Office for National Statistics

Economic & Labour Market Review

Contents

Regulars

Articles

Data and support

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The Government Statistical Service

The Government Statistical Service (GSS) is a network of professional statisticians and their staff operating both within the Office for National Statistics and across more than 30 other government departments and agencies.

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Contacts

This publication

For information about this publication, contact the editorial team, email: elmr@ons.gsi.gov.uk

Other customer enquiries

ONS Customer Contact Centre
Tel: 0845 601 3034
International: +44 (0)845 601 3034
Minicom: 01633 815044
Email: info@statistics.gsi.gov.uk
Fax: 01633 652747
Post: Room 1015, Government Buildings,
Cardiff Road, Newport, South Wales NP10 8XG

www.ons.gov.uk

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Media enquiries

Tel: 0845 604 1858
Email: press.office@ons.gsi.gov.uk

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In brief

Employment of foreign workers: 2007–2009

This new article, published on 27 May 2010, presents statistics on migrant workers (by country of birth and nationality) for the period 2007-2009 using the quarterly Labour Force Survey. Estimates are also provided for January to March 2010. The article was published along side other migration statistics to coincide with the date specified by the cross government Coherent Reporting Migration Group.

Employment and unemployment estimates are provided, the former being further examined by region, occupation and industry. The article also considers the earnings and educational qualifications of UK born and non-UK born workers. An examination of the employment and unemployment rates suggests that the 2008–2009 recession affected the employment of all workers in a similar way, but unemployment estimates by UK and non-UK status differ according to the period covered during the recession.

Data for January to March 2010 on the characteristics of UK born and non-UK born workers showed that 37.4 per cent of non-UK born workers lived in London, while UK born workers were more evenly distributed across the UK, where the highest percentage (14.4 per cent) lived in South East England.

The data also showed that EUA8 born workers were still concentrated in lower paid occupations and industries, with 37.5 percent employed in 'Elementary occupations' and 29.2 per cent employed in the 'Distribution, hotels and restaurants' industry. These estimates had both increased since the first quarter of 2009.

An analysis of the distribution of earnings for January to March 2010, showed there was little difference between UK born and 'other non-UK born' workers. However, a higher proportion of EU14 born workers were in the higher earnings categories, and a higher proportion of EUA8 born workers were in the lower earnings categories.

Further information

The full article is available for download at: www.statistics.gov.uk/CCI/article.asp?ID=2423

Contact

✉ labour.market@ons.gsi.gov.uk

Social Trends – 40th edition

On 2 July 2010 Social Trends 40 will be published with a theme of '40 years of social trends in the UK'. This will include the five unpublished chapters – Education, Health, Social protection, Crime, and Environment – together with the initial eight chapters already published on the ONS website. This 40th edition of Social Trends will be available as a PDF with excel data files and will also be available as a printed publication from Palgrave Macmillan, the final printed edition of Social Trends. Future publications of Social Trends will move entirely to on-line releases with a quarterly rolling release of different chapters. The first quarterly release will be in November 2010 including Expenditure, Income and wealth and a new international comparisons chapter.

The publication date for Social Trends 40 is a revised date from the one previously published in an earlier edition of ELMR.

Further information

www.statistics.gov.uk/socialtrends

Contact

✉ social.trends@ons.gov.uk

Producer Prices Index development

The most recent Producer Prices Index (PPI) Triennial Review, published in October 2009, recommended some key changes. These included the reclassification of PPI onto the Standard Industrial Classification 2007 (SIC 2007) and collection of trade prices onto a SIC/CPA (Classification of Products by Activity) basis.

As announced in the April 2010 edition of ELMR, both these recommendations are on track to be implemented in published data from November 2010. Up until this point PPI's based on the current 2003 classification will continue to be published. It is also confirmed that 6–digit SIC level output PPI's will continue to be published when the move onto SIC 2007 is made. More information about the preannouncement of this work, including the availability of historic back data and guidance for users will be available in the notes of the monthly PPI statistical bulletin

over the next few months. It also planned to publish more details about the impact of the reclassification of PPI onto the SIC 2007 in an ELMR article in the autumn of this year.

Future development plans for PPI are currently being reviewed. Topics under consideration include some of the 'other' recommendations identified in the PPI Triennial Review, such as annual chain linking and changes to trade price sampling. Such plans require fundamental changes to existing methodology, procedures, and systems. It is planned to publish more details of these future developments in an ELMR article later this summer.

Further information

www.statistics.gov.uk/StatBase/Product.asp?vlnk=790

Contact

✉ ppi@ons. gov.uk

Services Producer Price Index designated as a National Statistic

On 10 May 2010, the UK Statistics Authority Assessment team accredited the Services Producer Price Indices (SPPI) as a new National Statistic. The United Kingdom Statistics Authority has designated these statistics as National Statistics, in accordance with the Statistics and Registration Service Act 2007 and signifying compliance with the Code of Practice for Official Statistics.

Designation can be broadly interpreted to mean that the statistics:

- meet identified user needs
- are well explained and readily accessible
- are produced according to sound methods, and
- are managed impartially and objectively in the public interest

Once statistics have been designated as National Statistics it is a statutory requirement that the Code of Practice shall continue to be observed. The first quarterly publication of SPPI as a National Statistic was on Wednesday 26 May 2010 covering Q1 2010.

Further information regarding the UK Statistics Authority assessment can

be found via the following link: www.statisticsauthority.gov.uk/assessment/assessment-reports/index.html

Detailed information relating to the published SPPIs and the development of the price index can be accessed via the attached article: www.statistics.gov.uk/CCI/article.asp?ID=2394

Further information

The latest SPPI statistical bulletin can be accessed via the attached link: www.statistics.gov.uk/StatBase/Product.asp?vlnk=7351

Contact

✉ christopher.jenkins@ons.gov.uk

Changes to 'working age' headline employment and inactivity rates

At present, the headline employment and inactivity rates from the Labour Force Survey (LFS) are described as working age. These working age rates are based on upper age limits of 59 for women and 64 for men, reflecting state pension ages in the UK. However, between 2010 and 2020, the state pension age for women will gradually increase, by one month every two months, from 60 to 65.

Following a public consultation and extensive discussions with key users within government, ONS has decided that, from the August 2010 edition of the Labour Market statistical bulletin, the current working age employment and inactivity rates will be replaced with headline rates based on those aged from 16 to 64 for both men and women. There will be a consistent time series going back to 1971 for the new headline employment and inactivity rates for the UK. This change will bring the UK into line with current international practice. The headline unemployment rate will continue to be based on the economically active population aged 16 and over.

Throughout the UK and regional Labour Market statistical bulletins, the current working age LFS series for employment, unemployment and inactivity will be replaced by series based on those aged from 16 to 64 for both men and women. LFS series based on men aged from 50 to 64 and women aged from 50 to 59 will be replaced by new series based on those aged from 50 to 64 for both men and women. Similarly, LFS series based on men aged 65 and over and women aged 60 and over will be replaced by

series based on those aged 65 and over for both men and women. Series that currently use a working age denominator, such as the benefits proportions shown at Table 25 of the Labour Market Statistical Bulletin, will change to a denominator based on those aged from 16 to 64 for both men and women.

Further information is available in an article published in the January 2010 edition of *Economic and Labour Market Review*.

Further information

www.statistics.gov.uk/cci/article.asp?ID=2346

Contact

✉ labour.market@ons.gov.uk

Economic and labour market statistics and the Web Development Programme

The Web Development Programme will be delivering a new ONS website, with improved search and navigation allowing users to find and use the information they are looking for. The programme will also be delivering new internal systems for statistical production areas within ONS, to release their outputs onto the new website. As well as a new website, the programme will also provide a mechanism (known as an API) through which other systems will be able to directly access ONS statistics, and surface that content on their own systems, for their own users.

The programme will be delivering in a series of functional releases, with the planned release date of the new website being early 2011. This release is likely to be followed by subsequent releases that provide additional user functionality for customisation and interaction with datasets. This Web Development Programme will therefore improve the accessibility of economic and labour market statistics through the new website.

Further information

The current ONS website can be accessed at: www.ons.gov.uk/

Contact

✉ elmr@ons.gov.uk

Employer–sponsored pension scheme membership drops

The latest new chapter of *Pension Trends* shows that 50 per cent of UK employees were members of an employer–sponsored pension scheme in 2009, down from 55 per cent membership when the series began in 1997. There was also a fall in the proportion of employees with occupational pensions between 1997 and 2009, from 46 per cent to 33 per cent for defined benefit and from 9 per cent to 6 per cent for defined contribution schemes. This was partially offset by an increase in the proportion of employees with employer–sponsored personal pensions, including stakeholder pensions.

Figures also reveal:

- in 2009, 66 per cent of UK employees in an employer–sponsored pension scheme were contracted out of the Second State Pension, formerly SERPS
- in 2008, 45 per cent of self–employed men working full–time in Great Britain belonged to a personal pension scheme, compared with 64 per cent in 1998/99

Public administration, defence and social security is the sector with the highest proportion of employee pension scheme membership and on the other end of the scale the lowest sector is accommodation and food services. The lower their weekly earnings, the less likely full–time employees are to belong to an employer–sponsored pension scheme, and the converse applies with employees with higher earnings more likely to belong.

According to the new Wealth and Assets Survey (WAS) membership of pension schemes is more widespread among those with large employers and those in higher managerial and higher professional jobs than those in lower supervisory and technical, semi–routine and routine occupations. Finally, WAS findings on pension scheme membership by household type show that in 2006/08, around one–quarter of single parents belonged to a pension scheme.

Further information

www.statistics.gov.uk/pensiontrends/

Contact

✉ pensionsanalysis@ons.gov.uk

UPDATES

Updates to statistics on www.statistics.gov.uk

7 May

Producer prices

Factory gate inflation rises 5.7%
www.statistics.gov.uk/cci/nugget.asp?id=248

11 May

Index of production

March shows 2.0% annual rise
www.statistics.gov.uk/cci/nugget.asp?id=198

12 May

Average weekly earnings

Regular pay growth increases
www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Employment rate falls to 72.0%
www.statistics.gov.uk/cci/nugget.asp?id=12

13 May

UK Trade

Deficit widened to £3.7 billion in March
www.statistics.gov.uk/cci/nugget.asp?id=199

Travel and tourism

Visits abroad down 4.0 per cent
www.statistics.gov.uk/cci/nugget.asp?id=352

18 May

Inflation

*March 2010: CPI inflation 3.7%, RPI
inflation 5.3%*
www.statistics.gov.uk/cci/nugget.asp?id=19

20 May

Retail sales

Growth slows in April
www.statistics.gov.uk/cci/nugget.asp?id=256

21 May

Business investment

6.0% rise in first quarter 2010
www.statistics.gov.uk/cci/nugget.asp?id=374

Public sector finances

Monthly: £9.3 billion budget deficit
www.statistics.gov.uk/cci/nugget.asp?id=206

25 May

Index of services

0.8% annual rise into March
www.statistics.gov.uk/cci/nugget.asp?id=558

GDP growth

Economy grows by 0.3% in Q1 2010
www.statistics.gov.uk/cci/nugget.asp?id=192

26 May

Service producer prices

Aggregate SPPI inflation rises by 0.8%
www.statistics.gov.uk/cci/nugget.asp?id=253

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

2 June

**Mergers and acquisitions involving UK
companies – Q1 2010**

8 June

Regional Trends – 42

9 June

UK Trade – April 2010

10 June

**Overseas travel and tourism – April
2010**

**The effects of taxes and benefits on
household income – 2008/09 results**

11 June

Producer price index – May 2010

Index of production – March 2010

Environmental accounts – 2010

15 June

Consumer price indices – May 2010

**Annual Business Inquiry – revised
results 2008**

**Assets and liabilities of finance houses
and other credit companies – Q1 2010**

16 June

Labour market statistics – June 2010

Average weekly earnings – April 2010

Public sector employment – Q1 2010

**Aerospace and electronic cost indices –
March 2010**

Workforce Jobs revisions – June 2010

17 June

Retail sales – May 2010

18 June

**Output and employment in the
construction industry – January,
February, March 2010**

**Turnover and orders in production and
services industries – March 2010**

Public sector finances – May 2010

Wider measures of public sector debt

23 June

Average earnings index – April 2010

Social Trends 40 – 2010

**A generational accounts approach to
long–term public finance in the UK –
June 2010**

24 June

Population Trends – No. 140

29 June

**Investment by insurance companies,
pension funds and trusts – Q1 2010**

30 June

Consumer Trends – Q1 2010

Balance of payments – Q1 2010

**Business investment – Q1 2010 revised
results**

Quarterly National Accounts – Q1 2010

1 July

Productivity measures – Q1 2010

Index of services – April 2010

7 July

**Profitability of UK companies – Q1
2010**

Economic review

June 2010

Graeme Chamberlin
Office for National Statistics

SUMMARY

GDP growth slowed in the first quarter of 2010 to 0.3 per cent, marginally lower than growth of 0.4 per cent in the preceding quarter. The slowdown in growth was particularly marked in the services sector. Two specific factors appear to have had some effect in slowing growth in the latest quarter. First, bad weather during January caused disruption to many UK economic activities, especially in the distribution and hotels and catering sector, but also in retail sales and exports of goods. Second, the reversion of VAT to its higher rate in January may have encouraged some household expenditure to be brought forward to December. Household consumption was flat over the quarter, but stockholding and fixed investment contributed positively to growth. Despite significant sterling depreciation, net trade continues to weigh on GDP growth. Average weekly earnings picked up a little in March but remain at subdued rates, especially in the private sector. Annual consumer prices inflation was 3.7 per cent in April reflecting the reversion of VAT to its higher rate and also the transport component of the index which includes motor fuels, second cars, railway transport and air transport.

GDP, GVA and the basic price adjustment in 2010 Q1

In current prices, headline measures of quarterly growth rates for gross domestic product (GDP) and gross value added (GVA) have differed in the past year. This is especially so in the first quarter of 2010, when GDP in current *market* prices increased by 2.1 per cent while GVA in current *basic* prices grew by a smaller 1.2 per cent (see **Figure 1a**).

GDP is defined as the total value of all goods and services produced within a country and can be measured using income, expenditure and output approaches. GVA, on the other hand, measures the contribution of each individual producer, industry or sector in the UK. This can be calculated as either the sum of factor incomes (wages, profits, interest, rents) generated by the production process, or as the difference between total output less intermediate consumption (that is the goods and services used up in the process of producing the output) for each industry.

GDP is the primary measure of activity when using the expenditure approach. As it records market transactions it is measured in market prices, these are the prices at which goods and services are exchanged. However, when using the income or production approaches, GVA is measured at basic prices which exclude the impact of taxes and subsidies on market prices. As this may also be measured using factor incomes, basic prices are also sometimes referred to as factor cost.

Therefore, GDP at market prices and GVA at basic prices are linked through the basic price adjustment which takes into account the effects of taxes and subsidies so that:

	GVA at basic prices
plus	taxes on products
less	subsidies on products
equals	GDP at market prices

When the economy is measured at current prices, that are before adjustments are made for price inflation, it is clearly possible for the growth rates of GDP and GVA to differ reflecting changes in the basic price adjustment. This can be seen in Figure 1a

where the quarterly growth rate in GDP at market prices tends to exceed that of GVA in basic prices when the basic price adjustment is negative, and vice versa when the basic price adjustment is positive. In 2010 Q1 the basic price adjustment was 9.4 per cent higher than the previous quarter and 17.1 per cent higher than in the same quarter of 2009. This predominately reflects the reversion of Value Added Tax (VAT) to the higher rate of 17.5 per cent in January 2010, after it was temporarily reduced to 15 per cent in December 2008.

In principle the basic price adjustment should only cause a nominal effect and not a real one as the volume of output is unchanged. However, the basic price adjustment is difficult to deflate accurately as all the sectors of the economy tend to grow at differential rates. Consequently ONS attempts to constrain the basic price adjustment so that it has no real impact, meaning GVA and GDP in chained volume terms grow at the same rate with the deflators adjusted accordingly. As **Figure 1b** shows, differences between GDP and GVA are much smaller when compared in real terms. Both state that the UK economy expanded by 0.3 per cent in the latest quarter compared to 0.4 per cent in the final quarter of 2009.

Changes in the basic price adjustment are clearly reflected in the GDP and GVA deflators (see **Figure 2**). Furthermore, the effect of the temporary reduction in the rate of VAT is more transparent when based in terms of quarter on the same quarter a year ago growth rate. The rate of GDP deflation fell below that of GVA when the rate of VAT was reduced from 17.5 per cent to 15 per cent and passed through into market prices. Reversion to the higher rate then saw the rate of GDP deflation rise above that of GVA.

Real GVA growth slows

After expanding by 0.4 per cent in the final quarter of 2009, the rate of growth in quarterly GVA slowed to 0.3 per cent in the first quarter of this year. Despite registering two successive quarters of positive growth, the level of UK output is still 5.2 per cent below the pre-recession peak in 2008 Q1 (**Figure 3**).

Production output fell sharply during

Figure 1a
Quarterly growth rates of GDP, GVA and the basic price adjustment in current prices

Percentages, quarter on quarter

GDP market prices (lhs)   GVA basic prices (lhs)   Basic price adjustment (rhs)
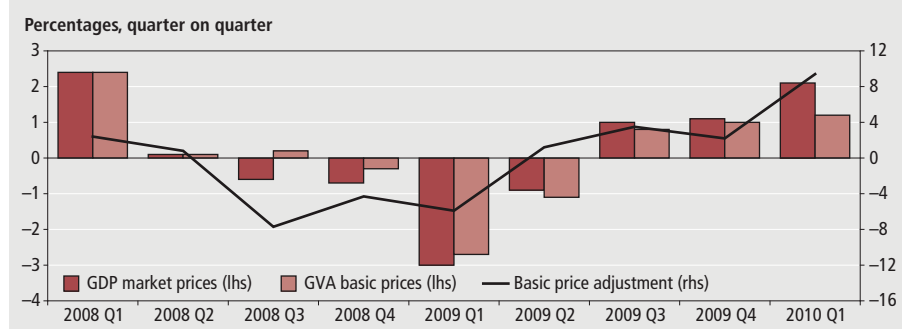
Source: UK output, income and expenditure

Figure 1b
Quarterly growth rates of GDP, GVA and the basic price adjustment in constant prices

Percentages, quarter on quarter

GDP market prices (lhs)   GVA basic prices (lhs)   Basic price adjustment (rhs)
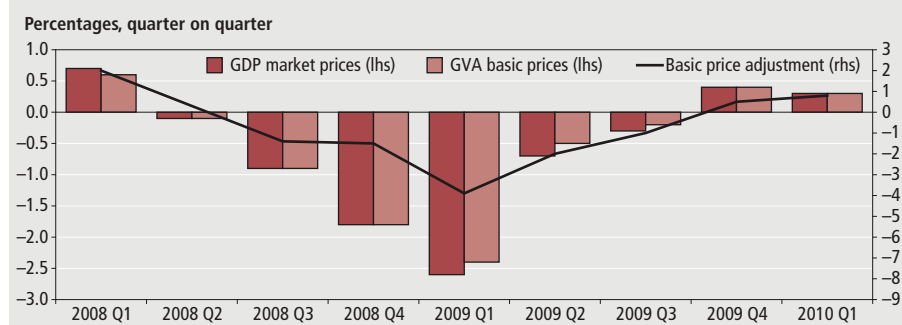
Source: UK output, income and expenditure

Figure 2
GDP and GVA deflators and the basic price adjustment

Percentages, quarter on same quarter 1 year ago

GDP deflator (lhs)   GVA deflator (lhs)   Basic price adjustment (rhs)
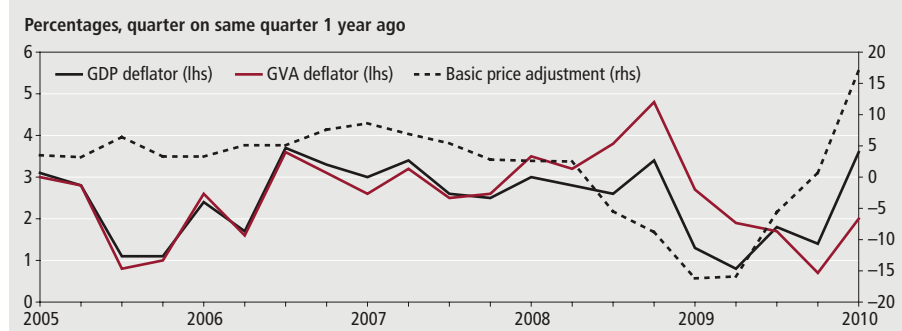
Source: UK output, income and expenditure

Figure 3
GVA, manufacturing and services output

Index, 2005=100
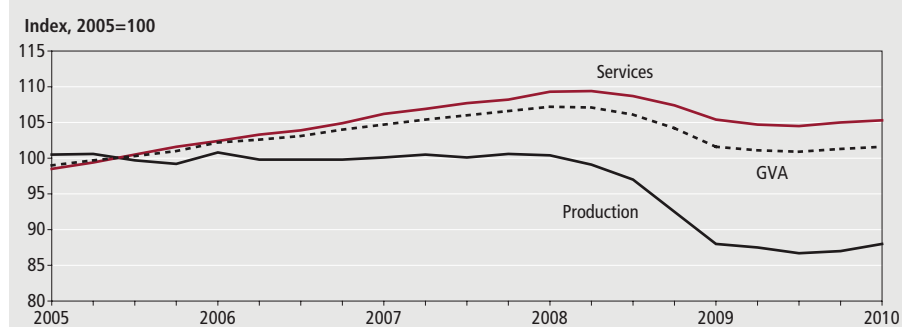
Source: UK output, income and expenditure

the recent recession. Credit restrictions, weakened demand and the uncertain economic outlook led businesses to cut back on investment and increasingly meet existing orders by running down stocks rather than through production. Economic downturns therefore impact strongly on capital and intermediate goods producers, which together, account for the majority of the UK's production output. This was exacerbated by the global recession. As production goods are more heavily traded they are more sensitive to a slowdown in world trade, which in this case was prompted by a synchronised downturn across all the major world economies.

In the latest quarter output expanded by 1.2 per cent – faster than in the previous quarter when output increased by 0.3 per cent. This was even in spite of a small fall in the Index of Production during January, most likely a consequence of weather–related disruptions. Stronger growth may indicate an improvement in expected demand as the global economy emerges from recession and as business confidence improves.

Growth in the services sector though, rather than picking up in the latest quarter, actually slowed to 0.2 per cent from 0.5 per cent in the previous quarter. As this sector accounts for approximately three–quarters of total GVA it was responsible for the overall deceleration in the economy.

Contributions to quarterly growth in the last two quarters are shown in **Figure 4**. The biggest slowdown was in the distribution, hotels and restaurant sector, where output grew by 1.9 per cent in 2009 Q4 but contracted by 0.7 per cent in 2010 Q1. As a result the contribution to the total growth rate fell from 0.3 percentage points to -0.1 percentage points. The transport and communications sector also slowed from 0.6 per cent to flat, but as a smaller component in GVA weights its impact in reducing the quarterly growth rate was much smaller.

Together, the slowdowns in these two industries were more than sufficient to offset the stronger growth in the production sector and also in business services and finance. Business services and finance is an important part of the UK economy representing about three–tenths of total activity. Here growth picked up from 0.4 per cent to 0.7 per cent between the final quarter of 2009 and the first quarter of 2010. As a result the contribution to total GVA growth doubled from 0.1 percentage points to 0.2 percentage points. According to the Index of Services this sector has now

Figure 4
Contributions to GVA growth in 2009 Q4 and 2010 Q1

Percentages, quarter on quarter
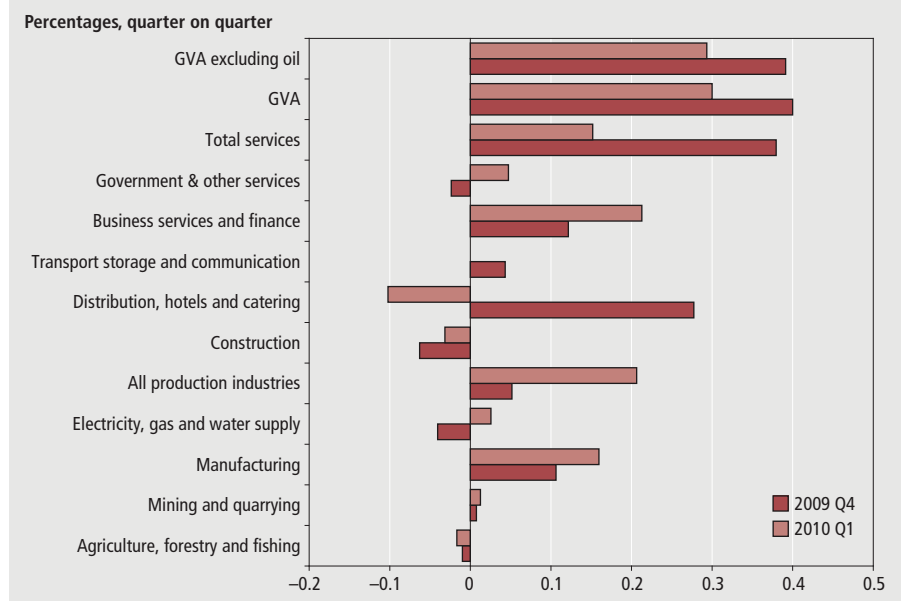
Source: UK output, income and expenditure

Figure 5
Contributions to total production output growth

Percentages, quarter on quarter
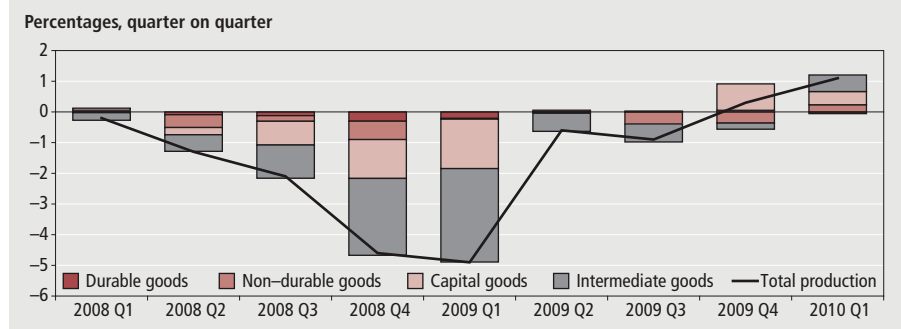
Source: Index of production

expanded in every month since reaching a trough in August 2009.

Intermediate and capital goods boost production output

Figure 5 shows the contributions of each type of activity to the recent quarterly growth path of production output. Clearly, capital goods and intermediate (including energy) goods producers have been the main driver of industrial output in both the downturn and the recovery. In part, this reflects the relatively high weights attached to these two components, which together, account for around 70 per cent of all production output. The UK's presence in the production of durable and non–durable goods sectors has declined over the last four decades in line with the emergence of lower–cost producers elsewhere in the world.

Intermediate and capital goods, as already mentioned, are also more sensitive to cyclical movements in the domestic and global economies. Businesses are unlikely to invest in extra capacity at a time when current demand is fragile and there is uncertainty over the economic outlook. Running down stocks and inventories is

also a logical response if future production is expected to be lower as well as possibly aiding short–term cash flows.

The return to growth in the latest two quarters reflects a stabilisation and improvement in capital and intermediate goods production as domestic and overseas demand shows sign of recovery. Despite this, and as shown very clearly in Figure 3, production output is still far below its pre–recession level.

Most production activity takes place in manufacturing (around 70 per cent) which is the key driver of growth in the sector, although output in the extraction and utilities industries can be volatile and often important determinants of quarter–on–quarter movements. **Figure 6** presents the contributions of different manufacturing industries to recent growth rates. The engineering and allied industries consist of a number of production activities including machinery, electrical, communications and medical equipment and transport equipment. As these are essentially capital goods it is unsurprising that the contributions to growth are broadly similar to the capital goods sector as a whole, especially in the extent of the downturn (Figure 5). In the first quarter of the year these industries grew by 0.4 per cent following 1.4 per cent growth in the previous quarter.

The metal and metal products industry has also made an important contribution to manufacturing growth over the cycle, especially given its relatively small weight in total output. Not only is this a key intermediate input into many production activities it is also a staple of the construction industry. Therefore, sharp falls in the output of this product during the recession likely reflects the downturn in global manufacturing trade and also the contraction in both the UK residential and commercial property markets. Output fell by almost for 10 per cent for two successive

Figure 6
Contributions to total manufacturing output growth

Percentages, quarter on quarter
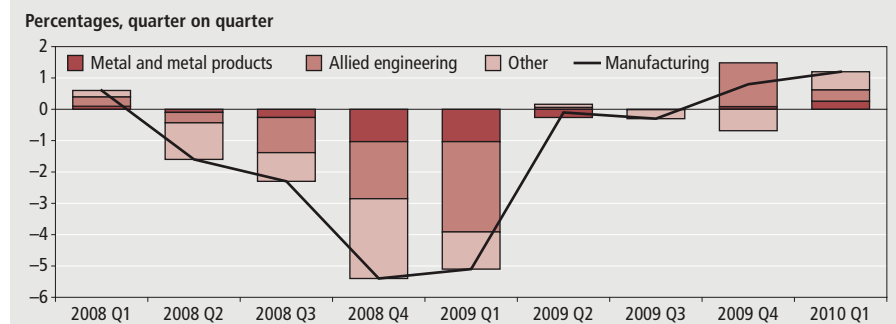
Source: Index of production

Figure 7a
Contributions to total services output growth

Percentages, month on month

Distribution | Hotels and restaurants | Transport and comunication
Business services and finance | Government and other services | Total services

Source: Index of services
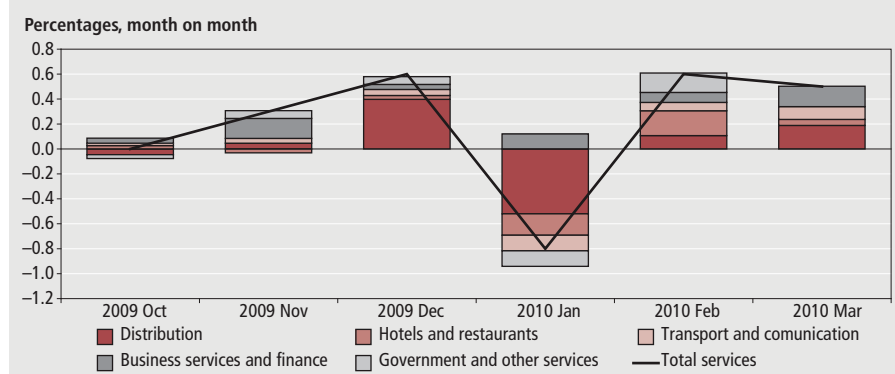
Figure 7b
Contributions to total services output growth from the distribution industries

Percentages, month on month

Motor trades | Wholesale distribution | Retailing | Total services

Source: Index of services
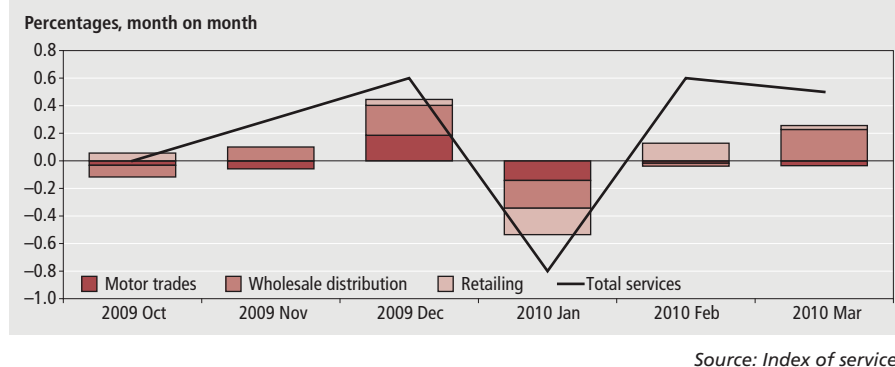
quarters in 2008 Q4 and 2009 Q1. After modest growth of 0.8 per cent in 2009 Q4 output growth improved to 2.4 per cent in 2010 Q1.

