in their strike rates. London showed the sharpest rise from ten in 2006 to 44 in 2007. The South West, South East and Eastern England also showed significant increases in 2007.

Causes of disputes

Table 7 shows stoppages in 2007 by principle cause and industry group, and **Table 8** provides a time series of working days lost by cause. **Figure 4** illustrates the number of working days lost in 2007 by principle cause of dispute. In 2007, 66 per cent of working days lost were due to disputes over pay; this accounted for 50 per cent of all stoppages. In comparison, disputes concerning hours worked accounted for 30 per cent of days lost and 25 per cent of all stoppages. Redundancy questions accounted for 2 per cent of days lost and 11 per cent of all stoppages.

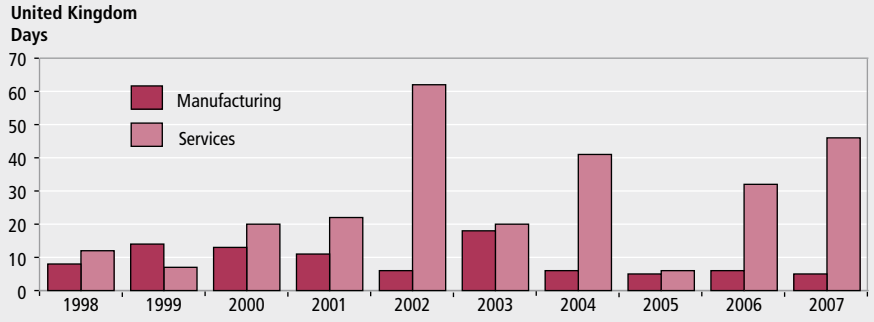
Figure 5 shows the distribution of working days lost by cause in each year from 1998 to 2007 for four causes: pay, redundancy, staffing and work allocation and other. This shows the percentage of days lost due to disputes over pay increased further in 2007, though the category other had the most significant increase. This was due to a substantial increase in the sub-category duration and pattern of hours worked. It should be noted that disputes over pay also include stoppages over feared or alleged reductions in earnings as well as disputes over pay increases. The figures are often dominated by one or two very large strikes which will, in turn, dominate all of the detailed analyses and can make comparisons over time difficult.

Disputes by duration

The statistics cover the number of days that strike action took place, not the number of days the parties involved in the dispute were actually in disagreement.

Table 9 shows the duration of the stoppages in progress in 2007 and this information is also displayed in **Figure 6**. Some 46 per cent of stoppages lasted just one day, involved 296,100 workers and accounted for 25 per cent of the total working days lost. At the other extreme, two stoppages lasted over 50 days, involved a total of 100 workers and accounted for 0.4 per cent of the total working days lost.

Figure 3
Working days lost per thousand employees: by sector



Disputes by size

Table 10 shows disputes in 2007 by size and **Figure 7** illustrates that a large proportion of days lost result from large stoppages, but very few stoppages are large. The chart shows that 86 per cent of working days lost in 2007 resulted from stoppages where more than 5,000 days were lost in total, but that only 4 per cent of stoppages were that large. There were five stoppages with more than 25,000 working days lost; these stoppages accounted for only 4 per cent of all stoppages. The highest proportion of

Table 6
Stoppages in progress: by Government Office Region and industry group,[1,2,3] 2007

United Kingdom

	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	South West	East of England	London	South East	Wales	Scotland	Northern Ireland	United Kingdom
Days lost per thousand employees[4] – all industries and services													
2002	119	76	44	50	41	32	26	60	36	74	54	34	51
2003	2	10	8	6	8	7	4	51	6	9	39	101	19
2004	33	19	37	20	23	13	11	18	16	28	160	99	34
2005	7	7	4	3	11	1	4	11	1	2	7	15	6
2006	51	53	23	18	15	8	8	10	5	51	49	30	28
2007	45	55	34	19	28	27	34	44	26	41	40	45	39
2007 by industry group (SIC 2003)													
Working days lost (thousands)													
Agriculture, hunting, forestry and fishing	–	–	–	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas and water	–	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	0.9	1.1	–	–	0.4	2.7	–	–	–	5.1	4.2	–	15.6
Construction	–	–	–	–	–	0.2	1.1	–	–	0.9	–	–	2.3
Transport, storage and communication	20.9	86.9	49.2	27.3	54.8	47.6	70.0	115.0	80.2	26.7	51.9	11.0	657.5
Public administration and defence	25.8	37.4	26.7	7.8	9.8	8.6	8.3	50.7	14.1	15.8	37.3	2.8	324.7
Education	–	0.1	0.1	0.1	0.4	-	0.7	9.4	–	–	1.3	18.4	30.5
All other services	–	5.5	0.2	0.1	–	0.3	0.1	3.2	0.5	0.2	0.2	0.1	10.4
All industries and services	**47.7**	**131.0**	**76.2**	**35.4**	**65.4**	**59.4**	**80.3**	**178.2**	**94.8**	**48.7**	**95.0**	**32.1**	**1,041.1**
Workers involved (thousands)													
Agriculture, hunting, forestry and fishing	–	–	–	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas and water	–	–	–	–	–	–	–	–	–	–	–	–	–
Manufacturing	0.1	1.1	–	–	1.1	3.0	–	–	–	5.1	2.4	–	13.5
Construction	–	–	–	–	–	0.2	0.2	–	–	0.5	–	–	0.8
Transport, storage and communication	13.6	52.6	30.4	24.9	33.7	29.6	43.3	70.6	48.0	15.9	32.1	6.9	399.3
Public administration and defence	30.0	42.2	31.3	8.9	11.0	9.6	9.3	57.2	15.4	17.4	28.3	3.1	317.4
Education	–	0.1	0.1	–	0.4	–	0.2	3.4	-	–	0.3	7.4	8.7
All other services	–	2.2	0.1	0.1	–	0.3	0.1	1.3	0.3	0.2	0.3	0.1	5.1
All industries and services	**43.7**	**98.2**	**61.9**	**33.9**	**46.2**	**42.7**	**53.1**	**132.5**	**63.7**	**39.3**	**63.4**	**17.5**	**744.8**
Stoppages													
Agriculture, hunting, forestry and fishing	–	–	–	–	–	–	–	1	–	–	–	–	1
Mining, quarrying, electricity, gas and water	–	–	–	–	–	–	–	–	–	–	–	–	0
Manufacturing	1	3	–	–	2	5	–	–	–	5	6	–	22
Construction	–	–	–	–	–	1	1	–	–	2	–	–	4
Transport, storage and communication	4	10	4	4	9	4	5	15	4	3	11	2	55
Public administration and defence	3	5	2	2	3	2	5	4	4	3	7	3	20
Education	–	2	2	1	3	1	2	6	1	1	2	3	21
All other services	2	11	5	4	2	5	2	11	4	6	6	1	29
All industries and services	**10**	**31**	**13**	**11**	**19**	**18**	**15**	**37**	**13**	**20**	**32**	**9**	**142**

Notes:

1 The figures for working days lost and workers involved have been rounded and consequently the sum of the constituent items may not agree precisely with the totals.
2 Figures for widespread stoppages which cannot be disaggregated down to Government Office Regional level are included in the UK total but excluded from the regional figures in the table above. This accounts for 96,900 days lost in 2007.
3 When a stoppage has been identified as covering more than one broad industry group, the actual number of working days lost and workers involved will be allocated to the specific broad industry group; however, the stoppage will be included in each industry category.
4 Based on the latest (September 2007) estimate of employee jobs.
– Nil or negligible

Map 1

Working days lost per thousand employees, all industries and services, 2007

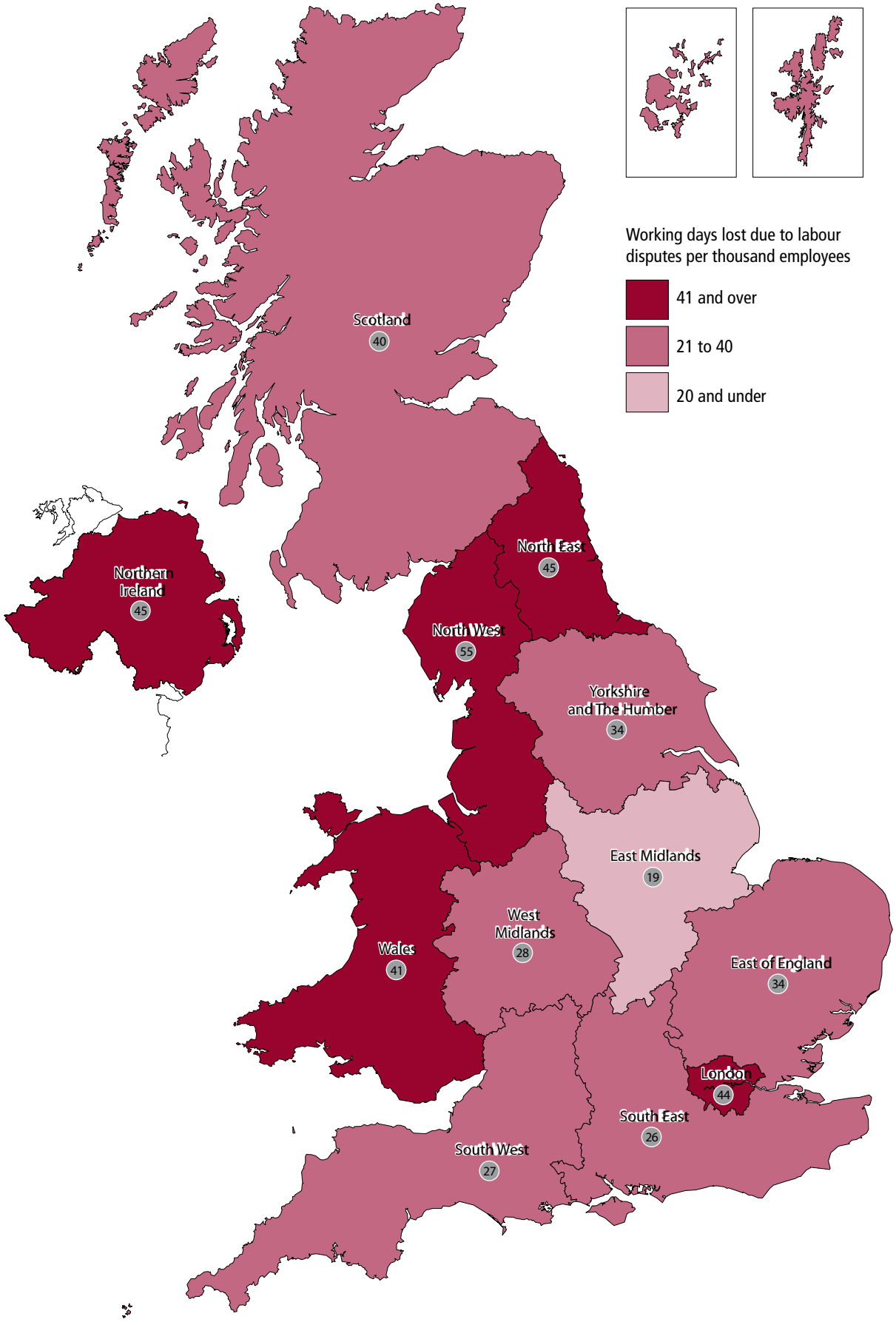


Table 7
Working days lost, workers involved and stoppages in progress: by main cause and broad industry group, 2007

United Kingdom

Industry group (SIC 2003)	Wage disputes: Wage rates and earnings levels	Wage disputes: Extra wage and fringe benefits	Wage disputes: Total wage disputes	Other causes: Duration and pattern of hours worked	Other causes: Redundancy questions	Other causes: Trade union matters	Other causes: Working conditions and supervision	Other causes: Staffing and work allocation	Other causes: Dismissal and other disciplinary measures	All causes
Working days lost (thousands)[1]										
Agriculture, hunting, forestry and fishing	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas and water	–	–	–	–	–	–	–	–	–	–
Manufacturing	5.9	1.2	7.1	3.2	4.9	–	–	–	0.4	15.6
Construction	1.4	–	1.4	–	–	–	–	0.9	–	2.3
Transport, storage and communication	317.6	5.9	323.5	312.6	13.9	1.4	–	0.4	5.6	657.4
Public administration and defence	317.4	–	317.4	0.5	4.7	0.8	1.1	0.4	–	324.9
Education	28.5	–	28.5	0.1	0.6	–	–	1.3	0.1	30.6
Other services	4.8	1.6	6.4	–	0.9	2.9	0.1	–	–	10.3
All industries and services	**675.6**	**8.7**	**684.3**	**316.3**	**25.1**	**5.1**	**1.2**	**2.9**	**6.2**	**1,041.1**
Workers involved (thousands)[1]										
Agriculture, hunting, forestry and fishing	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas and water	-	–	–	–	–	–	–	–	–	–
Manufacturing	5.4	1.4	6.8	1.3	4.9	–	–	–	0.4	13.4
Construction	0.2	–	0.2	–	–	–	–	0.5	–	0.7
Transport, storage and communication	96.9	2.8	99.7	294.3	2.4	0.3	–	0.2	2.4	399.3
Public administration and defence	310.1	–	310.1	0.5	5.5	0.8	0.4	0.1	–	317.4
Education	7.9	–	7.9	0.1	0.2	–	–	0.4	0.1	8.7
Other services	3.8	0.1	3.9	–	0.6	0.6	0.1	–	–	5.2
All industries and services	**424.4**	**4.3**	**428.7**	**296.2**	**13.6**	**1.7**	**0.4**	**1.3**	**2.9**	**744.8**
Stoppages[2]										
Agriculture, hunting, forestry and fishing	1	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas and water	–	–	0	–	–	–	–	–	–	–
Manufacturing	13	1	14	4	3	–	–	–	1	22
Construction	2	–	2	–	–	–	–	2	–	4
Transport, storage and communication	9	3	12	28	2	3	–	3	7	55
Public administration and defence	12	–	12	2	3	1	1	1	–	20
Education	10	–	10	1	2	1	–	5	2	21
Other services	19	1	20	–	5	2	2	–	–	29
All industries and services	**66**	**5**	**71**	**35**	**15**	**7**	**3**	**11**	**10**	**142**

Notes:

1 The figures for working days lost and workers involved have been rounded and consequently the sum of the constituent items may not agree with the totals.
2 The number of stoppages for the industry groups shown may not sum to the total for all industries and services, as some stoppages which affect more than one broad industry group have
been counted once only in the total for all industries and services.
– Nil or negligible

Table 8
Working days lost:[1] by main cause in all industries and services

United Kingdom Thousands

	Wage disputes: Wage rates and earnings levels	Wage disputes: Extra wage and fringe benefits	Wage disputes: Total wage disputes	Other causes: Duration and pattern of hours worked	Other causes: Redundancy questions	Other causes: Trade union matters	Other causes: Working conditions and supervision	Other causes: Staffing and work alloaction	Other causes: Dismissal and other disciplinary measures	All causes
1997	103	26	128	7	69	2	8	18	4	235
1998	147	19	166	2	54	2	14	16	28	282
1999	159	8	166	5	35	2	15	6	14	242
2000	376	8	383	6	56	0	11	23	18	499
2001	141	3	143	13	88	6	173	79	23	525
2002	1,039	137	1,176	3	14	5	110	10	7	1,323
2003	280	140	420	63	5	0	2	7	2	499
2004	759	3	762	19	107	11	0	5	1	905
2005	87	8	94	7	17	6	9	22	2	157
2006	77	475	552	4	167	2	16	5	9	755
2007	676	9	684	316	25	5	1	3	6	1,041

Note:

1 The figures for working days lost have been rounded and consequently the sum of the constituent items may not agree with the totals.

Figure 4
Working days lost: by principal cause of dispute, 2007
United Kingdom
Percentages

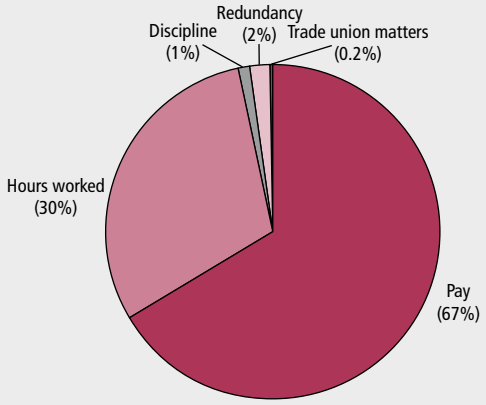


Figure 5
Working days lost: by principal cause of dispute

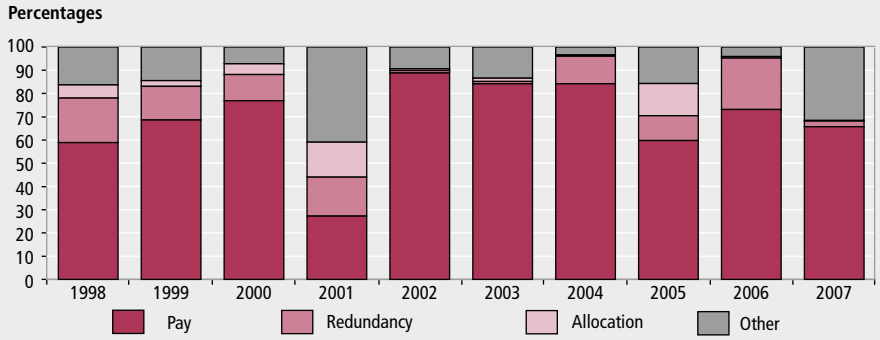
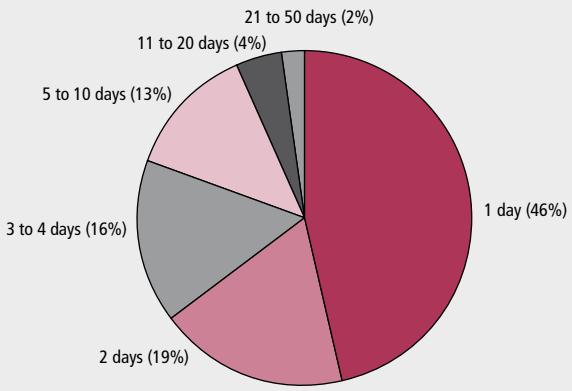


Figure 6
Proportions of stoppages in progress: by duration, 2007
United Kingdom
Percentages



stoppages was within the under 250 days category, accounting for 50 per cent of all stoppages, although this category recorded the lowest working days lost percentage of 1 per cent.

Disputes by private/public sector

Figure 8 and **Figure 9** illustrate the breakdown of working days lost and the number of stoppages between the private and public sectors. This information is also shown in **Table 11**. The number of working days lost in the private sector fell from 98,300 in 2006 to 38,900 in 2007. The proportion of working days lost from the private sector has fallen again this year, from 13 per cent in 2006 to 4 per cent in 2007. This is considerably lower than its peak year in 1999, where 71 per cent of days lost were from the private sector.

In the public sector, 1 million days were lost in 90 stoppages which accounted for 96 per cent of all days lost in 2007. This compares with 656,200 days lost in 2006 from 87 stoppages which accounted for 87 per cent of all days lost.

The number of stoppages in the public sector is considerably higher than that of the private sector, at 63 per cent and 37 per cent, respectively. Generally, the breakdowns of stoppages between the public and private sectors have been fairly consistent. Although this is the case, it has become apparent in the last few years that the public sector is dominating the strike statistics to a greater extent than the private sector.

Trade union ballots

Annual trade union ballot data for the period 2003 to 2007 are presented in **Table 12** and **Table 13**. The number of ballots[1] calling for strike action had increased steadily between 2003 and 2006, peaking at 1,290 ballots in 2006, which was 96 per cent of the total number of ballots. The 2007 figures present a much lower number of ballots, at 713. However, the proportion of those ballots calling for strike action resulting in a 'yes' vote has increased considerably to 98 per cent for 2007, an increase of 13 percentage points on the 2006 figure of 85 per cent.

The number of ballots calling for action 'short of a strike' in 2007 remained stable, with 583 (76 per cent of total ballots) compared with 579 in 2006. The proportion of those ballots resulting in a 'yes' vote has shown an increase this year, after falling steadily over the previous four year period.

The five-year time series for trade union

Table 9
Stoppages in progress: by duration[1] in working days, 2007

United Kingdom

	Working days lost (thousands)[2,3,4]	Proportion of all working days lost (per cent)	Workers involved (thousands)[3]	Proportion of all workers (per cent)	Stoppages in progress	Proportion of all stoppages (per cent)
Days[1]						
1	260.4	*25.0*	296.1	*39.8*	65	*45.8*
2	81.3	*7.8*	49.9	*6.7*	26	*18.3*
3	13.0	*1.2*	5.6	*0.8*	16	*11.3*
4	9.5	*0.9*	4.4	*0.6*	6	*4.2*
5	2.3	*0.2*	0.6	*0.1*	6	*4.2*
6–10	306.7	*29.5*	287.7	*38.6*	12	*8.5*
11–15	19.5	*1.9*	2.9	*0.4*	4	*2.8*
16–20	24.0	*2.3*	3.1	*0.4*	2	*1.4*
21–30	311.6	*29.9*	94.1	*12.6*	1	*0.7*
31–50	8.9	*0.9*	0.3	*0.0*	2	*1.4*
Over 50	3.8	*0.4*	0.1	*0.0*	2	*1.4*
All stoppages	**1,041.1**	***100.0***	**744.8**	***100.0***	**142**	***100.0***

Notes:

1 The statistics cover the number of days that strike action took place, not the number of days the parties involved in the dispute were actually in disagreement.
2 Classification by size is based on the full duration of stoppages, but the figure for days lost include only those days lost in 2007
3 The figures for working days lost and workers involved have been rounded and consequently the sum of the constituent items may not agree precisely with the totals.
4 The working days lost figures are in general less than the product of the duration of each stoppage and the number of workers involved, because some workers would not have been involved throughout the dispute – see Technical note.
– Nil or negligible

Figure 7
Proportions of stoppages in progress and working days lost: by size of dispute, 2007

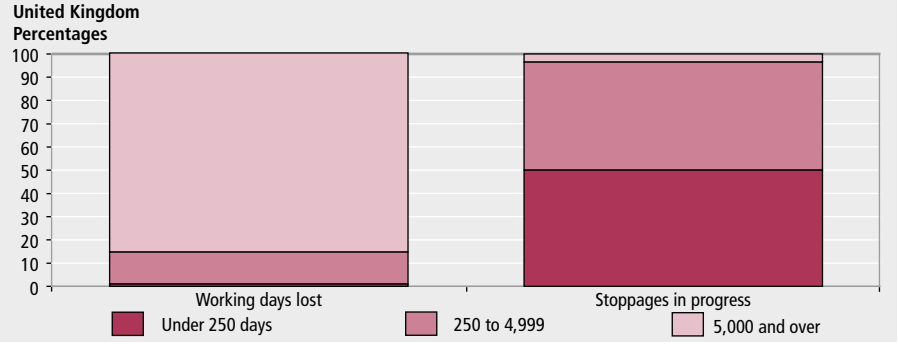
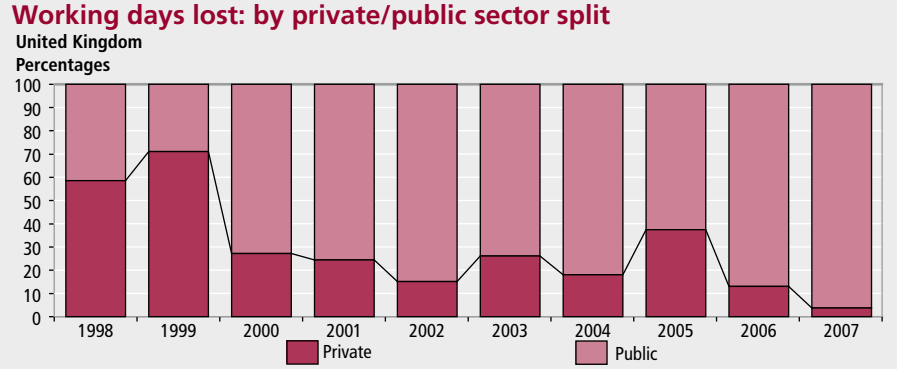


Figure 8
Working days lost: by private/public sector split



ballots is illustrated in **Figure 10**. It can be seen that the trend for ballots voting for strike action closely follows the trends for the number of ballots calling for strike action and the total number of ballots.