Services growth decelerates following a contraction in January

Growth in the services sector slowed during the first quarter of 2010 as output in the distribution, hotels and restaurants sector contracted (Figure 4). Further detail on the cause of the slowdown can be found by analysing the month–on–month growth rates and the contributions from the main service–sector industries for the last two quarters in **Figure 7a**. This shows that the significant fall in the index during January was the main factor in the lower rate of growth in 2010 Q1.

In January the Index of Services declined by 0.8 per cent, before rebounding by 0.6 per cent in February and 0.5 per cent in March. The breakdown shows that the distribution sector was responsible for 0.5 percentage points of this monthly fall, and the hotels and restaurants sector 0.2 percentage points – reflecting month–

on–month falls of 3.4 per cent and 4.4 per cent respectively. The transport and communications and government and other services both contributed -0.1 percentage points to the January growth rate, while business services and finance contributed positively by 0.1 percentage points.

Output in both the distribution and hotels and restaurants industries subsequently rebounded in February and March. However, this was insufficient for either sector to report growth over the quarter as a whole, the distribution sector

contracted by 0.7 per cent and the hotels and restaurant sector by 0.4 per cent. These industries, which are generally dependent on footfall and transport, appear to have been adversely affected by the bad weather in January. The rebound in February and March suggest that the January fall was partly caused by temporary factors such as weather–related disruptions.

Within the distribution sector, motor trades fell by 4.9 per cent in January; the wholesale distribution fell by 3.8 per cent and the retailing by 2.7 per cent. Part of the fall in January though could have been a response to the strong growth rates seen in December which were 6.4 per cent, 4.1 per cent and 0.6 per cent respectively (**Figure 7b**). These patterns suggest that the restoration of the higher rate of VAT on 01 January 2010 may have had an important impact between December 2009 and January 2010, especially in the motor trades industry where consumers faced an incentive to bring forward spending from January to December. It might also explain why output then didn't fully rebound in the remaining months of the quarter.

Household consumption remains weak

The UK output, income and expenditure statistical bulletin reports the first estimates for the demand–side of the economy. **Figure 8** shows the contributions of the main expenditure components of GDP to the overall growth rate in recent quarters.

Household consumption was flat in the latest quarter compared to slight growth of 0.4 per cent in 2009 Q4. This is consistent with the weak activity recorded in the distribution, hotels and restaurant sectors and suggests that bad weather disruptions and the VAT increase may have had

Figure 8
Contributions to GDP growth by main expenditure components

Percentages, quarter on quarter

Household consumption | Gross fixed capital formation | General government consumption
Net trade | Other | GDP

Source: UK output, income and expenditure
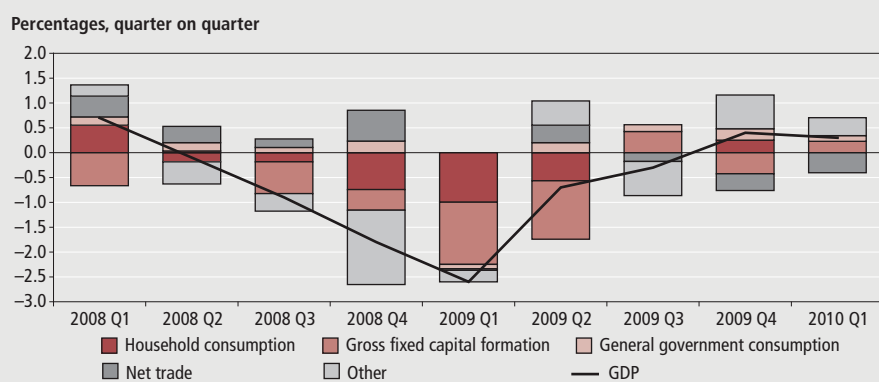
Figure 9
Retail sales index

Index, 2005=100
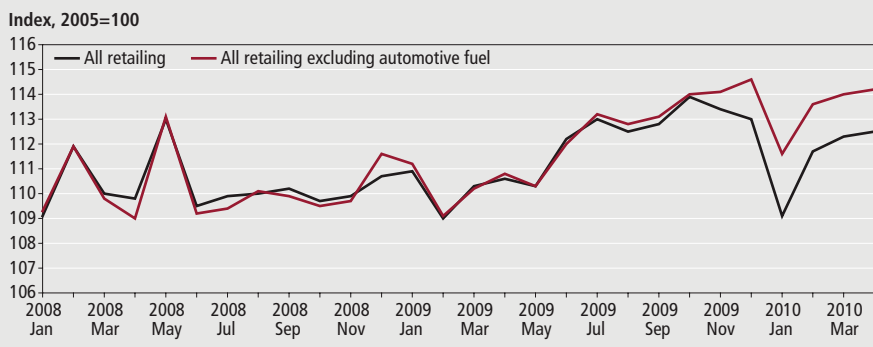
Source: Retail sales

an impact on consumption in the first quarter of the year. However, even without these two negative factors; consumption growth has been weak in recent quarters as evidenced by the rise in the saving ratio. Reduced availability and appetite for consumer credit, the weakening labour market, a slow housing market and tepid wage growth compared to rising inflation have resulted in fragile confidence, which continue to weigh on spending even though the economy is now technically out of recession. In 2009 Q4, what household consumption growth that occurred was mainly accounted for by the purchase of motor vehicles, stimulated by the vehicle scrappage scheme and the final opportunity to take advantage of the lower rate of VAT. In the third quarter household consumption was also flat despite a positive contribution from spending on motor vehicles. More details on household consumption are provided in *Consumer Trends* which is published alongside the Quarterly National Accounts at the end of June.

Retail sales data, however, are available. Although this only represents spending in retail establishments, and not all of this is done by households and very little is in services, it may still provide an indication of the trends in household consumption. **Figure 9** plots the monthly index of retail sales, both including and excluding the component that is predominately automotive fuels. This clearly shows the dip in January which was even more pronounced in the measure including automotive fuel sales – again pointing to the impact of the bad weather in the month. Sales in the predominately automotive fuels component fell by 12.8 per cent in January before rebounding by 9.9 per cent in February. Likewise, sales in household goods stores fell heavily in January, by 14 per cent relative to December, before bouncing back by

10.7 per cent in the following month. As a result total retail sales fell by 3.4 per cent in January (2.6 per cent excluding predominately automotive fuels) and bounced-back by 2.4 per cent (1.8 per cent excluding predominately automotive fuels) a month later. The January monthly fall was the largest in the history of the index since it started in 1996, and excluding the predominately automotive fuels component it was the second largest since the index began in 1988.

Fixed investment and inventories the main drivers of growth in quarter one

Fixed investment fell sharply in the downturn, especially during the first half of 2009 when the contractions in both quarter one and two were over 7 per cent. The share of investment in GDP is less than that of household consumption, but because it is more volatile it often makes significant contributions to the quarterly GDP growth rate. Many economic models make the assumption that the capital–output ratio is around three. This means that in order to increase output capacity by say £100 million would require a £300 million increase in the capital stock. Therefore, because investment is forward looking, it tends to be sensitive to the economic outlook, sometimes a leading indicator and also has stronger cyclical amplitude than GDP as a whole.

If this is the case, one of the hallmarks of recovery from recession would be a marked pick up in gross fixed capital formation (GFCF). Investment though has fluctuated in recent quarters. The 1.5 per cent growth in 2010 Q1 is smaller than the 2.7 per cent fall in the final quarter of 2009 that was concentrated in the transport and communication sector. Nonetheless, this

added 0.2 percentage points to growth in the latest published quarter.

The largest contribution to growth came from the other sector which includes spending on valuables, final expenditure by non–profit institutions, and most importantly stockholding. This component contributed 0.4 percentage points to growth in 2010 Q1 as businesses ran down their stocks at a slower rate than in the previous quarter.

General government consumption spending has made a small positive contribution to growth in every quarter since 2008 Q1 except in 2009 Q1. In the latest quarter this component of demand added 0.1 percentage points to the overall GDP growth rate.

Net trade continues to weigh on GDP growth

Net trade is the difference between exports and imports. As the economy entered into recession, net trade initially made a positive contribution to growth between 2008 Q1 and 2009 Q2 because imports fell at a faster rate than exports. In the last three quarters, however, net trade has been making negative contributions to growth. This has coincided with the stabilisation and slight pick up in both domestic and global demand, but as a result imports growth has outstripped that of exports. In 2010 Q1 net trade reduced GDP growth by 0.4 percentage points as exports were flat but imports rose by 1.4 per cent.

One explanation for the first quarter stalling of export growth is shown in **Figure 10**, which displays the monthly index of goods exports and imports. Since the beginning of 2009 both time series have generally moved in the same direction, but in January 2010 exports dipped sharply by 7.4 per cent on the month while imports, in comparison, fell by 1.4 per cent. Although exports then rebounded by 7.1 per cent in the following month, this was insufficient to fully offset the impact of the previous month's fall on the quarterly growth rate. The index of goods exports was lower in March 2010 than in December 2009.

Once again this points to another effect of January's bad weather on UK economic activity. Exports of goods appear to have been hampered by snow disruption to production and transport, but the impact on goods arriving at UK ports from overseas was more limited. Therefore, the asymmetric impact of the bad weather on goods exports and imports may account

Figure 10
Trade in goods, exports and imports

Index, 2005=100
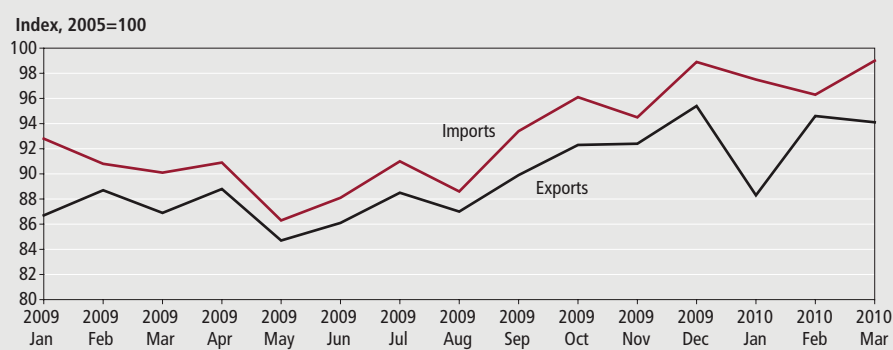
Source: UK trade

Figure 11
Sterling effective exchange rate and UK exports growth

Percentages, quarter on same quarter 1 year ago

Sterling effective exchange rate index

■ Exports growth, 2008 Q1 to 2010 Q1 (lhs)   ■ Exports growth, 1992 Q1 to 1998 Q1 (lhs)
— Effective exchange rate, 2008 Q1 to 2010 Q1 (rhs) — Effective exchange rate, 1992 Q1 to 1998 Q1 (rhs)

Source: Bank of England and UK output, income and expenditure

Figure 12
Average weekly earnings growth, excluding bonuses and arrears

Percentages, three months on same three months 1 year ago
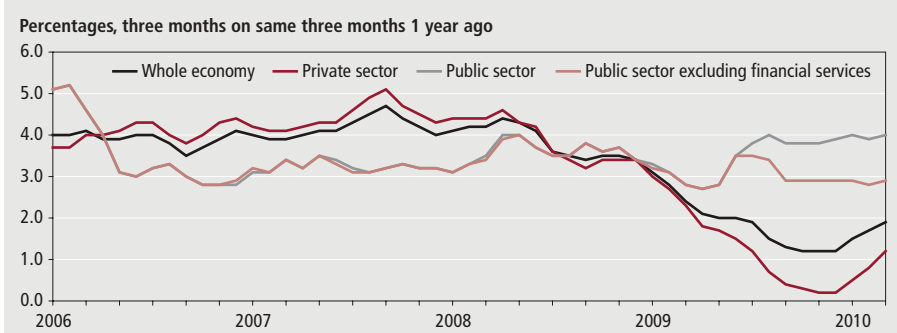
Source: Average weekly earnings

for some of the negative contribution of net trade in the first quarter of the year.

Net trade also made a negative contribution to GDP growth in both 2009 Q3 and 2009 Q4 which cannot be blamed so much on weather conditions at the time. Following the sharp depreciation of sterling in the second half of 2008 it was expected that net trade would make a positive contribution to growth throughout 2009, especially as the global economy began to recover. As **Figure 11** shows, after the UK exited the European Exchange Rate Mechanism (ERM) in September 1992 there

was a 12.3 per cent fall in the broad effective exchange rate between the third and fourth quarters of that year which was sustained until late 1996, at which point, sterling recovered to above the rate at which it left the ERM. This period saw a sustained rise in UK exports growth.

In the second half of 2008 the sterling effective exchange rate depreciated by a greater margin, although this may reflect some reversal of the strengthening of sterling in the first half of that year. The impact on exports growth though has been muted and insufficient to offset the effect

of weak overseas demand. The relative strength of the global economy (overseas demand) appears to be a key difference in accounting for the response of exports and net trade to the depreciation in sterling in the latest period compared to the post ERM period.

Regular earnings growth remains depressed

Average weekly earnings growth (not including bonuses or arrears), for the whole economy, grew by 1.9 per cent in the three months to March 2010 compared to the same period a year earlier. It is clear that although regular earnings growth has picked up a little of late, it has slowed considerably since the UK economy entered recession. For example, between January 2006 and June 2008, average earnings growth measured on the same basis, increased at an average rate of 4.1 per cent (**Figure 12**).

The slowdown in earnings growth is a natural response to the recession. Firms facing falling profits and smaller cash flows are less able to fund pay rises, and workers facing a weakened labour market and growing unemployment are more likely to show pay constraint in order to preserve employment. In fact, it has been suggested that this is one of the reasons why unemployment has, so far, not increased to the extent feared, especially given the size of the fall in output compared to previous recessions when unemployment increased to above three million.

Figure 12 also shows regular pay growth between the private and public sectors. At first glance it appears that public sector pay growth has been preserved while private sector pay growth has fallen significantly. In the three months to March 2010, private sector regular pay growth was 1.2 per cent compared to 4 per cent in the public sector. However, within the last two years public sector pay has been boosted by the reclassification of parts of the financial services sector to public ownership – hence employees of these institutions are now classified as being in the public sector. As the financial services sector supports relatively well paid occupations, reclassification would then raise average weekly earnings in the public sector. Regular pay growth in the public sector excluding financial services was lower at 2.9 per cent.

Not only has the slowdown in public sector regular pay growth has been less severe than in the private sector, average

Figure 13a
Average weekly earnings growth, excluding bonuses and arrears: total

Percentages, month on same month 1 year ago
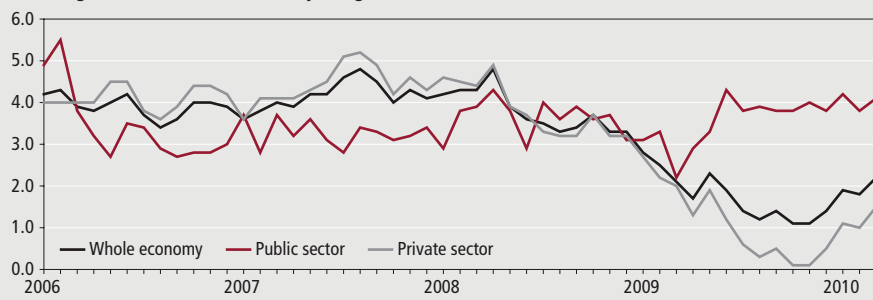
Source: Average weekly earnings

Figure 13b
Average weekly earnings growth, excluding bonuses and arrears: employment contribution

Percentages, month on same month 1 year ago
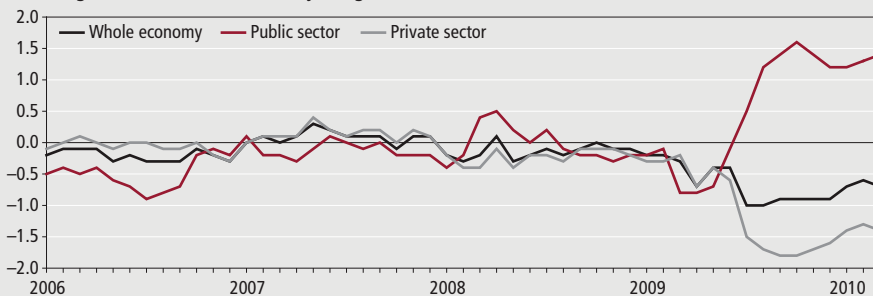
Source: Average weekly earnings

Figure 13c
Average weekly earnings growth, excluding bonuses and arrears: wage contribution

Percentages, month on same month 1 year ago
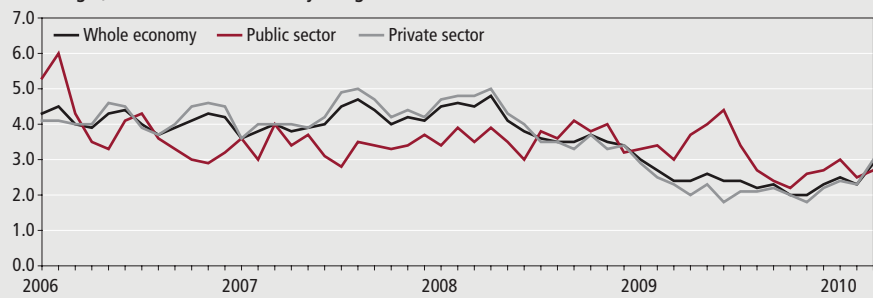
Source: Average weekly earnings

weekly earnings (excluding arrears and bonuses) at present are also greater. In the three months to March 2010, average weekly earnings in the private sector were £421 compared to £453 in the public sector excluding financial services.

ONS also publishes additional data on average weekly earnings which splits average weekly earnings growth into wage and employment components (see www.statistics.gov.uk/StatBase/Product. asp?vlnk=14015). The employment component is designed to capture the effect of changes in the distribution of

employment on average earnings– for example if there was a drift into higher earnings occupations then average weekly earnings would increase even if regular pay across all occupations was unchanged. Abstracting from this employment effect enables a 'pure' wage component of average earnings growth to be captured. This may be particularly important during a recession if the downturn has different impacts on different occupations.

Figure 13a plots average weekly earnings growth, excluding bonuses and arrears, for the whole economy, private sector and

public sector. This time though the figures are based on a comparison of one month relative to the same month a year earlier – whereas in Figure 12 three-months averages were used in the annual comparisons. This confirms the observations taken from Figure 12. In March 2010, whole economy average earnings growth was 2.2 per cent. In the public sector it was 4.1 per cent and in the private sector it was 1.5 per cent. Clearly the slowdown in earnings growth, on these measures, has been more drastic in the private sector.

Figure 13b looks at the impact of the employment effect in each sector and the economy as whole. Since the start of the recession, the employment effect has made a negative contribution to whole economy average earnings growth which suggests that there has been a move in the distribution of employment to lower paid occupations. Or put another way, the loss in employment in higher paid occupations has acted to drag down average earnings growth – either because the loss in employment has been relatively greater in these occupations or because there has been a fall in employment among the more highly paid workers which has reduced some of the positive skewness in the earnings distribution and hence lowered the mean average. In March 2010 this employment effect was estimated at -0.7 per cent.

The employment effect though has had opposite effects on the average weekly earnings in the private and public sectors. In the private sector the employment effect has generally been negative; in March 2010 it was calculated at -1.4 per cent. In the public sector though it has been positive at 1.4 per cent in March 2010. This in part reflects the transfer of certain financial institutions into effective public ownership. As this is one of the higher paid sectors of the economy it will have the effect of reducing average earnings in the private sector but raising them in the public sector.

Once these employment effects on average weekly earnings have been calculated it then becomes possible to isolate the 'pure' wages effect. These are presented in **Figure 13c**. The striking observation is that in recent months, based on these measures, average wage growth has been fairly uniform between the public and private sectors. Although it appears that wages growth initially slowed faster in the private sector as a result of the downturn, private sector wage growth was also faster in the period leading up to the recession – suggesting that public sector wage growth is

Figure 14
CPI annual inflation

Percentages

— CPI all items
- - - Contribution of motor fuels
— Contribution of transport
- - - Contribution of indirect taxes (CPI-CT)
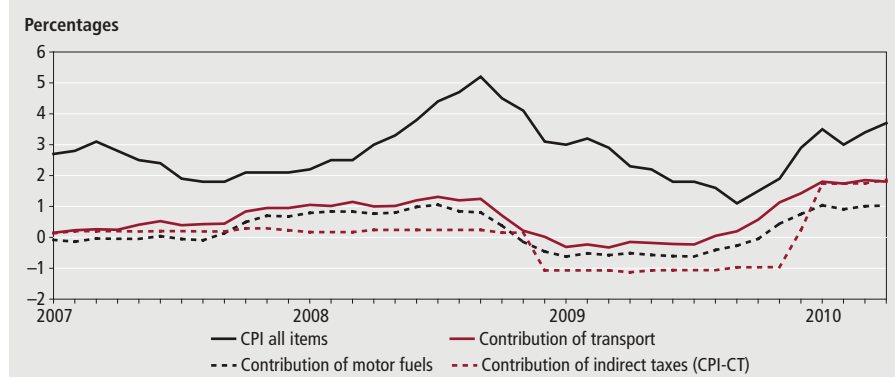
Source: Consumer price indices

Figure 15
Differences between CPI and RPI inflation rates

Percentages

■ Differences between CPI and RPI due to mortgage interest payments
■ Differences between CPI and RPI due to housing depreciation
■ Difference between CPI and RPI due to other differences in coverage
■ Difference between CPI and RPI due to formula effect
■ Difference between CPI and RPI due to other differences including weights
— Differences between CPI and RPI (unrounded)
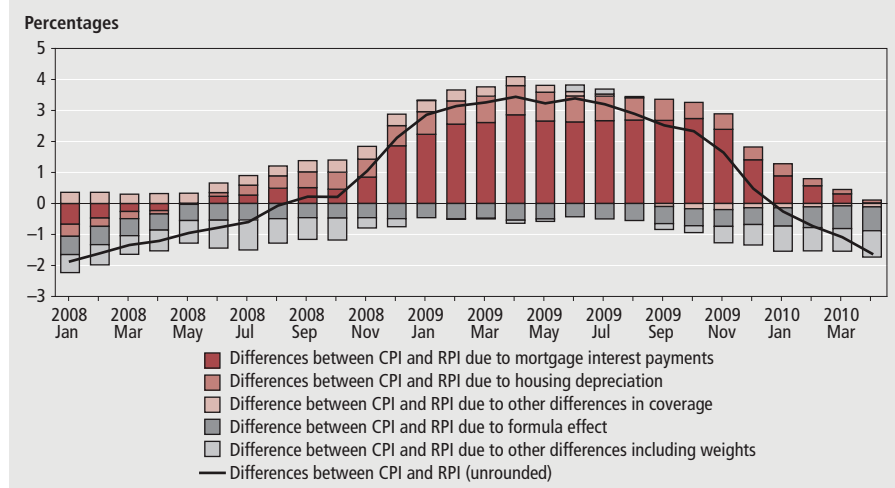
Source: Consumer price indices

less sensitive to the economic cycle than in the private sector.

Consumer prices inflation up to 3.7 per cent in April

Annual inflation in the Consumer Prices Index (CPI) picked up to 3.7 per cent in April compared to 3.4 per cent in March. CPI inflation has accelerated from the low of 1.1 per cent recorded in September 2009. Recent increases in the rate of CPI inflation appear to have been driven by two main factors – the contributions of each to total CPI inflation are also plotted in **Figure 14**.

First, the temporary reduction in the rate of VAT from 17.5 per cent to 15 per cent in December 2008 had the effect of lowering inflation throughout 2009. CPI–CT is a measure of CPI inflation where indirect taxes are held constant. Therefore the difference between this and the all–items rate of inflation gives an indication of the contribution of indirect

taxes to CPI inflation. As shown in Figure 14 this was around -1 percentage point between December 2008 and November 2009 (that is reducing annual CPI inflation by around 1 per cent over this period). Although this also reflects annual changes in other indirect taxes, the VAT reduction announced in the 2008 Pre–Budget Report was the most significant.

This impact fell out of the annual calculation in December 2009, when indirect taxes added a quarter percentage points to overall CPI inflation. The reversion to the higher rate at the start of January 2010 now means that indirect taxes are making a strong positive contribution to annual CPI inflation. Based on the CPI–CT measure this is estimated at 1.9 percentage points in April 2010. Furthermore, in the absence of any other policy changes to indirect taxes, this upward effect will remain in CPI inflation until January 2011.

The second significant positive inflation effect in the CPI is coming from transport– related goods and services. In April 2010

this component of the CPI was 11 per cent higher than in April 2009, contributing 1.8 percentage points to the measured CPI inflation rate in that month. The main contribution to this has come from motor fuels and lubricants, which are 25 per cent higher than last year and on their own added 1 percentage point to CPI inflation in April. As Figure 14 shows, this has been a significant driver of the rate of inflation in the last few years.

However, other products in the transport sector have also made a significant contribution to CPI inflation in recent months. In particular the prices of second hand cars were 12.7 per cent higher in April 2010 than in April 2009 – perhaps due to the vehicle scrappage scheme supporting prices. This added 0.4 percentage points to CPI inflation in April 2010. Transport services prices also increased significantly, up by 7.4 per cent in the year and contributing 0.3 percentage points to overall CPI inflation. This reflects a 7.9 per cent increase in the prices of railway services and an 11 per cent rise in the prices of air transportation services.

RPI inflation is 5.3 per cent in April 2010

Consumer prices inflation, as measured by the longstanding Retail Prices Index (RPI), was 5.3 per cent in the latest quarter. **Figure 15** shows the main factors in accounting for the differences between CPI and RPI inflation rates and how these have changed since the start of 2008.

Differences in weights and coverage mean that CPI and RPI inflation rates do not necessarily register the same annual change in consumer prices. However, holding all other things equal, RPI inflation would be expected to be greater than CPI inflation due to the formula effect. CPI is calculated using the geometric mean of price changes whereas RPI is calculated as the arithmetic mean. As the geometric mean of a given set of data will always be equal or less than the arithmetic mean of the same data, the formula effect will lower CPI inflation relative to RPI inflation, usually by around 0.5 percentage points. This is why the inflation target pursued by the Bank of England fell from 2.5 per cent to 2.0 per cent when the target indicator changed from RPIX to CPI in December 2003. As Figure 15 shows, the formula effect has been fairly stable over time.

Despite this, throughout 2009 CPI inflation was significantly above the

corresponding RPI inflation rate. This difference peaked in April 2009 when CPI inflation was 2.3 per cent and RPI inflation was -1.2 per cent. In fact, the RPI was negative between March 2009 and October 2009. The main factors explaining the difference were housing–related items included in the RPI but not the CPI. In particular, mortgage interest payment fell significantly following the sharp cuts in the Bank of England base rate in late 2008 and were gradually passed through to mortgage lending rates. Although the Bank of England base rate has remained at 0.5 per cent since

December 2008, its impact on the annual RPI calculation has now largely fallen out of the equation – which accounts for the recent convergence between RPI and RPIX inflation measures – the second of which excludes the effects of mortgage interest payments.

Another important housing–related factor included in RPI but not CPI is housing depreciation costs. As these are estimated based on house prices the impact on inflation tends to follow recent house price inflation. Although house prices have generally risen from their trough in February 2009, average prices remained

below the level in the same month of the previous year so having a negative influence on RPI inflation. This effect has now also largely fallen of the annual RPI calculation. In April 2010 housing related factors acted to reduce RPI inflation by 0.1 percentage points relative to the CPI, compared to a maximum of 3.8 percentage points in April 2009. At present formula and weighting effects explain why CPI inflation is lower than RPI inflation.

Independent forecasts

May 2010

UK forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the UK economy. The tables shows the average and range of independent forecasts for 2009 and 2010 and are extracted from HM Treasury's Forecasts for the UK Economy.

2010

	Average	Lowest	Highest
GDP growth (per cent)	1.2	0.8	2.2
Inflation rate (Q4, per cent)			
CPI	2.3	1.5	3.5
RPI	3.2	2.1	4.6
Claimant count (Q4, million)	1.72	1.48	2.10
Current account (£ billion)	−19.7	−42.3	−1.1
Public Sector Net Borrowing (2009–10, £ billion)	163.8	140.0	188.2

2011

	Average	Lowest	Highest
GDP growth (per cent)	2.2	1.0	3.4
Inflation rate (Q4, per cent)			
CPI	1.8	0.0	3.3
RPI	3.0	0.9	4.4
Claimant count (Q4, million)	1.69	1.40	2.30
Current account (£ billion)	−18.6	−55.6	15.9
Public Sector Net Borrowing (2010–11, £ billion)	139.4	115.0	199.1

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/data_forecasts_index.htm

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* (November 2009), published by OECD (Organisation for Economic Co-operation and Development).

2010

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	2.5	1.8	0.9	1.9
Consumer price (percentage change from previous year)	1.7	−0.9	0.9	..
Unemployment rate (per cent of the labour force)	9.9	5.6	10.6	9.0
Current account (as a percentage of GDP)	−3.4	2.8	−0.1	−0.8
Fiscal balance (as a percentage of GDP)	−10.7	−8.2	−6.7	−8.3

2011

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	2.8	2.0	1.7	2.5
Consumer price (percentage change from previous year)	1.3	−0.5	0.7	..
Unemployment rate (per cent of the labour force)	9.1	5.4	10.8	8.8
Current account (as a percentage of GDP)	−3.7	2.8	0.3	−0.8
Fiscal balance (as a percentage of GDP)	−9.4	−9.4	−6.2	−7.6

Notes

The OECD *Economic Outlook* is published bi-annually. 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	2008	2009	2009 Q3	2009 Q4	2010 Q1	2010 Feb	2010 Mar	2010 Apr
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	0.5	−4.9	−0.3	0.4	0.3	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	0.4	−4.6	−0.2	0.4	0.3	..	..	..
Industrial production	CKYW	−3.1	−10.2	−0.9	0.3	1.1	0.9	1.9	..
Manufacturing	CKYY	−2.9	−10.5	−0.3	0.8	1.1	1.4	2.3	..
Construction	GDQB	−0.8	−10.7	1.9	−1.0	−0.4	..	..	..
Services	GDQS	1.4	−3.5	−0.2	0.5	0.3	..	..	..
Oil and gas extraction	CKZO	−4.8	−7.7	−6.5	1.1	−0.5	−1.3	2.4	..
Electricity, gas and water supply	CKYZ	0.2	−7.9	0.2	−2.7	1.8	−1.8	−0.9	..
Business services and finance	GDQN	2.4	−4.7	−1.2	0.4	0.7	..	..	..
Household demand									
Retail sales volume growth	EAPS	2.6	1.7	1.1	0.7	..	..	..	..
Household final consumption expenditure growth (CVM)	ABJR	0.9	−3.2	0.0	0.4	0.0	..	..	..
GB new registrations of cars (thousands)[1]	BCGT	..	..	..	..	..	..	..	..
Labour market[2,3]									
Employment: 16 and over (thousands)	MGRZ	29,443	28,979	28,917	28,905	28,829	28,829	..	..
Employment rate: working age (%)	MGSU	74.5	72.8	72.5	72.4	72.0	72.0	..	..
Workforce jobs (thousands)	DYDC	31,661	30,987	30,872	30,753	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	940.7	913.3	909.7	907.9	908.4	908.4	..	..
Unemployment: 16 and over (thousands)	MGSC	1,776	2,395	2,461	2,457	2,510	2,510	..	..
Unemployment rate: 16 and over (%)	MGSX	5.7	7.6	7.8	7.8	8.0	8.0	..	..
Claimant count (thousands)	BCJD	905.8	1,528.5	1,600.2	1,615.9	1,579.2	1,576.7	1,544.0	1,516.9
Economically active: 16 and over (thousands)	MGSF	31,220	31,374	31,378	31,363	31,340	31,340	..	..
Economic activity rate: working age (%)	MGSO	79.1	79.0	78.9	78.7	78.5	78.5	..	..
Economically inactive: working age (thousands)	YBSN	7,872	7,967	8,006	8,077	8,166	8,166	..	..
Economic inactivity rate: working age (%)	YBTL	20.9	21.0	21.1	21.3	21.5	21.5	..	..
Vacancies (thousands)	AP2Y	636	452	431	465	477	483	477	475
Redundancies (thousands)	BEAO	163	235	204	168	177	177	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses)[3]	LNNC	..	..	1.4	1.5	4.5	2.6	4.5	..
GB average earnings (excluding bonuses)[3]	JQDY	..	..	1.7	1.4	1.7	1.5	1.7	..
Whole economy productivity (output per worker)	A4YN	..	..	−3.3	−1.4	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	..	..	..
Unit wage costs: whole economy	LOJE	..	..	4.2	2.4	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	..	..	..
Business demand									
Business investment growth (CVM)	NPEL	1.1	−19.3	−0.8	−4.3	6.0	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	2.6	2.2	0.6	1.0	0.5	..	..	..
Prices (12-monthly percentage change – except oil prices)[1]									
Consumer prices index	D7G7	3.6	2.2	1.5	2.1	3.3	3.0	3.4	3.7
Retail prices index	CZBH	4.0	−0.5	−1.4	0.6	4.0	3.7	4.4	5.3
Retail prices index (excluding mortgage interest payments)	CDKQ	4.3	2.0	1.3	2.8	4.5	4.2	4.8	5.4
Producer output prices (excluding FBTP)[4,5]	PLLV	4.7	1.9	0.7	2.2	3.2	3.0	3.7	4.4
Producer input prices[5]	RNNK	21.6	−3.5	−8.7	4.0	8.5	7.6	10.3	13.1
Oil price: sterling (£ per barrel)	ETXR	52.10	39.34	42.05	45.53	46.63	47.82	43.80	55.93
Oil price: dollars ($ per barrel)	ETXQ	98.37	62.05	69.02	74.40	77.25	74.64	80.05	85.77

									Seasonally adjusted unless otherwise stated
	Source CDID	2008	2009	2009 Q3	2009 Q4	2010 Q1	2010 Feb	2010 Mar	2010 Apr
Financial markets[1]									
Sterling ERI (January 2005=100)	BK67	90.8	80.2	82.5	80.0	79.3	80.0	77.2	79.1
Average exchange rate /US$	AUSS	1.8528	1.5651	1.6411	1.6345	1.5610	1.5615	1.5053	1.5340
Average exchange rate /Euro	THAP	1.2588	1.1233	1.1475	1.1058	1.1269	1.1415	1.1092	1.1436
3-month inter-bank rate	HSAJ	2.75	0.55	0.55	0.55	0.50	0.50	0.50	0.50
Selected retail banks: base rate	ZCMG						0.50	0.50	..
3-month interest rate on US Treasury bills	LUST	0.11	0.06	0.14	0.06	0.16	0.13	0.16	0.16
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	−93,381	−81,790	−19,816	−21,047	−21,784	−6,305	−7,522	..
Exports of services (£m)	IKBB	170,758	161,168	39,186	39,866	40,537	13,068	12,793	..
Non-EU balance on trade in goods (£m)	LGDT	−53,913	−44,744	−10,896	−10,322	−12,209	−3,406	−4,103	..
Non-EU exports of goods (excl oil & erratics)[6]	SHDJ	105.8	96.4	96.7	102.8	102.2	107.6	102.4	..
Non-EU imports of goods (excl oil & erratics)[6]	SHED	113.5	98.2	96.3	100.3	108.0	105.8	110.2	..
Non-EU import and price index (excl oil)[6]	LKWQ	115.3	126.0	122.5	123.9	126.7	126.1	129.0	..
Non-EU export and price index (excl oil)[6]	LKVX	109.8	118.6	116.8	117.9	121.6	121.2	123.8	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth)[7]	VQUU	7.3	6.8	8.7	6.8	5.3	5.8	5.3	5.9
M4 (year on year percentage growth)	VQJW	12.4	12.3	12.0	6.7	3.6	3.9	3.6	3.3
Public sector net borrowing (£m)	−ANNX	61,450	140,657	33,342	42,342	28,036	8,662	17,973	9,955
Net lending to consumers (£m)	RLMH	11,218	−699	−736	−241	1,278	578	325	..

External indicators – non-ONS statistics

		2009 Oct	2009 Nov	2009 Dec	2010 Jan	2010 Feb	2010 Mar	2010 Apr	2010 May
Activity and expectations									
CBI output expectations balance[1]	ETCU	4	4	−7	4	7	5	14	17
CBI optimism balance[1]	ETBV	10			12			24	
CBI price expectations balance	ETDQ	−4	−4	−1	6	9	14	18	13

Notes:

Source: Office for National Statistics

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   Now derived from not seasonally adjusted series.
6   Volumes, 2003 = 100.
7   Replacement for series M0 which has ceased publication.

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

Disadvantaged groups in the labour market

Ruth Barrett
Office for National Statistics

SUMMARY

Employment rates vary among different groups of the population, affected by factors such as age, sex, region, ethnic origin, disability status and level of qualification. Some groups face particular barriers to entering, remaining in and progressing within employment. This article considers the economic activity of groups that are considered to face such barriers and be disadvantaged with respect to opportunities for employment.

The groups within the article are those identified as disadvantaged in the Public Service Agreements (PSAs) agreed by the UK Government in 2007 for the spending period of 2008 to 2011. PSAs set out the key priority outcomes the Government wants to achieve within a spending period. Each PSA is underpinned by a single delivery agreement shared across all contributing policy departments and developed in consultation with delivery partners and frontline workers. The delivery agreements also describe the performance indicators that will be used to measure progress towards each PSA (See Department for Work and Pensions (DWP)).

PSA Delivery Agreement 8 (PSA8) is to 'maximise employment opportunity for all'. One of the performance indicators for this Delivery Agreement is a narrowing of the gap between the employment rates of the following disadvantaged groups and the overall rate for all people:

- disabled people
- lone parents
- ethnic minorities
- people aged 50 and over
- the lowest qualified, and
- those living in the most deprived local authority wards

These groups are defined in more detail in **Box 1**.

This article looks at the employment rates of these groups from the earliest available data through to the end of 2009,

commenting on changes during the recession. The time series for the groups start at different points, as different data are available from different times. It also looks at the percentage of people who are employed, unemployed or inactive; referring in this instance to the three months ending December 2009. When looking at the employment rates in a time series all data are seasonally adjusted with the exception of lone parents and those living in the most deprived wards. Analysis based solely on data for the three months ending December 2009 are not seasonally adjusted and may result in slight differences in the rates at this time. Unless otherwise stated the analysis is for people under state pension age, covering men aged 16 to 64 and women aged 16 to 59. Generally for employment, the different groups are presented as rates rather than levels. This is because levels would be affected by changes in population numbers and the groups themselves. Also, because the disadvantaged groups are different sizes comparison of levels between them would be misleading. Data in this article are calculated from the Labour Force Survey (LFS). The LFS is a quarterly sample survey of about 53,000 households living at private addresses in the UK, representing about 0.2 per cent of the population. The survey asks respondents for information on their personal circumstances and labour market status.

Table 1 shows the numbers in each disadvantaged group for the three months ending December 2009 and the percentage of the population this represents. There

Box 1

Definitions of disadvantaged groups

Disabled people are those who are currently defined as disabled in accordance with the Disability Discrimination Act (DDA) 1995. This includes people who are DDA disabled only and people who are both DDA disabled and work-limiting disabled.

Lone parents are people of working age caring for a dependent child (a child aged under 16 and those aged 16 to 18 who are never married and in full-time education), who do not have a partner that is a member of the same household.

Ethnic minorities are those who classify themselves to an ethnic background that is non-white.

People aged 50 to state pension age (SPA), that is up to and including aged 64 for men and aged 59 for women.

The lowest qualified are those who have not obtained a minimum of a C grade at GCSE or equivalent. This is different from the PSA definition, which is the 15 per cent lowest qualified, it will give a good indication of the rates in the PSA target.

Those living in the most deprived wards. These wards are the 1250 most deprived in line with the PSA and Department of Work and Pensions methodology. Low level geographical data is not available for Northern Ireland and is therefore the analysis for this group is for Great Britain only.

Table 1

Level and percentage of people[1] in disadvantaged groups, October to December 2009

United Kingdom		Not seasonally adjusted
Group	Level (Thousands)	Percentage of population
Disabled people	6,024	15.9
Lone parents[2]	1,922	5.1
Ethnic minorities	4,417	11.6
People aged 50 or over	9,261	24.4
Lowest qualified	8,466	22.3
Those living in the most deprived wards[3]	6,896	18.7
All people	37,991	100.0

Notes: *Source: Labour Force Survey*

1   People under state pension age; men aged 16 to 64, women aged 16 to 59.
2   This data is from the Labour Force Survey Household dataset.
3   This data is not available for Northern Ireland; therefore this data is for Great Britain.

Figure 1

Employment rate[1] by disability, April–June 1998 to October–December 2009

United Kingdom
Percentages, seasonally adjusted
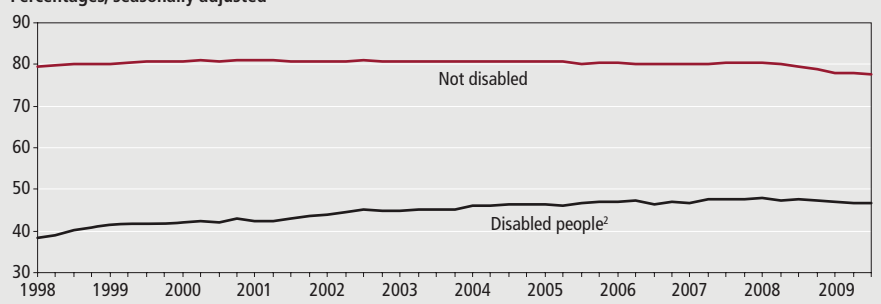
Notes: *Source: Labour Force Survey*

1   For men aged 16 to 64 and women aged 16 to 59.
2   This includes people who are DDA disabled only and those who are both DDA and work limiting disabled.

are some individuals in more than one disadvantaged group. Of the 38.0 million people, 9.3 million (24.4 per cent) of them are in the group aged 50 to state pension age, representing the largest of the disadvantaged groups. The smallest disadvantaged group is that consisting of lone parents, representing 1.9 million (5.1 per cent) of people.

Disabled people

Figure 1 shows the employment rate by disability status for the three months ending June 1998 to the end of 2009. At the start of the series the employment rate for disabled people was 38.3 per cent, around half the employment rate for people who were not disabled, which stood at 79.6 per cent. Over the last decade the employment rate for disabled people has been increasing, and at the end of 2009 it was 46.6 per cent. Over the same period there was very little change in the employment rate for people who were not disabled, with it standing at 77.6 per cent at the end of 2009. This means that over the period there has been a narrowing of the gap, from 41.3 percentage points to 31.0 percentage points, between the employment rates for disabled and not disabled people.

Looking at employment patterns since the start of the 2008/09 recession, employment rates have fallen overall, for all individuals collectively. However, disabled people fared better during the recession with respect to employment rates. Their employment rate fell by 1.2 percentage points, whereas the employment rate for people who were not disabled fell by 2.4 percentage points.

Looking at just employment only considers one of three options for individuals. There are also individuals who are unemployed or economically inactive, with these two groups together representing the total of workless people. **Figure 2** shows the percentage of each of these three groups for people who are disabled and not disabled, in the three months ending December 2009. At this time just over half, 53.3 per cent, of disabled people were workless, as opposed to 22.1 per cent of people who were not disabled. The workless percentage comprises mostly of individuals who are economically inactive, 47.8 per cent for disabled, three times that of those not disabled, which stood at 15.9 per cent.

Figure 2
Percentage of economic activity[1] within disabled group, October to December 2009

United Kingdom
Percentages, not seasonally adjusted
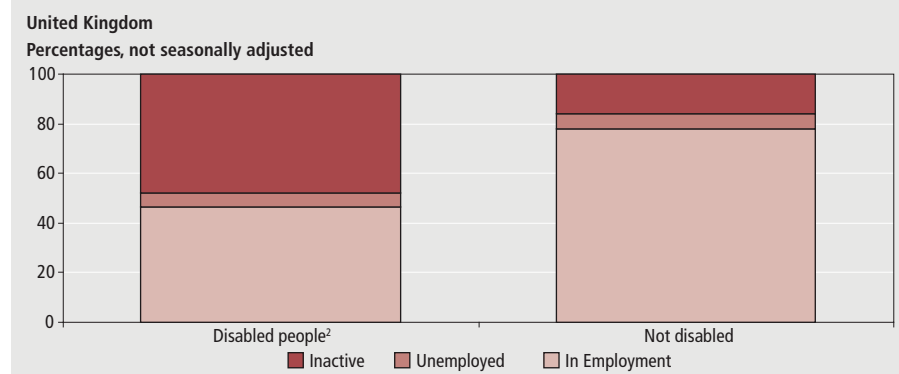
Source: Labour Force Survey

Notes:

1 For men aged 16 to 64 and women aged 16 to 59.
2 Those DDA disabled only and those who are both DDA and work limiting disabled.

Figure 3
Employment rates[1] by family status, 1997 to 2009[2]
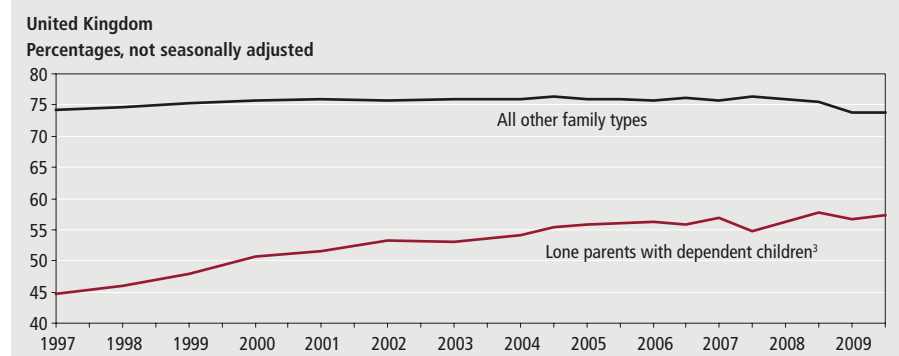
United Kingdom
Percentages, not seasonally adjusted

Source: Labour Force Survey Household dataset

Notes:

1 For men aged 16 to 64 and women aged 16 to 59.
2 April to June quarter, October to December quarter from 2004.
3 Dependent children are those under 16 and those 16 to 18 who are in full time education and have never married.

Figure 4
Percentage of economic activity[1] by family type, October to December 2009
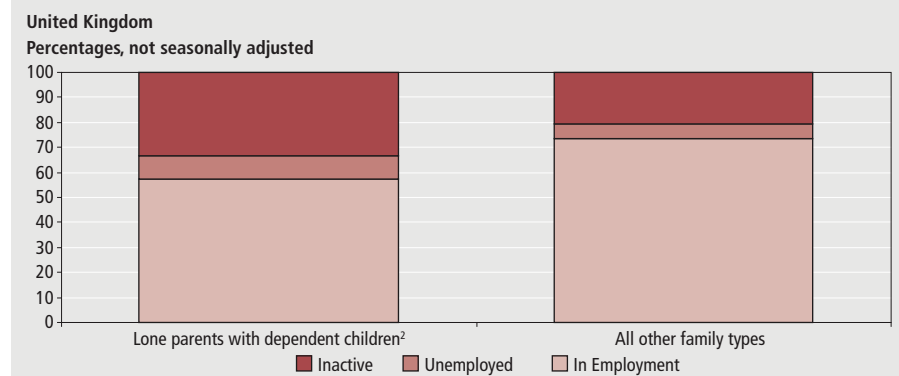
United Kingdom
Percentages, not seasonally adjusted

Source: Labour Force Survey Household dataset

Notes:

1 For men aged 16 to 64 and women aged 16 to 59.
2 Dependent children are those under 16 and those 16 to 18 who are in full time education and have never married.

The main reason for inactivity for the disabled group was being long-term sick or disabled. Looking at unemployment, a smaller percentage of disabled people were unemployed, 5.6 per cent, compared to 6.2 per cent for people who were not disabled.

Lone parents

Figure 3 shows the employment rate of lone parents when compared with all other family types, such as married and cohabiting parents, those without dependent children and others, for the three months ending June 1997 to the end of 2009.

At the start of the series, the employment rate for lone parents was 44.6 per cent, and for all other family types, 74.1 per cent. Since this time the employment rate for lone parents has increased and at the end of 2009 it stood at 57.3 per cent. Over the same period there was very little change in the employment rate for all other family types, with it standing at 73.8 per cent at the end of 2009. This means that over the period there has been a narrowing of the gap, from 29.5 percentage points to 16.5 percentage points, between the employment rates for lone parents and all other family types.

Looking at the two groups through the recession to the end of 2009, the employment rate for lone parents increased by 0.9 percentage points, the only disadvantaged group to do so, while for all other family types it fell by 2.2 percentage points.

Figure 4 compares the percentage in each of the three economic status groups, for lone parents and all other family types, for the three months ending December 2009. In this period, around two out of five (42.7 per cent) lone parents were workless, compared to around one in four (26.2 per cent) for all other family types. The majority of the worklessness for both groups is people who are economically inactive, accounting for around one in three lone parents, with the reason given for inactivity being to look after the family or home.

The percentage of people unemployed was larger for lone parents, 9.3 per cent, compared to that of all other family types, 5.9 per cent. This shows that while the gap between the employment rates has narrowed over the last decade, there are a higher percentage of lone parents looking for, and unable to find work, compared to all other family types.

Ethnic minorities

Figure 5 shows the employment rate by ethnic group for the three months ending

Figure 5
Employment rates[1] by ethnicity, April–June 2001 to October– December 2009
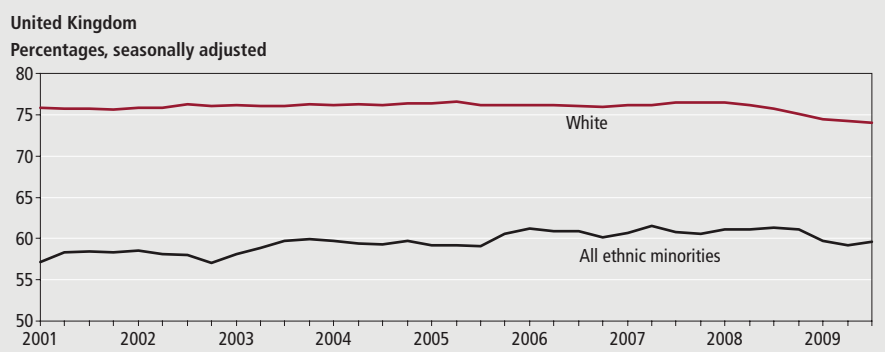
United Kingdom
Percentages, seasonally adjusted

Notes: *Source: Labour Force Survey*

1   For men aged 16 to 64 and women aged 16 to 59.

Table 2
Percentage of economic activity[1] within ethnic groups, October to December 2009

United Kingdom   **Per cent, not seasonally adjusted**

	Employment	Unemployment	Inactivity
All ethnic groups	72.6	6.2	21.2
White	74.3	5.8	19.9
White British[2]	74.4	5.9	19.7
Other White[2]	75.7	4.8	19.5
All ethnic minority groups	59.9	9.2	30.9
Mixed	61.5	10.1	28.4
Asian or Asian British	60.4	7.9	31.7
Indian	70.9	6.4	22.7
Pakistani	46.5	10.0	43.5
Bangladeshi	44.7	10.8	44.5
Other Asian	66.4	6.6	27.0
Black or Black British	59.2	13.2	27.6
Black Caribbean	65.3	13.5	21.2
Black African	55.2	12.3	32.5
Other Black	53.4	21.0	25.6
Other including Chinese	58.9	7.0	34.1

Notes: *Source: Labour Force Survey*

1   For men aged 16 to 64 and women aged 16 to 59.
2   These data are presented for Great Britain only and exclude Northern Ireland.

Figure 6
Employment rates[1] by age group, January–March 1995 to October–December 2009

United Kingdom
Percentages, seasonally adjusted

Notes: *Source: Labour Force Survey*
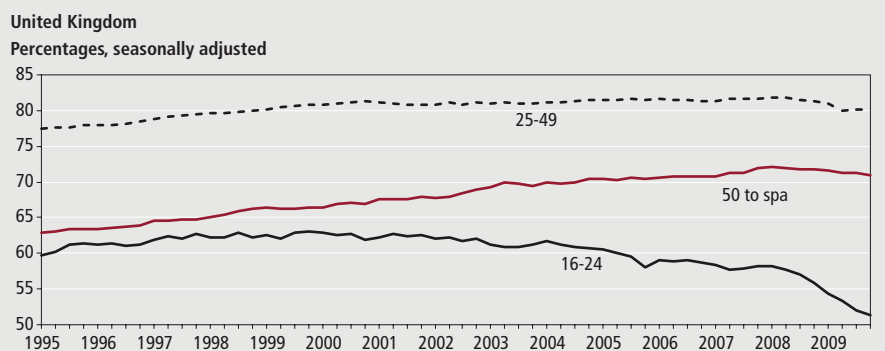
1   The base of the rate is all people in the relevant age group.

June 2001 to the end of 2009. At the start of the series the employment rate of ethnic minority groups was 57.2 per cent, 18.6 percentage points lower than the employment rate for the white group, which stood at 75.8 per cent.

The employment rate for the ethnic minorities group has been consistency lower than the rate for white people. However, the employment rate for ethnic minority groups has been increasing and by the end of 2009 it stood at 59.6 per cent. Over the same period, the employment rate for white people has remained fairly constant, standing at 74.0 per cent at the end of 2009. Therefore there has been a narrowing in the gap between the employment rates for the two groups, from 18.6 percentage points, to 14.5 percentage points at the end of 2009.

During the recession the employment rate for both groups has fallen, with a slightly smaller fall for ethnic minority groups, of 1.9 percentage points, compared to white people, of 2.2 percentage points.

The economic status of individuals differs greatly among the various ethnic minority groups. **Table 2** shows the percentage employed, unemployed and inactive, for the three months ending December 2009. Of the ethnic minority groups, the Indian group had the highest percentage employed at 70.9 per cent. The lowest percentages of employment were for the Bangladeshi and Pakistani groups, being 44.7 per cent and 46.5 per cent respectively. The main reason for such a small percentage of people employed in these groups is that there are a large percentage of people inactive. For the Bangladeshi ethnic group, the percentage inactive stood at 44.5 per cent, and for the Pakistani group, 43.5 per cent. The main reason for inactivity in these groups was to look after the family or home.

The ethnic minority groups have a higher percentage of people unemployed, 9.2 per cent, compared to 5.8 per cent for white people. Of the ethnic minority groups the Indian and Other Asian groups had the lowest percentage unemployed, 6.4 per cent and 6.6 per cent respectively, still higher than that for white people. The highest percentage is for the Other Black group, 21.0 per cent, although the sample size for this group is relatively small and therefore subject to higher sampling variability.

People aged 50 to state pension age

Figure 6 shows employment rates of age groups for the three months ending March 1995 to the end of 2009. Due to a large fall

Figure 7
Economic activity within age group, October to December 2009

United Kingdom
Percentages, not seasonally adjusted

Source: Labour Force Survey
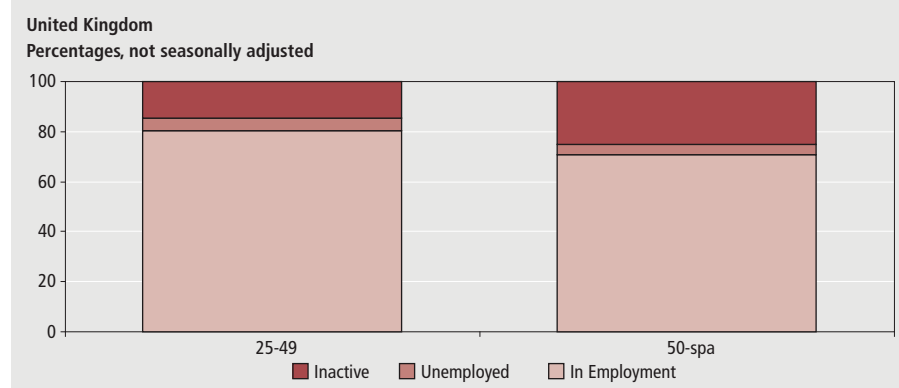
Figure 8
Employment rates[1] by qualification, January–March 1995 to October–December 2009

United Kingdom
Percentages, seasonally adjusted

Source: Labour Force Survey
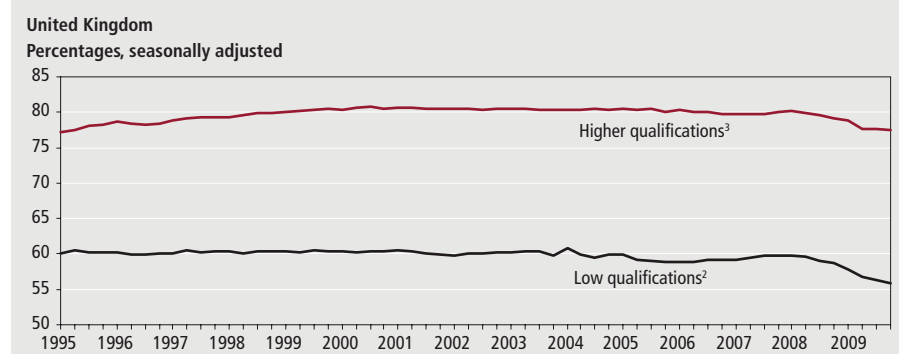
Notes:
1 For men aged 16-64 and women aged 16-59.
2 Less than GCSE grade A* to C or equivalent.
3 GCSE grade A* to C or equivalent and higher.

in the employment rates for people aged 16 to 24 over the last six to seven years, partly through policies aimed at keeping this group in education, people aged 50 to state pension age (SPA) will be compared to people aged 25 to 49.

At the start of the series, the employment rate for people age aged 50 to SPA was 62.9 per cent, 14.6 percentage points lower than the rate for people aged 25 to 49, which stood at 77.5 per cent. Throughout the series, the employment rate for people age 50 to SPA has been generally increasing, and was 71.0 per cent by the end of 2009. The employment rate has also increased, but less quickly, for people aged 25 to 49, standing at 80.2 per cent at the end of 2009. Therefore, there has been a narrowing in the gap between the employment rates of these two groups, from 14.6 percentage points, to 9.2 percentage points at the end of 2009.

Looking at employment from the start of the recession to the end of 2009, the rates for both people aged 50 to SPA and those aged 25 to 49 both fell. However, the employment rate for people aged 50 to SPA

fell by 0.6 percentage points, a third of the fall in the rate for people aged 25 to 49, which was 1.8 percentage points.

Figure 7 shows the percentage of people employed, unemployed and economically inactive for the age groups 25 to 49 and aged 50 to SPA, for the three months ending December 2009. At this time around three out of ten, 29.0 per cent, of people aged 50 to SPA were workless, as opposed to 19.7 per cent of people who were aged 25 to 49.

The workless comprise mostly of individuals who are economically inactive, 25.2 per cent for people aged 50 to SPA, compared to 14.5 per cent of people aged 25 to 49. The main reason for inactivity for people aged 50 to spa was being long-term sick or disabled. Looking at unemployment, a smaller percentage of people aged 50 to SPA were unemployed, 3.8 per cent, compared to 5.2 per cent for people aged 25 to 49.