Notes

1 As the majority of ballots include options for both 'strike action' and 'action short of strike action', the total number of ballots does not equal the total of these options added together.

CONTACT

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Figure 9

Stoppages: by private/public sector split

United Kingdom

Percentages

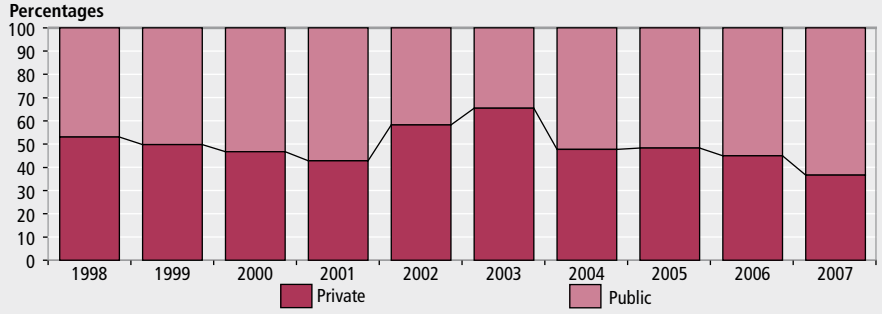


Table 10

Stoppages in progress: by size of dispute, 2007

United Kingdom

	Working days lost (thousands)[1]	Proportion of all working days lost (per cent)	Workers involved (thousands)[1]	Proportion of all workers (per cent)	Stoppages in progress	Proportion of all stoppages (per cent)
Working days lost in each dispute						
Under 250 days	6.2	*0.6*	5.2	*0.7*	71	*50.0*
250 to 499	6.0	*0.6*	4.3	*0.6*	18	*12.7*
500 to 999	11.2	*1.1*	6.4	*0.9*	16	*11.3*
1,000 to 4,999	49.7	*4.8*	30.1	*4.0*	25	*17.6*
5,000 to 24,999	76.0	*7.3*	25.8	*3.5*	7	*4.9*
25,000 to 49,999	0.0	*0.0*	0.0	*0.0*	0	*0.0*
50,000 days and over	892.0	*85.7*	672.9	*90.3*	5	*3.5*
All stoppages	**1,041.1**	***100.0***	**744.8**	***100.0***	**142**	***100.0***

Note:

1 The figures for working days lost and workers involved have been rounded and consequently the sum of the constituent items may not agree with the totals.

Table 11

Number of stoppages and working days lost: by private and public sector

United Kingdom

	Working days lost (thousands)		Stoppages[1]		Strike rate		Employee jobs (thousands)		
	Private	Public	Private	Public	Private	Public	Private	Public	Total
1998	165	117	88	78	8	23	19,568	5,163	24,731
1999	172	70	102	103	9	13	19,882	5,207	25,089
2000	136	363	99	113	7	69	20,370	5,288	25,658
2001	128	397	83	111	6	74	20,609	5,378	25,987
2002	200	1,123	85	61	10	205	20,600	5,485	26,085
2003	130	369	87	46	6	65	20,505	5,641	26,146
2004	163	742	62	68	8	129	20,587	5,756	26,343
2005	59	99	56	60	3	17	20,758	5,850	26,608
2006	98	656	71	87	5	111	20,916	5,899	26,815
2007	39	1,002	52	90	2	173	21,320	5,785	27,105

Note:

1 Stoppages in progress during year.

Table 12

Trade union ballots: strike action

United Kingdom Numbers

	Total ballots	Ballots calling for strike action	Ballots voting for strike action	Ballots voting against strike action	Split result
2003	899	825	684	125	16
2004	952	919	762	144	13
2005	815	775	663	109	9
2006	1,341	1,290	1,094	140	57
2007	767	713	637	64	12

Source: Electoral Reform Services

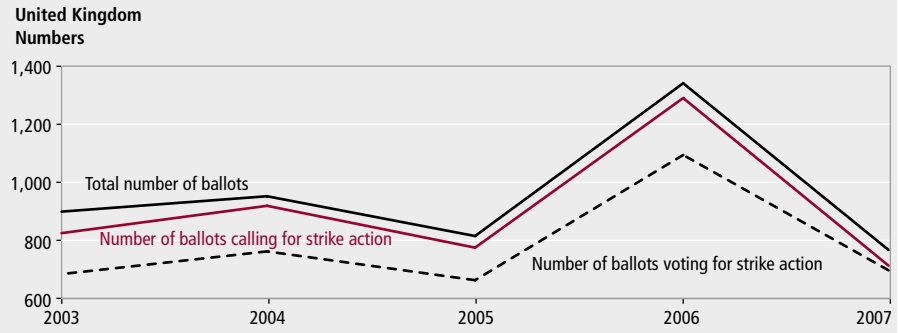
Table 13
Trade union ballots: action short of a strike

United Kingdom Numbers

	Total number of ballots	Ballots calling for action short of a strike	Ballots voting for action short of a strike	Ballots voting against action short of strike	Split result
2003	899	637	601	31	6
2004	952	756	708	41	9
2005	815	606	562	35	7
2006	1,341	579	541	27	9
2007	767	583	555	19	9

Source: Electoral Reform Services

Figure 10
Ballots resulting in strike action



TECHNICAL NOTE

Coverage

Information about labour disputes in the UK is collected by the Office for National Statistics (ONS) from a number of sources. Certain major industries and public bodies provide regular centralised returns, but more often the information is collected directly from the employer or trade union involved after ONS has been notified of a dispute from press reports. Up until September 1996, this information was collected by the Employment Service local office network on behalf of ONS. ONS publishes figures on labour disputes each month. They appear in the Labour Market Statistics First Release and are published in Tables 6.29 and 6.30 of the online tables section of *Economic & Labour Market Review*.

Definition of stoppages

The statistics cover stoppages of work in progress in the UK during a year caused by labour disputes between employers and workers, or between workers and other workers, connected with terms and conditions of employment. A distinction can be drawn between stoppages that started in the current year and those that started in earlier years.

The statistics exclude disputes that do not result in a stoppage of work, for example work-to-rules and go-slows; this is because their effects are not quantifiable to any degree of certainty. Stoppages involving fewer than ten workers or lasting less than one day are also excluded unless the total number of working days lost in the dispute is 100 or more.

Stoppages over issues not directly linked to terms and conditions between workers and employers are omitted, although in most years this is not significant. For example, in 1986, one stoppage was considered to be political (a protest in the coal industry against the visit of an MP) and it was excluded from the figures. The total working days lost amounted to less than 1,000. The next known dispute to be excluded was in 1991. This involved a boycott by self-employed market traders who, after increased rent and changes to the market rules, kept their stalls closed for about 20 weeks.

The statistics include 'lock-outs', where an employer prevents their employees from working by refusing entry to the place of work, and 'unlawful', that is, unlawfully organised strikes. However, no distinction is made between a 'strike' and a 'lock-out' or between 'lawful' and 'unlawful' stoppages. This is principally because of the practical difficulty in deciding into which category a particular stoppage falls. It was for similar reasons that a distinction between 'official' and 'unofficial' disputes was no longer made after 1981.

Working days lost

Working days lost are defined as the number of days not worked by people involved in a dispute at their place of work. In measuring the number of working days lost, account is taken only of the time lost in the basic working week. Overtime work is excluded, as is weekend working where it is not a regular practice. Where an establishment is open every day, and runs two or more shifts, the statistics will record the number of working days lost for each shift. In recording the number of days lost, allowance is made for public and known annual holidays, such as factory fortnights, occurring within the strike's duration. No allowance is made for absence from work for such reasons as sickness and unauthorised leave.

Where strikes last less than the basic working day, the hours lost are converted to full-day equivalents. Similarly, days lost by part-time workers are converted to full-day equivalents. The number of working days lost in a stoppage reflects the actual number of workers involved at each point in the stoppage. This is generally less than the total derived by multiplying the duration of the stoppage by the total number of workers involved at any time during the stoppage, because some workers would not have been involved throughout.

In disputes where employers dismiss their employees and subsequently reinstate them, the working days lost figure includes those days lost by workers during the period of dismissal.

For disputes where employers dismiss their employees and replace them with another workforce, the statistics cannot assume that working days lost by the sacked workers continue indefinitely. In such cases, the statistics measure the number of days lost in terms of the size of the replacement workforce. For example, where an employer initially recruits 100 workers and wishes to build up to 300, the number of working days lost on day one will be 200 and will then progressively reduce on subsequent days, eventually to zero when the new workforce reaches the target of 300.

Number of stoppages

There are difficulties in ensuring complete recording of stoppages, in particular for short disputes lasting only a day or so, or involving only a few workers. Because of this recording difficulty and the cut-off applied, the number of working days lost is considered to be a better indicator of the impact of labour disputes than the number of recorded stoppages.

Workers involved

The figures for workers involved are for workers both directly and indirectly involved at the establishment where the dispute occurred. Workers indirectly involved are those who are not themselves parties to the dispute but are laid off because of the dispute. However, the statistics exclude workers at other sites who are indirectly affected (because of a shortage of material from a supplier who is in dispute, for example). This is partially because of the difficulty in deciding to what extent a particular firm's production problems are due to the effects of a strike elsewhere or some other cause. Workers involved in more than one stoppage during the year are counted in the statistics for each stoppage in which they take part. Part-time workers are counted as whole units.

The statistics try to record the number of workers who are involved at any time in the stoppage. For example, consider a three-day strike where there were 200 workers involved on the first day; 300 on the second day, of whom 100 were involved for the first time; and 200 on the third day, of whom 50 were involved for the first time. The total number of workers involved in the dispute is 350 – the sum of all those involved on the first day, and those joining for the first time on subsequent days.

However, the number of workers taking strike action for the first time during a dispute cannot always be easily ascertained. In such cases, the statistics record the highest number involved at any one time (300 in the above example). Take another example, where there are 200 workers involved in a stoppage on each of days one, two and three. It may be necessary to assume that there were a total of 200 workers involved, although it is possible, but unlikely, that as many as 600 workers could have been involved. For this reason, the statistics may underestimate the number of workers involved in a dispute. However, the estimate of the number of working days lost is unaffected by this consideration.

FEATURE

Simon Humphries
Office for National Statistics

Modernisation of the UK's National Accounts: progress and plans for Blue Book and Pink Book 2008

SUMMARY

The Office for National Statistics described its plans for 'Modernising the UK's National Accounts' (MUKNA) in February 2007. MUKNA outlined the plans for both the 2007 and 2008 editions of the *Blue Book*, highlighting the improvements that users would see over time. This article reports on progress and details the scope of *Blue Book* 2008 and *Pink Book* 2008.

Blue Book 2008 (BB08) will introduce the first phase of modernisation that will deliver incremental improvements over the next three to four years. Introduction of both new methods and new IT systems at the same time has proved too challenging to meet the original plan of implementation in BB08. Instead, it is now intended to phase the introduction of new methods and systems over a number of years.

The first phase in BB08 will use the new systems to update the approach used in BB06 to balance annual gross domestic product (GDP) in current prices. This will allow the resumption of benchmarking to annual surveys, which was suspended in BB07. BB08 will also see the introduction of a new and improved method for measuring banking output (FISIM); this will improve understanding of the impact of this important sector on the economy.

BB08 will therefore represent a considerable step forward in quality from BB07 and provide a stepping-stone towards full modernisation of the National Accounts, including annual balancing in volume terms as well as quarterly balancing, in the coming years. In *Pink Book* 2008 (PB08) the analyses suspended in 2007 will be reintroduced, and a number of methodological improvements implemented.

Background: modernisation of the UK's National Accounts

The Office for National Statistics (ONS) is engaged in a modernisation of the UK National Accounts. The scope of the changes were described in 'Modernising the UK National Accounts' (MUKNA), first published in February 2007 and reproduced in the April 2007 edition of *Economic & Labour Market Review* (ELMR). The article described a number of improvements for both producers and users of the National Accounts:

- new and more efficient computer systems
- a more coherent picture of the economy by extending the framework for balancing income, expenditure and output
- expanded coverage of the services sector
- early estimates of GDP less prone to revision
- standardisation of methods, systems and processes
- product information balanced through supply and use tables (SUT) at constant prices (volume estimates) as well as current prices
- quarterly data to be balanced at detailed component level

MUKNA also explained ONS plans to restrict the scope of the BB07 exercise to free resources to work on the implementation of modernisation in the 2008 edition. The scope of the 'transitional' *Blue Book* in 2007 was reduced in a number of ways:

- supply-use balancing was postponed
- the take-on of annual benchmarks, including those from the Annual Business Inquiry and HM Revenue & Customs was greatly restricted
- a number of methodological improvements were suspended, including the new approach for estimating the service earned from the provision of financial intermediation services
- a base year of 2003 continued to be used for recent volume estimates, with industry weights also remaining at those derived from the 2003 balance

The main impact of postponing annual benchmarking was additional uncertainty about the path of the economy, in particular from 2004, the last year GDP was fully balanced. While both the Bank of England and HM Treasury considered the consequences for economic policy of the reduced scope *Blue Book* 2007 to be manageable, ONS committed to monitor the quality of the subsequent quarterly national accounts outputs.

Quality of latest estimates

In 'Monitoring the quality of the National Accounts' (Meader and Tily 2008), ONS put forward an extended framework for monitoring the quality of the quarterly National Accounts, in particular with regards to GDP, in terms of accuracy and coherence of the published data sets. Accuracy, or reliability, was primarily assessed by an extension of the regular revisions analyses. Coherence covered an analysis of published and unpublished adjustments made to GDP components to bring the three measures of GDP into line, together with an analysis of the coherence between GDP and both internal ONS and external indicators.

While the article primarily provided a benchmark for future quality assessments, it also suggested that there was no obvious change in quality from the indicators studied. However, it was noted that revisions were expected to be larger than usual when balancing and benchmarking were reintroduced.

Additionally, ONS has introduced a 'coherence statement' in the Quarterly National Accounts release from March 2008. This provides users with an assessment of the coherence of the three measures of GDP in each quarterly publication.

Progress

Modernisation has not progressed as fast as had been hoped at the time MUKNA was published in early 2007. This has required a re-evaluation of what is feasible for BB08, taking account the priorities of key users.

Delays to system-build and system performance problems led to the conclusion that depending fully on modernised systems for the delivery of quarterly and annual national accounts data sets from the publication in BB08 was high risk. To minimise this risk, it was decided to use the new systems to set the level of annual current price GDP, but to continue to use existing systems for quarterly estimates and dissemination. It was also decided to limit annual balancing in BB08 to current prices only, rather than expanding the scope to include balancing in volume terms. Balancing in volume terms in BB08 would have required significant analytical resources and it was clear this could not be managed alongside the prime objective of using new systems for current price SUT (CP-SUT) balancing. Volume balancing will continue as a development project for implementation in the future.

The plans for BB08 are described in more detail below, but in short the aim is to:

- update the current price balancing approach used in BB06, making use of the new SUT systems to reconcile and balance the three measures of GDP for 2004, 2005 and 2006. This will allow consistency with the balances for 2003 and earlier to be maintained
- incorporate annual benchmark data for 2004, 2005 and 2006
- provide a platform for introduction of new methods in BB09 and beyond
- implement the new approach for measuring financial intermediation services indirectly measured (FISIM)

The intention is to deliver the range of improvements envisaged in MUKNA over a period of years rather than as a single 'big bang' in BB08. This phased approach will permit clearer understanding and better explanation of changes in each *Blue Book* round.

Plans for *Blue Book* 2008

The proposal for BB08 allows the use of modernised SUT systems to take on annual benchmark data, together with SUT balancing to determine the level of GDP in current prices in each of 2004, 2005 and 2006. Apart from the delay to constant price balancing, the main difference with earlier plans for full SUT balancing is that balancing will be conducted at a higher level of aggregation than envisaged in MUKNA, though similar to that used in BB06 (the principle benefit of the expanded detail was to be the compilation of SUT at constant prices). A quality assessment of the balance will be published alongside the final data set.

In a little more detail, the scope of BB08 includes:

- reworked CP-SUT balance for 2004 and preliminary 'balances' for both 2005 and 2006. The table below summarises years balanced in recent *Blue Book* rounds

	Years balanced BB06 to BB08			
	2003	2004	2005	2006
BB06	√	√		
BB07[1]	√	√	X	
BB08	√	√	√	√

1 In BB07, balances for 2003 and 2004 were carried forward from the CP-SUT exercise in BB06.

- the CP-SUT approach will allow the inclusion of annual benchmarks from HM Revenue & Customs, together with annual results from the International Trade in Services and other ONS inquiries
- it allows publication of all *Blue Book* tables, including those industry tables suspended in BB07. The full UK *Input-Output Analyses* that were last published in 2006 will not be released; however, it is planned to publish the new balanced SUT tables in spreadsheet form at the level at which balancing is conducted
- as noted above, while the new expanded framework will be populated with more detailed data, balancing will be conducted at a more aggregate level. This also means that the expansion in the services industries envisaged at the time of MUKNA will not be available for BB08
- detailed SUT-balanced results may not be taken back into the detailed GDP breakdowns for all components

(although higher level aggregates would be consistent). It is not yet clear where these inconsistencies may occur, but one possible example would be the detailed SUT product and industry breakdowns for gross fixed capital formation which may not be fully consistent with the detailed asset breakdowns published within 'Business Investment'

- GDP will be revised to include allocated FISIM. This is a major methodological improvement and one that has been postponed from the last two *Blue Book* exercises (see below for more detail)

In summary, BB08 will be the first stage in the modernisation of the National Accounts. This first stage will use new systems to update the approach taken in BB06 to balance the three approaches to GDP in current prices. While progress has not been as fast as had been hoped, this still represents a considerable step forward from BB07, when SUT balancing was suspended.

The main *Blue Book* and *Pink Book* estimates will be published as usual in the Quarterly National Accounts and Balance of Payments First Release, on 30 September. The electronic versions will be released on 24 October and the hard copies of both publications will be released on 21 November.

Base year

The base year will remain at 2003=100, although industry weights will be updated to reflect the new FISIM breakdowns and the own-account software revision that was introduced in BB07. The decision not to move forward from 2003=100 weights is partly due to the resources required to move forward to 2004 or 2005=100, but also because of the uncertainty around the industry weights that will emerge from the new re-engineered systems and processes. Updating the existing weights to include FISIM and own-account software will ensure that the major changes are included.

Financial intermediation services indirectly measured

This year's *Blue Book* will introduce a new approach for the treatment of FISIM in the UK National Accounts. This is a significant change to the accounts that will be taken back to 1961, bringing the UK National Accounts into line with the approach laid out under Regulation by the European Commission. See Tily and Jenkinson (2006) and Akritidis (2007) for a fuller description of the new methodology.

FISIM represents the service charge provided by financial institutions paid for by the interest differential between borrowing and lending, rather than fees and commissions. The banking industry relies heavily on revenues accruing from interest flows, but according to standard national accounting rules, earnings from interest are not part of a corporation's output, value added or gross operating surplus and therefore do not contribute to economic growth. The concept of FISIM was developed as part of the update of the System of National Accounts (1993) and the European System of National and Regional Accounts (ESA95) to provide a standard approach for measuring both the supply and use of FISIM services. Experimental FISIM estimates (current price) have been published quarterly since March 2007.

The recommended approach is to identify the purchase of FISIM services explicitly and to classify them as intermediate consumption, final consumption expenditure or exports, according to which sector incurs the expenditure (SNA93, Annex iii, paragraph 5). Payments of FISIM by financial intermediaries (interbank lending) are regarded as representing intermediate consumption. The UK currently assumes all FISIM to be consumed by corporations, rather than allocating some consumption to final consumers. This new approach to estimate FISIM increases final consumption and therefore GDP in all years since 1961. On average, the level of GDP is around 1.5 per cent higher in current price terms from previously published estimates, although the effects on annual growth rates are small.

Plans for *Pink Book* 2008

As with the *Blue Book* in 2007, the scope of the *UK Balance of Payments Pink Book* (PB) was reduced in a number of ways:

- the accompanying analytical text and charts were suspended
- the geographical chapter 10 was withdrawn as a result of the suspension of the tables showing the UK's International Investment Position (IIP)

As stated in the preface to PB07, the intention was to reintroduce the text, charts and geographical analysis of the UK's IIP in the 2008 edition of the *Pink Book*. That is still the plan.

The 2008 edition of the *Pink Book* will also see the incorporation of a number of methodological improvements. These include:

- the inclusion of exports and imports of FISIM within Trade in Services (consistent with BB08) with an equal and offsetting revision to investment income
- the identification and inclusion of UK banks' imputed dividend payments
- a reassessment of the levels of portfolio investment abroad by UK securities dealers
- a reassessment of the level of UK shares held by non-residents
- the removal of some double counting of UK securities dealers deposits with, and loans from, banks abroad

Current price estimates for trade in services will also be subject to revision as part of the reinstated annual SUT balancing process.

Plans beyond BB08

This is the first stage in the modernisation of the UK National Accounts outlined in MUKNA. In BB09 the priority will be to expand the dimensions of the supply-use table and to extend the number of years for which the tables are compiled. The move to quarterly balancing will follow the successful incorporation of annual constant price balancing. In the meantime, the established process for completion of quarterly and annual rounds will continue.

These advances will be dependent on a considerable improvement in systems performance and this is being reviewed. It is expected that the findings of this review will, in part, determine plans for future *Blue Book* rounds. Plans for both BB09 and future *Blue Books* will be outlined in future articles in ELMR.

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FEATURE

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Labour Force Survey: reweighting and seasonal adjustment review 2008

SUMMARY

On 14 May 2008, the Office for National Statistics published national and regional Labour Force Survey (LFS) aggregate estimates that are consistent with reweighted LFS microdata. This article explains the revisions to the LFS aggregate estimates for 1992 to 2007 arising from the reweighting exercise and the annual seasonal adjustment review. The tables and charts in this article compare the differences between the LFS aggregate estimates and LFS microdata followed by a summary of how the reweighting and seasonal adjustment recommendations impacted on the headline labour market indicators. Analysis is also provided of the revisions to the population estimates and headline labour market indicators by Government Office Region.