The lowest qualified

Figure 8 shows the employment rate for people with low or no qualifications and

those with all other qualifications for the three months ending March 1995 to the end of 2009. At the start of the series the employment rate for people with low or no qualifications stood at 60.1 per cent, 17.0 percentage points lower than the rate for people with higher qualifications, which was 77.2 per cent. Since then, the rate remained fairly constant until the start of the 2008/09 recession when it began to decrease, much more than that of the other disadvantaged groups considered in this article, to stand at 55.8 per cent at the end of 2009. Over the same period the employment rate for people with all other qualifications increased slightly until the start of the recession, after which it decreased, to stand at 77.4 per cent at the end of 2009. Because of this there has been an increase in the gap between people who have low or no qualifications and those with higher qualifications, from 17.0 percentage points at the start of 1995, to 21.6 percentage points at the end of 2009.

However, individuals have a choice when it comes to qualifications, in that they can develop new skills to improve their qualification levels. At the start of the series in 1995, 36.6 per cent of people held low or no qualifications. At the end of 2009 this had decreased and 22.7 per cent of people were in this group. Therefore, while the gap between the employment rate between those with low or no qualifications has widened to that with higher qualifications, a higher percentage of people are in the latter group.

Figure 9 compares the percentage in each of the three economic status groups, for those with low or no qualifications, and those with higher qualifications. A higher percentage of people are inactive in the low or no qualifications group, 35.0 per cent, compared to those with higher qualifications, 17.1 per cent. The main reason for this difference is more individuals inactive due to being long-term sick or disabled in the low or no qualifications group.

There are also a higher percentage of people in the low or no qualifications group who are unemployed, 8.6 per cent, compared to those with higher qualifications, 5.5 per cent. With lower skills than their higher qualified counterparts, it would be more difficult in a fair and open competition, for those with no or low qualifications to obtain employment. Combining both those people that are inactive and unemployed shows that the percentage of people who are workless (43.6 per cent) for low or no qualifications

Figure 9
Percentage of economic activity[1] by highest qualification, October–December 2009

United Kingdom
Percentages, not seasonally adjusted

Low qualifications[2]   Higher qualifications[3]

■ Inactive   ■ Unemployed   ■ In Employment

Notes: *Source: Labour Force Survey*

1   For men aged 16-64 and women aged 16-59.
2   Less than GCSE grade A* to C or equivalent.
3   GCSE grade A* to C or equivalent and higher.

Figure 10
Employment rates[1] of those living in the most deprived wards, October–December 2003 to October–December 2009

Great Britain
Percentages, not seasonally adjusted

All other wards
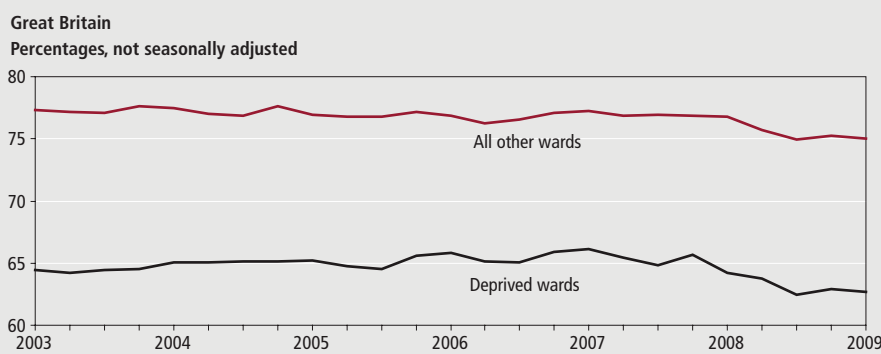
Deprived wards

Notes: *Source: Labour Force Survey*

1   For men aged 16 to 64, women aged 16 to 59.

is almost double that for those with higher qualifications (22.6 per cent).

Those living in the most deprived wards

Figure 10 shows the employment rate of those living in the most deprived wards, compared to all other wards, in Great Britain for the three months ending December 2003 to the three months ending December 2009. Local level area data is not available for Northern Ireland; therefore analysis is restricted to Great Britain. Care should be taken when looking at a long-term time series of deprived wards as some of the wards may not have been classified as deprived previously.

At the start of the series the employment rate for those living in the most deprived wards was 64.5 per cent, 12.9 percentage points less than the employment rate for all other wards, which stood at 77.3 per cent. The employment rate was relatively stable

for both groups since 2003, with it falling around the onset of the recent recession. At the end of 2009 the employment rates for people living in the most deprived wards stood at 62.7 per cent, compared to a rate

for all others of 75.0 per cent. Noting that for this series, the time frame is much shorter, there has been little change in the gap, compared to that of some of the other disadvantaged groups, between the most deprived and other wards. At the end of 2009, the gap stood at 12.3 percentage points, 0.5 percentage points less than the start of the series, with part of this gap, 0.2 percentage points, occurring since the start of the recession.

Figure 11 compares the percentage in each of the three economic status groups, for those living in the most deprived wards and all others, in the three months ending December 2009. Over a third of people living in the most disadvantaged wards were workless, 37.3 per cent, compared to a quarter, 25.0 per cent, of people living in other wards. As with the other disadvantaged groups, most of the workless people are in the inactive group, with 28.4 per cent falling in this group for the most deprived wards, compared to 19.3 per cent for all other wards. The main reason for people being inactive in deprived wards is being long term sick or disabled. Of those unemployed, the percentage of people living in the most deprived wards who were unemployed was 9.0 per cent, compared to 5.6 per cent for those in other wards.

Multiple disadvantaged groups

So far this article has looked at the disadvantaged groups individually. However the groups are not mutually exclusive as an individual could belong to any number of groups, so it is worth looking at the groups in combination. Due to the restrictions on the analysis of disadvantaged wards, this section on multiple disadvantaged groups is for Great Britain only, excluding Northern Ireland.

Table 3 shows the number of individuals

Figure 11
Percentage of economic activity of those living in the most deprived wards, October to December 2009

Great Britain
Percentages, not seasonally adjusted

Deprived wards   All other wards

■ Inactive   ■ Unemployed   ■ In Employment
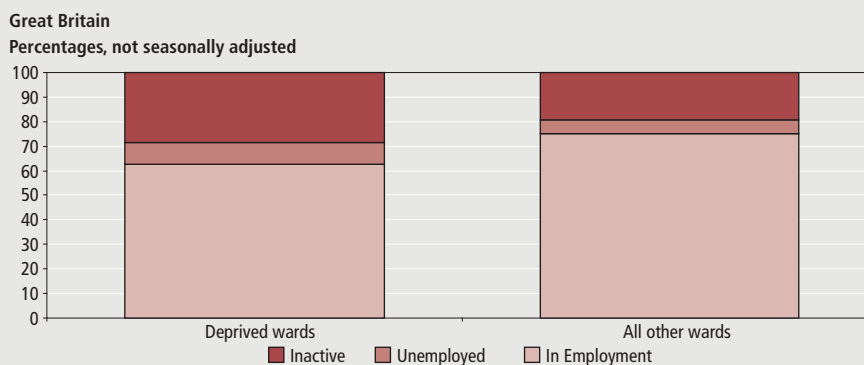
Source: Labour Force Survey

Table 3

Level and percentage by number of disadvantaged groups to which a person belongs,[1] October to December 2009

Great Britain		Not seasonally adjusted
Number of groups	Level (Thousands)	Percentages
0	14,234	38.6
1	12,736	34.5
2	6,714	18.2
3	2,551	6.9
4	599	1.6
5 or 6	60	0.2
Total	36,894	100.0

Notes: Source: Labour Force Survey

1   For men aged 16 to 64 and women aged 16 to 59.

Table 4

Percentage of economic activity[1] by number of disadvantaged groups to which a person belongs, October to December 2009

Great Britain			Per cent, not seasonally adjusted
Number of groups	In employment	Unemployed	Inactive
0	82.6	5.1	12.3
1	75.4	6.8	17.8
2	62.4	7.2	30.4
3	42.9	8.0	49.2
4	28.2	6.2	65.6
5 or 6	14.5	8.2	77.3
Total	72.7	6.3	21.0

Notes: Source: Labour Force Survey

1   For men aged 16 to 64 and women aged 16 to 59.

and how many disadvantaged groups they belong, along with the percentage this represents. Overall there are 22.7 million people in at least one disadvantaged group, representing around three out of five people (61.4 per cent). Of those in a disadvantaged group, there are 12.7 million in one group, 6.7 million in two groups, 2.5 million in three groups, 599,000 in four groups and 60,000 in at least five of the groups.

Table 4 shows the percentage in each of the three economic status groups and how these differ by the number of disadvantaged groups a person belongs, in the three months ending December 2009. As the number of disadvantaged groups an individual is in increases, the percentage employed decreases.

For individuals in none of the disadvantaged groups, the percentage employed is 82.6 per cent, falling to 75.4 per cent when looking at those in one disadvantaged group. For those in five or six of the disadvantaged groups, just 14.5 per cent are employed. The consequence in a reduction in the percentage employed as the number of groups a person is in increases are large increases in the percentage of people inactive. Inactivity increases from 12.3 per cent for those in no disadvantaged groups, to 77.3 per cent for those in five or six groups. As discussed earlier, the main reasons for being inactive vary by the type of disadvantaged group. The percentage of people unemployed does not vary as much

as the other two economic groups, from 5.1 per cent for those in no disadvantaged group, to 8.2 per cent for those in five or six disadvantaged groups. This shows that as the number of disadvantaged groups to which a person belongs increases, they are more likely to become inactive, rather than unemployed.

Conclusion

This article has shown that around three in five people aged under state pension age are identified as being in one of the disadvantaged groups when looking at their labour market prospects. It has shown that for nearly all of the groups, there has been a narrowing of the employment rate of the disadvantaged group, when compared to all others in the population, with the exception of those with low or no qualifications. However, over the last fifteen years, the percentage of people in the population with low or no qualifications has decreased. Of the disadvantaged groups, lone parents have had the largest narrowing of employment rates compared to others, and was the only group to have seen an increase in employment rate through the recent recession.

Where the employment rate is lower for people in the disadvantaged groups, compared to others in the population, most of the difference is for people who are inactive. However, the reason for being inactive differs across the disadvantaged groups, with lone parents and some of the ethnic minority groups having their main reason as looking after the family or home. This compares with those disabled, aged 50 and over, with low or no qualifications or in deprived areas having their main reason for inactivity as being long term sick or disabled.

ARTICLE

Damian Whittard and Jawed Khan
Office for National Statistics

The UK's international investment position

SUMMARY

This paper describes the path of the UK's net asset position with the rest of the world. Notwithstanding that the UK has run a substantial current account deficit for over a quarter of a century, at the beginning of 2009 the net asset position was not far off balance. The paper begins by detailing recent developments in both the UK's overseas balance sheet, known as the international investment position (IIP), and the current account deficit. It examines the link between the IIP and the cumulative current account deficit over the past forty years and explains that the divergence between the two is due to other changes. The paper then introduces a model which enables a decomposition of these other changes into currency, price and other volume effects. The results are reported in terms of annual and quarterly changes before conclusions are drawn.

The UK's overseas balance sheet – the IIP

The IIP records the UK's balance sheet with the rest of the world. It records the (gross) holdings of foreign assets by UK residents and the (gross) holdings of UK assets by foreign residents at a specific point in time. The net IIP (gross assets less gross liabilities), shows the stock excess of UK claims on the rest of the world over the rest of the world claims on the UK.

The IIP records assets and liabilities classified by functional category. The four functional categories are:

- direct investment (DI)
- portfolio investment (PI)
- other investment (OI)
- reserve assets

Direct investment occurs when a resident entity in one economy obtains a lasting interest in an enterprise in another economy, has a significant degree of influence, and owns at least 10 per cent equity. Portfolio investment is recorded when an investment is made representing less than 10 per cent of the equity capital and includes equity and debt securities in the form of bonds and notes, and money market instruments issued by foreign governments and foreign registered companies. Other investment is investment other than direct and portfolio investment and includes trade credit, loans, currency and deposits, and other assets and liabilities. Reserve assets are the UK's official holdings of short term assets that can very quickly be converted into cash and includes gold, convertible currencies, Special Drawing Rights, and changes to the UK reserve position in the IMF.

The data for the UK's balance sheet comes from a number of different ONS and Bank of England (BoE) sample surveys as well as various census sources. Due to the diverse sources needed to measure the UK's IIP, there is a degree of approximation. The data are also subject to revisions due to late responses to quarterly inquiries, annual benchmarking and methodological changes. It is therefore important not to place too much emphasis on precise figures. **Box 1** gives greater detail on issues with measurement.

Table 1 records the UK's IIP from 2003 to 2009. The data is presented for assets, liabilities and the net asset position. This presentation is in turn broken down by the four functional categories.

Table 1 reveals that UK assets and liabilities have grown considerably between 2003 and 2008; assets (UK investment abroad) have increased by 101 per cent and liabilities (foreign investment in the UK) have increased by 96 per cent in current terms. Growth in direct investment liabilities has been considerably faster than growth in direct investment assets, although starting from a considerably lower base. The UK continues to have a considerable net direct investment asset position. Portfolio investment assets and liabilities have grown at similar rates, approaching 80 per cent in current terms over the same period. The largest growth, however, has been in terms

Box 1

Issues with measurement

Due to the diverse data sources, the revisions process and the size of the figures involved, it is important not to put too much focus on exact numbers. The latest quarterly data, in particular, should be treated as provisional as it is subject to regular revisions up to the inclusion of annual benchmark data. The UK's assets and liabilities are over £6 trillion and therefore a 1.0 per cent measurement error in UK assets or liabilities equates to a measurement error of over £60 billion. The risks are even greater when netting two large gross figures to calculate a 'relatively' small net position. Depending on the direction of the measurement error, a 1.0 per cent measurement error in both assets and liabilities could compound the net error to £120 billion.

Wherever possible the UK's Balance of Payments is valued at market prices, however, for direct investment, when the shares are not openly traded, it is difficult to know exactly what the market price is. In line with international guidance and in order to ensure comparability across international accounts, a proxy for the market value is estimated using own funds at book value[1]. Due to data limitations, in the case of some investments, historic costs are used. The expectation is that by using book value and historic cost there will be a consistent bias to under record the market value of these estimates.

The United States Bureau of Economic Analysis (BEA) presents different values of direct investment in the IIP, including, historic cost, current-cost and market costs (Landefeld and Lawson 1991). In 1989, the BEA's revaluation of direct investment assets from historical costs to market costs increased by $431.1 billion, to $804.5 billion.

An analysis of the UK's Balance of Payments suggested that positive net investment income, which indirectly feeds through to the IIP via the financial account, was driven by UK stocks of foreign assets generating higher rates of return than stock of UK assets held by foreign residents (Whitaker 2006 and Chamberlin 2009). The authors suggested that this was because the rate of return of direct investment income may be exaggerated

by underestimating the value (book value rather than market value) of direct investment assets. The same argument applies equally for liabilities, but there are two reasons why the effect is expected to be larger for assets rather than liabilities. Firstly the UK has a larger stock of foreign direct investment assets to be revalued than foreign-owned UK direct investment liabilities. And secondly, the older the stock of direct investment the greater the potential revaluation, particularly if the assets are recorded at historic cost. As the UK's flows of direct investment abroad have exceeded foreign direct investment in the UK in all but eight years from 1963 (when ONS records began) to 2009, it is likely that the UK's ownership of foreign stock, on average, will be older than the stock of foreign direct investment in the UK - thus making UK's direct investment liabilities closer to market value than its assets.

The analysis gives weight to the expectation that, as with the USA experience, if direct investment assets and liabilities were revalued to reflect market price, this would lead to an upward revaluation of the UK's IIP. This is supported by research from Pratten (1994) who estimated market price of direct investment assets to be approximately double. Senior et al (2001) updated the work and estimated that assets and liabilities could be as high as three times book value. The analysis concluded that the overall effect was likely to underestimate the UK's net external assets.

A further issue is that the UK's coverage of the IIP is incomplete as financial derivatives are currently excluded. Financial derivatives data are incorporated into the UK's financial account but published as an annex to the IIP - they are not included within the main aggregates as the data are developmental. In the June 2010 issue of the Balance of Payments Statistical Bulletin and the 2010 edition of the Balance of Payments Pink Book, ONS, for the first time, intend to introduce data on financial derivatives business of the UK banks into the main aggregates of the IIP. Data for securities dealers and insurance and pension funds will continue to be excluded from the UK's IIP whilst the data continues to be validated and estimates improved.

Table 1
UK's Annual IIP, 2003 to 2009

							£ billions
	Dec–03	Dec–04	Dec–05	Dec–06	Dec–07	Dec–08	Dec–09
Total assets	3464.5	3911.4	4806.3	5212.3	6384.6	6967.5	6514.5
Of which: DI assets	691.1	678.1	705.9	741.7	913.9	1050.3	1019.9
PI assets	935.8	1092.1	1360.9	1531.1	1693.8	1664.3	1878.1
OI assets	1813.7	2118.0	2714.8	2916.6	3750.2	4216.6	3576.3
Reserve assets	23.8	23.3	24.7	22.9	26.7	36.3	40.1
Total Liabilities	3581.6	4132.1	5058.9	5564.8	6667.2	7026.7	6697.1
Of which: DI liabilities	355.5	383.3	494.2	578.3	630.2	672.3	694.7
PI liabilities	1082.9	1227.9	1461.7	1702.6	1917.6	1945.4	2328.5
OI liabilities	2143.2	2520.8	3103.0	3284.0	4119.4	4409.1	3673.8
Net IIP	−117.2	−220.7	−252.6	−352.6	−282.5	−59.2	−182.6
Of which: DI	335.6	294.7	211.7	163.4	283.8	378.1	325.2
PI	−147.0	−135.8	−100.8	−171.5	−223.8	−281.1	−450.4
OI	−329.5	−402.9	−388.2	−367.3	−369.2	−192.5	−97.5
Reserve Assets	23.8	23.3	24.7	22.9	26.7	36.3	40.1

Source: Pink Book and Balance of Payments statistical bulletin

of other investment, mainly due to increases in loans and deposits. This is unsurprising due to the global nature of the banking sector. Capital can be deposited and loaned at a moment's notice, freely moving across borders.

In the latest period, 2008 to 2009, the total value of assets and liabilities decreased as the global recession took hold which led to a write down/off of assets and a repatriation of investment funds. During this period, however, portfolio investment assets and liabilities increased considerably as investors attempted to minimise risk.

Between 2003 and 2008, whilst we have seen growth in both gross assets and liabilities, Table 1 reveals the UK's net liability position has reduced considerably. In 2006 Q4, the net liability position peaked

at £352.6 billion, before dropping to £59.2 billion in 2008 Q4. In 2009 the net liability position widened once again to £182.6 billion. This paper explores what drives these movements. In order to do this, the following sections discuss the UK's current account, its relationship to the IIP and how it, and other changes, have impacted on the IIP over time.

The UK's current account

The current account records international flows in trade in goods and services, international income flows and current transfers (Chamberlin 2009). The trade balance of goods and services is calculated by subtracting imports (debits) from exports (credits). The current account balance should not be confused with the trade balance as the current account balance also includes the balance of international income flows and current transfers. Income flows consist of compensation of employees and investment income. Compensation of employees is paid to non residents involved in the production process. International investment income is the return for providing financial assets and rent for natural resources. Current transfers record a set of miscellaneous payments where there is no corresponding exchange. Most of these transfers are government payments to and from the EU but also includes remittances. Remittances are payments from households resident in one economy to households resident in another. **Table 2** presents the UK's current account from 2003 to 2009.

Table 2 shows the UK has had a sustained current account deficit throughout the period; in fact the UK has consistently ran

a current account deficit in every year since 1983. The UK's current account deficit represents net new acquisition of foreign claims on the UK. From 2006 to 2008, however, whilst the UK has continually recorded a current account deficit, Table 1 shows the UK actually decreased its net liability position. This indicates that apart from flows there are other factors that impact upon the stocks of UK assets. The following section explores this issue by detailing the link between stocks (IIP), flows (current account) and other changes.

Relationship between the net stock position, net new flow of assets and other changes

The IIP measures the stock of assets and liabilities whereas, as noted above, the current account measures flows. If a country runs a current account deficit this means that the residents are consuming more than they are producing. To pay for the difference they need to run down their assets or increase their liabilities. Either way, the effect will be to reduce the county's net IIP.

The current account is equal to the financial account plus the capital account. As the capital account is relatively small in comparison, the current account and financial account can be said to be counterparts. In practice as data for the current account and financial account come from different data sources, in balance of payments statistics, a balancing item is used. This item is called net errors and omissions and is used to ensure the balance across the current, capital and financial account.

The external balance sheet, formally known as the IIP, is directly linked to the BoP via the financial account, and as

such indirectly to the current account. The current account therefore can be said to be a measure of the flow of assets and liabilities, whilst the IIP records the total value of the stock of assets and liabilities at a specific point in time. The change in IIP is calculated as detailed in **Equation 1**.

Equation 1: IIP reconciliation

$$\Delta IIP_t = F_t + C_t + P_t + O_t$$

F = Flows

C = Change in net asset values due to asset/liability currency changes

P = Change in net asset values due to asset/liability price changes

O = Other volume changes

t = time period

Equation 1 shows that the IIP at the end of a period reflects not only the flows, but other changes, including revaluation changes and other volume adjustments, which occur during the reference period. Revaluation effects have no change in the asset and liability themselves but record a change in valuation. Revaluation is split between exchange rate changes (C) and other price changes (P).

Exchange rate effects occur as assets and liabilities can be denominated in a foreign currency, but are recorded in domestic currency in a country's IIP. Therefore, when movements between the foreign and domestic currency occur, this has the effect of revaluing foreign-denominated assets. An example of this would be the UK holding $1000 of US assets purchased at an exchange rate of £1:$2. This is recorded as £500 of UK owned foreign assets in the UK's IIP. At the end of the period, if the exchange rate had depreciated to £1:$1, the UK still owns $1000 of foreign assets, but they are now worth £1000 because of exchange rate movements. The result is an increase of £500 to the UK's IIP although the quality of the asset has not changed. In this example, there would be no effect on US liabilities; they are still recorded as $1000 in the US IIP.

Price changes are most clearly demonstrated by movements in prices of equity and debt traded on the world stock markets. Examples of other changes in volume (O) include; debt cancellation and write-offs, reclassifications, entities changing residence and changes in actuarial assumptions.

How the UK's IIP has evolved over time

From 1966 to 1977 the UK only produced IIP data on an annual basis. Annual data

Table 2
UK's Current account, 2003 to 2009

£ billions

	2003	2004	2005	2006	2007	2008	2009
Total Credits	425.9	455.9	534.9	634.0	676.9	699.8	581.4
Of which: export of goods	188.3	190.9	211.6	243.6	220.9	251.6	227.7
export of services	102.4	112.9	119.2	134.2	150.6	170.8	161.2
income	123.2	138.3	186.7	237.6	291.3	261.1	175.6
current transfers	12.0	13.8	17.4	18.5	14.0	16.3	17.0
Total Debits	444.2	480.8	567.8	677.8	714.6	721.8	599.8
Of which: import of goods	236.9	251.8	280.2	319.9	310.6	345.0	309.5
import of services	79.7	84.5	93.4	99.5	105.8	115.6	111.9
income	105.7	120.5	164.9	228.0	270.5	230.8	146.9
current transfers	21.9	24.0	29.2	30.4	27.6	30.4	31.6
Current Balance	−18.3	−24.9	−32.8	−43.8	−37.7	−22.0	−18.4
Of which: trade in goods	−48.6	−60.9	−68.6	−76.3	−89.8	−93.4	−81.8
trade in services	22.6	28.4	25.7	34.8	44.8	55.1	49.3
net income	17.5	17.8	21.9	9.6	20.8	30.3	28.7
net current transfers	−9.8	−10.3	−11.8	−11.9	−13.5	−14.0	−14.6

Source: ONS, Pink Book and Balance of Payments Statistical Bulletin

Figure 1

The UK's net IIP, annually from 1966 to 1977 and quarterly from 1978 Q1 to 2009 Q4

£ billions
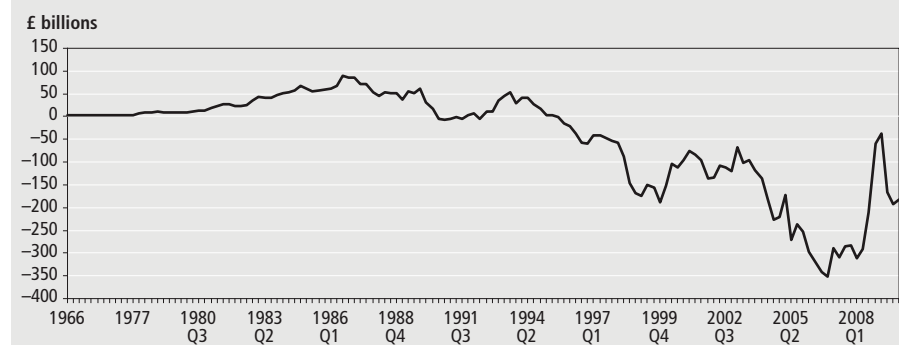
Source: ONS, Pink Book and Balance of Payments Statistical Bulletin

Figure 2

Cumulative current account (CCA) and international investment position as a percentage of quarterly GDP, 1977 Q4 to 2009 Q4

Per cent
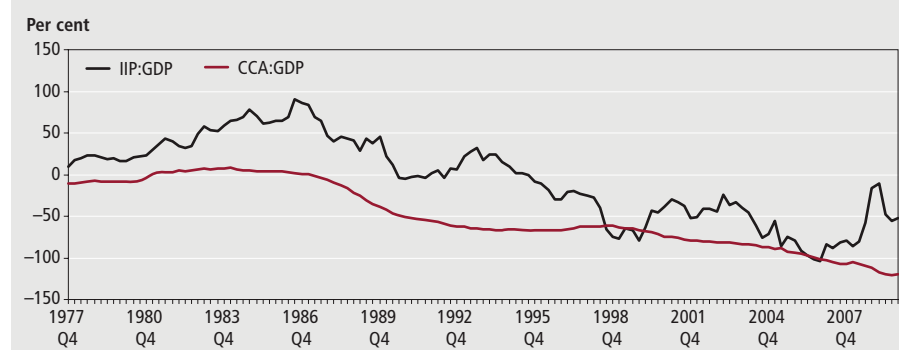
Source: ONS, Pink Book and Balance of Payments Statistical Bulletin

records the net IIP at the end of each year. From 1978 onwards the UK have published IIP data quarterly. **Figure 1** records the UK's IIP from 1996 to 2009; quarterly data has been presented when available.

Figure 1 shows that there have been four main phases in the UK's IIP since records began:

- between 1966 Q4 and 1995 Q2 the UK recorded a net asset position in all but six periods – the net assets position peaked in 1986 Q3 at £88.8 billion, 23 per cent of the annualised GDP
- between 1995 Q3 and 2006 Q4 the UK continually recorded a net liability position, due in part to the current account which was in deficit for all but four quarters over this period. The current account deficit was financed by an increase in inward foreign investment, directly increasing the UK's net liability position. The UK's net liability position peaked in 2006 Q4 at £352.6 billion, equating to 27 per cent of annualised GDP
- driven by depreciation in sterling, in 2007 and 2008, the UK's net liability

position reduced considerably and reached a recent low of £36.8 billion in 2009 Q1

- from 2009 Q2, the UK's net liability position once again began to widen as world stockmarkets recovered and sterling appreciated against the other major currencies. In the latest quarter, 2009 Q4, the UK's net liability position was £182.6 billion

The net IIP is a relatively small number compared to the size of gross assets and liabilities - in 2009, the £182.6 billion net liability position was the difference between over £6.5 trillion of assets and £6.7 trillion of liabilities. Both assets and liabilities have grown substantially in the last couple of decades, partly due to the City of London's position and the globalisation of finance. The UK's assets and liabilities are now nearly five times as large as annual GDP. This means that, potentially, 10 percent depreciation in sterling could result in an increase in foreign assets of nearly half of the UK's annual GDP. As the UK's liabilities are predominantly sterling denominated, the effect is smaller for liabilities than assets.

Drivers of the movements in the IIP

In order to understand the link between the current account flows, other changes and the IIP, **Figure 2** charts the movement in the cumulative current account and the IIP as a percentage of quarterly GDP. The chart reveals a strong link between the current account and the IIP, which generally move in the same direction. There are significant divergences, however. This divergence is necessarily the result from currency, price or other volume changes.

Figure 2 shows that, in the main, the cumulative current account balance as a percentage of quarterly GDP grew steadily from 1977 Q4 to 1984 Q1 and from then on has generally deteriorated, peaking at a low in 2009 Q3. The performance of the IIP as a percentage of quarterly GDP during these periods was much more volatile. In 1982 Q3, 1990 Q4, 1999 Q4 and 2007 Q1 the IIP ratio began to diverge from the path of cumulative current account ratio. This divergence was driven in part by exchange rate fluctuations, movements in the underlying asset price and other volume changes.

Exchange rate movements

Figure 3 records the quarterly exchange rate movements from 1975 Q1 to 2009 Q4.

Although each currency has its own individual movements and timings, in general, they can be classified into four distinct phases. In the first phase (70s, 80s and early part of the 90s) there was a depreciation of sterling against the major currencies. This was followed by a period of recovery in the mid 90s and 2000s. In 2007 and 2008 there was a substantial depreciation of sterling against all the major currencies. From 2009 Q1, sterling appreciated against the major currencies, recovering some of the previous losses.

Sterling depreciated by 33 per cent against the dollar over the whole period (1975 Q1 to 2009 Q4). In the first phase, 1975 Q1 to 1984 Q4, sterling depreciated by 52 per cent. Between 1984 Q4 and 2008 Q2, the pound then rallied against the dollar and appreciated by 72 per cent. In the period 2008 Q2 to 2009 Q1 the pound noticeably depreciated by 28 per cent. Sterling has rallied in the latest quarters and appreciated by 13 per cent between 2008 Q4 and 2009 Q4.

The euro to sterling exchange rate depreciated by 36 per cent over the full period (1975 Q1 and 2009 Q4). Between 1975 Q1 and 1995 Q4 sterling depreciated by 35 per cent. Between 1995 Q4 and 2001 Q2 the pound rallied against the euro,

Figure 3
Sterling exchange rate against US Dollar, euro/ECU and yen, 1975 Q1 to 2009 Q4
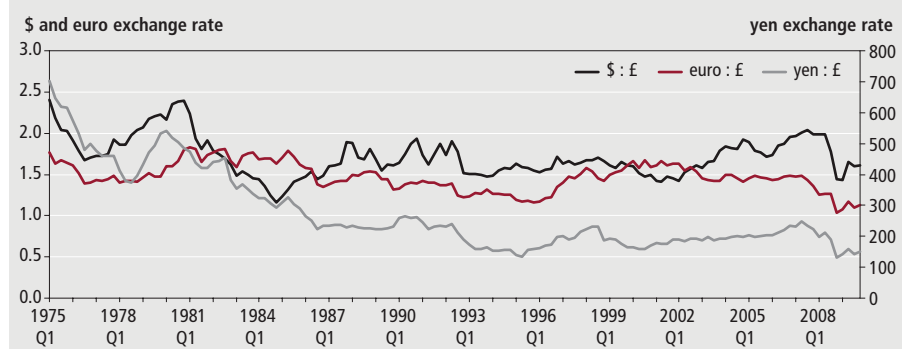
Source: Bank of England

Figure 4
Share price indices, 1999 Q1 to 2009 Q4
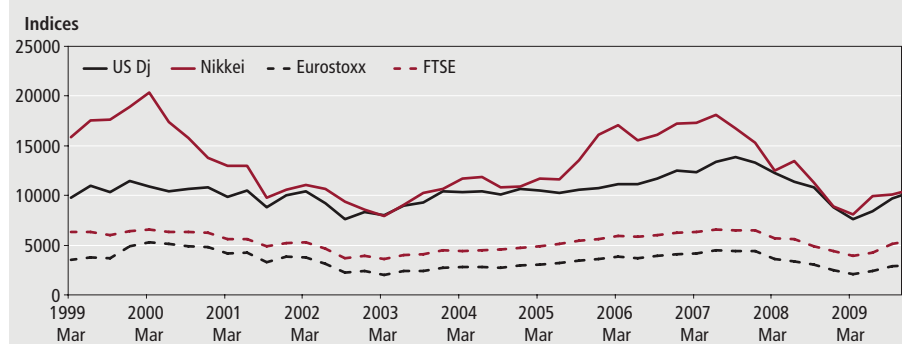
Source: ONS Financial Statistics and Yahoo Finance

appreciating by 43 per cent. From 2001 Q2 to 2008 Q4 any gains were more than offset as the pound once again depreciated against the euro by 38 per cent. Recent movements have seen the pound rebound somewhat against the euro, appreciating by 9 per cent between 2008 Q4 and 2009 Q4.

Over the whole period sterling depreciated by 79 per cent against the yen. In the first phase alone, 1975 Q1 to 1995 Q2, the pound depreciated by 81 per cent against the yen. From then on until 2007 Q2 sterling recovered, appreciating by 83 per cent. From 2007 Q2 to 2008 Q4, sterling again depreciated against the yen, this time by 47 per cent. As with the dollar and the euro, sterling rallied against the yen in the latest quarters, 15 per cent up between 2008 Q4 and 2009 Q4.

Price effects
Figure 4 details the performance of USA, European, Japanese and the UK stock markets between 1999 Q1 and 2009 Q4.

Figure 4, shows that generally the FTSE, Euro Stoxx and Dow Jones tend to track each other fairly closely and therefore price effects overall have had less of an impact on changes to the IIP than exchange rate movements. The Nikkei was the most

volatile of the indices, as measured by the percentage change in the peak to trough and trough to peak movements, and has lead to considerable price movements in UK-owned Japanese stocks. At an aggregate level, however, the impact is limited as the size of UK-owned Japanese stock is considerably smaller than UK owned US and Euro stocks. In the first peak to trough movement in Figure 4, 2000 Q1 and 2003 Q1, the Nikkei contracted by 61 per cent compared to 45 per cent on the FTSE. The trough to peak movement, from 2003 Q1 to 2007 Q2, saw the Nikkei grow by 128 per cent whereas the FTSE grew by 83 per cent. In the second peak to trough movement (2007 Q2 to 2009 Q1), however, the Nikkei contracting by 55 per cent whereas the FTSE contracted by just 41 per cent. In the latest period, 2009 Q1 to 2009 Q4, the FTSE grew by 38 per cent, which was stronger than the Dow Jones and considerably stronger than the Nikkei.

Model to decompose IIP changes
In order to estimate how much of the change in the IIP was down to financial account flows, price, currency or other volume changes, a decomposition of the data is required. Reserve assets were

excluded from the original model due to the relatively small size of both stocks and flows, whilst financial derivatives are excluded from the balance sheet as the data are developmental and currently not published in the main aggregates of the UK's IIP. The **Annex** to this article provides a description of the data sources, methodology and assumptions used to create the model to estimate this decomposition (Luciano 2005).

The net IIP is calculated by subtracting liabilities from assets. The ONS model calculates a decomposition of the changes in IIP, in terms of financial account flows, exchange rate, price and other volume changes for direct, portfolio and other investment. These estimates are produced at the level of gross assets and gross liabilities before the net flows and net other changes are calculated. In the following section, the model decomposition is reported for the net IIP for the annual period of 2000 to 2009 and quarterly data is also provided for the most recent year. Extreme caution should be taken when interpreting the results of the 'other' category as this estimate is calculated as a residual and not only represents the other volume changes for direct, portfolio and other investment (directly calculated within the decomposition model) but also includes all reserve asset revaluations, capital account flows and the financial account balancing item (errors and omissions). These additions to the decomposition model are included in order to reconcile the financial account flow data used in the model to the current account flow data presented in **Table 3**.

Net IIP
Table 3 shows that the UK has consistently ran a net liability position over all years and all quarters and that the flows (current account balance) have consistently had a negative effect on the overall net IIP. The net liability position peaked in 2006, before reducing substantially in 2007 and 2008 and finally reaching a recent record low in 2009 Q1. In 2007, 2008 and 2009 Q1 the UK's net IIP improved by £70.0 billion, £223.3 billion and £22.4 billion respectively; a total reduction of £315.7 billion to the UK's net liability position. The UK's net liability position improved despite the fact that it ran a current account deficit (flows) which increases the UK's liabilities with the rest of the world. The reason it was able to reduce its net liability position was due to currency and price effects and other volume changes.

Table 3
UK's net IIP and change in IIP, annuals 2000 to 2009 and quarterly 2009 Q1 – 2009 Q4

Not seasonally adjusted   £ billions

| | | | Due to: | | | |
	IIP	Change in IIP	Current account balance	Exchange rate movement	Price movement	Other
2000	−96.2	92.0	−25.8	22.5	−12.0	107.3
2001	−136.5	−40.4	−21.1	−16.0	42.6	−45.8
2002	−120.0	16.5	−18.7	41.9	22.5	−29.2
2003	−117.2	2.9	−18.3	47.9	−4.6	−22.1
2004	−220.7	−103.5	−24.9	2.5	−23.3	−57.8
2005	−252.6	−31.9	−32.8	−15.3	−48.9	65.1
2006	−352.6	−100.0	−43.8	−43.4	15.7	−28.5
2007	−282.5	70.0	−37.7	100.4	0.5	6.9
2008	−59.2	223.3	−22.0	504.6	82.4	−341.7
2009	−182.6	−123.4	−18.4	−145.2	−180.2	220.4
2009 Q1	−36.8	22.4	−4.9	−50.1	49.8	27.6
2009 Q2	−166.0	−129.2	−5.4	−156.3	−47.0	79.6
2009 Q3	−192.2	−26.1	−6.3	99.6	−160.0	40.6
2009 Q4	−182.6	9.5	−1.8	−38.4	−23.0	72.7

Source: ONS decomposition model

Exchange rate movements

Currency effects occur as the UK's IIP is denominated in sterling yet assets (and to a lesser extent liabilities) are denominated in foreign currency. Currency changes have impacted heavily on the revaluation of the UK's IIP. Whilst continually running a current account deficit, currency changes were the primary reason why the IIP stock liability position reduced from a peak of £352.6 billion in 2006 Q4 to just £59.2 billion in 2008 Q4.

In four of the five years between 2000 and 2004, currency changes positively affected the net IIP as sterling depreciated against the euro. In 2005 and 2006 there was a negative exchange rate revaluation to the net IIP as sterling stabilised against the dollar and the euro and rallied against the yen. From 2007 to 2008 sterling depreciated considerably against the three major currencies. These movements had a dramatic effect on the IIP. Table 3 shows that the model estimates that in 2008, currency effects alone improved the UK's net IIP by £504.6 billion, partially offset by an increase in other changes. The size of the offsetting revaluation of other changes suggests that the model may be overestimating the currency revaluation in this volatile period. Regardless of the precise figure, the model clearly demonstrates, however, that currency changes are an important factor in driving the overall changes in the net IIP.

In the first two quarters of 2009 sterling rebounded against the major foreign currencies which resulted in an increase in the net liability position to £166.0 billion in 2009 Q2. In 2009 Q3 sterling depreciated against the main international currencies which once again had a positive effect on the revaluation of UK IIP. These gains were partially offset by an appreciating in sterling in 2009 Q4.

Price movements

Price effects are a result of a change in the value of the asset or liabilities which are often openly traded on the world stock markets. Table 3 shows that prior to 2008, price effects were relatively stable throughout the model, fluctuating from positive to negative values and netting out at just –£7.6 billion over the eight years. In 2008 the overall net effect was £82.4 billion, comparatively large when compared to other periods. Even though the world was going through a recession and world stock markets were falling, the overall price effect was positive. This was due to the negative price change being greater for liabilities than assets as the UK has a larger stock of portfolio investment liabilities than assets.

In 2009 Q1 price effects positively impacted on the UK's net IIP. For the remaining three quarters, and for 2009 as a whole, the overall effect on the IIP was negative. Over the year the negative effect was £180.2 billion, the majority of this effect was seen in 2009 Q3 (£160.0 billion). There are two reasons for this movement; firstly world stock markets all grew and as the UK has a considerably larger stock of portfolio investment liabilities than assets the overall net effect on the IIP was negative; and secondly, from 2009 Q2 to 2009 Q4, the FTSE outperformed the growth in other world indices during this period which

increases the price of UK liabilities by more than UK owned foreign assets.

Other

Other changes, amongst other things, include the writing down of value and write offs of UK assets and liabilities. In 2008 there were considerable write-offs, particularly in the financial sector. In the model presented, however, other changes are calculated as a residual of total change minus financial account flows, currency and price effects. Careful consideration should be used when directly interpreting other changes as it not only captures volume changes, such as write-offs and reclassifications, but as a residual will also counterpart any over or under estimation of flows or revaluation effects (i.e. the error term) as well as including estimates for all reserve asset revaluations, capital account flows and the financial account balancing item.

In 2000, 2001, 2004 and 2005 other changes have been the largest contributor to the total change. In 2008, other changes decreased the UK's net IIP position by £341.7 billion. During this period a larger offsetting entry is recorded for exchange rate effects. This suggests that in this volatile period, as well as reflecting business write-offs, part of other changes may be due to an overvaluation of currency changes. What is clear, however, is that 2008 was a period when businesses experienced considerable difficulties and therefore we would expect considerable write-downs and write-offs during this period. Both assets and liabilities recorded negative other changes over this period but UK assets were written down by more than UK liabilities. In 2009, other changes were again the largest contributor to total changes which somewhat offsets the negative dual impact of currency and price effects. This is further evidence that the model may overestimate revaluation effects in volatile periods.

In 2009 Q1 other changes positively impacted on the net IIP. It was this change, combined with a positive price revaluation, which ultimately took the UK to its lowest net liability position in recent times. The main driver of the overall reduction of the net liability position, however, was sterling's depreciation in 2007 and 2008.

Conclusion

Historically the current account deficit has had a considerable negative effect on the UK's stock position; flows, however, are only part of the story. Even though the UK has consistently run a current account deficit

for the past 25 years, other changes have resulted in the UK dramatically improving its net IIP. The model developed by ONS decomposes the changes and clearly shows that the depreciation of sterling was the principal reason why the UK's net liability position reduced considerably in 2007 and 2008. This was the precursor to the recent low net liability position recorded in 2009 Q1. Further evidence also suggests that if the UK valued direct investment assets and liabilities at market price that this would further positively impact on the UK net asset position.

Taking this into account, however, the fundamental situation underpinning the historic growth of the net IIP liability position has not changed. The UK continues to run a current account deficit driven by a deficit in trade in goods and therefore will require an inward flow of finance, or a reduction in reserves, to pay for this deficit. The challenge to the policy makers in the longer term, is to address the continued current account deficit otherwise the UK, sometime in the future, may face a similar sudden market correction as that experienced in 2008.

Note

1   Own funds at book value is the estimated value of the asset/liability provided by the direct investment enterprise (DIE) from its accounting records, as opposed to the direct investor (DI). Estimates from DIE are believed to be closer to market value than estimates provided by the DI.

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Decomposition of IIP changes: data sources, methodology and assumptions

The data used in estimating the model comes from a number of data sources. IIP stock and financial account flow data for direct investment, portfolio investment and other investment comes from ONS and BoE survey sources. The aggregate stock and flow data are published in the ONS's United Kingdom Economic Accounts.

Currency changes are calculated using exchange rate movements for the dollar, euro and the yen - exchange rates are provided by the BoE. Price movements are modelled using a combination of stock and bond indices. Stock movements use weighted end quarter share prices for the Dow Jones, Euro Stoxx and Nikkei. These are adjusted close prices for the latest day in the quarter. Weighted bond indices are used for UK, US, Europe and Japan – the data is recorded for the last day in each quarter.

The model decomposes the change in stock into financial account flows, currency, price and other changes in the IIP. Theoretically other changes should capture volume changes such as write-offs, re-classifications and corrections. However, due to data limitations, other changes in our model are calculated as a residual. Therefore, other changes capture any change not attributable to flows, currency and price effects[1]. The model estimates the changes at the level of asset and liability for the three functional categories of direct investment, portfolio investment, and other investment. The changes are then aggregated to total assets, total liabilities and total net position.

The currency change is calculated by applying a currency coefficient (Cc) to the starting stock and half the flows. The reason that the currency coefficient is applied to only half the flows is that it is assumed that flows and currency changes are attributed evenly across the quarter, and therefore half of the flow transactions will already include the currency effect.

Equation 2 shows that to compose the currency coefficient a geographical weighting is applied to the change in exchange rate for that time period before summing the components.

Equation 2: Currency coefficient

$$Cc_t = \sum G_{it} \Delta X_{it}$$

Cc = Currency Coefficient
G = Geographic weighting
X = Exchange rate
t = time period
i = USA, Europe and Japan

To deduce the currency change in **Equation 3** the currency coefficient is applied to the stock at the beginning of the period and half the flows.

Equation 3: Currency change

$$C_t = \left(IIP_{t-1} + F_t / 2 \right) * Cc_t$$

C = Currency change
IIP = International investment position
F = Flow
t = time period

The price revaluation follows a similar framework as that for currency revaluation. **Equation 4** shows the price coefficient is calculated using a geographical weighting of the proportion of investment applied to movements in the change of stock market indices for that region. Equity price movements are given by Dow Jones, Euro Stoxx Nikkei and FTSE and the changes in the price of debt securities are given by changes in bond indices.

Equation 4: Price coefficient

$$Pc_t = \sum IW_{it} \Delta SI_{it}$$

Pc = Price coefficient
IW = Investment weighting
SI = Stockmarket indices
t = time period
i = USA, Europe, Japan and UK

Finally, as with the currency change, the price change (P) is then estimated by applying the coefficient to the stock at the beginning of the period and half the flows in **Equation 5**.

Equation 5: Price change

$$P_t = \left(IIP_{t-1} + F_t / 2 \right) * Pc_t$$

P = Price change

IIP = International investment position

F = Flow

Pc = Price coefficient

t = time period

In order to estimate the model a number of assumptions have been made in terms of the type of revaluation and the basis on which the item is to be revalued. For example, direct investment is assumed to be recorded at book value and therefore not subject to any price change effects. Direct investment liabilities (foreign direct investment in the UK) are assumed to be all in sterling and therefore not subject to any currency effects. Direct investment assets (UK direct investment abroad) are available with a geographic split rather than a currency split. The assumption is that any investment is made in the currency of the host country, in reality this will not always be the case. For simplicity the analysis has been based on currency changes for three main areas - USA, Europe and Japan. These countries account for approximately 70 per cent of total UK assets and liabilities. **Table A1** provides a scheme for the model with a full list of assumptions and comment on their validity based on type of revaluation, by functional category and transaction broken down by asset and liability.

Note

1   Outside of the decomposition model, reserve asset revaluations, capital account flows and the financial account balancing item are added to the estimate of 'other volume changes' in order to switch from a financial account flow presentation to a current account flow presentation.

Table A1

Scheme of reconciliation and assumptions

Item	Transaction	Assets/ liabilities	Type	Assumptions	Comment
Direct investment	Equity and other capital	Assets	Currency Other	1a. All assets assumed to be in foreign currency 1b. Registered at book value. 1c. Quarterly proportions assumed to be the same as annual. 1d. Proportions assumed to be the same for banks and non banks. 1e. For simplicity the currency movements are estimated for three main areas -USA, Europe and Japan.	1a. The geographical split may not be a good approximation for currency spilt - some foreign assets may be valued in sterling and therefore not subject to currency effects. 1b. Valuing at market price would improve the model. 1c. The model does not pick up changes in ownership during the period. 1d. The banks proportions are likely to be different for non banks. 1e. USA, Europe and Japan account for approximately 70 per cent of all UK direct investment assets but are used to estimate currency changes for total stock.
		Liabilities	Other	2a. All liabilities are assumed to be in domestic currency 2b. Registered at book value	2a. Some UK liabilities may be valued in foreign currency and therefore should be subject to currency effects. 2b. As 1b.
Portfolio investment	Equity	Assets	Currency Price Other	3a. Registered at market value 3b. Proportions assumed different for banks and non-banks. 3c. Assumed to reflect composition of stock price indices of three main areas: euro area, US, Japan.	3a. The price effect is calculated. 3b. Improved price and currency effect estimates as the sector level. 3c. USA, Europe and Japan account for just over 70 per cent of all UK portfolio investment assets but are used to estimate price and currency changes for total stock.
	Debt			3d. Assumed to be in foreign currency 3e. Assumed to reflect composition of bond indices for euro area, US and Japan.	3d. As 1a 3e. As 3c.
	Equity	Liabilities	Price Other	4a. Liabilities assumed to be in domestic currency 4b. Registered at market value 4c. Assumed to reflect composition of FTSE100	4a. As in 2a. 4b. As 3.a. 4c. The composition of the FTSE100 may not accurately reflect the composition of UK liabilities.
	Debt		Currency Price Other	5a. Assumed to be in sterling and three main area currencies reflecting debt issued by UK banks. 5b. Debt issues by non-banks assumed to be in sterling 5c. Assumed to reflect sterling bond index	5a. The apportionment used from the banking sector may not accurately reflect the total. 5b. As in 2a.
Other investment	Trade credits, loans and deposits, other	Assets	Currency Other	6a. Assets assumed to be in sterling and three main area currencies reflecting bank data. 6b. Registered at book value. 6c. Trade credits and other assets proportions assumed to reflect those for loans and deposits.	6a. As 5a. 6b. Reasonable assumption. 6c. Loans and deposit breakdown may not accurately reflect trade credits and other assets proportions.
	Trade credits, currency and deposits, other	Liabilities		Same as trade credits, loans and deposits and other assets listed above.	

Source: ONS (2005)

ARTICLE

Bethan West
Office for National Statistics

Regional gross value added

SUMMARY

This article presents estimates for regional gross value added (GVA) published in December 2009, using the European Union Nomenclature of Units for Territorial Statistics (NUTS) regions (please see **Box 1** for a detailed explanation of the NUTS regional classification). Data are published at the NUTS1 level for the period 1989 to 2008 and at the NUTS2 and NUTS3 level for the period 1995 to 2007.

Data are at current prices, which means that the effects of price inflation and regional price variation are not removed from these data. All comparisons in this article are made between workplace based data for the first year available and for the latest year. **Box 2** gives an overview of the methodology used to compile these estimates. This concludes with ONS future plans for regional economic data.

This analysis explores various aspects of regional GVA. The generation of GVA by regions, sub-regions and local areas is compared with national (UK) performance, in the context of total GVA, GVA per head and GVA per head indices. The article focuses on relative regional performance but also considers changes within regions between the start of the time series and the latest published years' data. The industrial breakdown of UK GVA has changed considerably over this period and the impact at regional level is explored. The inter-relationship between lower level NUTS3 areas and their associated sub-regions is also examined, along with regional demographic variations which may influence data.

Regional (NUTS1) data

Total GVA increased in all regions between 1989 and 2008 (**Table 1**). As a percentage of the 1989 value, London increased the most by 208.3 per cent, followed by Northern Ireland at 205.5 per cent and the South East at 195.4 per cent. Wales increased the least at 133.1 per cent, followed by the North East at 133.9 per cent and the North West at 138.6 per cent.

GVA per head values are calculated by dividing the total GVA by the total population for a region (**Map 1**). In 2008, as a percentage of the 1989 value,

Table 1
NUTS1 regional GVA[1] 1989 and 2008[2]

Region	GVA total (£m)		GVA per head (£)		GVA per head index (UK=100)	
	1989	2008	1989	2008	1989	2008
UK[3]	463 221	1 259 576	8 116	20 520	100.0	100.0
North East	17 492	40 916	6 774	15 887	83.5	77.4
North West	50 581	120 702	7 411	17 555	91.3	85.6
Yorkshire and The Humber	35 689	89 122	7 265	17 096	89.5	83.3
East Midlands	30 629	79 977	7 703	18 041	94.9	87.9
West Midlands	38 836	94 494	7 449	17 463	91.8	85.1
East of England	39 222	111 555	7 736	19 473	95.3	94.9
London	85 987	265 063	12 736	34 786	156.9	169.5
South East	61 531	181 750	8 130	21 688	100.2	105.7
South West	34 712	97 840	7 459	18 782	91.9	91.5
Wales	19 570	45 610	6 854	15 237	84.5	74.3
Scotland	39 566	103 814	7 791	20 086	96.0	97.9
Northern Ireland	9 407	28 734	5 915	16 188	72.9	78.9

Notes: *Source: Office for National Statistics*

1 Figures may not sum to totals due to rounding, per head figures are rounded to the nearest £.
2 2008 estimates are provisional.
3 Excluding statistical discrepancy and Extra-Regio (see Box 1).

Northern Ireland had the highest increase of 173.7 per cent, followed by London with 173.1 per cent and the South East with 166.8 per cent. Wales had the smallest percentage increase with 122.3 per cent, followed by the East Midlands with 134.2 per cent (**Figure 1**).

Per head indices are calculated taking the UK average GVA per head as 100 (**Figure 2**). Only London and the South East had per head indices above the UK average in both 1989 and 2008, London at 156.9 and 169.5 and the South East at 100.2 and 105.7. The lowest per head index

in 1989 was Northern Ireland at 72.9, but in 2008 the lowest was Wales at 74.3. The only two regions to positively narrow the gap towards the UK average over the period were Scotland and Northern Ireland. In 1989 Northern Ireland had an index value of 72.9, increasing to 78.9 in 2008. Scotland increased from 96.0 to 97.9. The East of England and the South West both showed very little movement, dropping 0.4 index points over the period. The largest negative movement away from the UK average was in Wales, which dropped 10.2 index points.

As seen in **Figure 3** London accounted for the largest shares of the UK total (excluding Extra-Regio) in both 1989 and 2008, with 18.6 per cent and 21.0 per cent respectively. The South East had the second largest shares with 13.3 per cent in 1989 and 14.4 per cent in 2008. London and the South East also showed the greatest increase in GVA over the period. Northern Ireland has the smallest shares of the UK with 2.0 per cent and 2.3 per cent. The largest reduction in shares was in the North West, from 10.9 per cent in 1989 to 9.6 per cent in 2008.

Box 1
Regional classification

The Nomenclature of Units for Territorial Statistics (NUTS) provides a single uniform breakdown for the production of regional statistics for the European Union. Estimates of regional GVA are produced at three levels of NUTS in the UK. These are:

- NUTS1: the devolved administrations of Scotland, Wales and Northern Ireland and the nine Government Office Regions (GORs) of England

- NUTS2: 37 areas, sometimes referred to as sub-regions
- NUTS3: 133 areas, generally groups of unitary authorities or districts, also known as local areas
- Extra-Regio GVA is that which cannot be assigned to regions, such as the GVA of embassies and UK armed forces stationed overseas, along with that of activities on the continental shelf

Box 2
Regional gross value added methodology

Regional gross value added (GVA), the primary indicator of economic activity within a region, can be estimated in two ways. The first is the production approach (or GVA(P)), where GVA is calculated as the total of all goods and services produced during the reference period (output) less goods and services used up or transformed in a productive process, such as raw materials and other inputs (intermediate consumption). The second approach is the income approach (GVA(I)), which is the sum of all income from employment (compensation of employees), self-employment (mixed income) and other income generated by the production of goods and services (gross operating surplus). As gross operating surplus is defined as the difference between GVA and compensation of employees for all parts of the economy except the self-employed, the two approaches are conceptually equal. In the UK, regional GVA is estimated using the income approach, due to the greater availability of regional income-based data. As described before, these data are still comparable with regional GVA data produced by other countries using the production approach.

Regional GVA is estimated at current basic prices and comprises gross domestic product (GDP) less taxes (plus subsidies) on products. Taxes on products are taxes that are payable per unit of some good or service produced or transacted. Examples include value-added tax and excise duties. Subsidies are payments made to producers by the government or institutions of the European Union to influence production.

The headline estimates presented in this article are produced using a weighted five-year moving average. These adjusted series remove some year-to-year volatility in the unadjusted series. The

unadjusted data are also published on the ONS website: www.statistics.gov.uk/StatBase/Product.asp?vlnk=14650

All regional GVA data are at current prices, in other words, the effects of price inflation and regional price variation are not removed from these data.

Regional GVA data are calculated using the UK National Accounts as control totals and then prorated to the regions on a top-down basis, as defined in the following sub section on Data sources. Regional information in the form of a wide range of indicator data sets is used to allocate the national GVA, initially to the NUTS1 regions. The NUTS1 totals are then allocated to the constituent NUTS2 and NUTS3 regions. These data are published in line with the ESA 95 requirement to produce NUTS2 and NUTS3 data and associated industrial breakdowns, within two years of the reference period. Additionally, ONS publishes provisional data at NUTS1 within one year of the reference period.

Data sources

The data are allocated to the regional level using the most appropriate indicators available, which are drawn from a wide variety of survey and administrative sources. The main data sets used are HM Revenue and Customs (HMRC) pay-as-you-earn and self-assessment tax data, as well as ONS surveys: the Annual Business Inquiry (Parts 1 and 2), the Short-Term Employment Survey (STES) and the Annual Survey of Hours and Earnings (ASHE) data.

All the input data are subject to a rigorous quality assurance process to determine that they are the best indicators available.

Map 1
GVA per head: by NUTS1 area, 2008

£

22,000 and above
20,000 to 21,999
18,000 to 19,999
16,000 to 17,999
15,999 and under
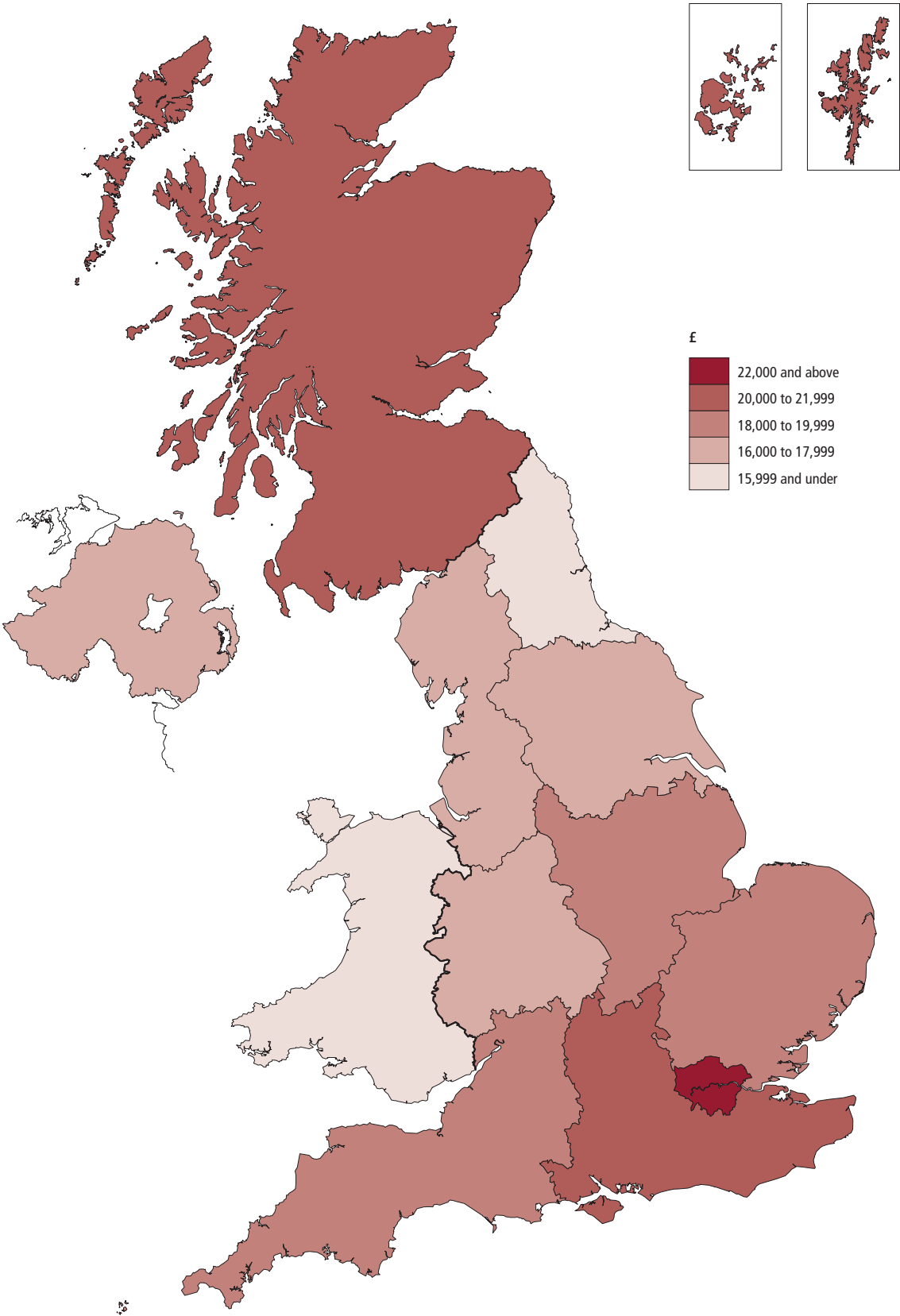
Figure 1
GVA £ per head: by NUTS1 region, 1989 and 2008

United Kingdom
£ per head
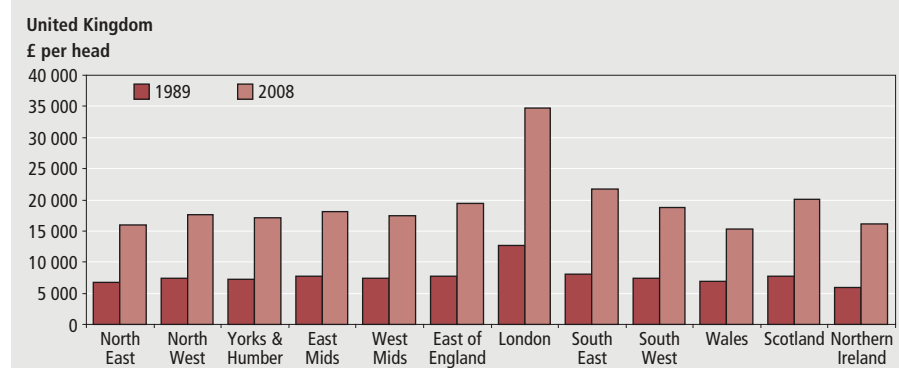
Source: Office for National Statistics

Figure 2
GVA per head indices: by NUTS1 region, 1989 and 2008

United Kingdom
Index, UK average = 100
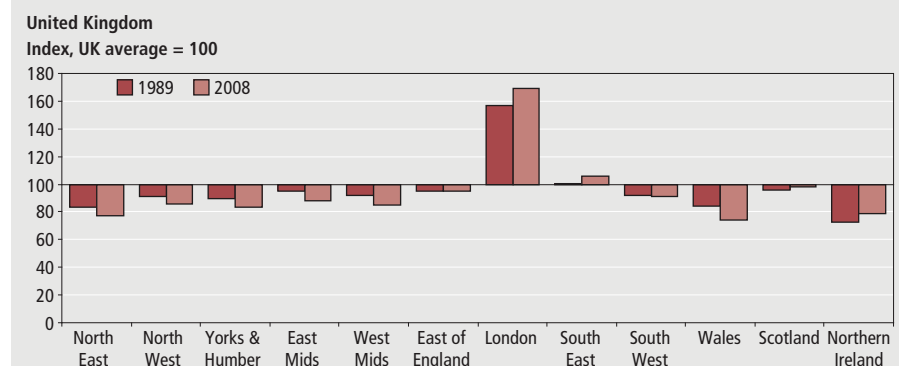
Source: Office for National Statistics

Figure 3
Share of UK GVA: by NUTS1 region, 1989 and 2008

United Kingdom
Percentages
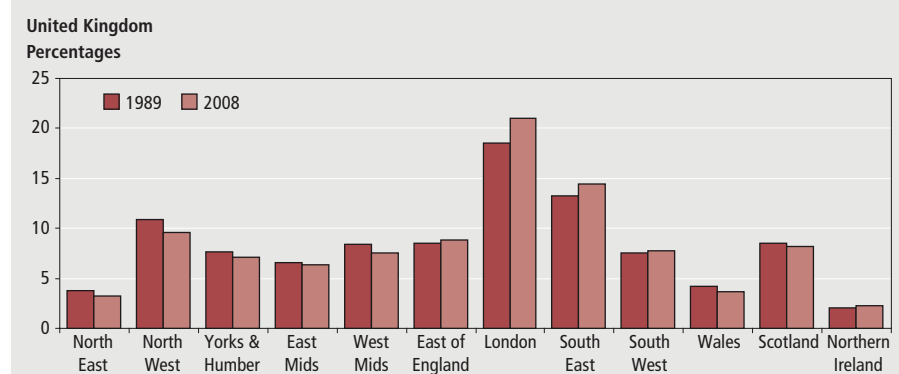
Source: Office for National Statistics

Industrial breakdown of regional (NUTS1) GVA between 1989 and 2007

Industrial data for NUTS1 regions are published to 2007 and full data are available here: www.statistics.gov.uk/StatBase/Product.asp?vlnk=14650. Data are published broken down by 31 and 17 industries.