On 14 May 2008, the Office for National Statistics (ONS) published the regular monthly Labour Market Statistics First Release which contained Labour Force Survey (LFS) aggregate estimates that are consistent with reweighted LFS microdata. The reweighting means both the published LFS aggregate estimates and the LFS microdata, used for detailed analyses, are in line with the most recently published official population estimates and projections.

In order to put the latest reweighted data into context, this article provides:

- definitions of the LFS aggregate estimates and LFS microdata
- a description of the methodological changes made at the same time as the reweighting
- a summary of the revisions to the previously published LFS national and regional aggregate estimates and microdata
- details of the 2008 seasonal adjustment review recommendations, and
- a timetable for the release of the remaining reweighted LFS outputs and plans for future LFS reweighting

Defining the LFS aggregate estimates and microdata

The LFS aggregate estimates in the UK and regional Labour Market Statistics First Release are key labour market indicators, for example, the levels and rates of employment, unemployment and economic inactivity. They are derived from the LFS microdata and are calculated for any period of three consecutive months. These are referred to as three-month rolling averages – averages for January to March, February to April, and so on. The aggregate estimates are seasonally adjusted.

LFS microdata are quarterly data sets containing all survey questions. They are made publicly available as databases to enable external users to access and produce their own analyses. They enable more detailed analysis but are published for calendar quarters only (quarter one refers to January to March, quarter two to April to June, and so on), and are not seasonally adjusted.

Since 2003, the LFS aggregate estimates or results have been 'interim-reweighted' every year. Interim-reweighting applies adjustments to the aggregate results to reflect how the latest available official population estimates compare with those used for weighting the microdata. This has amounted to an approximation of the effect that a full reweighting of the microdata would have. The aggregates were last interim-reweighted in December 2007 and reflect the current population estimates and projections.

The previous LFS microdata sets were weighted using population estimates published in 2003. Regular updates to these estimates meant that the LFS microdata had become increasingly out of date. This also meant that the published aggregates were not consistent with the LFS microdata used for more detailed analysis. **Table 1** compares the levels and rates for the

previously published aggregate estimates (interim-reweighted but not seasonally adjusted) with the equivalent estimates derived from the previous LFS microdata (pre-reweighting). The table shows that, in April to June 2007 for example, the total number of people in employment calculated from the microdata was around 600,000, or 2.3 per cent, lower than the equivalent aggregate estimate.

Reweighting of the microdata using the latest population estimates for all calendar quarters back to 1992 is now complete. As of 14 May 2008, the reweighted microdata are feeding through directly to the published LFS aggregate results; that is, the published aggregate estimates are based on, and consistent with, the reweighted LFS microdata. Interim-reweighting will not be required until the population estimates are next updated in summer 2008.

Methodological developments

Some small methodological enhancements have been made at the same time as the reweighting: a new calibration tool and a change to the population weighting method. This section will describe these changes and how they affect the published figures.

New calibration tool

Since the LFS is a continuous UK household sample survey, the responses reflect only a sample of the total population. These responses are weighted or calibrated to give estimates for the entire household population. Previously weighted LFS estimates were produced using a three-stage population-weighting procedure. Full details are given in section 10 of the LFS User Guide Volume 1.[1] To summarise briefly, each stage of the procedure corrected for a different cause of non-response: stage one corrected for non-response at a local authority level; stage two for non-response by age group and sex; and stage three for non-response by region, age group and sex. Each individual in the sample was assigned a weight via a complex iterative process that ensured the weighted estimates were in line (as much as is possible) with the official population estimates used for each of the three stages.

As part of the reweighting project, the statistical tool for carrying out the weighting has been replaced with

Table 1

Differences between estimates obtained from LFS microdata (pre–reweighting) and LFS aggregate estimates interim–reweighted (previously published)

United Kingdom — Thousands, not seasonally adjusted, except where indicated

	All people aged 16 and over								
	All aged 16 and over	Economically active	In employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
LFS microdata[1] (pre–reweighting)									
Apr–Jun 1997	45,379	28,369	26,356	2,013	17,009	*62.5*	*58.1*	*7.1*	*37.5*
Apr–Jun 1999	45,679	28,571	26,876	1,695	17,108	*62.5*	*58.8*	*5.9*	*37.5*
Apr–Jun 2001	46,183	28,846	27,438	1,408	17,337	*62.5*	*59.4*	*4.9*	*37.5*
Apr–Jun 2002	46,438	29,073	27,617	1,456	17,365	*62.6*	*59.5*	*5.0*	*37.4*
Apr–Jun 2003	46,664	29,264	27,863	1,401	17,400	*62.7*	*59.7*	*4.8*	*37.3*
Apr–Jun 2004	46,912	29,393	28,024	1,368	17,519	*62.7*	*59.7*	*4.7*	*37.3*
Apr–Jun 2005	47,157	29,557	28,193	1,364	17,600	*62.7*	*59.8*	*4.6*	*37.3*
Apr–Jun 2006	47,409	29,942	28,339	1,604	17,466	*63.2*	*59.8*	*5.4*	*36.8*
Apr–Jun 2007	47,727	30,006	28,434	1,573	17,721	*62.9*	*59.6*	*5.2*	*37.1*
LFS aggregates interim–reweighted (previously published)									
Apr–Jun 1997	45,509	28,468	26,443	2,024	17,042	*62.6*	*58.1*	*7.1*	*37.4*
Apr–Jun 1999	45,880	28,726	27,017	1,709	17,154	*62.6*	*58.9*	*5.9*	*37.4*
Apr–Jun 2001	46,441	29,057	27,636	1,420	17,384	*62.6*	*59.5*	*4.9*	*37.4*
Apr–Jun 2002	46,727	29,317	27,849	1,468	17,410	*62.7*	*59.6*	*5.0*	*37.3*
Apr–Jun 2003	47,016	29,551	28,134	1,417	17,466	*62.9*	*59.8*	*4.8*	*37.1*
Apr–Jun 2004	47,361	29,751	28,361	1,390	17,610	*62.8*	*59.9*	*4.7*	*37.2*
Apr–Jun 2005	47,787	30,055	28,659	1,395	17,732	*62.9*	*60.0*	*4.6*	*37.1*
Apr–Jun 2006	48,185	30,559	28,910	1,649	17,626	*63.4*	*60.0*	*5.4*	*36.6*
Apr–Jun 2007	48,590	30,705	29,083	1,622	17,886	*63.2*	*59.9*	*5.3*	*36.8*
Difference between results as shown[2]									
Apr–Jun 1997	130	99	87	11	33	*0.1*	–	–	*–0.1*
Apr–Jun 1999	201	155	141	14	46	*0.1*	*0.1*	–	*–0.1*
Apr–Jun 2001	258	211	198	12	47	*0.1*	*0.1*	–	*–0.1*
Apr–Jun 2002	289	244	232	12	45	*0.1*	*0.1*	–	*–0.1*
Apr–Jun 2003	352	287	271	16	66	*0.2*	*0.1*	–	*–0.2*
Apr–Jun 2004	449	358	337	22	91	*0.1*	*0.2*	–	*–0.1*
Apr–Jun 2005	630	498	466	31	132	*0.2*	*0.2*	–	*–0.2*
Apr–Jun 2006	776	617	571	45	160	*0.2*	*0.2*	–	*–0.2*
Apr–Jun 2007	863	699	649	49	165	*0.3*	*0.3*	*0.1*	*–0.3*

Notes:

1 Comparable data are not available for 1998 and 2000.
2 Levels are rounded to the nearest thousand and rates are rounded to one decimal place.
– difference is zero

something more robust and efficient. This is known as the Generalised Estimation System (GES) tool and was initially developed by Statistics Canada. The methodology employed by the GES tool is different from that used previously, in that it calibrates the data in a single process rather than numerous iterations over three stages. The two methodologies are asymptotically equivalent. In other words, they produce the same outcome providing the sample is sufficiently large, which, for the LFS, it invariably is. Consequently the impact on the LFS estimates caused by implementing the new weighting tool is very small. This outcome was also borne out by some testing using extracts of LFS data. In addition to providing improved statistical processing, the tool also provides diagnostic information to help assess data quality.

Population weighting changes

The LFS microdata have been reweighted using the latest mid-year population estimates for all calendar quarters back to 1992. In order to remain consistent with the LFS sample, the population estimates are adjusted to exclude those outside the coverage of the LFS. Consequently, communal establishments, apart from people living in National Health Service accommodation and students living in halls of residence who have a UK-resident parent, are excluded from the LFS household population estimates.

Although the same set of population estimates had been used for the interim-reweighting of the aggregate results as for the reweighting of the microdata, they had been applied differently. Under interim-reweighting, the mid-year population estimate referred to the June to August three-month period. For the reweighting of the microdata, the May to July period was used. The LFS aggregates and microdata are now consistent with each other in this respect and use May to July as the period that relates to the mid-year population estimates. This methodological change has contributed to the revisions to the LFS aggregates published on 14 May 2008.

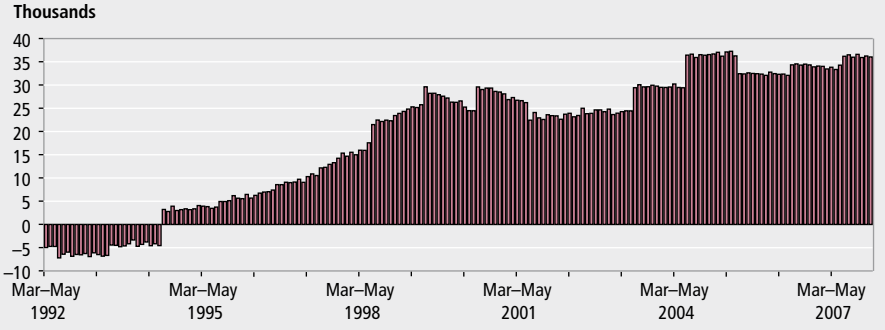
This change in the population weighting has meant that the population estimates used for the previously published aggregate estimates have been brought forward a month in relation to the LFS data. In other words, the population estimates that were used under interim-reweighting for weighting the LFS data for June to August 2007 are now being used for weighting the LFS data for May to July 2007. Consequently, at the UK level, this results in upward revisions to the total population aged 16 and over, which are published alongside the LFS aggregates in the Labour Market Statistics First Release. **Figure 1** shows the population aged 16 and over used for weighting the interim-reweighted series (previously published) and the population estimates used for reweighting the microdata. The lines represent the population levels and the bars in **Figure 2** represent the revisions to the LFS population aged 16 and over.

As the closeness of the two lines suggests, the revisions to total LFS population aged 16 and over are small. These revisions reflect the change in the population weighting and affect all rolling three-monthly periods back to 1992. All are upwards since June to August 1994. The revisions are mostly in the region of 15,000 to 35,000; the largest are in July to September 2007 at 37,000, or 0.1 per cent.

Figure 1
LFS population aged 16 and over: previously published and revised estimates[1]

Note:
1 Dates represent rolling three-monthly periods.

Figure 2
Revisions to LFS population aged 16 and over[1]



Note:
1 Dates represent rolling three-monthly periods.

Revisions to LFS national and regional aggregates

The newly published LFS national and regional aggregate results have been subject to the following sources of revision:

- reweighted LFS microdata, using the latest population estimates
- change in population weighting method
- new calibration tool (GES), and
- recommendations from the review of seasonal adjustment

The first three sources of revision were applied simultaneously in producing a new aggregate time series. It was not possible to quantify the impacts of the three changes individually due to time and resource limitations. As mentioned earlier, the impact of the new calibration tool is neutral for the aggregate results.

The comparisons contained in this article are summarised in **Box 1**.

Table 1 was referred to earlier in the section that defines the LFS aggregate estimates and the microdata. It helps set the context of the LFS reweighting project and underlines the importance of regular reweighting of the LFS microdata.

Table 2 compares the aggregates derived from the reweighted LFS microdata and the previously published interim-reweighted aggregate estimates, before seasonal adjustment. The revisions to the reweighted NSA aggregates result from the reweighted

Box 1

Assessment of the impact of revisions to the previously published LFS national and regional aggregate estimates and microdata

Table no.	Series x	Series y	Assessment
1	Aggregate estimates derived from LFS microdata, prior to reweighting (NSA[1])	Interim-reweighted aggregate estimates, (previously published), NSA	The scale of the previous discrepancy between LFS microdata and interim-reweighted estimates
2	Reweighted[2] aggregate estimates derived from LFS microdata, NSA	Interim-reweighted aggregate estimates (previously published), NSA	The impact of reweighting on published NSA aggregate estimates, separate from any seasonal adjustment effects
3	**Reweighted aggregate estimates, SA,[3] after seasonal adjustment review (published 14 May).**	**Interim reweighted aggregate estimates, SA, (previously published)**	**The overall effect on the published aggregates, incorporating all sources of revision**
4	Regional total population used to reweight microdata	Regional total population figures used in interim-reweighting (previously published)	The extent of the changes in the population estimates, by region
5	**Regional reweighted aggregate estimates, SA, after seasonal adjustment review (published 14 May)**	**Regional aggregate estimates under interim-reweighting (previously published)**	**The overall effect on the published aggregates for each region, incorporating all sources of revision**

Notes:
1 Not seasonally adjusted.
2 Estimates derived from reweighted LFS microdata.
3 Seasonally adjusted.

LFS microdata feeding through directly and also from the population weighting changes. The figures shown are for the three-month period ending June each year, back to 1992. All the headline economically active, inactive, unemployment and employment levels are showing revisions to the whole time series and are discussed in more detail below. Generally, since the population changes are included in both the numerator and denominator for the rate calculations, the revisions to the rates are small, ranging between –0.2 and +0.2 percentage points and, in many cases, zero. Any revisions that feed through to the rates at the UK level relate to changes caused by the reweighting of the microdata at the local authority level.

The LFS estimate of the number of people aged 16 and over who are economically active is the sum of those who are in employment and those who are unemployed. The revisions to this series are small, no greater than 0.1 per cent. The largest revisions are in November 2004 to January 2005 and November 2006 to January 2007 at about +20,000, or 0.1 per cent. For the economically inactive series, the revisions are all upwards from 1996 onwards. There are small revisions to the unemployment levels, no greater than +/–0.2 per cent. There are downward revisions in the more recent periods which are the result of the reweighted microdata. The revisions to the employment levels are all small, no greater than 0.1 per cent. The largest revisions are in December 2006 to February 2007 at about +22,000, or 0.1 per cent.

The comparison shown in Table 2 was repeated on a seasonally adjusted basis, that is, taking account of the revised time series plus the historical effects of previous changes to the LFS seasonal adjustment parameters, which, until now, had not been applied to the whole time series. The differences arising from this comparison are very similar to the figures in Table 2. This means that the updated seasonal adjustment, as described above, did not change the figures significantly. In other words, the revisions to the interim-reweighted aggregate estimates (seasonally adjusted) prior to the seasonal adjustment review were primarily due to the reweighting of the microdata, in particular the change to the population weighting method.

Impact of seasonal adjustment review

For all series, except those measuring average hours worked and reasons for working part-time, the seasonal adjustment review recommended no changes to the current methods. Consequently, the differences between the reweighted LFS aggregates, before and after the seasonal adjustment review, are negligible. The changes made to the seasonal adjustment of the average hours worked, and reasons for working part-time series, are described in the section which follows titled 'Summary of LFS seasonal adjustment review 2008'.

Table 3 summarises the impact on the published UK level estimates. These aggregates have been subject to all four revision sources noted earlier in this article. The differences in this table are very similar to the differences noted in Table 2. This confirms that the reweighted microdata category (incorporating the population weighting changes) is the main contributor to the revisions to the LFS aggregates. The seasonal adjustment review is described in more detail below.

Table 4 summarises the impact of the reweighting and population weighting changes on the published Government Office Region population aged 16 and over. The figures shown are for the three-month period ending June each year, back to 1992. The revisions affect all rolling three-monthly periods back to 1992, and are all upwards since October to December 1997. None of the regions is affected particularly significantly by the revisions, with London and the South East showing the largest in terms of levels.

Table 5 summarises the differences between the interim-reweighted (previously published) estimates and the reweighted microdata, after implementation of the seasonal adjustment review recommendations, for the three-month period ending June 2007. The largest percentage change between the newly and previously published aggregates is for the number of people in employment for Yorkshire and The Humber: –1.4 per cent for April to June 2007. Overall, the impact of the reweighted microdata and seasonal

Table 2

Differences between LFS aggregate estimates, interim-reweighted (previously published) and reweighted LFS microdata (not seasonally adjusted)

United Kingdom — Thousands, not seasonally adjusted, except where indicated

	All people aged 16 and over								
	All aged 16 and over	Economically active	In employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
LFS aggregate estimates: reweighted LFS microdata[1]									
Apr–Jun 1992	44,996	28,297	25,554	2,743	16,699	*63.1*	*56.9*	*9.8*	*36.9*
Apr–Jun 1993	45,022	28,138	25,241	2,898	16,884	*62.5*	*56.1*	*10.3*	*37.5*
Apr–Jun 1994	45,072	28,103	25,397	2,705	16,969	*62.4*	*56.3*	*9.6*	*37.6*
Apr–Jun 1995	45,205	28,129	25,711	2,418	17,076	*62.2*	*56.9*	*8.6*	*37.8*
Apr–Jun 1996	45,361	28,261	25,945	2,315	17,101	*62.3*	*57.2*	*8.2*	*37.7*
Apr–Jun 1997	45,520	28,470	26,444	2,026	17,050	*62.5*	*58.1*	*7.1*	*37.5*
Apr–Jun 1998	45,691	28,405	26,642	1,764	17,285	*62.2*	*58.3*	*6.2*	*37.8*
Apr–Jun 1999	45,905	28,733	27,023	1,710	17,172	*62.6*	*58.9*	*6.0*	*37.4*
Apr–Jun 2000	46,152	28,958	27,399	1,559	17,195	*62.7*	*59.4*	*5.4*	*37.3*
Apr–Jun 2001	46,467	29,066	27,643	1,423	17,402	*62.6*	*59.5*	*4.9*	*37.5*
Apr–Jun 2002	46,750	29,324	27,852	1,472	17,426	*62.7*	*59.6*	*5.0*	*37.3*
Apr–Jun 2003	47,041	29,552	28,132	1,420	17,489	*62.8*	*59.8*	*4.8*	*37.2*
Apr–Jun 2004	47,391	29,759	28,365	1,394	17,632	*62.8*	*59.9*	*4.7*	*37.2*
Apr–Jun 2005	47,824	30,062	28,665	1,397	17,761	*62.9*	*59.9*	*4.6*	*37.1*
Apr–Jun 2006	48,217	30,575	28,926	1,649	17,642	*63.4*	*60.0*	*5.4*	*36.6*
Apr–Jun 2007	48,624	30,721	29,100	1,621	17,903	*63.2*	*59.8*	*5.3*	*36.8*
LFS aggregate estimates: interim-reweighted (previously published)									
Apr–Jun 1992	45,001	28,294	25,549	2,744	16,707	*62.9*	*56.8*	*9.7*	*37.1*
Apr–Jun 1993	45,029	28,136	25,236	2,900	16,893	*62.5*	*56.0*	*10.3*	*37.5*
Apr–Jun 1994	45,076	28,100	25,394	2,706	16,976	*62.3*	*56.3*	*9.6*	*37.7*
Apr–Jun 1995	45,201	28,125	25,710	2,415	17,076	*62.2*	*56.9*	*8.6*	*37.8*
Apr–Jun 1996	45,355	28,258	25,945	2,313	17,097	*62.3*	*57.2*	*8.2*	*37.7*
Apr–Jun 1997	45,509	28,468	26,443	2,024	17,042	*62.6*	*58.1*	*7.1*	*37.4*
Apr–Jun 1998	45,675	28,409	26,648	1,761	17,266	*62.2*	*58.3*	*6.2*	*37.8*
Apr–Jun 1999	45,880	28,726	27,017	1,709	17,154	*62.6*	*58.9*	*5.9*	*37.4*
Apr–Jun 2000	46,128	28,950	27,394	1,556	17,178	*62.8*	*59.4*	*5.4*	*37.2*
Apr–Jun 2001	46,441	29,057	27,636	1,420	17,384	*62.6*	*59.5*	*4.9*	*37.4*
Apr–Jun 2002	46,727	29,317	27,849	1,468	17,410	*62.7*	*59.6*	*5.0*	*37.3*
Apr–Jun 2003	47,016	29,551	28,134	1,417	17,466	*62.9*	*59.8*	*4.8*	*37.1*
Apr–Jun 2004	47,361	29,751	28,361	1,390	17,610	*62.8*	*59.9*	*4.7*	*37.2*
Apr–Jun 2005	47,787	30,055	28,659	1,395	17,732	*62.9*	*60.0*	*4.6*	*37.1*
Apr–Jun 2006	48,185	30,559	28,910	1,649	17,626	*63.4*	*60.0*	*5.4*	*36.6*
Apr–Jun 2007	48,590	30,705	29,083	1,622	17,886	*63.2*	*59.9*	*5.3*	*36.8*
Difference between results as shown[2]									
Apr–Jun 1992	–5	3	5	–1	–8	*0.2*	*0.1*	*0.1*	*–0.2*
Apr–Jun 1993	–7	2	5	–2	–9	–	*0.1*	–	–
Apr–Jun 1994	–4	3	3	–1	–7	*0.1*	–	–	*–0.1*
Apr–Jun 1995	4	4	1	3	–	–	–	–	–
Apr–Jun 1996	6	3	–	2	4	–	–	–	–
Apr–Jun 1997	11	2	1	2	8	*–0.1*	–	–	*0.1*
Apr–Jun 1998	16	–4	–6	3	19	–	–	–	–
Apr–Jun 1999	25	7	6	1	18	–	–	*0.1*	–
Apr–Jun 2000	24	8	5	3	17	*–0.1*	–	–	*0.1*
Apr–Jun 2001	26	9	7	3	18	–	–	–	*0.1*
Apr–Jun 2002	23	7	3	4	16	–	–	–	–
Apr–Jun 2003	25	1	–2	3	23	*–0.1*	–	–	*0.1*
Apr–Jun 2004	30	8	4	4	22	–	–	–	–
Apr–Jun 2005	37	7	6	2	29	–	*–0.1*	–	–
Apr–Jun 2006	32	16	16	–	16	–	–	–	–
Apr–Jun 2007	34	16	17	–1	17	–	*–0.1*	–	–

Notes:

1 Estimates derived from reweighted microdata.
2 Levels are rounded to the nearest thousand and rates are rounded to one decimal place.
– difference is zero

Table 3

Differences between LFS aggregate estimates, interim-reweighted (previously published) and reweighted LFS microdata, after seasonal adjustment review