In 1989 the three industries at the broad seventeen industry level making the largest contribution to UK GVA (**Table 3**) were: manufacturing (24.0 per cent); real estate, renting and business activities (14.6 per cent); and wholesale and retail trade (11.3 per cent). Together these industries contributed 49.8 per cent of UK GVA.

By 2007, these industries when combined contributed 48.5 per cent of UK GVA. However the relative significance of manufacturing and real estate, renting and business activities has shifted notably, with these industries accounting for 12.7 per cent and 24.2 per cent of UK GVA respectively. The contribution of wholesale and retail trade (11.6 per cent in 2007) has increased very slightly since 1989. Of the remaining industries, the largest percentage points change in contribution to UK GVA was in financial intermediation, increasing from 6.3 per cent of UK GVA in 1989 to 8.5 per cent in 2007.

The increase in significance of financial intermediation over this period is most apparent within London and Scotland, where the contribution of this industry to the GVA of these regions has increased from 13.4 per cent to 18.3 per cent and from 4.8 per cent to 7.7 per cent respectively.

The declining contribution of manufacturing to UK GVA over the period 1989 to 2007 is apparent throughout the UK. The largest shift occurred in the West Midlands where the contribution of manufacturing to the region's GVA fell from 32.9 per cent in 1989 to 16.1 per cent in 2007, followed by the North West (from 31.5 per cent to 16.8 per cent) and Wales (from 31.1 per cent to 17.9 per cent).

The increased importance of real estate renting and business activities is apparent throughout the UK. The largest shift occurred in the South East where the contribution of this industry to regional GVA increased from 17.1 per cent in 1989 to 29.1 per cent in 2007. In addition to the South East, the increased importance of this industry at regional level was most apparent in the East of England (from 14.7 per cent to 24.8 per cent) and Northern Ireland (from 7.7 per cent to 17.8 per cent).

In 1989, public administration and defence contributed 6.4 per cent of UK GVA but was most significant to the GVA of Northern Ireland, where it accounted for 16.3 per cent of the region's GVA. In 2007 the contribution of this industry to the GVA of Northern Ireland had fallen to 9.0 per cent.

In 1989, health and social work accounted for 6.2 per cent of the GVA for Wales, slightly higher than this industry's proportion of UK GVA (5.5 per cent). In 2007, health and social work accounted for 10.1 per cent of the GVA for Wales, the largest proportion for this industry at regional level, diverging further from the proportion of UK GVA (7.2 per cent).

Sub-regional (NUTS2) data

GVA per head values by NUTS2 area in 2007 are presented in **Map 2**.

The regions that showed the greatest increase in GVA as a percentage of

Box 3

Diversity of the NUTS1 regions

Wales, Scotland, Northern Ireland and the Government Office Regions of England have differing demographic characteristics and economic performance. **Table 2**, included as part of this Box, shows some of these differences.

Scotland has the largest area, but a relatively small population; London has by far the smallest area, but the second largest percentage of the population (12.4 per cent). At the other extreme, Northern Ireland has the smallest population at 2.9 per cent of the UK total. These large variations in the regions' populations are reflected in the size of regional GVA and incomes. The wide variation in the size of the regions makes it difficult

to compare the regions' economic performance using cash totals. Comparisons are therefore usually expressed in terms of amounts per head of the population. However, it is important to note that the growth in totals may be quite different from the growth per head in regions where the population has increased or decreased. Furthermore, the level per head is affected both by the average amount of income of the working population and by the proportion of the population who are economically inactive. Some regions will have a high proportion of children, which will tend to depress amounts per head. The appropriate use of GVA per head as an indicator is discussed in the National Statistician's article: Measuring regional economic performance (Dunnell 2008).

Table 2
Key regional statistics, 2008

					Percentages of the UK
Region	Area (as per cent of UK)	Population[1] (as per cent of UK)	Economic Activity Rate (per cent)	Gross Value Added per head indices[3] UK=100	Gross Disposable Household Income per head indices[4] UK=100
United Kingdom	100 per cent = 244,167 sq km	100 per cent = 61.4 m	79.2	100.0	100.0
North East	3.5	4.2	76.2	77.4	84.3
North West	5.8	11.2	77.2	85.6	90.0
Yorks & Humber	6.3	8.5	78.2	83.3	88.2
East Midlands	6.4	7.2	81.0	87.9	91.5
West Midlands	5.3	8.8	77.7	85.1	89.7
East of England	7.8	9.3	81.8	94.9	104.3
London	0.7	12.4	76.9	169.5	128.0
South East	7.8	13.7	82.9	105.7	112.9
South West	9.8	8.5	82.1	91.5	98.7
Wales	8.5	4.9	76.1	74.3	87.9
Scotland	32.3	8.4	80.0	97.9	96.2
Northern Ireland	5.8	2.9	73.0	78.9	89.2

Notes:

Source: Office for National Statistics

1 Mid–year population estimates.
2 Labour Market Statistics 2008 (average of four quarters), seasonally adjusted.
3 Calculated on a workplace basis, excluding Extra-Regio and statistical discrepancy.
4 Regional household income estimates as published on 31 March 2010, UK less Extra-Regio.

Table 3
Industrial share of regional GVA: by NUTS1, selected industries

	GVA total (£m)		Of which: manufacturing (per cent)		Of which: wholesale and retail trades (per cent)		Of which: real estate, renting and business activities (per cent)	
Region	1989	2007	1989	2007	1989	2007	1989	2007
UK	463 221	1216 524	24.0	12.7	11.3	11.6	14.6	24.2
North East	17 492	39 648	30.4	17.3	9.9	10.7	11.2	19.2
North West	50 581	116 466	31.5	16.8	11.2	12.2	12.4	21.8
Yorks & Humber	35 689	86 307	29.2	16.8	11.7	12.4	11.8	19.3
East Midlands	30 629	77 497	30.8	18.4	11.8	13.3	11.7	20.6
West Midlands	38 836	91 727	32.9	16.1	11.2	13.0	12.8	21.7
East of England	39 222	108 029	24.2	13.3	12.0	13.3	14.7	24.8
London	85 987	254 621	12.4	5.2	11.2	8.8	20.2	29.9
South East	61 531	176 541	20.3	10.9	12.2	13.2	17.1	29.1
South West	34 712	94 421	20.9	13.1	11.5	11.8	14.9	22.6
Wales	19 570	44 263	31.1	17.9	9.3	11.1	10.9	18.6
Scotland	39 566	99 114	23.2	13.7	10.0	10.0	12.8	19.9
Northern Ireland	9 407	27 890	21.6	14.8	10.1	12.5	7.7	17.8

Source: Office for National Statistics

Map 2
GVA per head: by NUTS2 area, 2007

£

- 27,000 and above
- 21,000 to 26,999
- 17,000 to 20,999
- 15,000 to 16,999
- 14,999 and under
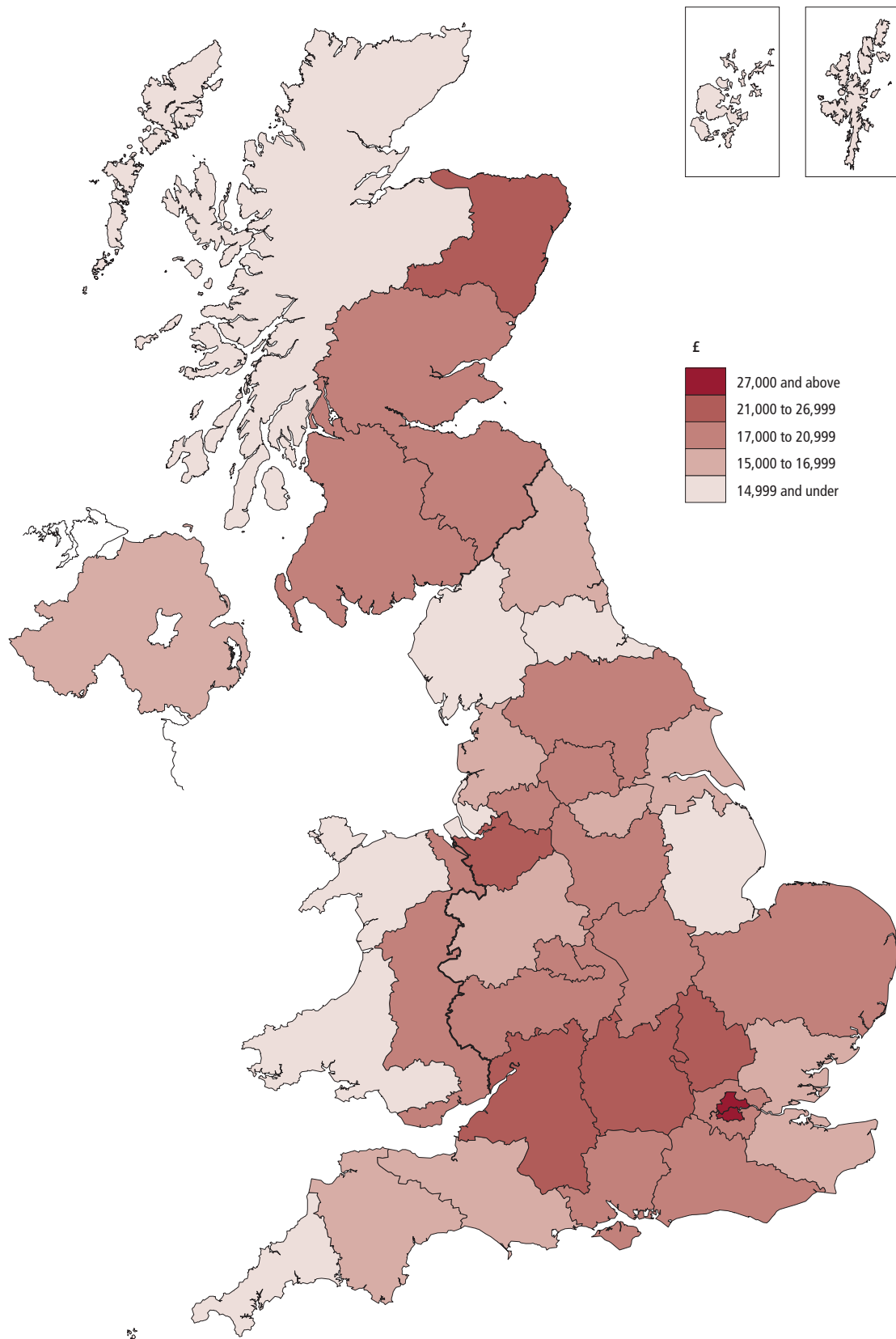
Source: Office for National Statistics

Figure 4
GVA: by NUTS2, highest and lowest percentage increases 1995–2007
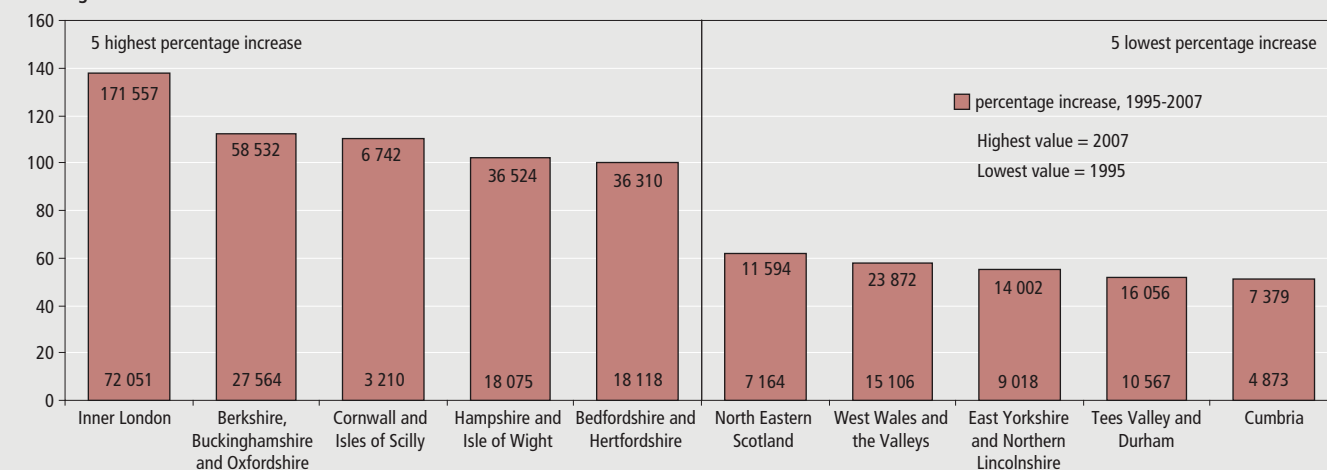
Percentages

Source: Office for National Statistics

Figure 5
GVA per head: by NUTS2, highest and lowest percentage increases 1995–2007
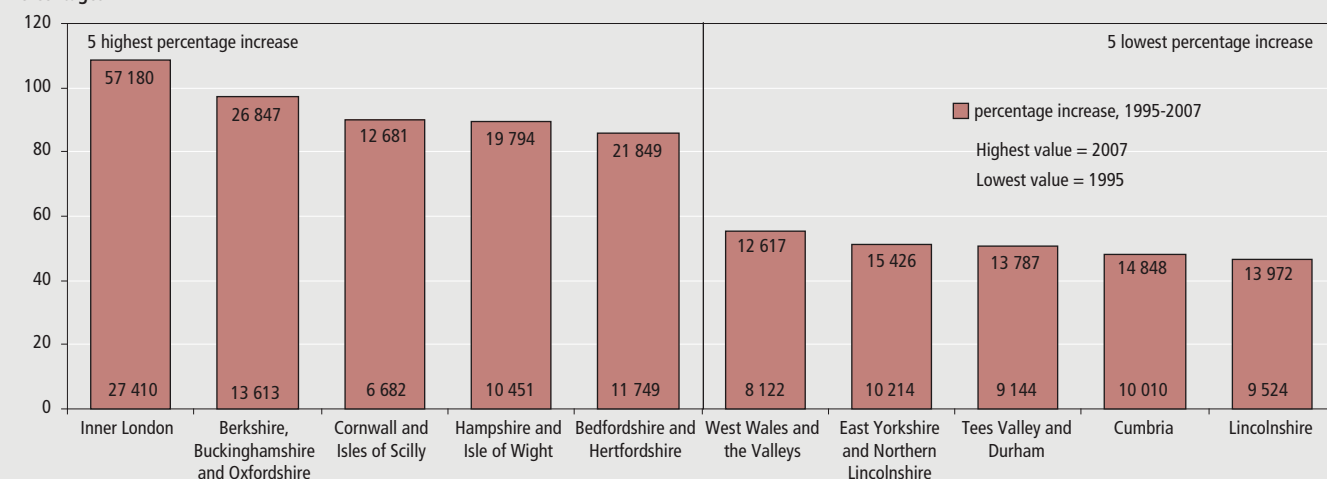
Percentages

Source: Office for National Statistics

the 1995 value were Inner London at 138.1 per cent, followed by Berkshire, Buckinghamshire and Oxfordshire at 112.3 per cent and Cornwall and Isles of Scilly at 110.0 per cent (**Figure 4**). Cumbria showed the smallest increase as a percentage of the 1995 value, with an increase of 51.4 per cent. The next smallest percentage increases were in Tees Valley and Durham with 51.9 per cent and East Yorkshire and Northern Lincolnshire with 55.3 per cent.

Of the NUTS2 regions, Inner London had the greatest increase in GVA per head as a percentage of the 1995 per head value, increasing by 108.6 per cent. Berkshire, Buckinghamshire and Oxfordshire followed with 97.2 per cent and Cornwall and Isles of Scilly with 89.8 per cent

(**Figure 5**). Lincolnshire had the lowest percentage increase with 46.7 per cent, followed by Cumbria with 48.3 per cent and Tees Valley and Durham with 50.8 per cent.

Of the 37 NUTS2 regions, only 13 increased their per head index values (**Figure 6**). Inner London increased from 248.1 in 1995 to 286.6 in 2007, followed by Berkshire, Buckinghamshire and Oxfordshire, from 123.2 to 134.6 and Hampshire and Isle of Wight, from 94.6 to 99.2. The largest falls over the period were in Lincolnshire, from 86.2 to 70.0 and Cumbria, from 90.6 to 74.4, followed by North Eastern Scotland, from 145.4 to 129.6.

Several regions positively closed the gap towards the UK average, the strongest

movement of which was in Hampshire and Isle of Wight. East Wales was the only region to be above the UK average in 1995 but to have fallen below by 2007, from 101.5 to 93.9.

Local area (NUTS3) data

GVA per head values by NUTS3 area in 2007 are presented in **Map 3**.

The NUTS3 regions that showed the greatest increase in GVA as a percentage of the 1995 value were Inner London East with an increase of 139.9 per cent, followed by Inner London West with 137.2 per cent and Milton Keynes with 129.3 per cent (**Figure 7**). Inverclyde, East Renfrewshire and Renfrewshire had the smallest percentage increase of 35.3 per cent, followed by Stoke-on-Trent at 36.8

Map 3
GVA per head: by NUTS3 area, 2007

London Inset

£

33,000 and above

25,000 to 32,999

19,000 to 24,999

15,000 to 18,999

14,999 and under
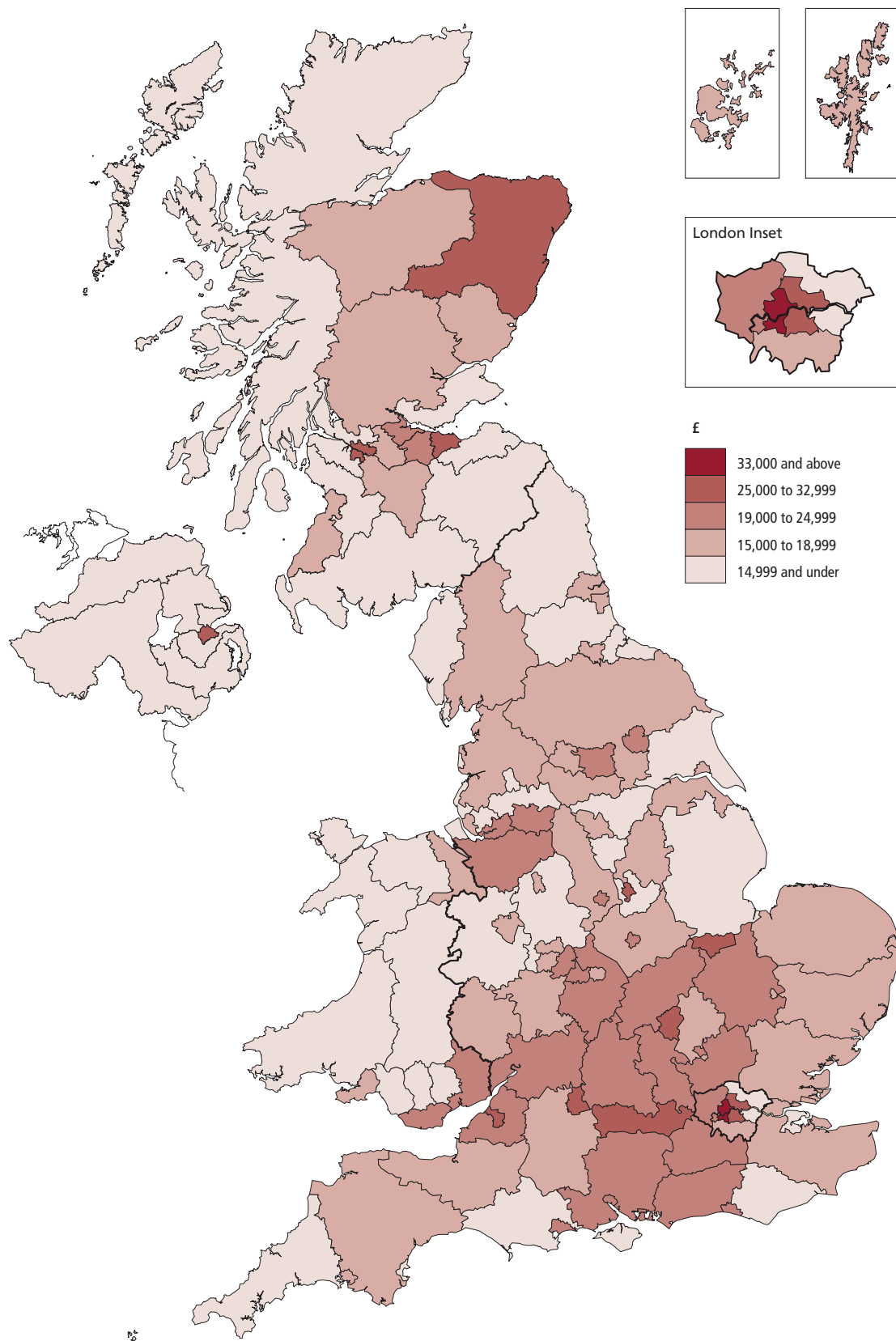
Source: Office for National Statistics

Figure 6
GVA per head indices: by NUTS2, greatest decreases and increases 1995–2007

United Kingdom
Index = 100

Note:

Source: Office for National Statistics
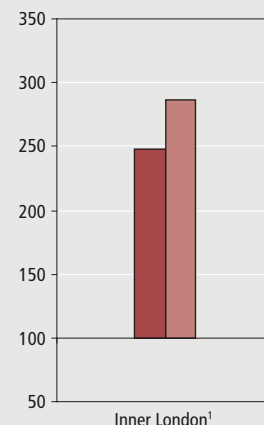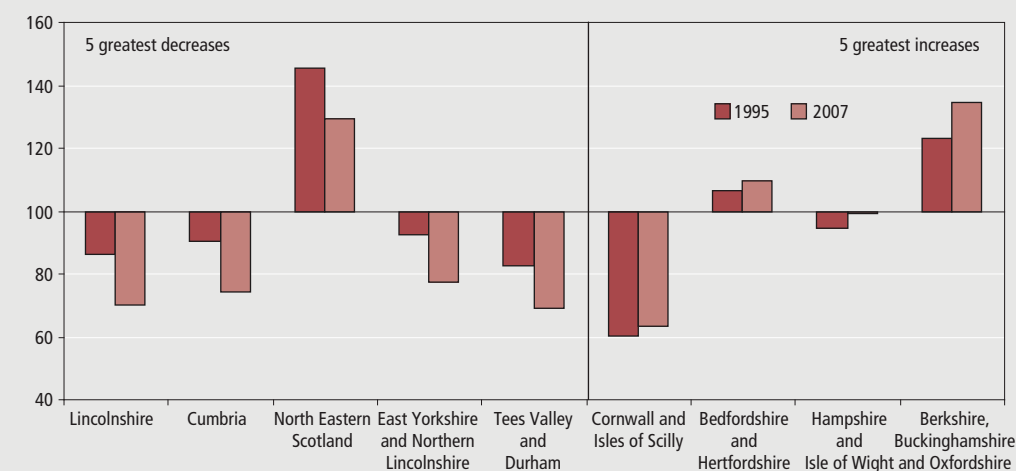
1 Inner London shown separately as the increase is far greater than in other regions.

Figure 7
GVA: by NUTS3, highest and lowest percentage increases 1995–2007

United Kingdom
Percentages
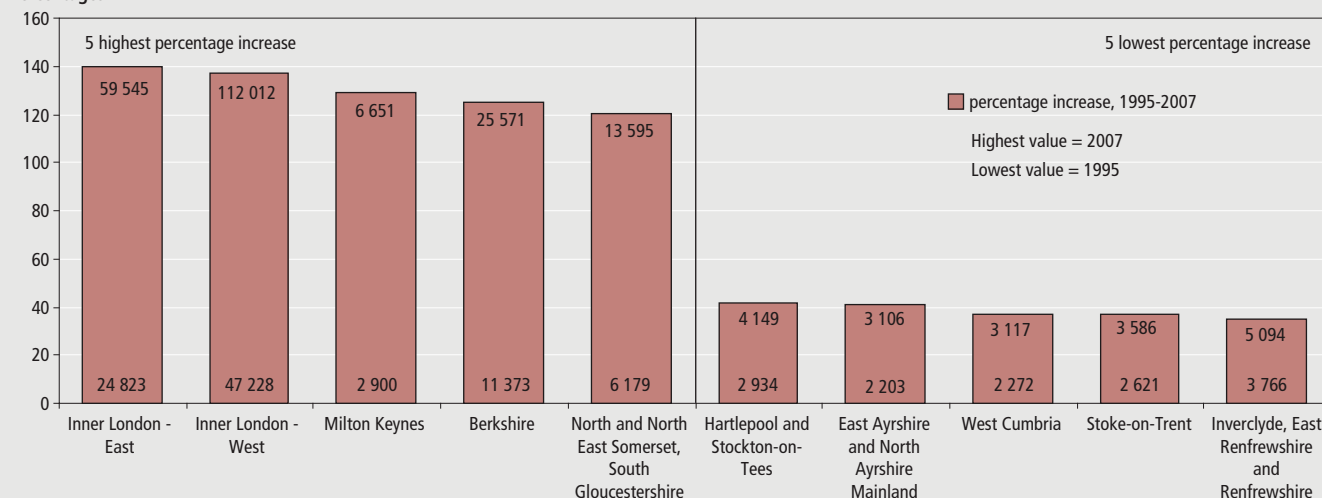
Source: Office for National Statistics

per cent and West Cumbria at 37.2 per cent.

Inner London East had the greatest increase in GVA per head as a percentage of the 1995 value, increasing by 117.0 per cent (**Figure 8**). Belfast followed with 114.7 per cent and Peterborough with 113.1 per cent. Hartlepool and Stockton on Tees had the lowest percentage increase with 34.4 per cent, followed by West Cumbria with 37.9 per cent and Inverclyde, East Renfrewshire and Renfrewshire with 40.3 per cent.

Of the 133 NUTS3 regions, only 49 increased their per head index values. The largest movement was in Inner London West which increased from 466.6 in

1995 to 507.1 in 2007, followed by Inner London East, from 131.2 to 157.6 and Belfast, from 127.2 to 151.2 (**Figure 9**). The largest falls over the period were in Hartlepool and Stockton-on-Tees, from 99.2 to 73.8, followed by Flintshire and Wrexham, from 109.1 to 86.5 and Inverclyde, East Renfrewshire and Renfrewshire, from 96.7 to 75.1.

Several regions positively narrowed the gap with the UK average, the strongest movement of which was in North Lanarkshire, from 70.5 to 79.8. Four regions were below the UK average at the start of the period but above it in 2007, with the largest movement in Bournemouth and Poole which moved

from 88.6 to 100.3. Five regions were above the UK average in 1995 but below it in 2007, the largest movement of which was in Flintshire and Wrexham, from 109.1 to 86.5.