United Kingdom — Thousands, seasonally adjusted, except where indicated

	All people aged 16 and over								
	All aged 16 and over	Economically active	In employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
LFS aggregate estimates: reweighted LFS microdata,[1] after seasonal adjustment review									
Apr–Jun 1992	44,996	28,379	25,601	2,778	16,617	*63.1*	*56.9*	*9.8*	*36.9*
Apr–Jun 1993	45,022	28,220	25,288	2,932	16,802	*62.7*	*56.2*	*10.4*	*37.3*
Apr–Jun 1994	45,072	28,184	25,448	2,736	16,888	*62.5*	*56.5*	*9.7*	*37.5*
Apr–Jun 1995	45,205	28,212	25,768	2,444	16,992	*62.4*	*57.0*	*8.7*	*37.6*
Apr–Jun 1996	45,361	28,348	26,009	2,339	17,013	*62.5*	*57.3*	*8.3*	*37.5*
Apr–Jun 1997	45,520	28,564	26,514	2,050	16,956	*62.7*	*58.2*	*7.2*	*37.3*
Apr–Jun 1998	45,691	28,506	26,715	1,791	17,185	*62.4*	*58.5*	*6.3*	*37.6*
Apr–Jun 1999	45,905	28,840	27,097	1,743	17,065	*62.8*	*59.0*	*6.0*	*37.2*
Apr–Jun 2000	46,152	29,069	27,469	1,600	17,084	*63.0*	*59.5*	*5.5*	*37.0*
Apr–Jun 2001	46,467	29,176	27,706	1,470	17,291	*62.8*	*59.6*	*5.0*	*37.2*
Apr–Jun 2002	46,750	29,433	27,911	1,521	17,317	*63.0*	*59.7*	*5.2*	*37.0*
Apr–Jun 2003	47,041	29,659	28,191	1,468	17,382	*63.0*	*59.9*	*5.0*	*37.0*
Apr–Jun 2004	47,391	29,867	28,428	1,439	17,524	*63.0*	*60.0*	*4.8*	*37.0*
Apr–Jun 2005	47,824	30,170	28,732	1,438	17,653	*63.1*	*60.1*	*4.8*	*36.9*
Apr–Jun 2006	48,217	30,686	28,998	1,687	17,531	*63.6*	*60.1*	*5.5*	*36.4*
Apr–Jun 2007	48,624	30,832	29,174	1,658	17,792	*63.4*	*60.0*	*5.4*	*36.6*
LFS aggregates interim-reweighted (previously published)									
Apr–Jun 1992	45,001	28,376	25,597	2,780	16,624	*63.1*	*56.9*	*9.8*	*36.9*
Apr–Jun 1993	45,029	28,218	25,284	2,934	16,811	*62.7*	*56.2*	*10.4*	*37.3*
Apr–Jun 1994	45,076	28,181	25,445	2,737	16,895	*62.5*	*56.4*	*9.7*	*37.5*
Apr–Jun 1995	45,201	28,208	25,767	2,441	16,993	*62.4*	*57.0*	*8.7*	*37.6*
Apr–Jun 1996	45,355	28,345	26,009	2,336	17,010	*62.5*	*57.3*	*8.2*	*37.5*
Apr–Jun 1997	45,509	28,561	26,513	2,048	16,949	*62.8*	*58.3*	*7.2*	*37.2*
Apr–Jun 1998	45,675	28,509	26,721	1,788	17,166	*62.4*	*58.5*	*6.3*	*37.6*
Apr–Jun 1999	45,880	28,833	27,090	1,743	17,047	*62.8*	*59.0*	*6.0*	*37.2*
Apr–Jun 2000	46,128	29,061	27,461	1,599	17,067	*63.0*	*59.5*	*5.5*	*37.0*
Apr–Jun 2001	46,441	29,167	27,694	1,472	17,274	*62.8*	*59.6*	*5.0*	*37.2*
Apr–Jun 2002	46,727	29,422	27,906	1,516	17,305	*63.0*	*59.7*	*5.2*	*37.0*
Apr–Jun 2003	47,016	29,656	28,192	1,464	17,361	*63.1*	*60.0*	*4.9*	*36.9*
Apr–Jun 2004	47,361	29,857	28,423	1,434	17,504	*63.0*	*60.0*	*4.8*	*37.0*
Apr–Jun 2005	47,787	30,163	28,727	1,435	17,624	*63.1*	*60.1*	*4.8*	*36.9*
Apr–Jun 2006	48,185	30,670	28,983	1,687	17,515	*63.7*	*60.2*	*5.5*	*36.3*
Apr–Jun 2007	48,590	30,814	29,153	1,661	17,776	*63.4*	*60.0*	*5.4*	*36.6*
Difference between results as shown[2]									
Apr–Jun 1992	–5	3	4	–2	–7	–	–	–	–
Apr–Jun 1993	–7	2	4	–2	–9	–	–	–	–
Apr–Jun 1994	–4	3	3	–1	–7	–	*0.1*	–	–
Apr–Jun 1995	4	4	1	3	–1	–	–	–	–
Apr–Jun 1996	6	3	–	3	3	–	–	*0.1*	–
Apr–Jun 1997	11	3	1	2	7	*–0.1*	*–0.1*	–	*0.1*
Apr–Jun 1998	16	–3	–6	3	19	–	–	–	–
Apr–Jun 1999	25	7	7	–	18	–	–	–	–
Apr–Jun 2000	24	8	8	1	17	–	–	–	–
Apr–Jun 2001	26	9	12	–2	17	–	–	–	–
Apr–Jun 2002	23	11	5	5	12	–	–	–	–
Apr–Jun 2003	25	3	–1	4	21	*–0.1*	*–0.1*	*0.1*	*0.1*
Apr–Jun 2004	30	10	5	5	20	–	–	–	–
Apr–Jun 2005	37	7	5	3	29	–	–	–	–
Apr–Jun 2006	32	16	15	–	16	*–0.1*	*–0.1*	–	*0.1*
Apr–Jun 2007	34	18	21	–3	16	–	–	–	–

Notes:

1 Estimates derived from reweighted LFS microdata.
2 Levels are rounded to the nearest thousand and rates are rounded to one decimal place.
– difference is zero

Table 4

Differences between LFS regional population estimates, interim-reweighted (previously published) and reweighted LFS microdata

United Kingdom — Thousands

	All people aged 16 and over											
	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East	London	South East	South West	Wales	Scotland	Northern Ireland
LFS estimates: reweighted LFS microdata[1]												
Apr–Jun 1992	2,025	5,308	3,868	3,164	4,083	4,032	5,389	5,993	3,716	2,250	3,990	1,177
Apr–Jun 1993	2,023	5,301	3,863	3,175	4,081	4,038	5,382	5,999	3,728	2,251	3,993	1,190
Apr–Jun 1994	2,017	5,288	3,859	3,183	4,076	4,049	5,389	6,022	3,741	2,251	3,998	1,199
Apr–Jun 1995	2,014	5,281	3,858	3,198	4,081	4,072	5,412	6,061	3,762	2,253	4,005	1,207
Apr–Jun 1996	2,013	5,274	3,861	3,215	4,090	4,096	5,455	6,097	3,776	2,259	4,005	1,220
Apr–Jun 1997	2,010	5,267	3,860	3,228	4,092	4,127	5,487	6,143	3,805	2,264	4,006	1,232
Apr–Jun 1998	2,008	5,273	3,862	3,241	4,100	4,158	5,525	6,177	3,826	2,271	4,009	1,241
Apr–Jun 1999	2,004	5,266	3,864	3,257	4,105	4,184	5,609	6,228	3,853	2,275	4,012	1,247
Apr–Jun 2000	2,003	5,277	3,872	3,273	4,108	4,217	5,697	6,265	3,887	2,283	4,015	1,256
Apr–Jun 2001	2,007	5,293	3,896	3,296	4,127	4,247	5,795	6,303	3,915	2,291	4,029	1,268
Apr–Jun 2002	2,015	5,314	3,927	3,329	4,148	4,279	5,842	6,330	3,945	2,305	4,036	1,280
Apr–Jun 2003	2,022	5,348	3,960	3,363	4,171	4,319	5,851	6,369	3,977	2,321	4,050	1,291
Apr–Jun 2004	2,029	5,381	4,001	3,404	4,194	4,356	5,880	6,409	4,016	2,340	4,078	1,303
Apr–Jun 2005	2,041	5,415	4,050	3,444	4,223	4,407	5,941	6,470	4,064	2,354	4,100	1,318
Apr–Jun 2006	2,051	5,441	4,091	3,484	4,246	4,451	5,992	6,523	4,105	2,370	4,127	1,336
Apr–Jun 2007	2,062	5,469	4,134	3,523	4,266	4,499	6,043	6,582	4,151	2,385	4,155	1,356
LFS aggregate estimates: interim-reweighted (previously published)												
Apr–Jun 1992	2,025	5,309	3,868	3,163	4,083	4,029	5,390	5,992	3,718	2,249	3,992	1,177
Apr–Jun 1993	2,023	5,303	3,864	3,174	4,081	4,037	5,381	5,999	3,730	2,250	3,994	1,190
Apr–Jun 1994	2,017	5,290	3,859	3,182	4,075	4,048	5,386	6,019	3,745	2,251	4,000	1,199
Apr–Jun 1995	2,014	5,283	3,858	3,196	4,079	4,069	5,409	6,056	3,765	2,253	4,006	1,207
Apr–Jun 1996	2,013	5,276	3,860	3,213	4,087	4,094	5,450	6,093	3,779	2,259	4,006	1,220
Apr–Jun 1997	2,010	5,268	3,859	3,226	4,090	4,124	5,483	6,138	3,804	2,264	4,007	1,231
Apr–Jun 1998	2,008	5,271	3,861	3,239	4,099	4,155	5,520	6,172	3,824	2,270	4,009	1,241
Apr–Jun 1999	2,004	5,265	3,863	3,254	4,103	4,181	5,600	6,221	3,849	2,274	4,012	1,247
Apr–Jun 2000	2,003	5,276	3,871	3,271	4,107	4,213	5,689	6,260	3,883	2,282	4,014	1,256
Apr–Jun 2001	2,006	5,292	3,894	3,294	4,125	4,244	5,787	6,299	3,912	2,291	4,028	1,268
Apr–Jun 2002	2,014	5,312	3,924	3,326	4,146	4,276	5,838	6,328	3,943	2,304	4,036	1,279
Apr–Jun 2003	2,021	5,345	3,957	3,360	4,169	4,315	5,850	6,365	3,974	2,320	4,049	1,290
Apr–Jun 2004	2,028	5,379	3,998	3,400	4,192	4,353	5,877	6,406	4,013	2,339	4,075	1,302
Apr–Jun 2005	2,040	5,412	4,045	3,440	4,220	4,402	5,935	6,464	4,060	2,353	4,098	1,317
Apr–Jun 2006	2,050	5,439	4,088	3,480	4,244	4,447	5,988	6,519	4,102	2,369	4,125	1,334
Apr–Jun 2007	2,061	5,467	4,130	3,520	4,264	4,495	6,039	6,577	4,147	2,384	4,153	1,354
Difference between results as shown[2]												
Apr–Jun 1992	–	–1	–	1	–	3	–1	1	–2	1	–2	–
Apr–Jun 1993	–	–2	–1	1	–	1	1	–	–2	1	–1	–
Apr–Jun 1994	–	–2	–	1	1	1	3	3	–4	–	–2	–
Apr–Jun 1995	–	–2	–	2	2	3	3	5	–3	–	–1	–
Apr–Jun 1996	–	–2	1	2	3	2	5	4	–3	–	–1	–
Apr–Jun 1997	–	–1	1	2	2	3	4	5	1	–	–1	1
Apr–Jun 1998	–	2	1	2	1	3	5	5	2	1	–	–
Apr–Jun 1999	–	1	1	3	2	3	9	7	4	1	–	–
Apr–Jun 2000	–	1	1	2	1	4	8	5	4	1	1	–
Apr–Jun 2001	1	1	2	2	2	3	8	4	3	–	1	–
Apr–Jun 2002	1	2	3	3	2	3	4	2	2	1	–	1
Apr–Jun 2003	1	3	3	3	2	4	1	4	3	1	1	1
Apr–Jun 2004	1	2	3	4	2	3	3	3	3	1	3	1
Apr–Jun 2005	1	3	5	4	3	5	6	6	4	1	2	1
Apr–Jun 2006	1	2	3	4	2	4	4	4	3	1	2	2
Apr–Jun 2007	1	2	4	3	2	4	4	5	4	1	2	2

Notes:

1 Estimates derived from reweighted LFS microdata.
2 Levels are rounded to the nearest thousand.
– difference is zero

adjustment on the LFS regional published aggregates is small.

Summary of LFS seasonal adjustment review 2008

A comprehensive review of the seasonal adjustment of all aggregate results published in the monthly national and regional Labour Market Statistics First Releases was carried out in March 2008. This included an examination of any changes in seasonality and the identification of any reasons for unusual patterns. The settings for the seasonal adjustment process were also reviewed, for example, the choice of model and the types of moving averages used for estimating the trend and seasonal components. The time period covered was 1992 to 2007 inclusive.

LFS seasonal adjustment has been carried out in the past using the standard international tool X-11 Arima. Following this review, the latest version of this tool, X-12 Arima, has now been embedded into the production process for the LFS aggregate results. This has led to improved efficiency and greater flexibility when producing the seasonally adjusted figures. The implementation of the new tool itself has not caused any revisions to the LFS results.

For all series except those measuring average hours worked and reasons for

Table 5

Differences between LFS regional aggregate estimates, interim-reweighted (previously published) and reweighted LFS microdata, after seasonal adjustment review, April to June 2007

United Kingdom — Thousands, seasonally adjusted, except where indicated

	All people aged 16 and over								
	All aged 16 and over	Economically active	In employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
LFS aggregate estimates: reweighted LFS microdata,[1] after seasonal adjustment review									
North East	2,062	1,237	1,158	79	824	*60.0*	*56.2*	*6.4*	*40.0*
North West	5,469	3,381	3,183	198	2,088	*61.8*	*58.2*	*5.8*	*38.2*
Yorkshire and The Humber	4,134	2,567	2,423	143	1,567	*62.1*	*58.6*	*5.6*	*37.9*
East Midlands	3,523	2,251	2,138	112	1,272	*63.9*	*60.7*	*5.0*	*36.1*
West Midlands	4,266	2,663	2,482	181	1,603	*62.4*	*58.2*	*6.8*	*37.6*
East	4,499	2,905	2,771	133	1,594	*64.6*	*61.6*	*4.6*	*35.4*
London	6,043	3,930	3,639	291	2,113	*65.0*	*60.2*	*7.4*	*35.0*
South East	6,582	4,345	4,161	184	2,237	*66.0*	*63.2*	*4.2*	*34.0*
South West	4,151	2,623	2,518	105	1,528	*63.2*	*60.7*	*4.0*	*36.8*
Wales	2,385	1,435	1,356	79	950	*60.2*	*56.9*	*5.5*	*39.8*
Scotland	4,155	2,677	2,556	122	1,478	*64.4*	*61.5*	*4.5*	*35.6*
Northern Ireland	1,356	819	788	31	537	*60.4*	*58.1*	*3.8*	*39.6*
LFS aggregate estimates: interim-reweighted (previously published)									
North East	2,061	1,237	1,157	80	824	*60.0*	*56.1*	*6.5*	*40.0*
North West	5,467	3,381	3,185	197	2,086	*61.9*	*58.3*	*5.8*	*38.1*
Yorkshire and The Humber	4,130	2,561	2,416	145	1,569	*62.0*	*58.5*	*5.7*	*38.0*
East Midlands	3,520	2,249	2,136	113	1,271	*63.9*	*60.7*	*5.0*	*36.1*
West Midlands	4,264	2,665	2,483	182	1,600	*62.5*	*58.2*	*6.8*	*37.5*
East	4,495	2,901	2,767	134	1,594	*64.5*	*61.6*	*4.6*	*35.5*
London	6,039	3,935	3,644	291	2,104	*65.2*	*60.3*	*7.4*	*34.8*
South East	6,577	4,334	4,152	182	2,243	*65.9*	*63.1*	*4.2*	*34.1*
South West	4,147	2,618	2,513	105	1,529	*63.1*	*60.6*	*4.0*	*36.9*
Wales	2,384	1,437	1,357	80	948	*60.3*	*56.9*	*5.6*	*39.7*
Scotland	4,153	2,679	2,558	121	1,474	*64.5*	*61.6*	*4.5*	*35.5*
Northern Ireland	1,354	817	787	31	537	*60.4*	*58.1*	*3.7*	*39.6*
Difference between results as shown[2]									
North East	1	–	1	–1	–	–	*0.1*	*–0.1*	–
North West	2	–	–2	1	2	*–0.1*	*–0.1*	–	*0.1*
Yorkshire and The Humber	4	6	7	–2	–2	*0.1*	*0.1*	*–0.1*	*–0.1*
East Midlands	3	2	2	–1	1	–	–	–	–
West Midlands	2	–2	–1	–1	3	*–0.1*	–	–	*0.1*
East	4	4	4	–1	–	*0.1*	–	–	*–0.1*
London	4	–5	–5	–	9	*–0.2*	*–0.1*	–	*0.2*
South East	5	11	9	2	–6	*0.1*	*0.1*	–	*–0.1*
South West	4	5	5	–	–1	*0.1*	*0.1*	–	*–0.1*
Wales	1	–2	–1	–1	2	*–0.1*	–	*–0.1*	*0.1*
Scotland	2	–2	–2	1	4	*–0.1*	*–0.1*	–	*0.1*
Northern Ireland	2	2	1	–	–	–	–	*0.1*	–

Notes:

1 Estimates derived from reweighted LFS microdata.
2 Levels are rounded to the nearest thousand and rates are rounded to one decimal place.
– difference is zero

part-time work, the review recommended no changes to the method of seasonal adjustment. Consequently, any revisions arising from this review are mostly very small and are the result of more, and updated, data feeding into the seasonal adjustment. In addition, though, the opening up of the time series back to 1992 for revisions has meant that some recommendations from previous reviews of LFS seasonal adjustment have now fed through to published results. At previous reviews, only the three latest years were opened up to revision. These additional historical revisions are also mostly very small.

The revisions resulting from the seasonal adjustment review generally have very little impact on the headline LFS series, as indicated in the previous section. The series that require comment are discussed in more detail below.

Reasons for working part-time

Reasons for working part-time (Table 3 of the Labour Market Statistics First Release) classifies those who are employed part-time by the reasons they give for not working full-time. The published breakdowns consist of 'could not find full-time job', 'did not want full-time job', 'ill or disabled' and 'student or at school'.

Historically, all the above published seasonally adjusted figures have been constrained to the total of part-time workers by reason. However, this calculation did not include the answer 'no reason given', which although unpublished, has been used to derive the total before seasonal adjustment. As a result, each reason has been scaled up or down by slightly more than it should have been.

Changing the constraining methodology to include the 'no reason given' series means that additivity appears to be lost when comparing the published series with the total (the 'no reason given' category is neither published nor seasonally adjusted as it is regarded as too small to do so). The overall effect is minimal and it now means that the seasonally adjusted estimates for each reason are fully consistent with the not seasonally adjusted estimates, which are also publicly available.

Average hours worked

Changes to the seasonal adjustment method were recommended for the series in Table 7 of the Labour Market Statistics First Release, that is, the average actual weekly hours of work. These statistics measure the number of hours actually worked by respondents during the week surveyed. They are affected directly by changes in the number of hours individuals work, in particular those caused by time off due to holidays. A number of 'calendar effects' related to holiday periods can cause distortions to the seasonal adjustment of the actual hours worked series. These are:

- late May bank holiday – which falls in either the May or June survey period
- August bank holiday – which falls in either the August or September survey period
- Easter – which usually falls in either March or April, and sometimes affects the May survey period
- Christmas – which falls in either the December or January survey period, or sometimes straddles both

LFS historical data are used to model the impact of the calendar effects. Permanent prior adjustments are then derived from that analysis and are used to remove the calendar effects during the seasonal adjustment process.

Another potential calendar effect can result from the shifting of the survey reference periods by one or two days each year, called the 'phase shift' effect. For example, the survey period for January to March 2008 covered the period 24 December 2007 to 23 March 2008, whereas that for the previous year covered 25 December 2006 to 24 March 2007. This is because questions in the LFS refer to the respondents' situation in the previous week, covering the period Monday to Sunday inclusive. A one-week survey break is needed to bring the survey calendar back into line with the real calendar. The next one will be in October 2008.

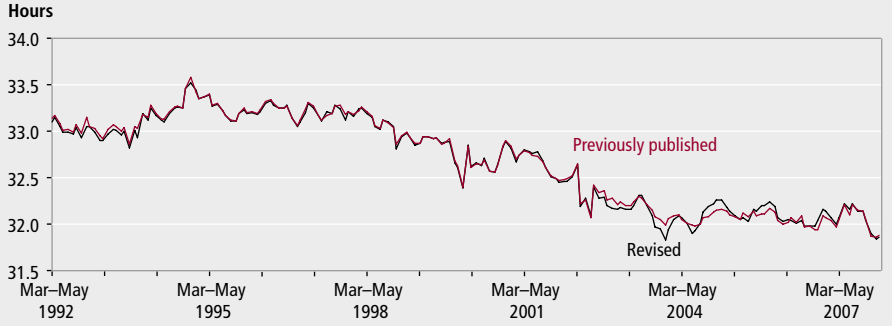
The phase shift effect has been included for all the actual hours worked component series in recent years; that is, all those shown in Table 7 of the Labour Market Statistics First Release. However, the latest review has indicated that, in most cases, the phase shift effect is closely correlated with the calendar effects associated with holiday periods. Consequently, adjustments for the phase shift effect have been removed from most of the component series. There are also some changes as to which calendar effects are adjusted for. The impact of the revised seasonal adjustment settings for the average actual weekly hours for all workers is illustrated in **Figure 3**.

As can be seen, most of the revisions to the previously published statistics are very small and are no bigger then 0.2 hours. The revised average hours figures feed into the estimates of total weekly hours worked, also shown in Table 7 of the Labour Market Statistics First Release. The revisions to that series are smaller than those of the average hours worked.

Reweighting of other LFS outputs

All reweighted LFS microdata for the period 1997 onwards at a national and regional level were published on 14 May 2008. These include quarterly databases from January to March 1997 through to January to March 2008. Following this, quarterly household microdata for the period 1997 to 2008 will be published in June to coincide with the annual release on work and worklessness among households. Later in the summer, the remaining microdata will be published. This includes the five-quarter longitudinal microdata for the period from 1992, the annual data sets and quarterly microdata between 1992 and 1996.

Figure 3
Average actual weekly hours, all persons in employment, seasonally adjusted[1]



Note:

1 Dates represent rolling three-monthly periods.

Conclusions and next steps

This article has presented analysis on the impact of full reweighting and the implementation of recommendations from the latest seasonal adjustment review on the LFS aggregates and microdata. The revisions to the national and regional levels are mostly less than 0.1 per cent and the revisions to the rates are mostly zero, with just a few at 0.1 percentage points. The results show that the LFS aggregates are not affected significantly by the revisions. This also shows that the interim-reweighting of the LFS aggregate estimates has been effective at approximating the impact of fully reweighted microdata.

ONS aims to ensure that its published LFS estimates continue to be kept closely in line with the latest published population estimates. Future revised population estimates will be incorporated into the revised LFS series using the interim LFS adjustment procedure as appropriate. Full reweighting for future years will depend on the extent of revisions to official population estimates and availability of resources.