Variation within regions

Over time there can be a general divergence in economic activity between regions in the same NUTS area. As shown in **Figure 10**, in 1995, all the NUTS3 local areas in the NUTS2 sub-region of Northumberland and Tyne and Wear had a similar GVA per head: £8,383 in Northumberland, £9,582 in Tyneside and £8,858 in Sunderland. By 2007, the spread of GVA per head had changed and while Tyneside and

Figure 8
GVA per head: by NUTS3, highest and lowest percentage increases 1995–2007

United Kingdom
Percentages
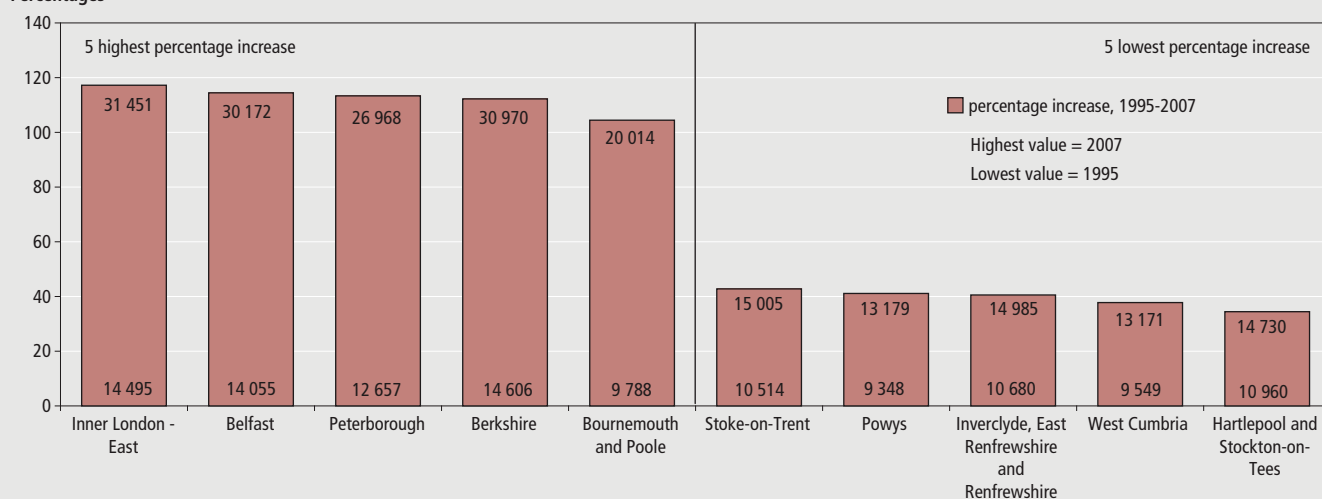
Source: Office for National Statistics

Figure 9
GVA per head indices: by NUTS3, greatest decreases and increases 1995–2007

United Kingdom
Index = 100

Note:

Source: Office for National Statistics
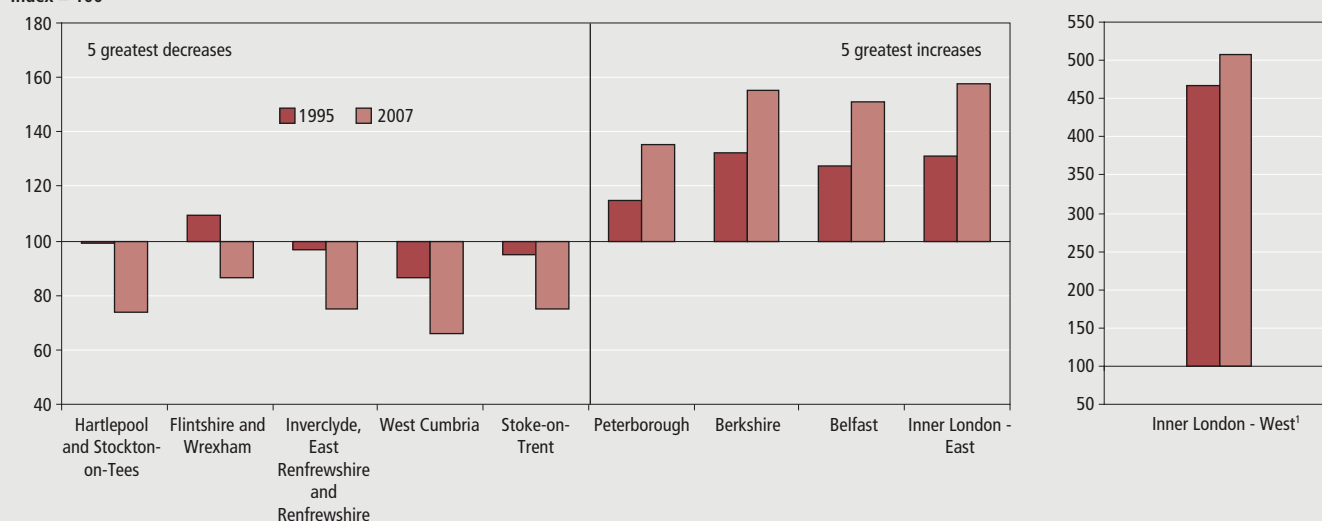
1   Inner London West shown separately as the increase is far greater than in other regions.

Box 4

European Union Structural Funds

Under the European System of Accounts 1995 (ESA 95) and the current transmission requirements, ONS provides GVA plus the compensation of employees (CoE) component with a 6-way industrial split at NUTS2 and NUTS3 to Eurostat. The industrial breakdown uses the Standard Industrial Classification 2003 (SIC03). Eurostat requires the unadjusted data rather than the five-period data presented in this article. In 2009, ONS provided the regional GVA totals consistent with the 2009 National Accounts Blue Book.

Eurostat takes the NUTS2 GVA estimates and allocates the difference between national GVA and GDP on a pro rata basis and then applies purchasing power parities to produce estimates that are comparable across the EU. Although Eurostat takes the unadjusted data from Member States, they use a three year average to remove volatility from the data. Funding criteria are set to these estimates and, although it has not yet been confirmed, it is likely that the next funding decisions will be taken based on NUTS2 data for the three years 2007, 2008 and 2009, which will be published by the ONS in December 2011, based on that year's Blue Book.

The Structural Funds account for approximately one-third of the EU budget and are used to support regional development and employment, particularly in poorer regions and Member States. The funds can be used to finance a wide range of activities including supporting innovation, enterprise and business development, protecting and enhancing the environment, supporting specific sectors of regional economies, delivering active labour market policies and improving skills.

Figure 10
GVA per head: divergence of NUTS3 regions within Northumberland and Tyne and Wear
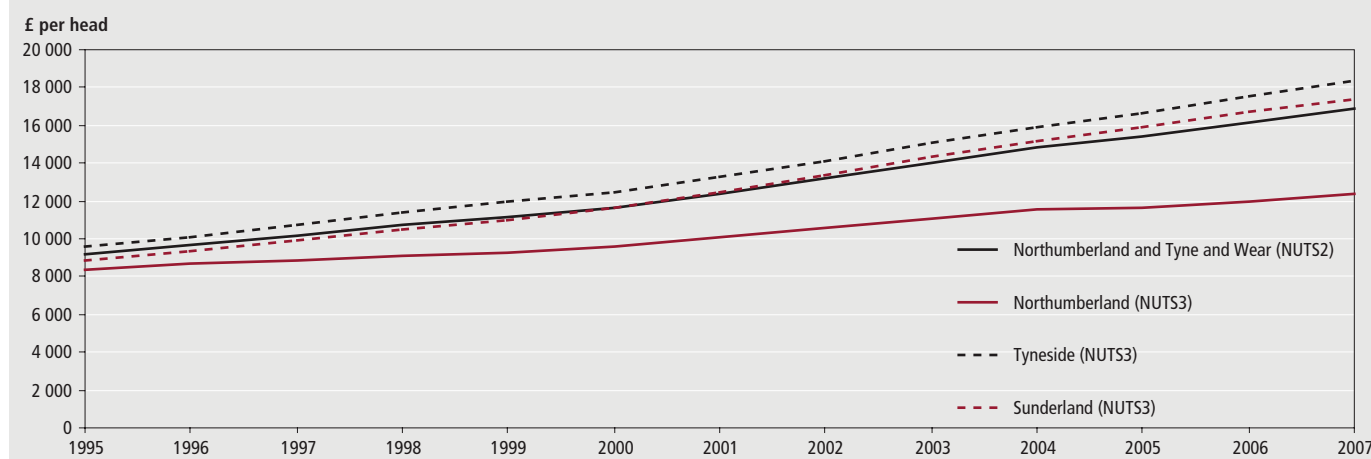
£ per head

Source: Office for National Statistics

Figure 11
GVA per head: NUTS3 variations within NUTS1 regions, 2007

£ per head
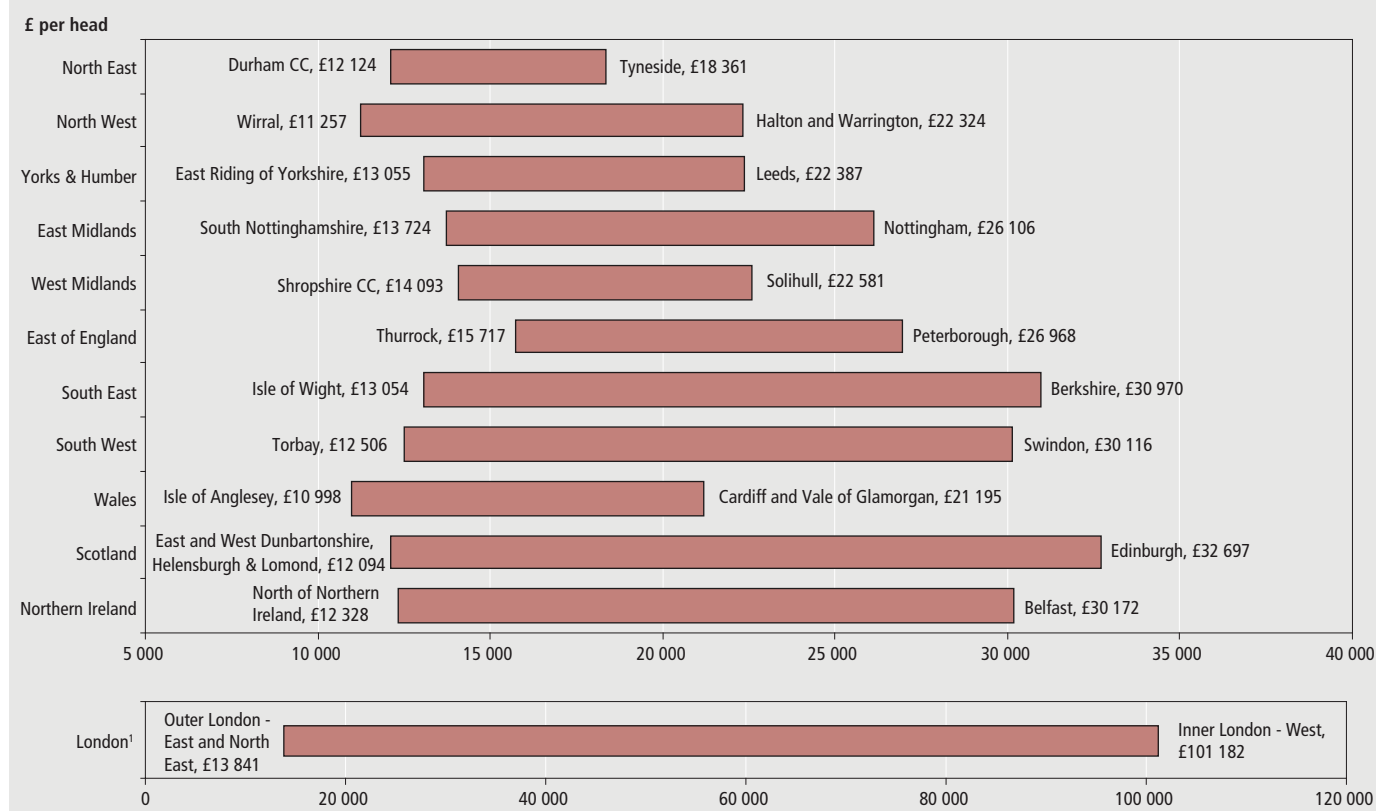
Note:

1 London shown separately as the scale of variation is far greater than in other regions.

Source: Office for National Statistics

Sunderland were similar at £18,361 and £17,411 respectively, Northumberland was much lower at £12,417.

Figure 11 illustrates the variation to be found within regions. The range of NUTS3 GVA per head is shown for 2007 for each NUTS1 region, with the highest and lowest values in each NUTS3 being highlighted. London has by far the highest amount of variation, between Outer London East and North East with £13,841 and Inner London West with £101,182.

The region with the least variation is the North East, between Durham CC with £12,124 and Tyneside with £18,361.

Revisions

In the UK National Accounts *Blue Book* 2009, the totals for national GVA by industry were revised as far back as 2004. These lead to revisions in the regional data, which are constrained to the national figures. PAYE data from Her Majesty's Revenue and Customs (HMRC), used in the

compilation of compensation of employees estimates, were revised for 2004/05, 2005/06 and 2006/07 and new estimates supplied for 2007/08. Final estimates for 2007 became available from the Annual Survey of Hours and Earnings, Annual Business Inquiry and other data sources.

Future regional accounts work plans

An article on the March 2010 release of regional gross disposable household

income (GDHI) will be published in *Economic and Labour Market Review* (ELMR) in Summer 2010.

ONS plans to publish estimates of regional GVA for 1989 to 2009 and sub-regional and local GVA for 1995 to 2008 in December 2010.

The publication of regional household income estimates for the period 1995 to 2009 is currently planned for Spring 2011.

The new Eurostat NACE Rev2 and its UK equivalent, the Standard Industrial Classification of All Economic Activities (UK SIC2007) will be implemented in

the UK national accounts (and therefore GDP) in September 2011 (in line with EU regulation). This new classification will be implemented in the regional GVA estimates in December 2011, also in line with EU regulation.

FURTHER INFORMATION

The full Regional Accounts Gross Value Added publication can be accessed on the ONS website at www.statistics.gov.uk/statbase/product. asp?vlnk=14650

CONTACT

✉ elmr@ons.gsi.gov.uk

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ARTICLE

Dominic Hale
Office for National Statistics

Labour disputes in 2009

SUMMARY

In 2009, 455,200 working days lost in the UK from 98 stoppages of work arising from labour disputes. In 2009 strike action between the public and private sectors were evenly spread, with 49 strikes in each sector.

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. This year's article will present data in both a Standard Industrial Classification (SIC) 2003 and 2007 basis, although the majority of the article will be solely SIC 2007.

Data is 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 ONS has been notified of a dispute from press reports. This article presents final figures on labour disputes for 2009 and analyses the figures in more depth than the provisional estimates published as part of monthly Labour Market Statistics Bulletin.

Key messages

In the calendar year 2009:

- there were 455,200 working days lost through labour disputes in 2009
- there were 98 stoppages of work because of labour disputes in 2009. The 2009 figure of 98 compares with 144 stoppages in 2008 and 142 stoppages in 2007
- the majority of working days lost (81 per cent) were in the public sector, while the number of total stoppages (98) was more evenly split (50 per cent in each sector)

- 60 per cent of working days lost were due to redundancy disputes
- this article includes figures based on Standard Industrial Classification (SIC) 2007 for the first time

Annual changes

A comparison of statistics on labour disputes in 2008 and 2009 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 2009 total of 455,200 working days

Table 1

Number of stoppages, workers involved and working days lost in 2008 and 2009

United Kingdom		Number
Working days lost through stoppages	**2008**	**2009**
In progress in year [1]	758,900	455,200
Beginning in year	757,500	455,100
Workers involved in stoppages in progress in year[2]	511,200	208,500
Of which: directly involved	509,500	207,900
indirectly involved	1,700	600
Beginning in year	509,100	208,500
Of which: directly involved	507,400	207,800
indirectly involved	1,700	600
Stoppages		
In progress in year	144	98
Beginning in year	141	97

Notes: *Source: ONS Labour Market Statistics*

1 Stoppages that began in 2008 and continued into 2009 accounted for 100 days lost in 2009.
2 Workers in progress figures also include workers who did not strike initially, but who joined at a later date.

Table 2
Number of stoppages and working days lost, 1990–2009

United Kingdom   Number

Year	Working days lost (000s)	Working days lost per 1,000 employees 1	Workers involved (000s)	Stoppages[2]	Stoppages involving the loss of 100,000 working days or more
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
2008	759	28	511	144	2
2009	455	17	209	98	1

Source: ONS Labour Market Statistics

Notes:
1   Based on the (September 2009) estimates of employee jobs.
2   Stoppages in progress during year.

Figure 1
Working days lost, 1990–2009

United Kingdom
Millions
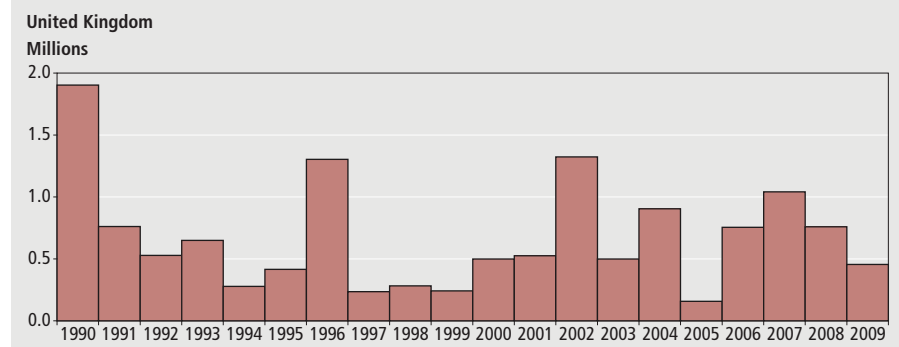
Source: ONS Labour Market Statistics

Figure 2
Stoppages in progress, 1990–2009

United Kingdom
Number
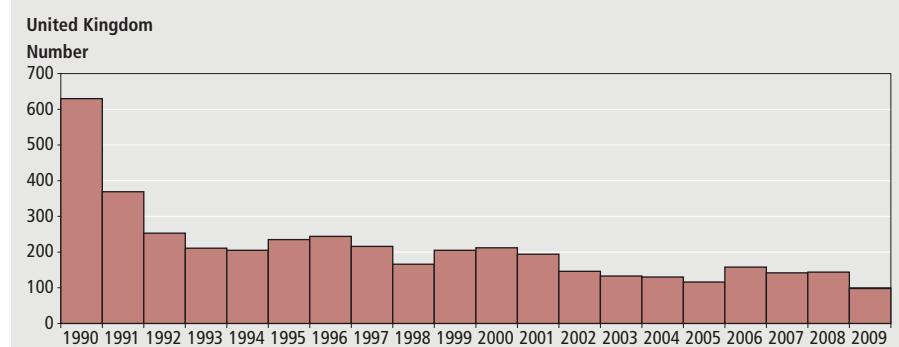
Source: ONS Labour Market Statistics

lost is lower than the 2008 total of 758,900. The 2009 total is also lower than the average number of working days lost per year in the 1990s (660,000) and considerably lower than the average for both the 1980s (7.2 million) and the 1970s (12.9 million).

The 98 stoppages total in 2009 is considerably lower than the 2008 total of 144. There was just one stoppage beginning in 2008 which continued into 2009. The number of stoppages has fallen sharply since the 1990s when the average annual number was 273.

There were 208,500 workers involved in labour disputes during 2009; this compares with 509,100 in 2008. The number of workers involved is slightly higher than the average number involved in the 1990s (201,600) but considerably below the average in the 1980s (1,040,300).

Review of 1990 – 2009
Table 2 presents labour dispute figures for the period 1990 to 2009 and **Figures 1** and **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 what was the transport, storage and communication group. This shows the impact that large disputes can have on the statistics. This was also evident

Table 3
Number of stoppages and working days lost by industry, 2009

United Kingdom   **Number**

Industry group (SIC 2007)	SIC class	Working days lost (000s)[1]	Workers involved (000s)[1]	Stoppages [2]
All industries and services [3]				
Mining and energy (includes air conditioning)	5-9, 35	0.2	0.2	1
Manufacturing	10-33	1.1	0.5	6
Services	36-39 45-99	394.6	192.8	84
Agriculture forestry and fishing	01,02,03	–	–	–
Mining, quarrying and Electricity, gas, air conditioning	5-9, 35	0.2	0.2	1
Manufacturing	10-33	1.1	0.9	6
Sewerage, Waste Management and Remediation Activities and Water Supply	36-39	86.1	2.8	5
Construction	41-43	59.2	14.6	7
Wholesale and retail trade; repair of motor vehicles, personal and household goods and Accommodation and Food Services	45-48, 55-56	–	–	–
Transport, storage, Information and Communication	49-53, 58-63	296.2	183.8	37
Financial and Insurance, Real estate, Professional, Scientific, Technical and Admin Activities	64-82	0.6	0.4	6
Public administration and defence; compulsory social security	84	5.1	1.3	5
Education	85	6.7	4.5	30
Human Health and social work	86-88	–	–	–
Arts Entertainment and Recreation Other community, social and personal service activities, private households with employed persons, extra-territorial organisations and bodies	90-99	–	–	1

Notes: *Source: ONS Labour Market Statistics*

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.

Table 4
Working days lost per 1,000 employees by Industry, 2008 and 2009

United Kingdom   **Number**

Industry group (SIC 2007)	SIC Class	2008	2009
All industries and services			
Mining and energy (includes air conditioning)	5-9, 35	0	1
Manufacturing	10-33	3	0
Services	36-39, 45-99	34	18
Agriculture forestry and fishing	01,02,03	0	0
Mining, quarrying and Electricity, gas, air conditioning	5-9, 35	0	1
Manufacturing	10-33	3	0
Sewerage, Waste Management and Remediation Activities and Water Supply	36-39	18	582
Construction	41-43	2	46
Wholesale and retail trade; repair of motor vehicles, personal and household goods and Accommodation and Food Services	45-48, 55-56	0	0
Transport, storage, Information and Communication	49-53, 58-63	11	135
Financial and Insurance, Real estate, Professional, Scientific, Technical and Admin Activities	64-82	0	0
Public administration and defence; compulsory social security	84	417	3
Education	85	42	3
Human Health and social work	86-88	0	0
Arts Entertainment and Recreation Other community, social and personal service activities, private households with employed persons, extra-territorial organisations and bodies	90-99	1	0

Source: ONS Labour Market Statistics

Table 5
Working days lost per 1,000 employees by industry group,[1] 2000–2009

United Kingdom					Number
	Mining and energy	Manufacturing	Services	Construction	All industries and services
SIC2003 – 2000	17	13	20	37	20
2001	141	11	22	8	20
2002	1	6	62	13	51
2003	2	18	20	11	19
2004	29	6	41	0	34
2005	34	5	6	1	6
2006	74	6	32	12	28
2007	–	5	46	2	38
SIC2007 – 2008	0	3	34	2	29
2009	1	0	18	46	17

Notes:

Source: ONS Labour Market Statistics

1 Based on the latest available (September 2009) estimates of employee jobs.
– Nil or negligible.

Figure 3
Working days lost per 1,000 employees by sectors, 2000–2009[1]
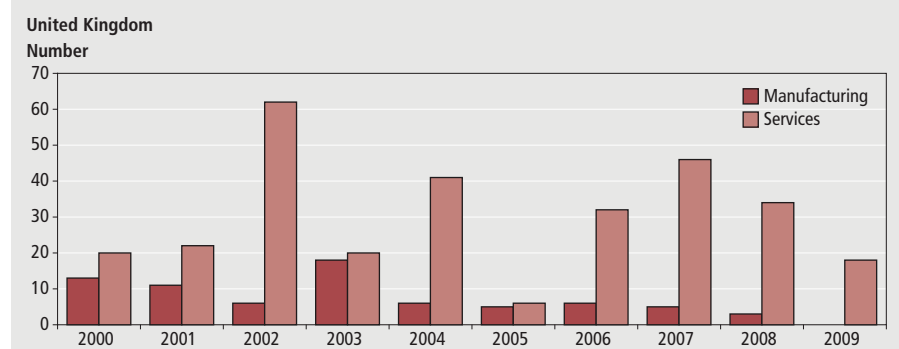
Source: ONS Labour Market Statistics

Note:

1 Figures for 2008 and 2009 are based on the new SIC 2007 classification with previous years on a SIC 2003 basis. However comparisons can still be made as changes at such a high level are minimal.

in both 2002 and 2007 when disputes in public administration accounted for a high percentage of the total days lost over the both years.

Both Figure 1 and Figure 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 1990 to 2009. This is the standard method used to convert working days lost into a strike rate, taking into account 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 as 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 due to the reasons mentioned earlier. The 455,200 working days lost in 2009 is equivalent to 17 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 2009 an estimated 41,100 million hours were worked in the UK. Comparing this to 3.6 million hours lost through strikes shows that approximately one in every 11,600 potential working days were lost through strikes in 2009. The equivalent figure for 2008 was one in every 7,200.

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 2009 broken down into 12 industrial groups (classified according to the Standard Industrial Classification 2007). **Table 4** shows working days lost per 1,000 employees in 2008 and 2009 for the same industries. Although there has been a change from SIC 2003 to SIC 2007 this year the impact on the data is not significant as the article uses high level groupings. The major changes are the streamlined manufacturing section, which is now grouped into one instead of the previous split of 14 sub sections.

65 per cent of the working days lost in 2009 were a result of 37 stoppages in transport, storage, information and communication, while 19 per cent of the days lost were from 5 stoppages in waste management and a further 13 per cent from 7 stoppages in construction. There were also 30 stoppages in finance and administration, which resulted in 6,700 working days being lost. The decline in the UK manufacturing industry is again evident with another record low of 1,100 days lost compared to 6,900 in 2008.

Table 4 presents the strike rates for 2008 and 2009. The rate for the service sector has fallen significantly in 2009. The strike rate in the mining and energy sector remained stable while the strike rate for manufacturing has fallen to zero for the first time, again a record low.

Table 5 shows strike rates over time for the mining and energy industries, manufacturing and services sectors. Due to the decline of the UK manufacturing industry, the service sector continues to be considerably higher than manufacturing. The mining and energy rate, which can be erratic, has levelled out in 2009. It is worth noting that, due to the changes in SIC for both 2008 and 2009 both water and waste collection are now included in

Table 6
Stoppages in progress by Government Office Region and industry group, 2009[1,2,3]

United Kingdom													Number
	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 1,000 employees [4] – all industries and service													
2005	7	7	4	3	11	1	4	11	1	2	7	15	6
2006	51	43	23	18	15	8	8	10	5	51	49	30	28
2007	45	44	34	19	28	27	34	44	26	41	40	45	39
2008	54	38	24	17	22	12	7	13	7	48	60	4	28
2009	13	12	61	7	6	10	10	33	7	12	12	3	17
2009 by industry group (SIC 2007)													
Working days lost (000s)													
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	0.2	–	–	–	–	–	–	–	–	–	–	–	0.2
Manufacturing	0.1	0.5	–	–	–	–	–	–	–	0.3	0.2	–	1.1
Construction	7.6	8.9	23.2	2.7	–	0.6	1.3	–	1.0	5.9	5.3	0.1	59.2
Transport, storage, information and communication	5.5	26.7	18.7	10.1	13.9	19.1	22.0	125.9	22.5	7.3	21.3	2.2	296.2
Public administration and defence	–	–	2.7	–	–	–	–	–	–	–	1.5	–	5.1
Education	0.1	0.1	1.3	0.2	0.1	–	0.1	3.6	0.2	–	0.2	–	6.7
Health and social work	–	–	–	–	–	–	–	–	–	–	–	–	–
Other Services	–	0.3	84.2	–	–	1.1	–	0.2	0.5	–	0.4	–	86.8
All industries and services	**13.5**	**36.5**	**130.1**	**13.0**	**14.0**	**20.8**	**23.4**	**129.6**	**24.3**	**13.5**	**28.9**	**2.3**	**455.2**
Workers involved (000s)													
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	0.2	–	–	–	–	–	–	–	–	–	–	–	0.2
Manufacturing	0.1	0.3	–	–	–	–	–	–	–	0.3	0.2	–	0.9
Construction	1.8	3.8	3.9	0.6	–	0.6	0.6	–	0.4	1.8	2.0	0.1	14.6
Transport, storage, information and communication	6.1	19.9	14.9	10.1	12.1	15.4	16.0	43.8	22.6	7.1	12.9	2.4	183.8
Public administration and defence	–	–	0.5	–	–	–	–	–	–	–	0.1	–	1.3
Education	–	0.1	1.0	0.2	0.1	–	0.1	2.3	0.3	–	0.1	–	4.5
Health and social work	–	–	–	–	–	–	–	–	–	–	–	–	–
Other Services	–	0.2	2.2	–	–	0.3	–	0.1	0.3	–	0.1	–	3.2
All industries and services	**8.1**	**24.3**	**22.5**	**10.9**	**12.3**	**16.2**	**16.6**	**46.2**	**23.6**	**9.3**	**15.4**	**2.5**	**208.5**
Stoppages													
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	1	–	–	–	–	–	–	–	–	–	–	–	1
Manufacturing	1	2	–	–	–	–	–	–	–	1	2	–	6
Construction	3	3	4	2	–	2	2	–	2	2	2	1	7
Transport, storage, information and communication	1	6	6	5	2	1	3	13	2	2	4	1	37
Public administration and defence	–	–	1	–	–	–	–	–	–	–	2	1	5
Education	1	2	6	1	3	–	1	14	4	1	1	–	30
Health and social work	–	–	–	–	–	–	–	–	–	–	–	–	–
Other Services	–	1	2	–	1	1	–	2	2	–	2	–	12
All industries and services	**7**	**14**	**19**	**8**	**6**	**4**	**6**	**29**	**10**	**6**	**13**	**3**	**98**

Notes:

Source: ONS Labour Market Statistics

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 5,300 days lost in 2009.
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.
4   Based on the latest (September 2009) estimate of employee jobs.
–   Nil or negligible

services, this was previously in mining and energy, so comparisons should be made with caution. It is also worth noting however, that the employment in both mining and manufacturing has dropped dramatically over the last decade. For the first time construction is included in this table, with a back series also present. This sector dominates the figures in 2009 due to nationwide strikes throughout the year. **Figure 3** shows the strike rates for the manufacturing and services sectors separately for the period between 2000 and 2009. This chart depicts that the service has a larger strike rate per 1,000 employees when compared to the manufacturing industry. In each of the last ten years the strike rate in the service sector has been