Notes

1 See www.statistics.gov.uk/downloads/theme_labour/lfsug_vol1_2007.pdf

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FEATURE

Impact of methodological changes to the Index of Production

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SUMMARY

The Index of Production (IoP) published on 10 March 2008 was based on improved methods, as described in an article published in the January 2008 edition of *Economic & Labour Market Review*. These methodological changes were made primarily in response to concerns in the Office for National Statistics (ONS) about the quality of many of the very detailed published seasonally adjusted estimates. The change was also a response to a wider reprioritisation of ONS's business, which led to a 20 per cent reduction in the number of businesses sampled in the Monthly Production Inquiry, as used in the IoP. This article describes the impact of these methodological changes on the published results.

The Index of Production (IoP) published in March 2008 was based on new methods. **Figures 1** to **4** show the impact of these methodological changes on the seasonally adjusted IoP and its major sub-components over the period from January 2006 to December 2007. This is the period which, in accordance with Office for National Statistics (ONS) National Accounts revisions policy, has been open for revision. It is planned to take on revisions for earlier periods, back to January 1998, when the National Accounts *Blue Book* is published in September 2008. The revisions presented in the figures are, however, indicative of the pattern and scale of the revisions for this earlier period.

The methods changes in more detail

The methodological changes introduced in March 2008 were described in detail in a previous *Economic & Labour Market Review* (ELMR) article (Walton *et al* 2008). In terms of their impact, there are a number of technical reasons why it is not possible to say precisely how each change has contributed to the total revision. For example, one key change was to the level at which aggregate series are compiled and seasonally adjusted. Before the March 2008 release, the aggregate IoP was based on 232 detailed industry series for the value of output, with each series being deflated to remove price effects and seasonally adjusted to remove regular seasonal movements. The new IoP structure is based on just 79 such series. The interaction effects between the impact of this different level of seasonal adjustment, and the changes to the deflators and the turnover methodology, cannot be separately identified.

Given these types of interactions, a detailed change by change decomposition of the impact of each methodological change is not possible. However, it is possible to get an indicative sense of the relative importance of each method's change based on a comparison of the impact each change has when introduced separately. This reveals that the order of importance of the changes is as indicated below.

Seasonal adjustment

This is the single biggest cause of revision. Before March 2008, the IoP was based on 223 seasonally adjusted sub-aggregates, each of which was seasonally adjusted separately and the results weighted together to produce the total IoP. A review of the optimal level at which to undertake seasonal adjustment revealed that many of these series had very high variance and little seasonal pattern. The review recommended aggregation to 103 series before seasonal adjustment. At this level, the seasonality of each series effectively emerges as aggregation reduces the high variance in the detailed series.

Auxiliary variable

This is the second most important change in terms of its impact on revisions. This change entailed aligning the estimation of the IoP with the standard approach used for other ONS sample-based estimates of

Figure 1
Chained volume indices of output for the production industries (total IoP)

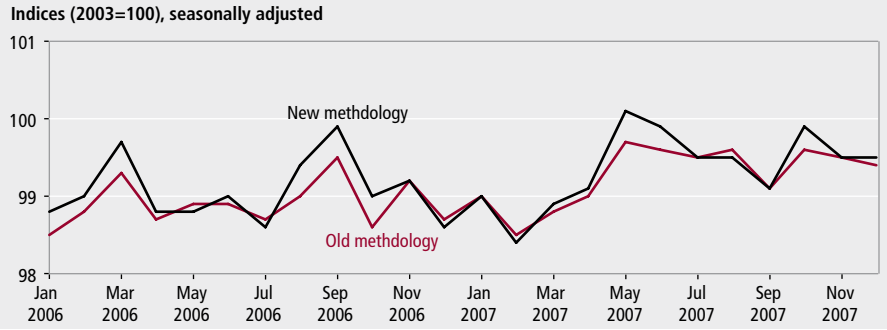


Figure 2
Chained volume indices of output for the mining and quarrying sector

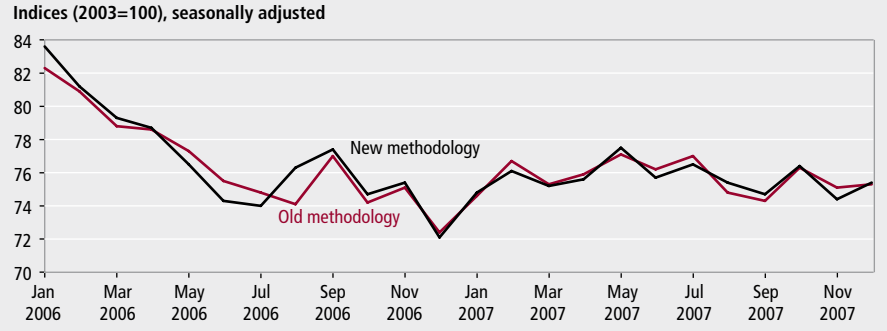


Figure 3
Chained volume indices of output for the manufacturing sector

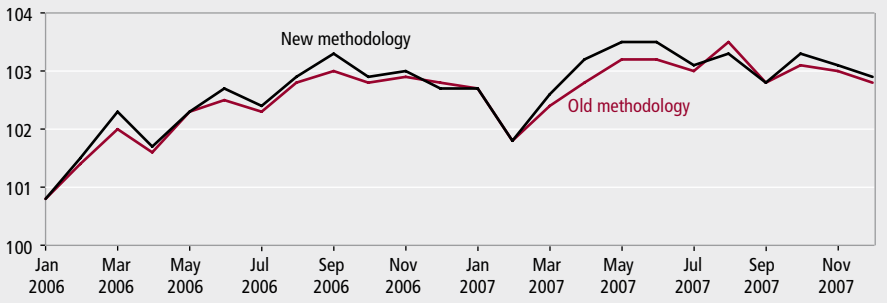
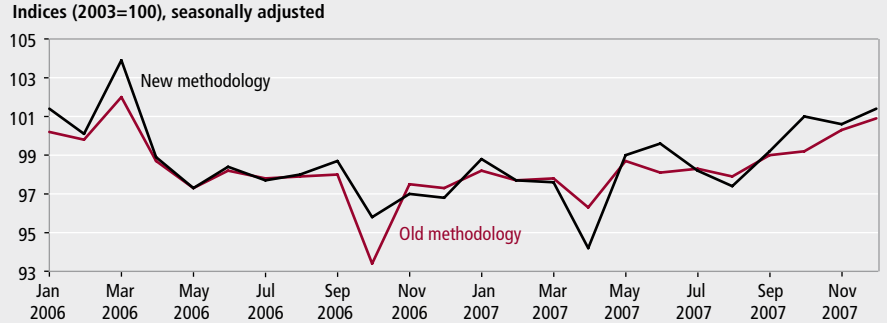


Figure 4
Chained volume indices of output for the electricity, gas and water supply sector



turnover. The auxiliary variable used for the IoP before March 2008 was employment. By this it is meant that employment data from the ONS business register was used to weight monthly sample data on turnover from the Monthly Production Inquiry to estimate turnover for the population of businesses. The new series uses register turnover data, rather than employment, which is better correlated with the returned data and so can be shown to improve considerably the accuracy of the sample based estimates.

Deflation

Changes to the approach to deflation had the next largest impact. The pre-March 2008 IoP deflated the output cash value of each detailed industry component series using the arithmetic mean of up to five of the main products sold by the relevant industry. This method was considered deficient for two reasons: first, that many industries sell more than five products, and second that, according to index number theory, arithmetic means will tend to overstate the rate of price increases. Since March 2008, deflators are based on up to 20 products per industry and use harmonic weighting, consistent with best practice. Investigations showed that having a set of up to 20 products ensured that all industry deflators contained every relevant product.

Other changes

Many other improvements were introduced to the IoP compilation in March 2008, all of which are described in detail in Walton *et al* (2008). Taken together, these are judged to have had only a small impact on the aggregate revision to the IoP, although it should be noted that, at a detailed level, some may be more important in particular periods.

Improvements to the IoP

The methodological changes described here and in Walton *et al* (2008) provide an improved basis for estimation of the IoP. This section describes why the changes are an improvement, and sets out some evidence for this.

Improved accuracy in aggregate estimates

The change in the auxiliary variable used in estimation described earlier has led to a significant improvement in the accuracy of the published estimates, as measured by the estimated standard error of estimated turnover. **Box 1** describes in more detail the concept of a standard error, but in

broad terms it provides a measure of how close an estimate is likely to be to the true population value. **Table 1** compares the percentage standard error of the estimates of industry turnover for each subsection of the IoP and for the total IoP, based on the methodology before March 2008 and on the new methodology. In all cases there has been a clear improvement in the standard error of the estimates based on the new auxiliary variable.

The consequences of compiling industry series at a higher level

As already noted, before March 2008, the IoP was produced by aggregating some 232 detailed component industry series. Since March 2008, the IoP has been compiled using a new industry structure, with only 79 detailed industry components. This has two main benefits, fewer adjustments and, as described below, 'emergent seasonality'.

Box 1

What is a standard error?

The difference between an estimate and its true value is known as the sampling error. The actual sampling error for any estimate is unknown, but a representative error can be estimated from the sample and this is known as the standard error. This provides a means of assessing the accuracy of the estimate of growth: the lower the standard error, the closer the estimate of growth is likely to be to its true value. In fact, the degree of confidence can be expressed more precisely. If estimates of the true growth rate were obtained from many different samples, then approximately two-thirds of these estimates would be less than one standard error away from the true value, and approximately 95 per cent of them would be less than two standard errors away from the true value. Standard errors are often presented in terms of confidence intervals around an estimate (see also Youll *et al* 2007).

For example, if the standard error for an estimated growth rate of 4.0 per cent is 0.4 percentage points, then the estimate of 4.0 per cent has a 95 per cent chance of being within the interval of 3.2 per cent to 4.8 per cent (that is, 4.0 per cent ±2 standard errors). One further way to express the standard error is as a percentage of the estimate itself. This is referred to as the coefficient of variation (CV) of the estimate. In the example above, the estimated growth rate of 4.0 per cent has a CV of 10 per cent (that is, 0.4/4.0 expressed as a percentage).

Table 1

Estimated standard errors of estimated turnover based on the new and old auxiliary variables[1]

Industry description	New standard error (per cent)[2]	Old standard error (per cent)[3]
Manufacture of food products, beverages and tobacco (DA)	*0.6*	*0.7*
Manufacture of textiles and textile products (DB)	*4.8*	*5.5*
Manufacture of leather and leather products (DC)	*2.6*	*7.6*
Manufacture of wood and wood products (DD)	*4.9*	*5.9*
Manufacture of pulp, paper and paper products; publishing and printing (DE)	*1.1*	*2.0*
Manufacture of coke, refined petroleum products and nuclear fuel (DF)[4]	*0.0*	*0.0*
Manufacture of chemicals, chemical products and man-made fibres (DG)	*0.6*	*0.9*
Manufacture of rubber and plastic products (DH)	*1.6*	*4.5*
Manufacture of other non-metallic mineral products (DI)	*1.9*	*2.2*
Manufacture of basic metals and fabricated metal products (DJ)	*1.6*	*3.2*
Manufacture of machinery and equipment not elsewhere classified (DK)	*1.8*	*2.4*
Manufacture of electrical and optical equipment (DL)	*1.1*	*1.7*
Manufacture of transport equipment (DM)	*0.8*	*1.1*
Manufacturing not elsewhere classified (DN)	*2.5*	*4.8*
Production sector	*0.4*	*0.7*

Notes:

1 Based on analysis of the Monthly Production Inquiry for January 2007.
2 Standard error with turnover as the auxiliary variable.
3 Standard error with employment as the auxiliary variable.
4 Subsector DF has no standard error as it is fully enumerated.

Source: Office for National Statistics

Fewer adjustments

As a normal part of the processing of any sample-based estimates, ONS statisticians need to make judgements about data quality. For example, the monthly turnover reported by businesses may be erratic or unproven at the time of the release and may have undue influence on the aggregate estimates. Adjustments are therefore made to some detailed series to counter these effects. As more data become available, and unusual company returns are confirmed with the business or corrected, many of these adjustments are removed. However, at the time of the initial release of the IoP, it is necessary for interventions of this kind to stabilise what are sometimes implausible estimates. In part, the extent of adjustment is dependent on the level at which compilation takes place.

Before March 2008, in a typical month, a total of around 210 adjustments were made to the IoP series. While these adjustments were necessary to stabilise the aggregate estimates, they were still dependent on the judgement of the statistician, albeit taking into account whatever other information was available. In principle, it would be desirable to eliminate the need for adjustments of this type, for example by increasing the sample size used in estimation (and relying on the effect of statistical variation to counter the erratic behaviour in individual company returns).

The change in March 2008 to compiling just 79 detailed component industry series has effectively increased the sample of businesses used in the compilation of each series. This has reduced significantly the requirement for judgemental adjustment following from the principle of statistical cancellation noted above. For example, the average number of judgemental adjustments made in the most recent periods is around 40 (compared with 210 before March 2008). This reduction in the use of judgement means that the aggregate IoP is compiled on a more scientific basis.

Emergent seasonality

The level at which it is appropriate to seasonally adjust series is dependent on the extent to which reasonably regular seasonal movements can be detected. For example, it is very difficult to detect seasonality in a series which has high sampling error. Aggregation allows seasonal patterns to emerge as sample sizes increase. A review by ONS time series experts of the pre-March 2008 level of compilation (the 232 series) found that many had very high noise-to-signal ratios, that is, their

behaviour over time was highly volatile. The review concluded that seasonal adjustment could be improved if many of these detailed industry components were combined first, thereby allowing seasonality to emerge. The level of compilation now used (the 79 series) was guided by the findings of this review and by the structure of the Standard Industrial Classification, which provides a natural basis for deciding when it is appropriate to add series together. The main benefit of this change is that fewer interventions are now needed to ensure that the seasonal adjustment process can extract a signal from the underlying data.

Increased transparency

The new methodology is considerably more straightforward. For example, the lagging of deflators, adjustments for merchanted goods and inventory adjustments to the monthly series based on quarterly series are no longer made. The statistical justification for these changes is described in detail in the January 2008 edition of ELMR (Walton *et al* 2008). The changes also simplify considerably the process of compilation, and thereby allow ONS to have a clearer view of the main drivers of economic change, as measured by the basic survey data of the sales of businesses and their price. ONS is therefore now better able to understand in detail the evolution of the production sector and to articulate this to users in a transparent way.

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FEATURE

Review of Labour Statistics for the United Nations Statistical Commission

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SUMMARY

Early in 2007, the Office for National Statistics was asked by United Nations Statistics Division (UNSD) to carry out a Review of Labour Statistics on behalf of the UK. The Review was carried out during 2007 and was presented at the annual UN Statistics Commission session in February 2008 in New York. The Review was very well received and recommendations in the Review will be taken forward by UNSD and the International Labour Organisation. Specific recommendations relating to the faster adoption of international standards in labour statistics are due to be discussed at the International Conference of Labour Statisticians in November 2008.

At the United Nations Statistical Commission (UNSC) meeting in New York at the end of February 2007, the UK (Office for National Statistics (ONS)) agreed to lead the 2008 Programme Review of Labour Market Statistics.[1] The UNSC commission reviews on specific topics every year. Reviews carried out in previous years were:

- 2007: Review of Education Statistics – Statistics Canada
- 2006: Review of Industrial Statistics – Ministry of Internal Affairs and Communication, Japan
- 2005: Review of Energy Statistics – Statistics Norway

The primary objective of these Reviews is to provide a blueprint that can be taken forward by international agencies, national governments and other specialist agencies. In the case of the Review of Labour Statistics, this includes a focus on key issues to be followed up in the future in relation to labour statistics, given the different stages of economic development in countries across the world.

Although the commissioned project was initially a review of employment statistics, ONS decided at the outset to extend the scope to include the full range of labour market statistics. This enabled the work to cover the statistical implications of the current set of labour market statistics internationally now and in the future.

The Review was conducted using a combination of desk-based research and consultation with experts, alongside a survey of views of UN States Members. The key questions the Review addressed were:

- what is currently being done and who are the key players?
- how well is the current system working?
- is what is being done sufficiently in line with the demand for this type of statistics or are there gaps?
- what are the priority areas for the future?

Given the timescales and resources for this Review, the focus was on using secondary sources of evidence and to add value in terms of the collation and analysis of existing information and thinking conceptually about issues for the future. As the subject matter is very broad, it was important to involve international stakeholders at key stages throughout the process.

A range of international agencies is involved in labour statistics, including the Organisation for Economic Co-operation and Development (OECD), Eurostat, the International Monetary Fund (IMF), the United Nations Statistics Division (UNSD) and the World Bank. The role of the International Labour Organisation (ILO) is, however, key given its position as the specialised agency of the United Nations (UN) with specific responsibility for labour statistics, as detailed in the Memorandum of Understanding. It is for this reason that the ILO was consulted initially to discuss the scope of the Review, and throughout the whole process.

Review content

As mentioned above, the objectives of the Review are kept deliberately broad by UNSD to enable the programme reviewers to decide on the pertinent issues. After a number of meetings with key stakeholders, three main broad areas were identified as being important in the Review. These were:

- successes and gaps in the current work of different organisations involved in labour statistics
- views and priorities of Member States of the UN, and
- extending the current labour market framework

Some detail of the Review findings is given on the main issues identified under these headings below.

Successes and gaps in the current work of different organisations involved in labour statistics

Indicators of labour statistics

A range of agencies produce indicators of labour statistics for countries internationally, but each with slightly different definitions, timescales, coverage and remits. A huge amount of progress has been made in harmonising concepts and definitions internationally, primarily through the work of the ILO. Promoting input harmonisation will continue to be a key part of collecting and disseminating comparable labour statistics in the future. Future work should focus on working closely with individual countries to encourage and promote the harmonisation of questions wherever possible. In addition, greater coherence would be achieved through developing a set of key labour statistics indicators common to the three main international agencies.

Collation and dissemination activities

The challenge in this section was summarising the successes of international agencies involved in collating and disseminating labour statistics. The aim here was to highlight some of these achievements which have a direct impact on the work of these agencies in the future. Research carried out as part of the Review indicated that although there is a wide range of information available internationally, there is some duplication. There are also a range of problems resulting from definitional differences, some of which can be addressed through adjusting conceptually consistent estimates.

In one sense, the main criterion for the compilation and dissemination of high-quality labour statistics is that the statistics meet the needs of the individuals and organisations using them. This is, however, a difficult area on which to get a consensus. It was decided for this reason that the best method would be to carry out a survey of National Statistics Institutes and ask specific questions relating to the process of providing data to International Agencies and how this could be improved. Some of the findings from this questionnaire are presented in the later section on views and priorities of Member States.

The main aims behind collecting and disseminating labour market statistics for all three organisations are similar. These include comparisons between countries, ensuring the statistics are relevant and reliable, and assessing whether the aims of the specific organisation are being achieved. Each organisation has, however, its own focus and as a consequence has slightly different interests. Eurostat will be interested in different issues from lower-income countries, which may fall more under the focus of ILO. The ILO has been working to improve the quality of the labour statistics they collect and disseminate. In the latest (5th) edition of Key Indicators of the Labour Market (KILM), there have been various enhancements, including improvements to some of the indicators which make it easier to compare across countries. There have also been improvements in the geographic coverage and timeliness of information due to changes in the collection and processing of the information.

One of the biggest issues facing the ILO in terms of its data compilation and dissemination activities is non-response from countries. In 2006, the annual questionnaire for the Yearbook was sent to 232 countries but only around 20 per cent responded in full, though approximately 50 per cent gave partial responses. This clearly impacts on the ability of the ILO to make assessments about the quality of labour statistics in the countries unable to respond. There are additional problems associated with the fact that some countries are unable to provide the information in the format or for the time periods required. A key part of collecting and disseminating high-quality information on labour statistics is the ability to provide accurate metadata on sources and methods of collection. Research for the Review has found that in some instances this is limited or insufficient. This restricts the extent to which comparisons can be made internationally. In order to address this issue, it was recommended that international agencies should also look into ways of sharing best practice as regards collecting labour statistics, to enable comparisons to be made internationally. This would include using the concept of capturing data once and using many times, which would speed up the data collection process and reduce the burden for member countries.

Development work by international agencies

This section looked briefly at some of the development work carried out by the main international agencies involved in labour statistics. One of the major conceptual developments in the ILO has been the common goals encapsulated in the Decent Work Agenda. This concept was introduced in 1999 and provides a framework for the integration and development of statistics both within and outside the ILO. It is defined as 'productive work in conditions of freedom, equity, security and human dignity'. One of the difficulties is that applying the concept of decency to economic activity is open to interpretation. However, as the KILM collects a broad range of labour market indicators, it is useful for assessing many of the issues relating to the Decent Work Agenda.

The ILO is also responsible for the development of international standards for the measurement of labour statistics and for their enhanced international comparability. The continuation of this work is vital in order to provide the framework around which harmonised labour statistics can be produced. This Review has, however, highlighted the need to speed up the process by which standards are discussed, developed and agreed. This could involve the development of expert groups, to work on topical issues.

The OECD has various enhancements to labour market statistics planned for 2007–08. One of these is to provide more background information on the comparability of headline labour series, and reasons for differences between labour force data and estimates compiled by national accountants is envisaged. Another improvement is to request a small number of countries slow at responding to the annual questionnaire to speed up their response.

Eurostat's current activities on improving the quality of labour market statistics include: quality assurance of the LFS; consistency with national accounts;

developing annual LFS ad hoc modules that address specific aspects or interactions of the labour market with other domains; implementation of quarterly job vacancy statistics; creation of a European social-economic classification and implementation of the NACE Rev. 2 activity classification; and the definition of a system of Quality of Employment indicators.

Technical assistance

A relatively large part of the ILO's responsibility in the arena of international labour statistics can be grouped under the heading of providing technical assistance to member countries. The ILO's standard setting and technical co-operation activities are reinforced by an extensive research, training, education and publications programme. As part of this, the ILO runs the International Training Centre in Turin, the aim of which is to provide training in subjects that further the ILO's pursuit of decent work for all. In addition to running training courses, the centre also acts as a meeting place and runs distance learning courses. The centre runs more than 350 courses per year for a total of around 8,000 people. These include courses on labour statistics, labour market information systems and labour market analysis.

This sort of training can be seen as an integral part of the statistical capacity-building agenda. A recent external audit of ILO activities relating to the production of statistics highlighted the need for more professional staff in both its headquarters and regional offices. This is in order to provide additional technical assistance to countries. In addition, it recommended that each regional office should have at least one professional staff person specialised in standards and methods for survey design and data collection.

Views and priorities of Member States of the United Nations

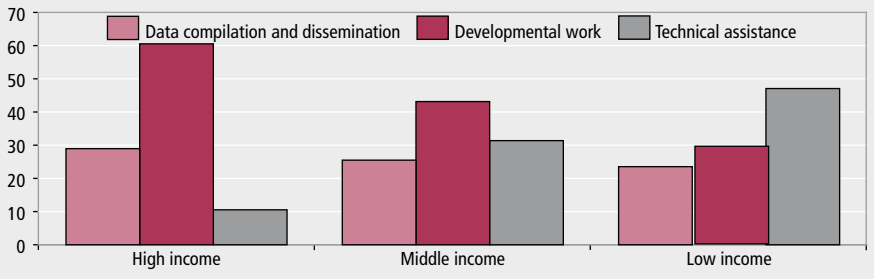
It was decided relatively early on in the Review that the only way of getting a consensus on the main issues regarding the role of international agencies involved in labour statistics was to carry out a survey of UN member countries. It was decided that this could also be used to get some idea of the main issues facing countries in the future. In addition to these specific questions, the questionnaire included a suite of questions which were used to create a breakdown of responding countries by the presence or absence of a regular labour force survey. These questions were based on ILO work which looked at the characteristics of systems of labour statistics in countries at different stages of statistical development. Looking at response rates using these categories indicates that of the 69 responding countries:

- 56 per cent had regular and reliable LFSs on a monthly or quarterly basis along with high-quality business statistics
- 21 per cent had labour statistics from an ad hoc LFS and some business statistics, and
- 23 per cent had no LFS or business statistics at all

One of the major issues with analysing results such as these from a self-completion questionnaire is differential response rates for economies at different levels of development. The overall response rate was 36 per cent and responses were significantly higher in high-income OECD countries compared with low and lower middle-income countries. Interestingly, the group with the second-lowest response rates was the high-income non-OECD countries.

The questionnaire also included questions which enabled countries to be classified according to their development level (high income/middle income/low income). This meant that some of the findings could be looked at in terms of the spread across groups of countries at similar levels of development. **Figure 1** gives an illustration of this.

Figure 1
What do you see as the main role of international agencies?
Percentages



Extending the current labour market framework

In the majority of developed countries, a large amount of labour market data is available. Despite this, researchers, statisticians and politicians have encountered major problems in obtaining a complete picture of the labour market. The main reasons for this include:

- incomplete coverage
- contradictory results between data sources
- difficulties and limitations in describing labour market dynamics
- the absence of links between labour market statistics and other social and economic statistics

In the early 1980s, an international discussion took place on how to overcome these difficulties. The proposed solution was an integral framework of labour accounts, or labour accounting system (LAS) which acquired a wide international acceptance, including the ILO and European Commission (which in 2003 published the Handbook on Social Accounting Matrices and Labour Accounts). The main aim of the LAS in this context was to combine statistical data sources to enhance their strength and overcome their weaknesses in order to produce new series of superior quality to the original data. The main advantages in compiling an LAS include the guaranteed links with national accounts and demographic data, the elimination of contradictory results and an output which gives a global overview of the labour market (especially in terms of improving consistency of inputs and outputs in productivity).

In the UK, a conceptual framework for a labour accounting system was developed by ONS in 2002 as part of a quality review of labour statistics. This framework is based on a set of four main organising principles: concepts and definitions underpinning the statistics; sources and methodology for the derivation of the data; arrangements for presenting and disseminating the data; and links with other statistics. The framework has at its core well-established international recommendations, for example those presented by the ILO, embracing also the need for comprehensive coverage of the statistics. These various features incorporate, to a greater or lesser extent, certain principle of economic behaviour which underpin the inter-relationships of the variables, in particular the demand/supply structure.

In the UK at present, the framework for labour market statistics is largely implicit within the existing form of presentation, and the monthly First Release data are provided from a range of sources describing all the main elements of the labour market. The fact that the main concepts mainly follow recognised and well-established international standards is strength of the framework. The aim of such a framework nationally is primarily to produce a set of guiding principals which help understand the process of collection, production, dissemination and analysis of information on the various aspects of labour markets. Applying such a framework internationally has improved consistency and comparability of the range of sources.

The framework as it stands at present has four main units of measurement. These are people (in terms of their employment status), posts (jobs or vacancies), money (pay) and time (hours worked), and a variety of classificatory schema (such as occupation and job search activities). There are, however, a number of shortfalls with the existing system as outlined below.

Further development of dynamic aspects

The system as it stands is a static system which relies mainly on point-in-time estimates of factors on both supply and demand sides. This, to a certain extent, reflects the cross-sectional data on which the framework is based from both survey and administrative sources. These snapshots do not present a complete picture of the labour market as they lack information on the underlying movements in and out of unemployment, employment and inactivity which result in the observed structure of the labour force.

Systems of labour statistics have not, traditionally, been orientated towards these significant labour market events, but more towards their overall effect on stock levels of employment and unemployment. A shift towards collecting and disseminating information on gross flows would greatly enhance the overall picture of labour markets nationally. In addition, the importance of dynamics in capturing the variety of transitions within the labour market has been identified as an issue for the future by a Eurostat task force.[1] Interestingly enough, many of the labour force surveys already in existence could be adapted relatively easily to collecting information on labour dynamics. The rotating panel design of the majority of labour force surveys make it possible to link together information on the same individuals over a number of points in time.

More generally, information on flows could also be used in the measurement of labour underutilisation. In the past, attachment to the labour market has been measured on the basis of the criteria for defining unemployment and the reasons for seeking work or for not being available for work. In the context of labour underutilisation, it may be more analytically relevant to define people who are marginally attached to the labour market in terms of the propensity of economically inactive persons to become economically active. In addition, collecting information on the barriers faced by those not in the labour force to becoming active would enable the group who are inactive involuntarily to be identified.

In the UK, there has been a focus in recent years on collecting and analysing better information about people who are marginally attached to the labour force. This has included extending labour force survey questions to determine people's propensity to work in the future, and using flows data to look at movement into and out of inactivity for certain groups of people. Using this sort of information to supplement headline figures on economic activity on a national basis should be encouraged in order to develop a more complete understanding of the characteristics of labour markets.

Parallel framework for labour demand

The labour market framework as it stands concentrates mainly on the labour supply elements of the system. These factors are mainly measured through labour force surveys and include the characteristics of people, the type of characteristics of their jobs, and the families and households in which they live. The demand side of the framework tends to be measured through a range of administrative sources, supplemented with information from a range of employers and business surveys. The link between the supply and demand elements of the labour market has, over time, become increasingly important as understanding the differences between inputs and outputs has become a higher priority issue in many countries, particularly in the developed world. Reconciling the business and employers surveys on topics such as vacancies and number and type of jobs is vital in understanding the process of individuals taking up particular jobs. Across the world, a key aspect of a labour statistics system is understanding the match between jobs and skill levels of employers in order to achieve maximum productivity.

Integrating the demand side of the existing labour market framework into this model provides a number of new challenges. These can be considered in terms of a greater understanding of how jobs are created and lost and the relationship between jobs and posts. From the point of view of the needs of employers, the process of feeding this kind of information via governments to the health and education systems will serve to complete the circle through improving service provision to meet the needs of employees and ultimately employers.

Extending the use of family and household labour statistics

Demographers generally identify a number of key trends in family formation and structure that have taken place in Europe during the latter part of the 20th century. These include: delaying the transition to parenthood with childbearing being compressed in a small number of years at a later age; declining fertility rates resulting in smaller family size; the separation of marriage and parenting; and growing numbers living alone. The result of these changes mean the family in much of the western world has evolved from a fairly standardised model of marriage and children, often including living with older generations, to becoming a much more varied model of smaller family size, less tied by institutional definitions.

Elements of these trends can be identified in many countries across the world, and although these changes have been measured in relation to the size and structure of the population, their impact on the changing nature of work is still relatively unclear. The framework as it stands at present indicates a link between families and households and people, in terms of type and composition, but this needs expanding to cover the changing nature of families and work. The relationship between unpaid family work and paid employment, particularly for women, is essential to understanding the matching of jobs with people.

In addition, it would be hugely beneficial to employ the type of modelling used in measuring consumption at the household level to look at including unpaid work in the family and wider community, as well as some of the less clearly defined boundaries between work and family life. Extending the range of information collected at a household level to include a measurement of time spent on various unpaid activities,

the money transfers or transfers in kind which occur between the households or with other households, and how decisions on education and health are negotiated within the household, could provide a more useful framework for collecting, understanding and using labour statistics.

Developing the interactions with other areas

A further criticism of the current framework is that it fails to integrate some of the interactions with other domains. Areas which have an impact on elements of the labour market include health, education, national accounts and population and demography. Some of these overlaps are implicit in the way labour market information is presented, for example, presenting employment/unemployment and inactivity rates by demographic characteristics including age, gender and ethnic group. In these cases, the information tends to come from the same source and is therefore easier to integrate in this way. Other areas are more complex to integrate due to issues arising as a result of different sources, concepts and definitions.

In an increasingly complex world, looking at the labour statistics system in isolation would seem to be restrictive in terms of being able to understand the processes behind the headline figures. Using the framework as a starting point, individual countries should be encouraged to look at the labour market as being part of a wider statistical system and consequently investigating some of the interactions between domains. This will then raise awareness of the extent of comparability of different sources of information.

Recommendations from the Review

Clearly the field of international labour statistics is broad and varied, and the Review focused on the areas where specific improvements can be made in the future.

While the Review recognised the impressive coverage and diversity of information on various aspects of labour markets, it pointed to the need for greater coordination to improve the quality and coherence of these statistics. It also highlighted the need for greater responsiveness to address topical issues for the future.

While numerous other issues were identified and suggestions made in the body of the report, the following recommendations were given top priority:

- the ILO should prioritise the activities required to improve the harmonisation of concepts and methods which support the production, transmission and dissemination of comparable labour statistics; should produce an action plan; and should then coordinate the implementation of this plan
- the ILO should develop a coordinated system for providing technical assistance to help countries to provide high-quality labour statistics
- the ILO should work with UNSD, OECD and Eurostat to improve the process of setting international standards by, for example:
  - reviewing the frequency, duration and agenda-setting of ICLS meetings
  - extending the use of expert groups to work on topical issues
- the ILO should establish and coordinate a series of working groups to discuss each of the five topics identified for development work in this Review. In some instances this may involve working with groups already in existence:
  - changing structure of the labour force
  - informal employment and the non-observed economy
  - child and forced labour
  - measurement of productivity
  - globalisation
- the ILO should coordinate work to improve the consistency and relevance of outputs by developing an updated version of the labour statistics framework which places greater emphasis on:
  - dynamic elements, that is, information on flows
  - the need to integrate and reconcile measures of labour demand with labour supply
  - integrating family and household information
  - integrating with other statistics/policy domains

Presentation of the Review to UNSD

The Review was presented to the UNSC at the annual meeting in New York in February 2008. It received a very positive reception from UN member countries, and the ILO, who noted their appreciation of the work involved. The report of this session is included below.

The Statistical Commission:

- commended the high-quality programme review report on labour statistics prepared by the UK, took note of the recommendations therein, and welcomed the constructive response and comments made by the ILO
- emphasised the need for better coordination to improve the quality and coherence of labour statistics at the national and global levels, which should be done in consultation with the Committee for the Coordination of Statistical Activities
- reiterated the importance of methodological developments, including the harmonisation of conceptual frameworks, related definitions and possible assessments and updating of the labour accounting framework, emphasised that this work was to be driven by the existing expert and working groups, and also reiterated that broad country representation, including from developing countries, should be ensured
- considered that full implementation of the recommendations of the programme review could overburden the ILO, given existing resources, emphasised the need for prioiritisation of those recommendations, and requested the development of a road map for their implementation
- asked the donor community to support international technical assistance to enhance the capability of developing countries to produce high-quality labour statistics, and noted that technical assistance should be coordinated and implemented within existing technical cooperation programmes, and
- welcomed the work done by the ILO ICLS and suggested that it might wish to review its methods of operation, in particular the frequency and duration of its sessions, and urged the members states to attend the forthcoming conference

Relevance for ONS/LMD further work

Within LMD there are a number of ongoing pieces of work which are consistent with these recommendations and therefore improve the UK's contribution to international priority areas:

- the LMD analysis team is looking into improving the published information on longitudinal flows between economic activity states in order to gain a greater understanding of the gross flows which contribute to the net

headline figures
- the analysis team will continue to develop and improve the household and family information published from the household LFS and APS
- some initial work is being carried out looking at the feasibility of developing a conceptual framework for labour market statistics, and at social statistics frameworks more generally

Notes

1 The full Review is available on the UN Statistics Commission website at http://unstats.un.org/unsd/statcom/sc2008.htm

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Methods explained

Methods explained is a quarterly series of short articles explaining statistical issues and methodologies relevant to ONS and other data. As well as defining the topic areas, the notes explain why and how these methodologies are used. Where relevant, the reader is also pointed to further sources of information.

The GDP implied deflator

Anis Chowdhury
Office for National Statistics

SUMMARY

This article will introduce readers to the concept of the gross domestic product (GDP) implied price deflator. The GDP implied deflator is used to measure changes in the overall level of prices for the goods and services that make up GDP. It is an important indicator in the National Accounts as it distinguishes output growth that comes about due to volume increase and that due to price changes. In effect, the GDP implied deflator illustrates how much of the change in nominal GDP from one year to another reflects changes in the price level. It is referred to as the implied deflator: for example, if GDP increases by 2 per cent in real terms and 5 per cent in nominal terms, the implied economy-wide rate of inflation is 3 per cent.

Two different measurements are used to calculate the gross domestic product (GDP) growth rate attributable to volume and price changes:

- current (nominal) GDP – measures value of transactions in the prices relating to the period being measured and is both a volume and price indicator, and
- constant (real) GDP – measures relative changes in the volume of goods and services between one period and another

The ratio of the current to constant price series is a measure of price movements, and this forms the basis for the calculation of the implied GDP deflator.

The GDP of a country can be measured in three ways: the output, expenditure and income approach. It is defined as the total market value of all final goods and services produced within a country in a given period of time.[1]

So, why is the distinction between output growth from changes in volume and changes in prices important? If output growth is due to an increase in prices, but volumes have remained the same, then changes in GDP are not due to economic growth. By taking away the price effects of output growth, that is, by deflating, one can obtain the 'real' measure of GDP growth. This central economic issue can be illustrated in the simple example in **Box 1**. For simplicity's sake, a closed economy is one that is assumed to produce just two goods, clothes and food.

As illustrated in the worked example, it is difficult to see how much the growth rate in GDP has come about due to changes in the volume of output or price. This has obvious implications for measuring growth from one year to the next, as it means that changes in GDP may not necessarily mean that the economy is growing. If, for example, in year three, the price of clothes increases to £3 and the quantities produced remain the same from year two, the GDP growth rate in overall nominal terms will show a 41 per cent increase. While the market value of the goods and services produced by the country has increased, the volume of goods and services produced has not.

This methodology article will go on to show how the GDP deflator is

Box 1
Simple growth rate calculation

Year	Price of clothes	Quantity of clothes	Price of food	Quantity of food
1	£1.00	50	£3.00	300
2	£2.00	100	£3.00	500
3	£3.00	100	£3.00	700

GDP is simply the sum of P (price) times Q (quantity), with i being the particular product. For example:

$\sum P_i Q_i$ = GDP (£1 x 50) + (£3 x 300) = £950 = (GDP)

To calculate the nominal GDP growth rate, GDP for the second year is divided by GDP for the first year, and then one is subtracted as follows then multiplied by hundred. For example, in this case, the GDP growth rate from year one to year two would be 79 per cent in nominal terms:

$$\text{GDP growth rate} = \frac{[GDP_2]}{[GDP_1]} - 1 \times 100 \quad \text{i.e.} \ \frac{1700}{950} - 1 \times 100 = 79\%$$

calculated; explain briefly volume derivation; explain how the GDP deflator compares with the retail prices index – all items excluding mortgage interest payments (RPIX); and finally how the GDP deflator will be related to recent UK experience.

The construction of the GDP implied deflator

This section will illustrate how the GDP implied deflator is derived using a basic equation. It will then develop this to show how, using a simple example, the Office for National Statistics (ONS) obtains its current and constant price volume measures and deflator.

The basic equation for deriving the GDP deflator is shown below:

$$\text{GDP implied deflator} = \frac{\text{current price (CP)}}{\text{constant prices (KP) volume}} \times 100$$

The implied GDP deflator is simply the current price divided by the constant price volume measure.

ONS uses the Laspeyres index to obtain the constant price volume of growth and is represented by the following equation, where P denotes price and Q quantity, P_0 and Q_1 relates to current prices and quantity in year one and $P_0 Q_0$ is the summation of volume in year two at base prices:

$$L = \frac{\Sigma P_0 Q_1}{\Sigma P_0 Q_0}$$

The Laspeyres index is used to calculate volume growth between two periods; it compares the sum of goods and services in the first (or base) period, weighted by a given price structure, with the sum of the physical units in the second period, weighted by the same price structure. This in effect takes out the variation in prices between the two periods, thus capturing purely the volume effect. This is then chain linked (see Robjohns 2006).

The derivation of the GDP implied deflator can be illustrated using the simple example in **Box 2**.

Derivation of volume measures

The derivation of volume measures can be either market or non-market based: market-based volume measures are a form of direct deflation. Price indices, such as the producer price indices or the consumer price indices, are primarily used in deflating consumption expenditure, that is, food and services. Non-market output (output that is provided free) applies in situations where price measurement does not seem possible or feasible. This can be divided into two types:

- individual goods and services – those that are consumed by households such as on education and health, and
- collective services – where services are provided to society as a whole, for example, public administration and defence

For both these categories, output is hard to define. With regard to collective services, there is no transaction between producer and consumer. Without prices for the output, there are only two options for constant price measurement: deflating inputs, and direct volume measurement. Measuring prices and volumes for non-market output at current prices is defined as the sum of costs minus revenues. In an input method, the output in constant unit costs is approximated by deflating the current year costs or extrapolating base-year costs.

The GDP implied deflator versus the retail prices index

The implied GDP deflator and the retail prices index (RPIX) are both measures of inflation. However, there are differences, with the main ones highlighted in **Box 3**.

Box 2
Deriving the GDP implied deflator using the Laspeyres chained volume index

	A	B	C
1		Year	
2		0	1
3	**Prices**		
4	Good 1	50	60
5	Good 2	40	50
6	**Quantities**		
7	Good 1	100	200
8	Good 2	200	300
9	**Nominal GDP**	13,000	27,000
10	Index at nominal prices		208
11	Real growth rate of output (Laspeyres index) (previous year's prices used as weights) i.e. $\Sigma P_0 Q_1$	13,000	22,000
12	Laspeyres volume index		169
13	Volume index obtained by deflation		123

First sum 50 x 100 (B4 x B7) + 40 x 200 (B5 x B8) = 13,000 (B9). Then sum 60 x 200 (C4 x C7) + 50 x 300 (C5 x C8) = 27,000 (C9). Dividing 27,000 by 13,000 (C9/B9) x 100, the current price index of 208 is obtained.

To calculate the Laspeyres index, $\Sigma P_0 Q_0$ is first derived, which relates to the current prices for year zero, that is, 13,000. The current volumes for year one at year zero prices is $\Sigma P_0 Q_1$, 200 x 50 + 300 x 40 = 22,000. The volume index is calculated between the two periods by dividing 22,000 by 13,000 (C11/ B11) x 100 = 169 (C12).

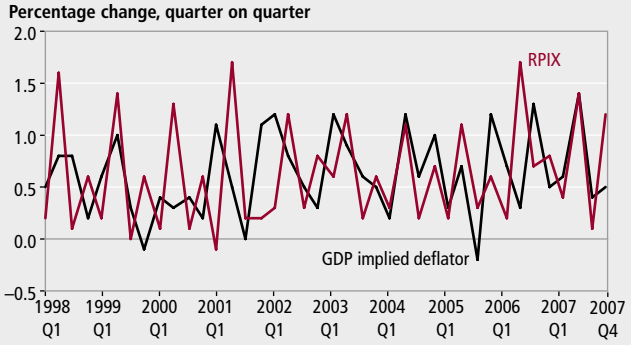
To obtain the deflator, the current price index is divided by the Laspeyres volume index – divide 208 by 169 (C10/C12) x 100 = GDP implied deflator =123 (C13), so prices have risen by 23 per cent.

Box 3
Comparison between the GDP implied deflator and RPIX

Differences	GDP implied deflator	RPIX
Measures	Indirect measure of inflation – derived from sub-components of the National Accounts that are either deflated at a low level with a few (in particular government) based on direct measures of output then aggregated.	Direct measure of inflation – compiled from the prices of goods and services provided by businesses to households. Measures consumer prices.
Coverage	Is a broad measure of inflation. The GDP deflator reflects price movements in all aspects of the economy including household spending, government spending, investment and net trade. It is a weighted average of these price effects including negative weights for imports.	Applies to goods and services consumed by households.
Weighting	Is current weighted, reflecting changes in prices and expenditure weights, that is, current spending patterns. Since the weights reflect the composition of GDP in each period, changes in the index reflect movements in both prices andthe composition of GDP.	Compares the prices of a constant basket of goods and services between any two periods. Is base weighted.

Figure 1
Comparison in growth rates between the GDP deflator and RPIX

Percentage change, quarter on quarter



In principle, there should be little difference between the GDP deflator and RPIX, as both measure average changes in prices. **Figure 1** shows that, empirically, the GDP deflator and RPIX tend to exhibit similar trends. Any differences between the GDP deflator and the RPIX can largely be accounted for by price movements in goods and services traded abroad and government output.

The recent UK experience

Column A in **Table 1** shows the money value of UK economic output (GDP) which reflects changes in both output and prices. The next two columns disentangle these factors. Column B shows the volume of output with all goods and services measured in 2003 prices and by definition are equal to GDP at current prices. Column C indicates the path of inflation, that is, the deflator.

Figure 2 gives a time series graphical presentation of the UK

Table 1
Current, constant and deflator index series

	Current prices (£ million) A	Constant prices (£ million) B	Price deflator index (2003=100) C	Current prices index (2003=100) D	Constant prices index (2003=100) E
1987	421,559	757,452	55.7	37.7	67.7
1988	470,748	795,317	59.2	42.1	71.1
1989	517,075	812,725	63.6	46.2	72.7
1990	560,887	819,007	68.5	50.2	73.2
1991	589,739	807,814	73.0	52.7	72.2
1992	614,776	809,540	75.9	55.0	72.4
1993	645,500	827,886	78.0	57.7	74.0
1994	684,067	863,623	79.2	61.2	77.2
1995	723,080	889,041	81.3	64.7	79.5
1996	768,905	913,800	84.1	68.8	81.7
1997	815,881	942,154	86.6	73.0	84.3
1998	865,710	973,748	88.9	77.4	87.1
1999	911,945	1,003,370	90.9	81.6	89.7
2000	958,931	1,041,517	92.1	85.8	93.1
2001	1,003,297	1,066,217	94.1	89.7	95.3
2002	1,055,793	1,088,108	97.0	94.4	97.3
2003	1,118,245	1,118,245	100.0	100.0	100.0
2004	1,184,296	1,154,685	102.6	105.9	103.3
2005	1,233,976	1,175,916	104.9	110.3	105.2
2006	1,303,915	1,210,288	107.7	116.6	108.2
2007	1,384,823	1,246,895	111.1	123.8	111.5

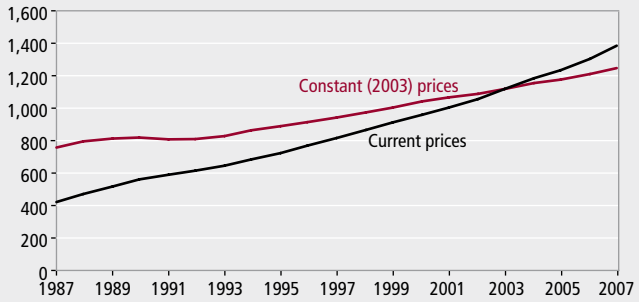
Source: Office for National Statistics

current and volume price series data. The GDP implied deflator can be simply inferred as the relative gap between the two. It can be deduced from the graph that:

- nominal GDP has risen in every year since 1987
- the deflator has also risen in every year since 1987, and
- constant price GDP has increased in every year since 1987, except between 1990 and 1991

Table 1 shows that the value of output rose between 1990 and 1991 (from £560.9 billion to £589.7 billion), although at prices ruling in 1990, real output fell over the same period (from £819.0 billion to £807.8 billion) – referenced to 2003 base year prices.

Figure 2
UK GDP inflation experience
£ billion



Notes

1 The standard definition is enshrined in the international reference manual, the System of National Accounts 1993 (SNA 93), where GDP is defined as 'the sum of the gross values added of all resident producers at basic prices, plus all taxes less subsidies on products'.

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Key time series

National accounts aggregates

Last updated: 23/05/08

Seasonally adjusted

	£ million		Indices (2003 = 100)						
	At current prices		Value indices at current prices		Chained volume indices			Implied deflators[3]	
	Gross domestic product (GDP) at market prices	Gross value added (GVA) at basic prices	GDP at market prices[1]	GVA at basic prices	Gross national disposable income at market prices[2]	GDP at market prices	GVA at basic prices	GDP at market prices	GVA at basic prices
	YBHA	ABML	YBEU	YBEX	YBFP	YBEZ	CGCE	YBGB	CGBV
2002	1,055,793	937,323	94.4	94.3	97.1	97.3	97.3	97.0	97.0
2003	1,118,245	993,507	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2004	1,184,296	1,051,934	105.9	105.9	103.4	103.3	103.3	102.6	102.5
2005	1,233,976	1,096,629	110.3	110.4	104.2	105.2	105.2	104.9	104.9
2006	1,303,915	1,159,257	116.6	116.7	105.7	108.2	108.4	107.7	107.7
2007	1,384,823	1,231,992	123.8	124.0	109.1	111.5	111.5	111.1	111.2
2002 Q1	259,054	229,737	92.7	92.5	95.9	96.4	96.5	96.1	95.9
2002 Q2	262,774	233,372	94.0	94.0	96.2	97.0	96.9	96.9	97.0
2002 Q3	265,836	236,103	95.1	95.1	98.3	97.7	97.6	97.4	97.4
2002 Q4	268,129	238,111	95.9	95.9	98.2	98.2	98.1	97.7	97.7
2003 Q1	272,953	242,612	97.6	97.7	99.4	98.8	98.8	98.9	98.9
2003 Q2	277,119	246,427	99.1	99.2	98.9	99.3	99.3	99.8	99.9
2003 Q3	281,996	250,492	100.9	100.9	100.0	100.4	100.4	100.4	100.5
2003 Q4	286,177	253,976	102.4	102.3	101.7	101.5	101.6	100.9	100.7
2004 Q1	288,912	256,106	103.3	103.1	101.9	102.2	102.2	101.1	100.9
2004 Q2	295,066	262,094	105.5	105.5	103.2	103.1	103.2	102.3	102.3
2004 Q3	297,941	264,732	106.6	106.6	103.0	103.5	103.5	102.9	103.0
2004 Q4	302,377	269,002	108.2	108.3	105.4	104.1	104.2	103.9	104.0
2005 Q1	303,996	270,082	108.7	108.7	104.2	104.4	104.4	104.2	104.1
2005 Q2	307,306	273,158	109.9	110.0	105.3	104.8	104.9	104.9	104.8
2005 Q3	308,515	273,676	110.4	110.2	103.4	105.4	105.4	104.7	104.5
2005 Q4	314,159	279,713	112.4	112.6	104.1	106.1	106.2	106.0	106.1
2006 Q1	319,265	284,197	114.2	114.4	104.6	107.1	107.2	106.7	106.7
2006 Q2	322,340	286,413	115.3	115.3	105.8	107.8	107.9	107.0	106.8
2006 Q3	329,094	292,535	117.7	117.8	106.2	108.6	108.7	108.4	108.4
2006 Q4	333,216	296,112	119.2	119.2	106.4	109.5	109.6	108.9	108.8
2007 Q1	337,717	299,676	120.8	120.7	106.8	110.3	110.3	109.6	109.4
2007 Q2	345,275	306,942	123.5	123.6	108.6	111.2	111.2	111.1	111.1
2007 Q3	348,813	310,386	124.8	125.0	108.4	111.9	111.9	111.5	111.6
2007 Q4	353,016	314,986	126.3	126.8	112.4	112.6	112.6	112.1	112.6
2008 Q1	355,780	316,865	127.3	127.6		113.1	113.1	112.6	112.8
Percentage change, quarter on corresponding quarter of previous year[4]									
2002 Q1	*4.5*	*4.6*	*4.5*	*4.6*	*3.0*	*1.6*	*1.3*	*2.8*	*3.5*
2002 Q2	*5.3*	*5.6*	*5.3*	*5.7*	*3.0*	*2.1*	*1.7*	*3.1*	*4.0*
2002 Q3	*5.9*	*6.1*	*5.9*	*6.1*	*4.1*	*2.2*	*1.9*	*3.6*	*4.1*
2002 Q4	*5.2*	*5.3*	*5.3*	*5.4*	*4.4*	*2.4*	*2.2*	*2.8*	*3.0*
2003 Q1	*5.4*	*5.6*	*5.3*	*5.6*	*3.6*	*2.5*	*2.4*	*2.9*	*3.1*
2003 Q2	*5.5*	*5.6*	*5.4*	*5.5*	*2.8*	*2.4*	*2.5*	*3.0*	*3.0*
2003 Q3	*6.1*	*6.1*	*6.1*	*6.1*	*1.7*	*2.8*	*2.9*	*3.1*	*3.2*
2003 Q4	*6.7*	*6.7*	*6.8*	*6.7*	*3.6*	*3.4*	*3.6*	*3.3*	*3.1*
2004 Q1	*5.8*	*5.6*	*5.8*	*5.5*	*2.5*	*3.4*	*3.4*	*2.2*	*2.0*
2004 Q2	*6.5*	*6.4*	*6.5*	*6.4*	*4.3*	*3.8*	*3.9*	*2.5*	*2.4*
2004 Q3	*5.7*	*5.7*	*5.6*	*5.6*	*3.0*	*3.1*	*3.1*	*2.5*	*2.5*
2004 Q4	*5.7*	*5.9*	*5.7*	*5.9*	*3.6*	*2.6*	*2.6*	*3.0*	*3.3*
2005 Q1	*5.2*	*5.5*	*5.2*	*5.4*	*2.3*	*2.2*	*2.2*	*3.1*	*3.2*
2005 Q2	*4.1*	*4.2*	*4.2*	*4.3*	*2.0*	*1.6*	*1.6*	*2.5*	*2.4*
2005 Q3	*3.5*	*3.4*	*3.6*	*3.4*	*0.4*	*1.8*	*1.8*	*1.7*	*1.5*
2005 Q4	*3.9*	*4.0*	*3.9*	*4.0*	*–1.2*	*1.9*	*1.9*	*2.0*	*2.0*
2006 Q1	*5.0*	*5.2*	*5.1*	*5.2*	*0.4*	*2.6*	*2.7*	*2.4*	*2.5*
2006 Q2	*4.9*	*4.9*	*4.9*	*4.8*	*0.5*	*2.9*	*2.9*	*2.0*	*1.9*
2006 Q3	*6.7*	*6.9*	*6.6*	*6.9*	*2.7*	*3.0*	*3.1*	*3.5*	*3.7*
2006 Q4	*6.1*	*5.9*	*6.0*	*5.9*	*2.2*	*3.2*	*3.2*	*2.7*	*2.5*
2007 Q1	*5.8*	*5.4*	*5.8*	*5.5*	*2.1*	*3.0*	*2.9*	*2.7*	*2.5*
2007 Q2	*7.1*	*7.2*	*7.1*	*7.2*	*2.6*	*3.2*	*3.1*	*3.8*	*4.0*
2007 Q3	*6.0*	*6.1*	*6.0*	*6.1*	*2.1*	*3.0*	*2.9*	*2.9*	*3.0*
2007 Q4	*5.9*	*6.4*	*6.0*	*6.4*	*5.6*	*2.8*	*2.7*	*2.9*	*3.5*
2008 Q1	*5.3*	*5.7*	*5.4*	*5.7*		*2.5*	*2.5*	*2.7*	*3.1*

Notes:

Source: Office for National Statistics

1 "Money GDP".
2 This series is only updated once a quarter, in line with the full quarterly national accounts data set.
3 Based on chained volume measures and current price estimates of expenditure components of GDP.
4 For index number series, these are derived from the rounded figures shown in the table.

Gross domestic product: by category of expenditure

Last updated: 23/05/08

£ million, chained volume measures, reference year 2003, seasonally adjusted

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								
	Households	Non-profit institutions[1]	General government	Gross fixed capital formation	Changes in inventories[2]	Acquisitions less disposals of valuables	Total	Exports of goods and services	Gross final expenditure	*less* imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic at product market prices
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2002	676,833	27,130	224,868	184,701	2,289	183	1,116,239	280,593	1,396,862	308,706	0	1,088,108
2003	697,160	27,185	232,699	186,700	3,983	–37	1,147,690	285,397	1,433,087	314,842	0	1,118,245
2004	721,434	27,327	240,129	197,655	4,597	–42	1,191,099	299,289	1,490,388	335,703	0	1,154,685
2005	732,005	28,167	246,527	200,654	3,611	–354	1,210,610	323,749	1,534,359	359,626	1,183	1,175,916
2006	745,737	29,858	250,630	215,985	2,416	290	1,244,916	358,356	1,603,272	394,789	1,805	1,210,288
2007	768,397	31,079	255,315	229,423	6,522	525	1,291,262	339,434	1,630,697	383,162	–639	1,246,895
2002 Q1	167,588	6,762	55,756	44,562	1,059	66	275,814	69,440	345,256	75,709	0	269,595
2002 Q2	168,803	6,756	56,288	45,610	409	48	277,926	71,533	349,504	78,367	0	271,044
2002 Q3	169,715	6,793	56,429	46,422	520	62	280,004	71,056	351,089	78,006	0	273,034
2002 Q4	170,727	6,819	56,395	48,107	301	7	282,495	68,564	351,013	76,624	0	274,435
2003 Q1	171,828	6,843	57,099	46,805	–477	–8	282,249	72,662	354,921	78,836	0	276,082
2003 Q2	174,146	6,779	57,684	46,131	–635	94	284,342	70,610	354,945	77,283	0	277,686
2003 Q3	175,140	6,790	58,445	45,964	2,223	–68	288,498	70,334	358,825	78,089	0	280,743
2003 Q4	176,046	6,773	59,471	47,800	2,872	–55	292,601	71,791	364,396	80,634	0	283,734
2004 Q1	178,197	6,830	59,969	49,353	–439	112	294,023	73,389	367,412	81,648	0	285,764
2004 Q2	180,362	6,805	59,530	49,159	1,042	–90	296,808	74,861	371,670	83,313	0	288,357
2004 Q3	181,032	6,826	60,002	49,832	1,047	–96	298,644	75,097	373,741	84,300	0	289,441
2004 Q4	181,843	6,866	60,628	49,311	2,947	32	301,624	75,942	377,565	86,442	0	291,123
2005 Q1	182,466	7,005	60,858	49,393	1,894	–158	301,458	75,952	377,410	85,898	253	291,764
2005 Q2	182,306	6,987	61,613	49,334	797	86	301,122	79,576	380,698	87,920	300	293,078
2005 Q3	183,174	7,042	61,885	50,642	853	–201	303,394	82,357	385,751	91,483	320	294,588
2005 Q4	184,059	7,133	62,171	51,285	67	–81	304,636	85,864	390,500	94,325	310	296,486
2006 Q1	183,985	7,347	62,511	52,156	1,202	101	307,301	93,512	400,814	102,028	515	299,301
2006 Q2	186,369	7,428	62,342	52,872	564	229	309,804	95,747	405,551	104,683	503	301,371
2006 Q3	186,487	7,507	62,734	54,737	1,396	–28	312,833	84,334	397,167	94,116	445	303,495
2006 Q4	188,896	7,576	63,043	56,220	–746	–12	314,978	84,763	399,740	93,962	342	306,121
2007 Q1	190,336	7,651	63,476	57,023	320	67	318,873	83,940	402,813	94,520	–21	308,272
2007 Q2	191,607	7,738	63,791	56,331	600	321	320,388	84,512	404,900	93,872	–140	310,888
2007 Q3	193,086	7,804	64,175	57,517	2,660	48	325,290	85,701	410,991	97,869	–218	312,902
2007 Q4	193,368	7,886	63,873	58,552	2,942	89	326,710	85,281	411,991	96,901	–259	314,833
2008 Q1	195,959	8,020	64,526	57,631	968	91	327,195	85,313	412,509	96,277	–163	316,069
Percentage change, quarter on corresponding quarter of previous year												
2002 Q1	*4.0*	*–1.6*	*4.0*	*0.9*			*3.1*	*–2.6*	*1.8*	*2.5*		*1.6*
2002 Q2	*4.0*	*–0.5*	*4.4*	*1.6*			*2.9*	*3.2*	*3.0*	*6.0*		*2.1*
2002 Q3	*3.3*	*0.5*	*3.3*	*3.1*			*2.8*	*4.6*	*3.2*	*6.4*		*2.2*
2002 Q4	*3.1*	*1.3*	*2.1*	*9.0*			*3.8*	*–0.8*	*2.8*	*4.5*		*2.3*
2003 Q1	*2.5*	*1.2*	*2.4*	*5.0*			*2.3*	*4.6*	*2.8*	*4.1*		*2.4*
2003 Q2	*3.2*	*0.3*	*2.5*	*1.1*			*2.3*	*–1.3*	*1.6*	*–1.4*		*2.5*
2003 Q3	*3.2*	*0.0*	*3.6*	*–1.0*			*3.0*	*–1.0*	*2.2*	*0.1*		*2.8*
2003 Q4	*3.1*	*–0.7*	*5.5*	*–0.6*			*3.6*	*4.7*	*3.8*	*5.2*		*3.4*
2004 Q1	*3.7*	*–0.2*	*5.0*	*5.4*			*4.2*	*1.0*	*3.5*	*3.6*		*3.5*
2004 Q2	*3.6*	*0.4*	*3.2*	*6.6*			*4.4*	*6.0*	*4.7*	*7.8*		*3.8*
2004 Q3	*3.4*	*0.5*	*2.7*	*8.4*			*3.5*	*6.8*	*4.2*	*8.0*		*3.1*
2004 Q4	*3.3*	*1.4*	*1.9*	*3.2*			*3.1*	*5.8*	*3.6*	*7.2*		*2.6*
2005 Q1	*2.4*	*2.6*	*1.5*	*0.1*			*2.5*	*3.5*	*2.7*	*5.2*		*2.1*
2005 Q2	*1.1*	*2.7*	*3.5*	*0.4*			*1.5*	*6.3*	*2.4*	*5.5*		*1.6*
2005 Q3	*1.2*	*3.2*	*3.1*	*1.6*			*1.6*	*9.7*	*3.2*	*8.5*		*1.8*
2005 Q4	*1.2*	*3.9*	*2.5*	*4.0*			*1.0*	*13.1*	*3.4*	*9.1*		*1.8*
2006 Q1	*0.8*	*4.9*	*2.7*	*5.6*			*1.9*	*23.1*	*6.2*	*18.8*		*2.6*
2006 Q2	*2.2*	*6.3*	*1.2*	*7.2*			*2.9*	*20.3*	*6.5*	*19.1*		*2.8*
2006 Q3	*1.8*	*6.6*	*1.4*	*8.1*			*3.1*	*2.4*	*3.0*	*2.9*		*3.0*
2006 Q4	*2.6*	*6.2*	*1.4*	*9.6*			*3.4*	*–1.3*	*2.4*	*–0.4*		*3.2*
2007 Q1	*3.5*	*4.1*	*1.5*	*9.3*			*3.8*	*–10.2*	*0.5*	*–7.4*		*3.0*
2007 Q2	*2.8*	*4.2*	*2.3*	*6.5*			*3.4*	*–11.7*	*–0.2*	*–10.3*		*3.2*
2007 Q3	*3.5*	*4.0*	*2.3*	*5.1*			*4.0*	*1.6*	*3.5*	*4.0*		*3.1*
2007 Q4	*2.4*	*4.1*	*1.3*	*4.1*			*3.7*	*0.6*	*3.1*	*3.1*		*2.8*
2008 Q1	*3.0*	*4.8*	*1.7*	*1.1*			*2.6*	*1.6*	*2.4*	*1.9*		*2.5*

Notes:

1 Non-profit institutions serving households (NPISH).
2 This series includes a quarterly alignment adjustment.

Source: Office for National Statistics

Labour market summary

Last updated: 14/05/08

United Kingdom (thousands), seasonally adjusted

	All aged 16 and over								
	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	1	2	3	4	5	6	7	8	9
All persons	MGSL	MGSF	MGRZ	MGSC	MGSI	MGWG	MGSR	MGSX	YBTC
Jan–Mar 2006	48,120	30,558	28,958	1,601	17,562	*63.5*	*60.2*	*5.2*	*36.5*
Jan–Mar 2007	48,522	30,768	29,073	1,696	17,754	*63.4*	*59.9*	*5.5*	*36.6*
Apr–Jun 2007	48,624	30,832	29,174	1,658	17,792	*63.4*	*60.0*	*5.4*	*36.6*
Jul–Sep 2007	48,731	30,919	29,262	1,656	17,812	*63.4*	*60.0*	*5.4*	*36.6*
Oct–Dec 2007	48,839	31,020	29,421	1,599	17,819	*63.5*	*60.2*	*5.2*	*36.5*
Jan–Mar 2008	48,948	31,151	29,538	1,612	17,797	*63.6*	*60.3*	*5.2*	*36.4*
Male	MGSM	MGSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Jan–Mar 2006	23,354	16,524	15,592	932	6,830	*70.8*	*66.8*	*5.6*	*29.2*
Jan–Mar 2007	23,580	16,702	15,732	970	6,878	*70.8*	*66.7*	*5.8*	*29.2*
Apr–Jun 2007	23,637	16,747	15,799	948	6,890	*70.8*	*66.8*	*5.7*	*29.2*
Jul–Sep 2007	23,696	16,776	15,831	945	6,920	*70.8*	*66.8*	*5.6*	*29.2*
Oct–Dec 2007	23,755	16,806	15,897	909	6,948	*70.8*	*66.9*	*5.4*	*29.2*
Jan–Mar 2008	23,814	16,896	15,963	933	6,918	*71.0*	*67.0*	*5.5*	*29.0*
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Jan–Mar 2006	24,766	14,034	13,366	669	10,732	*56.7*	*54.0*	*4.8*	*43.3*
Jan–Mar 2007	24,942	14,066	13,341	725	10,876	*56.4*	*53.5*	*5.2*	*43.6*
Apr–Jun 2007	24,986	14,085	13,375	710	10,901	*56.4*	*53.5*	*5.0*	*43.6*
Jul–Sep 2007	25,035	14,143	13,431	712	10,892	*56.5*	*53.7*	*5.0*	*43.5*
Oct–Dec 2007	25,084	14,213	13,524	690	10,870	*56.7*	*53.9*	*4.9*	*43.3*
Jan–Mar 2008	25,134	14,255	13,576	679	10,879	*56.7*	*54.0*	*4.8*	*43.3*

	All aged 16 to 59/64								
	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	10	11	12	13	14	15	16	17	18
All persons	YBTF	YBSK	YBSE	YBSH	YBSN	MGSO	MGSU	YBTI	YBTL
Jan–Mar 2006	37,272	29,402	27,828	1,573	7,870	*78.9*	*74.7*	*5.4*	*21.1*
Jan–Mar 2007	37,505	29,547	27,876	1,671	7,958	*78.8*	*74.3*	*5.7*	*21.2*
Apr–Jun 2007	37,556	29,597	27,967	1,630	7,960	*78.8*	*74.5*	*5.5*	*21.2*
Jul–Sep 2007	37,608	29,655	28,022	1,632	7,953	*78.9*	*74.5*	*5.5*	*21.1*
Oct–Dec 2007	37,657	29,746	28,165	1,581	7,911	*79.0*	*74.8*	*5.3*	*21.0*
Jan–Mar 2008	37,708	29,830	28,237	1,593	7,878	*79.1*	*74.9*	*5.3*	*20.9*
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Jan–Mar 2006	19,312	16,135	15,213	922	3,177	*83.5*	*78.8*	*5.7*	*16.5*
Jan–Mar 2007	19,490	16,296	15,336	960	3,194	*83.6*	*78.7*	*5.9*	*16.4*
Apr–Jun 2007	19,534	16,334	15,399	935	3,201	*83.6*	*78.8*	*5.7*	*16.4*
Jul–Sep 2007	19,573	16,350	15,413	936	3,223	*83.5*	*78.8*	*5.7*	*16.5*
Oct–Dec 2007	19,608	16,390	15,486	904	3,218	*83.6*	*79.0*	*5.5*	*16.4*
Jan–Mar 2008	19,643	16,447	15,523	924	3,197	*83.7*	*79.0*	*5.6*	*16.3*
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Jan–Mar 2006	17,959	13,266	12,615	651	4,693	*73.9*	*70.2*	*4.9*	*26.1*
Jan–Mar 2007	18,015	13,250	12,540	710	4,764	*73.6*	*69.6*	*5.4*	*26.4*
Apr–Jun 2007	18,022	13,263	12,568	695	4,759	*73.6*	*69.7*	*5.2*	*26.4*
Jul–Sep 2007	18,035	13,305	12,609	696	4,730	*73.8*	*69.9*	*5.2*	*26.2*
Oct–Dec 2007	18,050	13,356	12,678	678	4,694	*74.0*	*70.2*	*5.1*	*26.0*
Jan–Mar 2008	18,065	13,383	12,714	669	4,682	*74.1*	*70.4*	*5.0*	*25.9*

Notes:

Relationship between columns: 1 = 2 + 5; 2 = 3 + 4; 6 = 2/1; 7 = 3/1; 8 = 4/2; 9 = 5/1; 10 = 11 + 14; 11 = 12 + 13; 15 = 11/10; 16 = 12/10; 17 = 13/11; 18 = 14/10
The Labour Force Survey is a survey of the population of private households, student halls of residence and NHS accommodation.

Source: Labour Force Survey, Office for National Statistics
Labour Market Statistics Helpline: 01633 456901

Prices

Last updated: 13/05/08

Percentage change over 12 months

	Consumer prices						Not seasonally adjusted, except for series PLLW, RNPE and RNPF Producer prices			
	Consumer prices index (CPI)			Retail prices index (RPI)			Output prices		Input prices	
	All items	CPI excluding indirect taxes (CPIY)[1]	CPI at constant tax rates (CPI-CT)	All items	All items excluding mortgage interest payments (RPIX)	All items excluding mortgage interest payments and indirect taxes (RPIY)[2]	All manufactured products	Excluding food, beverages, tobacco and petroleum products	Materials and fuels purchased by manufacturing industry	Excluding food, beverages, tobacco and petroleum products
	D7G7	EL2S	EAD6	CZBH	CDKQ	CBZX	PLLU[3]	PLLW[3]	RNPE[3]	RNPF[3]
2004 Jan	1.4	1.5	1.3	2.6	2.4	2.0	1.6	1.4	–0.3	0.0
2004 Feb	1.3	1.3	1.1	2.5	2.3	1.9	1.6	1.5	–0.8	–0.4
2004 Mar	1.1	1.1	1.0	2.6	2.1	1.7	1.4	1.5	0.8	–0.1
2004 Apr	1.1	1.1	1.0	2.5	2.0	1.8	1.8	1.3	2.9	–0.1
2004 May	1.5	1.4	1.3	2.8	2.3	2.2	2.5	1.4	5.6	0.6
2004 Jun	1.6	1.5	1.4	3.0	2.3	2.3	2.6	1.4	3.8	1.3
2004 Jul	1.4	1.4	1.2	3.0	2.2	2.0	2.6	1.7	3.9	1.8
2004 Aug	1.3	1.3	1.1	3.2	2.2	2.0	2.8	2.2	4.6	2.4
2004 Sep	1.1	1.0	0.9	3.1	1.9	1.7	3.1	2.3	8.1	3.6
2004 Oct	1.2	1.2	1.1	3.3	2.1	2.0	3.5	2.9	9.0	4.6
2004 Nov	1.5	1.4	1.4	3.4	2.2	2.2	3.5	3.0	6.4	4.5
2004 Dec	1.7	1.7	1.6	3.5	2.5	2.5	2.9	2.5	4.0	4.0
2005 Jan	1.6	1.7	1.5	3.2	2.1	2.0	2.6	2.6	9.7	7.5
2005 Feb	1.7	1.7	1.6	3.2	2.1	2.0	2.7	2.5	11.0	8.2
2005 Mar	1.9	2.0	1.8	3.2	2.4	2.3	2.9	2.4	11.1	7.4
2005 Apr	1.9	2.0	1.9	3.2	2.3	2.3	3.3	2.6	10.1	7.0
2005 May	1.9	2.0	1.8	2.9	2.1	2.2	2.7	2.5	7.6	6.7
2005 Jun	2.0	2.2	1.9	2.9	2.2	2.2	2.5	2.2	11.8	7.4
2005 Jul	2.3	2.5	2.3	2.9	2.4	2.5	3.1	2.2	14.1	8.7
2005 Aug	2.4	2.6	2.3	2.8	2.3	2.3	3.0	1.9	13.0	7.6
2005 Sep	2.5	2.6	2.4	2.7	2.5	2.5	3.3	2.1	10.6	5.6
2005 Oct	2.3	2.5	2.3	2.5	2.4	2.3	2.6	1.4	8.8	7.0
2005 Nov	2.1	2.3	2.1	2.4	2.3	2.3	2.3	1.3	13.5	9.6
2005 Dec	1.9	2.1	1.8	2.2	2.0	2.0	2.4	1.8	17.9	12.0
2006 Jan	1.9	2.1	1.9	2.4	2.3	2.3	2.9	1.7	15.8	10.2
2006 Feb	2.0	2.1	2.0	2.4	2.3	2.3	2.9	1.7	15.0	10.6
2006 Mar	1.8	1.9	1.7	2.4	2.1	2.2	2.5	1.9	13.0	10.0
2006 Apr	2.0	2.1	2.0	2.6	2.4	2.3	2.5	2.2	15.3	10.0
2006 May	2.2	2.3	2.2	3.0	2.9	2.8	3.1	2.4	13.6	8.6
2006 Jun	2.5	2.6	2.4	3.3	3.1	3.2	3.4	2.9	11.1	8.7
2006 Jul	2.4	2.4	2.3	3.3	3.1	3.2	2.9	2.5	10.6	8.3
2006 Aug	2.5	2.6	2.4	3.4	3.3	3.4	2.7	2.3	8.0	7.9
2006 Sep	2.4	2.6	2.3	3.6	3.2	3.3	1.9	2.2	5.4	7.4
2006 Oct	2.4	2.7	2.3	3.7	3.2	3.3	1.6	2.6	4.6	6.3
2006 Nov	2.7	3.0	2.6	3.9	3.4	3.6	1.8	2.5	3.4	4.9
2006 Dec	3.0	3.2	2.9	4.4	3.8	3.9	2.2	2.4	2.1	3.0
2007 Jan	2.7	2.9	2.6	4.2	3.5	3.7	2.2	2.5	–2.8	1.5
2007 Feb	2.8	2.9	2.6	4.6	3.7	3.9	2.3	2.7	–1.7	1.0
2007 Mar	3.1	3.1	2.9	4.8	3.9	4.0	2.7	2.7	0.2	2.0
2007 Apr	2.8	2.9	2.6	4.5	3.6	3.7	2.4	2.3	–1.5	1.4
2007 May	2.5	2.6	2.3	4.3	3.3	3.4	2.4	2.2	1.2	3.6
2007 Jun	2.4	2.5	2.2	4.4	3.3	3.3	2.5	2.1	2.4	3.3
2007 Jul	1.9	2.0	1.7	3.8	2.7	2.6	2.5	2.2	0.6	1.5
2007 Aug	1.8	1.9	1.6	4.1	2.7	2.6	2.4	2.4	1.1	2.1
2007 Sep	1.8	1.7	1.6	3.9	2.8	2.8	2.9	2.3	7.5	3.7
2007 Oct	2.1	1.9	1.8	4.2	3.1	3.0	4.0	2.4	9.7	3.2
2007 Nov	2.1	1.9	1.8	4.3	3.2	3.0	4.7	2.4	11.5	2.7
2007 Dec	2.1	2.0	1.9	4.0	3.1	3.1	5.0	2.7	13.0	4.5
2008 Jan	2.2	2.1	2.0	4.1	3.4	3.3	5.8	3.5	19.5	7.4
2008 Feb	2.5	2.5	2.3	4.1	3.7	3.6	6.0	3.4	20.2	9.0
2008 Mar	2.5	2.6	2.3	3.8	3.5	3.6	6.5	3.5	20.5	9.9
2008 Apr	3.0	3.0	2.7	4.2	4.0	3.9	7.5	4.5	23.1	12.6

Notes:

Source: Office for National Statistics

1 The taxes excluded are VAT, duties, insurance premium tax, air passenger duty and stamp duty on share transactions.
2 The taxes excluded are council tax, VAT, duties, vehicle excise duty, insurance premium tax and air passenger duty.
3 Derived from these identification (CDID) codes.

NOTES TO TABLES

Identification (CDID) codes

The four-character identification code at the top of each alpha column of data is the ONS reference for that series of data on our time series database. Please quote the relevant code if you contact us about the data.

Conventions

Where figures have been rounded to the final digit, there may be an apparent slight discrepancy between the sum of the constituent items and the total shown. Although figures may be given in unrounded form to facilitate readers' calculation of percentage changes, rates of change, etc, this does not imply that the figures can be estimated to this degree of precision as they may be affected by sampling variability or imprecision in estimation methods.

The following standard symbols are used:

..	not available
-	nil or negligible
P	provisional
–	break in series
R	revised
r	series revised from indicated entry onwards

CONCEPTS AND DEFINITIONS

Labour Force Survey 'monthly' estimates

Labour Force Survey (LFS) results are three-monthly averages, so consecutive months' results overlap. Comparing estimates for overlapping three-month periods can produce more volatile results, which can be difficult to interpret.

Labour market summary

Economically active

People aged 16 and over who are either in employment or unemployed.

Economically inactive

People who are neither in employment nor unemployed. This includes those who want a job but have not been seeking work in the last four weeks, those who want a job and are seeking work but not available to start work, and those who do not want a job.

Employment and jobs

There are two ways of looking at employment: the number of people with jobs, or the number of jobs. The two concepts are not the same as one person can have more than one job. The number of people with jobs is measured by the Labour Force Survey (LFS) and includes people aged 16 or over who do paid work (as an employee or self-employed), those who have a job that they are temporarily away from, those on government-supported training and employment programmes, and those doing unpaid family work. The number of jobs is measured by workforce jobs and is the sum of employee jobs (as measured by surveys of employers), self-employment jobs from the LFS, people in HM Forces, and government-supported trainees. Vacant jobs are not included.

Unemployment

The number of unemployed people in the UK is measured through the Labour Force Survey following the internationally agreed definition recommended by the ILO (International Labour Organisation) – an agency of the United Nations.

Unemployed people:

- are without a job, want a job, have actively sought work in the last four weeks and are available to start work in the next two weeks, or
- are out of work, have found a job and are waiting to start it in the next two weeks

Other key indicators

Claimant count

The number of people claiming Jobseeker's Allowance benefits.

Earnings

A measure of the money people receive in return for work done, gross of tax. It includes salaries and, unless otherwise stated, bonuses but not unearned income, benefits in kind or arrears of pay.

Productivity

Whole economy output per worker is the ratio of Gross Value Added (GVA) at basic prices and Labour Force Survey (LFS) total employment. Manufacturing output per filled job is the ratio of manufacturing output (from the Index of Production) and productivity jobs for manufacturing (constrained to LFS jobs at the whole economy level).

Redundancies

The number of people who:

- were not in employment during the reference week, and
- reported that they had been made redundant in the month of, or the two calendar months prior to, the reference week

plus the number of people who:

- were in employment during the reference week, and
- started their job in the same calendar month as, or the two calendar months prior to, the reference week, and
- reported that they had been made redundant in the month of, or the two calendar months prior to, the reference week

Unit wage costs

A measure of the cost of wages and salaries per unit of output.

Vacancies

The statistics are based on ONS's Vacancy Survey of businesses. The survey is designed to provide comprehensive estimates of the stock of vacancies across the economy, excluding those in agriculture, forestry and fishing. Vacancies are defined as positions for which employers are actively seeking recruits from outside their business or organisation. More information on labour market concepts, sources and methods is available in the *Guide to Labour Market Statistics* at www.statistics.gov.uk/about/data/guides/LabourMarket/default.asp

Directory of online tables

The tables listed below are available as Excel spreadsheets via weblinks accessible from the main *Economic & Labour Market Review* (ELMR) page of the National Statistics website. Tables in sections 1, 3, 4 and 5 replace equivalent ones formerly published in *Economic Trends*, although there are one or two new tables here; others have been expanded to include, as appropriate, both unadjusted/seasonally adjusted, and current price/chained volume measure variants. Tables in sections 2 and 6 were formerly in *Labour Market Trends*. The opportunity has also been taken to extend the range of dates shown in many cases, as the online tables are not constrained by page size.

In the online tables, the four-character identification codes at the top of each data column correspond to the ONS reference for that series on our time series database. The latest data sets for the old *Economic Trends* tables and the Labour Market Statistics First Release tables are still available on this database via the 'Time Series Data' link on the National Statistics main web page. These data sets can also be accessed from links at the bottom of each section's table listings via the 'Data tables' link in the individual ELMR edition pages on the website.

Weblink: www.statistics.gov.uk/elmr/06_08/data_page.asp

Title	Frequency of update	Updated since last month
UK economic accounts		
1.01 National accounts aggregates	M	✔
1.02 Gross domestic product and gross national income	M	✔
1.03 Gross domestic product, by category of expenditure	M	✔
1.04 Gross domestic product, by category of income	M	✔
1.05 Gross domestic product and shares of income and expenditure	M	✔
1.06 Income, product and spending per head	Q	.
1.07 Households' disposable income and consumption	M	✔
1.08 Household final consumption expenditure	M	✔
1.09 Gross fixed capital formation	M	✔
1.10 Gross value added, by category of output	M	✔
1.11 Gross value added, by category of output: service industries	M	✔
1.12 Summary capital accounts and net lending/net borrowing	Q	.
1.13 Private non-financial corporations: allocation of primary income account	Q	.
1.14 Private non-financial corporations: secondary distribution of income account and capital account	Q	.
1.15 Balance of payments: current account	M	✔
1.16 Trade in goods (on a balance of payments basis)	M	✔
1.17 Measures of variability of selected economic series	Q	.
1.18 Index of services	M	✔
Selected labour market statistics		
2.01 Summary of Labour Force Survey data	M	✔
2.02 Employment by age	M	✔
2.03 Full-time, part-time and temporary workers	M	✔
2.04 Public and private sector employment	Q	.
2.05 Workforce jobs	Q	.
2.06 Workforce jobs by industry	Q	✔
2.07 Actual weekly hours of work	M	✔
2.08 Usual weekly hours of work	M	✔
2.09 Unemployment by age and duration	M	✔
2.10 Claimant count levels and rates	M	✔
2.11 Claimant count by age and duration	M	✔
2.12 Economic activity by age	M	✔
2.13 Economic inactivity by age	M	✔
2.14 Economic inactivity: reasons	M	✔
2.15 Educational status, economic activity and inactivity of young people	M	✔
2.16 Average earnings – including bonuses	M	✔
2.17 Average earnings – excluding bonuses	M	✔
2.18 Productivity and unit wage costs	M	✔
2.19 Regional labour market summary	M	✔

Weblink: www.statistics.gov.uk/elmr/06_08/data_page.asp

2.20	International comparisons	M	✔
2.21	Labour disputes	M	✔
2.22	Vacancies	M	✔
2.23	Vacancies by industry	M	✔
2.24	Redundancies: levels and rates	M	✔
2.25	Redundancies: by industry	Q	•
2.26	Sampling variability for headline labour market statistics	M	✔

Prices

3.01	Producer and consumer prices	M	✔
3.02	Harmonised Indices of Consumer Prices: EU comparisons	M	✔

Selected output and demand indicators

4.01	Output of the production industries	M	✔
4.02	Engineering and construction: output and orders	M	✔
4.03	Motor vehicle and steel production	M	✔
4.04	Indicators of fixed investment in dwellings	M	✔
4.05	Number of property transactions	M	✔
4.06	Change in inventories	Q	✔
4.07	Inventory ratios (THIS TABLE IS NO LONGER BEING UPDATED)	Q	•
4.08	Retail sales, new registrations of cars and credit business	M	✔
4.09	Inland energy consumption: primary fuel input basis	M	✔

Selected financial statistics

5.01	Sterling exchange rates and UK reserves	M	✔
5.02	Monetary aggregates	M	✔
5.03	Counterparts to changes in money stock M4	M	✔
5.04	Public sector receipts and expenditure	Q	✔
5.05	Public sector key fiscal indicators	M	✔
5.06	Consumer credit and other household sector borrowing	M	✔
5.07	Analysis of bank lending to UK residents	M	•
5.08	Interest rates and yields	M	✔
5.09	A selection of asset prices	M	✔

Further labour market statistics

6.01	Working-age households	A	•
6.02	Local labour market indicators by unitary and local authority	Q	✔
6.03	Employment by occupation	Q	•
6.04	Employee jobs by industry	M	✔
6.05	Employee jobs by industry division, class or group	Q	✔
6.06	Employee jobs by region and industry	Q	✔
6.07	Key productivity measures by industry	M	✔
6.08	Total workforce hours worked per week	Q	•
6.09	Total workforce hours worked per week by region and industry group	Q	•
6.10	Job-related training received by employees	Q	•
6.11	Unemployment rates by previous occupation	Q	•

Weblink: www.statistics.gov.uk/elmr/06_08/data_page.asp

6.12	Average Earnings Index by industry: excluding and including bonuses	M	✔
6.13	Average Earnings Index: effect of bonus payments by main industrial sector	M	✔
6.14	Median earnings and hours by main industrial sector	A	.
6.15	Median earnings and hours by industry section	A	.
6.16	Index of wages per head: international comparisons	M	✔
6.17	Regional Jobseeker's Allowance claimant count rates	M	✔
6.18	Claimant count area statistics: counties, unitary and local authorities	M	✔
6.19	Claimant count area statistics: UK parliamentary constituencies	M	✔
6.20	Claimant count area statistics: constituencies of the Scottish Parliament	M	✔
6.21	Jobseeker's Allowance claimant count flows	M	✔
6.22	Number of previous Jobseeker's Allowance claims	Q	.
6.23	Interval between Jobseeker's Allowance claims	Q	✔
6.24	Average duration of Jobseeker's Allowance claims by age	Q	.
6.25	Vacancies by size of enterprise	M	.
6.26	Redundancies: re-employment rates	Q	.
6.27	Redundancies by Government Office Region	Q	.
6.28	Redundancy rates by industry	Q	.
6.29	Labour disputes: summary	M	✔
6.30	Labour disputes: stoppages in progress	M	✔

Notes

A Annually
Q Quarterly
M Monthly

More information

Time series are available from www.statistics.gov.uk/statbase/tsdintro.asp
Subnational labour market data are available from www.statistics.gov.uk/statbase/Product.asp?vlnk=14160 and www.nomisweb.co.uk
Labour Force Survey tables are available from www.statistics.gov.uk/statbase/Product.asp?vlnk=14365
Annual Survey of Hours and Earnings data are available from www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101

Contact points

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rpi@ons.gsi.gov.uk

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0845 601 3034
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Department for Children, Schools and Families Public Enquiry Unit
0870 000 2288

For statistical information on

Average Earnings Index (monthly)
01633 819024

Claimant count
01633 456901

Consumer Prices Index
01633 456900
cpi@ons.gsi.gov.uk

Earnings
Annual Survey of Hours and Earnings
01633 456120

Basic wage rates and hours for manual workers with a collective agreement
01633 819008

Low-paid workers
01633 819024
lowpay@ons.gsi.gov.uk

Labour Force Survey
01633 456901
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Economic activity and inactivity
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Employment
Labour Force Survey
01633 456901
labour.market@ons.gsi.gov.uk

Employee jobs by industry
01633 456776

Total workforce hours worked per week
01633 456720
productivity@ons.gsi.gov.uk

Workforce jobs series – short-term estimates
01633 456776
workforce.jobs@ons.gsi.gov.uk

Labour costs
01633 819024

Labour disputes
01633 456721

Labour Force Survey
01633 456901
labour.market@ons.gsi.gov.uk

Labour Force Survey Data Service
01633 455732
lfs.dataservice@ons.gsi.gov.uk

New Deal
0114 209 8228

Productivity and unit wage costs
01633 456720

Public sector employment
General enquiries
01633 455889

Source and methodology enquiries
01633 812865

Qualifications (Department for Children, Schools and Families)
0870 000 2288

Redundancy statistics
01633 456901

Retail Prices Index
01633 456900
rpi@ons.gsi.gov.uk

Skills (Department for Innovation, Universities & Skills)
0870 001 0336
Skill needs surveys and research into skill shortages
0870 001 0336

Small firms (BERR)
Enterprise Directorate
0114 279 4439

Subregional estimates
01633 812038

Annual employment statistics
annual.employment.figures@ons.gsi.gov.uk

Annual Population Survey, local area statistics
01633 455070

Trade unions (BERR)
Employment relations
020 7215 5934

Training
Adult learning – work-based training (DWP)
0114 209 8236

Employer-provided training (Department for Innovation, Universities & Skills)
0870 001 0336

Travel-to-Work Areas
Composition and review
01329 813054

Unemployment
01633 456901

Vacancies
Vacancy Survey: total stocks of vacancies
01633 455070

ONS economic and labour market publications

ANNUAL

Financial Statistics Explanatory Handbook

2008 edition. Palgrave Macmillan, ISBN 0-230-52583-2. Price £47.50.

www.statistics.gov.uk/products/p4861.asp

Foreign Direct Investment (MA4)

2006 edition

www.statistics.gov.uk/products/p9614.asp

Input-Output analyses for the United Kingdom

2006 edition

www.statistics.gov.uk/products/p7640.asp

Research and development in UK businesses (MA14)

2006 edition

www.statistics.gov.uk/statbase/product.asp?vlnk=165

Share Ownership

2006 edition

www.statistics.gov.uk/products/p930.asp

United Kingdom Balance of Payments (Pink Book)

2007 edition. Palgrave Macmillan, ISBN 978-1-4039-9397-7. Price £49.50.

www.statistics.gov.uk/products/p1140.asp

United Kingdom National Accounts (Blue Book)

2007 edition. Palgrave Macmillan, ISBN 978-1-4039-9398-4. Price £49.50.

www.statistics.gov.uk/products/p1143.asp

First releases

- Annual survey of hours and earnings
- Foreign direct investment
- Gross domestic expenditure on research and development
- Low pay estimates
- Regional gross value added
- Share ownership
- UK Business enterprise research and development
- Work and worklessness among households

QUARTERLY

Consumer Trends

2007 quarter 4

www.statistics.gov.uk/products/p242.asp

United Kingdom Economic Accounts

2007 quarter 4. Palgrave Macmillan, ISBN 978-0-230-20894-0. Price £35.

www.statistics.gov.uk/products/p1904.asp

UK trade in goods analysed in terms of industry (MQ10)

2007 quarter 4

www.statistics.gov.uk/products/p731.asp

First releases

- Balance of payments
- Business investment
- GDP preliminary estimate
- Government deficit and debt under the Maastricht Treaty (six-monthly)
- International comparisons of productivity (six-monthly)
- Internet connectivity
- Investment by insurance companies, pension funds and trusts
- Productivity
- Profitability of UK companies
- Public sector employment
- Quarterly National Accounts
- UK output, income and expenditure

MONTHLY

Financial Statistics

May 2008. Palgrave Macmillan, ISBN 978-0-230-21678-5. Price £47.50.

www.statistics.gov.uk/products/p376.asp

Focus on Consumer Price Indices

April 2008

www.statistics.gov.uk/products/p867.asp

Monthly review of external trade statistics (MM24)

April 2008

www.statistics.gov.uk/products/p613.asp

Producer Price Indices (MM22)

April 2008

www.statistics.gov.uk/products/p2208.asp

First releases

- Consumer price Indices
- Index of production
- Index of services
- Labour market statistics
- Labour market statistics: regional
- Producer prices
- Public sector finances
- Retail sales
- UK trade

OTHER

The ONS Productivity Handbook: a statistical overview and guide

Palgrave Macmillan, ISBN 978-0-230-57301-7. Price £55.

www.statistics.gov.uk/about/data/guides/productivity/default.asp

Labour Market Review

2006 edition. Palgrave Macmillan, ISBN 1-4039-9735-7. Price £40.

www.statistics.gov.uk/products/p4315.asp

National Accounts Concepts, Sources and Methods

www.statistics.gov.uk/products/p1144.asp

Sector classification guide (MA23)

www.statistics.gov.uk/products/p7163.asp

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Felix Ritchie

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Richard McCrae, Craig H McLaren, John Wood and Robin Youll

Regional economic indicators, May 2008, with a focus on differences in sub-regional economic performances
Birgit Wosnitza and Martin Walker

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List is provisional and subject to change.

JULY 2008

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The effects of taxes and benefits on household income, 2006-07

Characteristics of those paid below the National Minimum Wage using ASHE

Characteristics of those paid below the National Minimum Wage using the LFS

Measuring inflation

Broadband, ICT and productivity