Map 1
Working days lost per 1,000 employees in 2009; all industries and services

United Kingdom

Working days lost due to labour
disputes per 1,000 employees

- 41 and over
- 21 to 40
- 11 to 20
- 10 and under

Scotland
12

Northern
Ireland
3

North East
13

North West
12

Yorkshire
and The Humber
61

East Midlands
7

West
Midlands
6

Wales
12

East of England
10

London
33

South East
7

South West
10
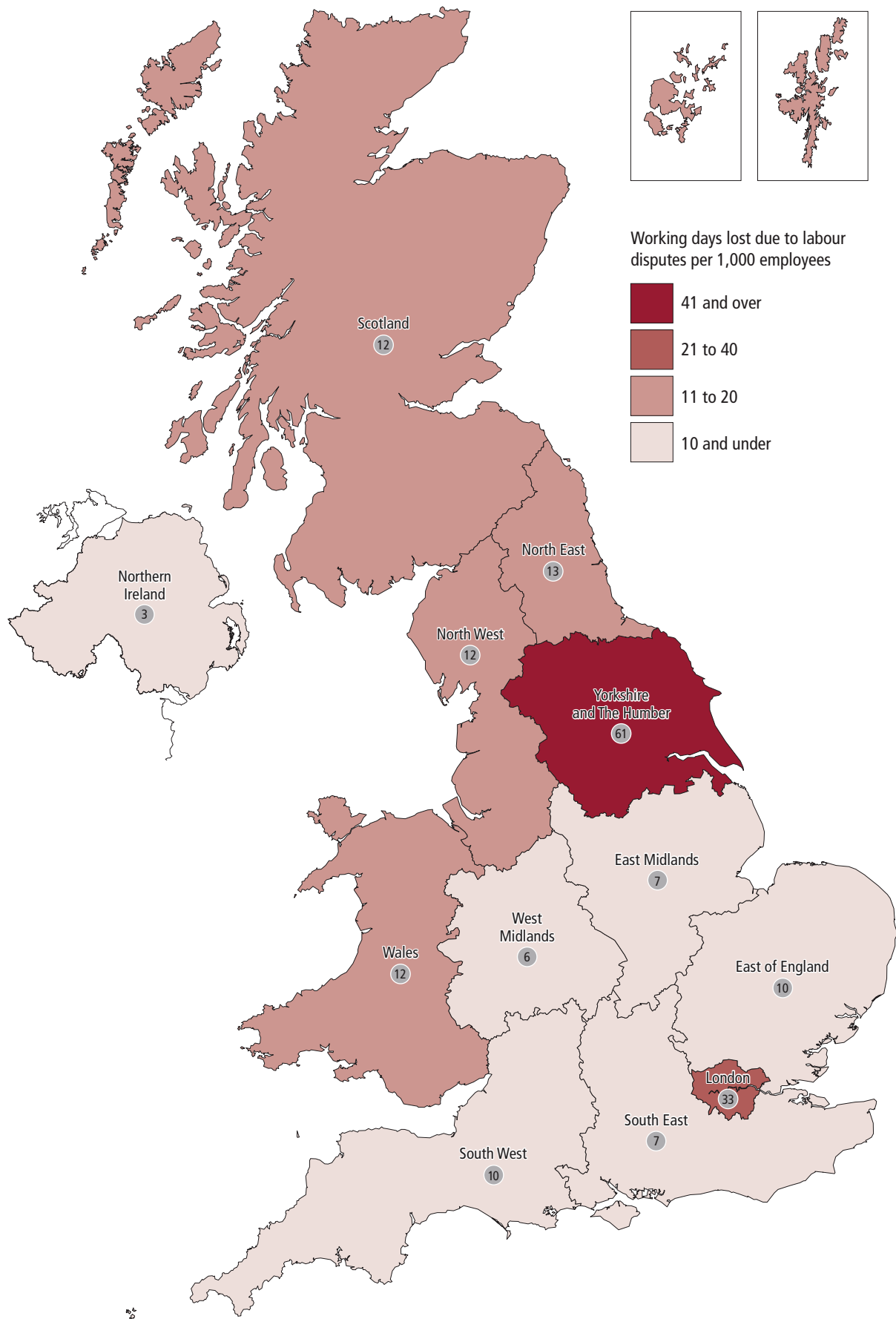
Source: ONS Labour Market Statistics

Table 7
Working days lost, workers involved and stoppages in progress by main cause and broad industry group, 2009

United Kingdom
Number

| | Wage disputes | | | Other causes | | | | | | |
	Wage rates and earnings levels	Extra wage and fringe benefits	Total Wage Disputes	Duration and pattern of hours worked	Redun-dancy questions	Trade union matters	Working conditions and supervision	Staffing and work allocation	Dismissal and other disciplinary-measures	All causes
Working days lost (000s)[1]										
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	–	–	–	–	0.2	–	–	–	–	0.2
Manufacturing	0.7	0.3	1.0	–	0.1	–	–	–	–	1.1
Construction	39.6	–	39.6	–	0.5	0.2	–	18.9	–	59.2
Transport, storage, information and Communication	19.2	–	19.2	1.5	270.4	2.1	0.1	0.1	3.0	296.4
Public administration and defence	1.5	–	1.5	–	2.7	–	0.9	–	–	5.1
Education	2.4	–	2.4	1.4	1.4	–	0.3	1.1	0.1	6.7
Other services	86.7	–	86.7	–	–	–	–	–	0.1	86.8
All industries and services	**150.1**	**0.3**	**150.4**	**2.9**	**275.2**	**2.2**	**1.3**	**20.1**	**3.1**	**455.2**
Workers involved (000s)[1]										
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	–	–	–	–	0.2	–	–	–	–	0.2
Manufacturing	0.5	0.3	0.8	–	0.1	–	–	–	–	0.9
Construction	7.3	–	7.3	–	0.3	0.1	–	6.9	–	14.6
Transport, storage, information and Communication	5.8	–	5.8	0.4	173.9	0.8	0.1	0.2	2.7	183.9
Public administration and defence	0.1	–	0.1	–	0.5	–	0.7	–	–	1.3
Education	1.7	–	1.7	0.5	1.2	–	0.3	0.8	0.1	4.6
Other services	3.1	–	3.1	–	–	–	–	–	0.1	3.2
All industries and services	**18.5**	**0.3**	**18.8**	**0.9**	**176.1**	**0.9**	**1.1**	**7.9**	**2.9**	**208.5**
Stoppages [2]										
Agriculture, forestry and fishing	–	–	–	–	–	–	–	–	–	–
Mining, quarrying, electricity, gas, Steam and Air conditioning	–	–	–	–	1	–	–	–	–	1
Manufacturing	4	1	5	–	1	–	–	–	–	6
Construction	4	–	4	–	1	1	–	1	–	7
Transport, storage, information and Communication	21	–	21	3	7	1	1	2	2	37
Public administration and defence	2	–	2	–	1	–	2	–	–	5
Education	9	–	9	4	6	–	4	6	1	30
Other services	11	–	11	–	–	–	–	–	1	12
All industries and services	**51**	**1**	**52**	**7**	**17**	**2**	**7**	**9**	**4**	**98**

Notes:

Source: ONS Labour Market Statistics

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 by main cause in all industries and services, 1999–2009

United Kingdom
Thousands

| | Wage disputes | | | Other Causes | | | | | | |
Year	Wage rates and earnings levels	Extra wage and fringe benefits	Total	Duration and pattern of hours worked	Redun-dancy questions	Trade union matters	Working conditions and supervision	Staffing and work allocation	Dismissal and other disciplinary	All causes
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	1039	137	1176	3	14	5	110	10	7	1323
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	1041
2008	748	2	750	5	1	1	1	0	0	759
2009	150	0	150	3	275	2	1	20	3	455

Notes:

Source: ONS Labour Market Statistics

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, 2009

United Kingdom
Per cent

Source: ONS Labour Market Statistics

Figure 5
Working days lost by principal cause of dispute, 2000–2009

United Kingdom
Per cent
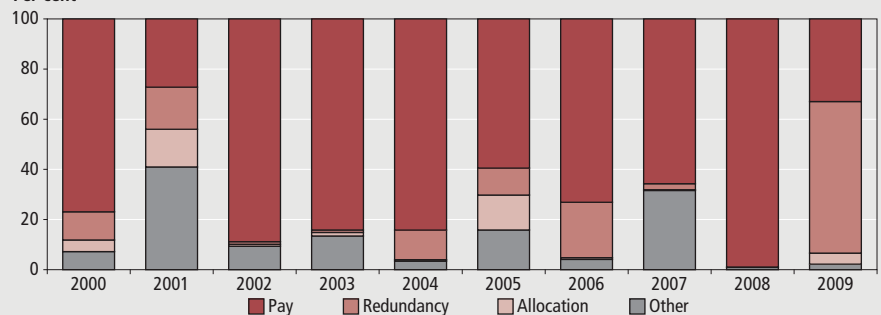
Source: ONS Labour Market Statistics

higher than that of the manufacturing sector – generally because of large strikes in the public administration and transport sectors.

Regional analyses

Table 6 shows regional strike rates at the Government office region level between 2005 and 2009, with a further breakdown of the figures for 2009 by industry (SIC07). The rates for 2009 are also illustrated in **Map 1**. When interpreting these figures, it is important to bear in mind that the industrial 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 2009 was the Yorkshire and the Humber with 61. As was the case last year, 9 of the 12 regions saw a decrease in their strike rates compared to 2008. Last years highest Scotland showed the sharpest fall from 60 in 2008 to 12 in 2009. The North East, North West, East Midlands and Wales also showed significant decreases in 2009.

Causes of disputes

Table 7 shows stoppages in 2009 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 2009

Table 9
Stoppages in progress by duration[1] in working days, 2009

United Kingdom

	Working days lost (000s) [2,3,4]	Proportion of all working days lost (%)	Workers involved (000s) [3]	Proportion of all workers (%)	Stoppages in progress	Proportion of all stoppages (%)
Days [1]						
1	6.0	1.3	6.5	3.1	48	49.0
2	8.1	1.8	5.7	2.7	19	19.4
3	8.4	1.8	3.2	1.5	9	9.2
4	2.8	0.6	1.0	0.5	4	4.1
5	4.7	1.0	1.0	0.5	6	6.1
6-10	27.8	6.1	8.1	3.9	5	5.1
11-15	43.4	9.5	7.4	3.5	3	3.1
16-20	1.0	0.2	0.1	0.0	1	1.0
21-30	0.0	0.0	0.0	0.0	0	0.0
31-50	0.0	0.0	0.0	0.0	0	0.0
Over 50	352.9	77.5	175.5	84.2	3	3.1
All stoppages	**455.2**	**100**	**208.5**	**100**	**98**	**100**

Source: ONS Labour Market Statistics

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 2009.
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 6
Stoppages in progress by duration in working days, 2009

United Kingdom
Per cent

Legend:
- 1 day
- 2 to 3 days
- 4 days
- 5 to10 days
- 11 to 20 days
- 21 to 50 days
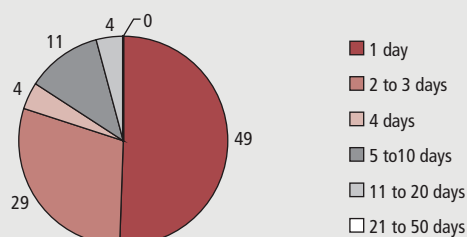
Source: ONS Labour Market Statistics

Figure 7
Proportions of stoppages in progress and working days lost by size of dispute, 2009

United Kingdom
Per cent

Legend:
- 5,000 and over
- 250 to 4,999
- Under 250 days
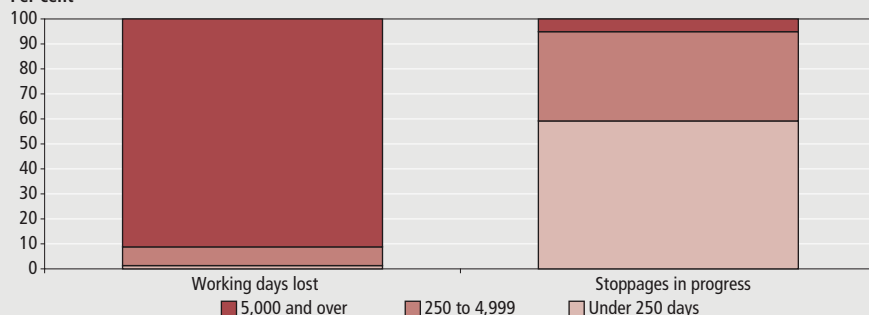
Source: ONS Labour Market Statistics

by principle cause of dispute. In 2009, 60 per cent of working days lost were due to disputes over possible redundancy, although redundancy only accounted for only 13 per cent of all stoppages. The majority of strikes were again over pay – accounting for 52 per cent of strikes. 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.

Figure 5 shows the distribution of working days lost by cause in each year from 2000 to 2009 for four causes; pay, redundancy, staffing and work allocation and other. This shows the percentage of days lost due to disputes over redundancy increased dramatically in 2009. 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. Looking back over a ten year period it's clear to see that pay often dominates the days lost within the UK.

Disputes by duration
Statistics on duration 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 2009 and this information is also displayed in **Figure 6**. Some 49 per cent of stoppages lasted just one day, involved just 6,500 workers and accounted for just 1 per cent of the total working days lost. At the other extreme, 3 stoppage lasted over 50 days, involved a total of 175,5000 workers and accounted for 78 per cent of the total working days lost.

Disputes by size
Table 10 shows disputes in 2009 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 77 per cent of working days lost in 2009 resulted from stoppages where more than 50,000 days were lost in total, but only 2 per cent of stoppages were that large. There were only 3 stoppages with more than 5,000 but less than 50,000 working days lost, these stoppages accounted for only 3 per cent of all stoppages. The highest proportion of stoppages was within the 'under 250 days' category, accounting for 59 per cent of all stoppages, although this category recorded one of the lowest

Table 10
Stoppages in progress by size of dispute, 2009

United Kingdom

	Working days lost (000s)[1]	Proportion of all working days lost (%)	Workers involved (000s)[1]	Proportion of all workers (%)	Stoppages in progress	Proportion of all stoppages (%)
Working days lost in each dispute						
Under 250 days	5.6	1.2	4.9	2.4	58	59.2
250 and under 500	4.2	0.9	2.8	1.3	13	13.3
500 and under 1,000	5.3	1.2	2.7	1.3	8	8.2
1,000 and under 5,000	24.9	5.5	8.0	3.8	14	14.3
5,000 and under 25,000	24.6	5.4	7.7	3.7	2	2.0
25,000 and under 50,000	39.1	8.6	7.0	3.4	1	1.0
50,000 days and over	351.5	77.2	175.4	84.1	2	2.0
All stoppages	**455.2**	**100**	**208.5**	**100**	**98**	**100**

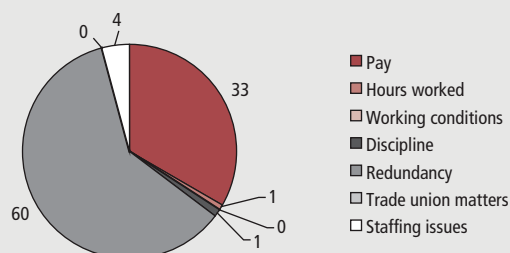**Notes:**   *Source: ONS Labour Market Statistics*

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.

Figure 8a
Working days lost public/private split, 2000–2009

United Kingdom
Per cent
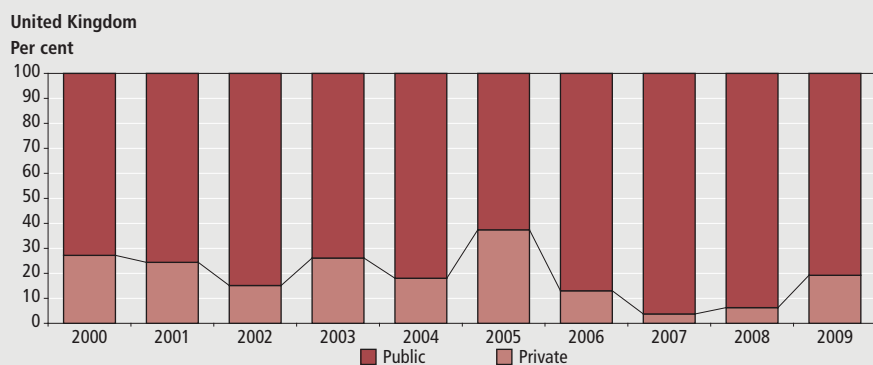
Source: ONS Labour Market Statistics

Figure 8b
Stoppages public/private split, 2000–2009

United Kingdom
Per cent
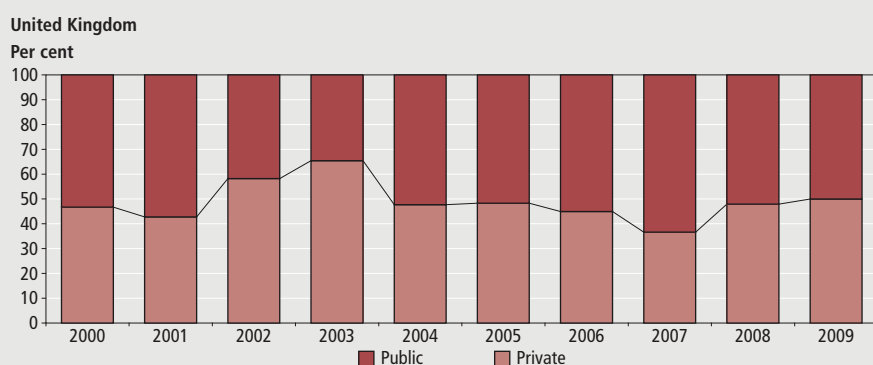
Source: ONS Labour Market Statistics

Figure 9
Ballots resulting in strike action 2005–2009

United Kingdom
Number

— Total number of ballots
— No. of ballots calling for strike action
-- No. of ballots voting FOR strike action
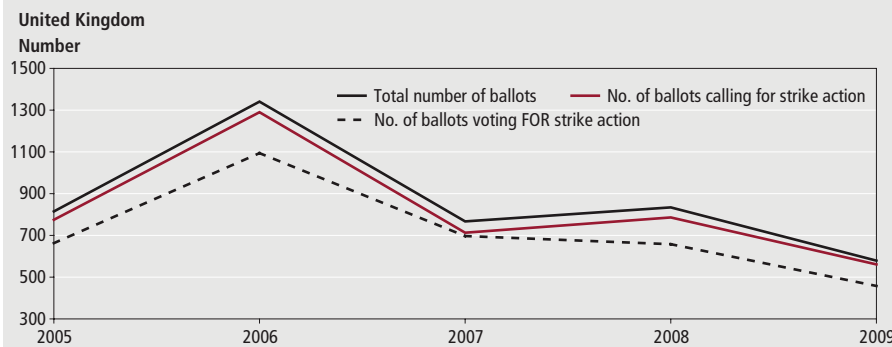
Source: Electoral Reform Services

working days lost percentage of just over one per cent.

Disputes by public/private sector

Figures 8a and **8b** illustrate the breakdown of working days lost and the number of stoppages between the public and private sectors respectively. The figures are also shown in **Table 11**. The number of working days lost in the public sector fell again from 711,000 in 2008 to 367,600 in 2009. The proportion of working days lost from the public sector is continuing to fall; from 94 per cent in 2008 to 81 per cent in 2009. This year's percentage brings the public sectors figures more in line with the last ten years after a two year peak, with the 2007 percentage of 96 per cent being a high since data was recorded in 1996.

In the private sector 87,600 days were lost in 49 stoppages which accounts for only 19 per cent of all days lost in 2009. This compares to 47,800 days lost in 2008 from 69 stoppages which accounted for 6 per cent of all days lost.

The number of stoppages in the public and private sectors has levelled this year; with 50 per cent split across both sectors. Generally, the breakdowns of stoppages between the public and private sectors have been fairly consistent. Although in 2007 the public sector dominated the strike statistics to a greater extent than the private sector.

Trade union ballots

Annual trade union ballot data for the period 2005 – 2009 are presented in **Tables 12a** and **12b**. The number of ballots[1] calling for strike action has fallen to a new low in 2009 at 561 while the number of ballots has also fallen in line with this.

The number of ballots calling for action 'short of a strike' in 2009 also dropped

Table 11
Number of stoppages and working days lost, public/private breakdown, 2000–2009

United Kingdom   **Number**

Year	Working days lost (000s)		Stoppages[1]		Strike rate		LFS		
	Private	Public	Private	Public	Private	Public	Private	Public	Total
2000	136	363	99	113	7	69	20370	5288	25658
2001	128	397	83	111	6	74	20609	5378	25987
2002	200	1,123	85	61	10	205	20600	5485	26085
2003	130	369	87	46	6	65	20505	5641	26146
2004	163	742	62	68	8	129	20587	5756	26343
2005	59	99	56	60	3	17	20758	5850	26608
2006	98	656	71	87	5	111	20916	5899	26815
2007	39	1,002	52	90	2	173	21320	5785	27105
2008	48	711	69	75	2	124	23741	5750	29491
2009	88	368	49	49	4	60	22786	6121	28907

Notes: Source: ONS Labour Market Statistics

1 Stoppages in progress during year.

Table 12a
Trade union ballots: strike action, 2005–2009

United Kingdom   Number

Year	Total ballots	Ballots calling for 'strike action'	Ballots voting FOR strike action	Ballots voting AGAINST strike action	Split result
2005	815	775	663	109	9
2006	1341	1290	1094	140	57
2007	767	713	697	64	12
2008	834	786	658	123	13
2009	579	561	458	93	10

Source: Electoral Reform Services

Table 12b
Trade union ballots: action short of a strike, 2005–2009

United Kingdom   Number

Year	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 a strike	Split result
2005	815	606	562	35	7
2006	1341	579	541	27	9
2007	767	583	555	19	9
2008	834	598	559	30	9
2009	579	435	407	21	7

Source: Electoral Reform Services

significantly, at 435 (75 per cent of total ballots) compared to 598 in 2008. The proportion of those ballots resulting in a 'yes' vote has also shown a decrease this year.

The five–year time series for trade union ballots is illustrated **Figure 9**. 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. Nevertheless, there is still a notable difference in the number of ballots calling for strike action and those resulting in a 'yes' vote.

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

✉ elmr@ons.gov.uk

Labour disputes methodology

Coverage

Information regarding labour disputes within the UK is collected by ONS from a variety 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 have 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 table 20* and are published in *Tables 6.29* and *6.30* in the Labour Market Data section of *Economic and 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 10 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', that is 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 which category a particular stoppage falls into. 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 that 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 under-estimate the number of workers involved in a dispute. However, the estimate of the number of working days lost is unaffected by this consideration.

ARTICLE

Paul Cullinane
Office for National Statistics

The recording of financial intermediation services within sector accounts

SUMMARY

This article outlines the new methodology for Financial Intermediation Services Indirectly Measured (FISIM), introduced in *Blue Book 2008*, on the sector accounts. In particular the impact on interest payments and receipts, and key aggregates such as household saving ratio and net lending/borrowing.

This article is a response to various queries received from expert users since *Blue Book 2008* explaining how estimates of FISIM feed through the sequence of accounts. Although the effects on gross domestic product (GDP) and detailed components of each measure were discussed in three previous articles (Jenkinson and Tily 2006, Akritidis 2007, and Meader and Tily 2008) – which will not be elaborated on in this article – this is the first published explanation of the effects within sector accounts.

In summary, the introduction of the new FISIM methodology does not affect sector net lending/borrowing and has only very minor effects on the household saving ratio. The other important consequence is the re-definition of interest as presented in the UK National Accounts. Interest payments and receipts within the 'Allocation of primary income account' are now recorded at a notional reference rate and thus no longer reflect the actual interest rates paid on deposits or charged on loans.

Background

The Quarterly National Accounts estimates published on 30 September 2008, consistent with the *2008 Blue Book*, reflected the introduction of an improved method for measuring financial intermediation services. National Accounts were brought into line with the *European System of Accounts 1995 (ESA95)* and a more recent EC regulation (Regulation 498/98) requiring the use of FISIM to be allocated to user sectors/industries instead of a notional industry. As a result, FISIM was no longer recorded entirely as intermediate consumption of a notional sector, but directly allocated as intermediate consumption of households, businesses or government, final consumption of households or government, or exports or imports. There were also revisions to the supply of FISIM due the re-estimation of domestic output.

This new method for recording financial intermediation services records the implicit charge for services related to borrowing and lending by Financial Institutions (FIs). As well as charging customers directly for banking services, banks also generate service income by lending at a higher rate of interest than they borrow. The service provided by bringing together borrowers and lenders is charged for indirectly when FIs charge higher rates of interest to lenders than they pay to depositors. In the National Accounts, the margin earned by the banking sector from the difference between interest received on loans and paid on deposits is treated as payment for Financial Intermediation Services Indirectly Measured (FISIM). Explicit service charges, such as fees and commissions, are excluded from FISIM.

The introduction of FISIM into the National Accounts resulted in the re-definition of interest (ESA95 code D.41). Interest payments and receipts within the 'Allocation of primary income account' are now recorded at a notional reference rate. The differences between these amounts and actual interest payments and receipts are recorded as FISIM. For the UK the sterling reference rate is approximated by the Bank of England base rate, the Euro reference rate as the European Central Bank base rate and the US Federal Reserve's base rate is used for all other currencies. Previously interest

Table 1
FISIM: A simplified example

		Deposits	Loans		
			Intermediate consumption	Final consumption	Total
Stocks (£million)		300	100	200	300
Rates (per cent)	Actual Rate	1.5	5.0	5.0	5.0
	Reference rate	2.0	2.0	2.0	2.0
	FISIM rate	0.5	3.0	3.0	3.0
Payments/receipts (£million)	Actual interest	4.5	5.0	10.0	15.0
	Reference rate interest	6.0	2.0	4.0	6.0
	FISIM	1.5	3.0	6.0	9.0

Source: Author's calculations

Table 2
Sequence of accounts for the household sector

		Production Account			
		Uses	Resources		
				P.1	Output
Intermediate consumption	P.2	3.0			
Gross Value Added	B.1	−3.0			

		Generation of Income Account			
		Uses	Resources		
			−3.0	B.1	
Gross operating surplus	B.2	−3.0			

		Allocation of Primary Income Account			
		Uses	Resources		
			−3.0	B.2	
Interest	D.41 paid	−3.0 − 6.0 = −9.0	1.5	D.41 received	
Balance of primary incomes	B.5	7.5			

		Allocation of Secondary Income Account			
		Uses	Resources		
			7.5	B.5	
Gross disposable income	B.6	7.5			

		Use of Disposable Income Account			
		Uses	Resources		
			7.5	B.6	
Final consumption	P.3	1.5 + 6.0 = 7.5			
Gross saving	B.8	0.0			

Source: Author's calculations

payments and receipts were measured at the effective rate, which represents the actual interest paid on loans or received on deposits.

Please note this article uses the term 'actual' interest to reflect the previous National Accounts definition of interest, that is the interest payments/receipts quoted on bank statements and relating to the interest rates on loans and deposits usually quoted by banks to customers, in line with the lay person's understanding of interest. This contrasts with the current National Accounts definition of interest which is referred to as the pure economic rate of interest, or reference rate interest.

The actual interest paid to depositors can be viewed as a 'pure' interest flow from which a service charge has been deducted. Similarly the actual interest charged to borrowers can be viewed as a 'pure' interest flow plus a service charge. FISIM is the sum of the implicit service charges for both borrowers and lenders.

The service charge on borrowers is calculated as the level of loans outstanding multiplied by the margin between the average interest rate actually charged on loans and a reference interest rate. The reference rate represents a theoretical pure economic rate of interest which depositors and lenders could be charged in a perfect market if there were no administration costs or risk related to borrowing and lending (see Lynch 1998 for a more detailed description). Similarly, the service charge on depositors is calculated as the level of deposits multiplied by the difference between the 'pure' interest rate and the average actual interest rate paid on deposits.

The estimation of FISIM is undertaken for a range of financial intermediaries. The interest flows recorded in the sector accounts are after adjusting the actual interest flows for FISIM relating to both borrowers and depositors. Consequently, interest paid by FIs and received by depositors is increased by the amount of FISIM payable by depositors, while interest received by FIs and paid by borrowers is reduced by the amount of FISIM payable by borrowers in each institutional sector (such as households, general government, non-financial corporations, rest of world).

The effects of FISIM within sector accounts

The following example aims to demonstrate that the new methodology relating to FISIM:

- does not affect sector net lending/ borrowing
- has only very minor effects on the household saving ratio
- interest payments within the National Accounts no longer reflect the actual interest paid by banks and building societies. Interest is now recorded at a reference rate which represents a 'pure' economic rate of interest

Within the sector accounts FISIM adjustments are made to several components. These include output, intermediate and final consumption, exports and imports and interest payments/receipts. For a full breakdown please see Table 1.8A of the *Blue Book*.

Table 1 represents a simplified scenario for the household sector. The FISIM adjustments are detailed in **Table 2** (Sequence of accounts for the household sector). Within the sequence of accounts 'Uses' represent payments and 'Resources' represent receipts. The accounts are linked together using balancing items denoted by codes beginning with 'B'. For example the last entry, B.1, in the Production account is the first entry in the Generation of income account. In this case B.1 represents gross value added (GVA) which is the amount left over after deducting intermediate consumption from output. Similarly gross operating surplus, B.2, is the last entry in the Generation of income account and the first entry in the Allocation of primary income account. Balance of primary incomes ,B.5, link the next two accounts and gross disposable income, B.6, links the final two. The sequence of accounts

within Table 2 only record entries related to FISIM. For example there is no entry in the Production account for output (P.1) as the household sector do not produce any banking or financial intermediation services although they do produce output related to other activities. Similarly the value of £3.0m only represents intermediate consumption of banking services and does not include intermediate consumption of any other goods or services.

In this theoretical example for the household sector, there is a total stock of household deposits of £300million, of which £100m has been lent to householders for the purpose of intermediate consumption (for example mortgage interest payments) and £200m has been lent for final consumption (for example for purchasing household goods, cars using personal loans or credit cards).

Looking firstly at deposits in Table 1 the household sector has a total stock of £300m of deposits. Assuming the average interest rate paid on a deposit account is 1.5 per cent then the actual interest paid to householders is £4.5m. Interest receipts on a National Accounts basis, that is at the reference rate which is stated as 2.0 per cent in the example resulting in an interest payment of £6.0m, means an adjustment of £1.5m to interest received is made in the Allocation of primary income account in Table 2. An equal adjustment is applied to final consumption in the Use of disposable income account. Therefore the upward adjustment to interest received is offset by an upward adjustment to final consumption, leaving saving and net lending/borrowing unaffected. These adjustments represent householders receiving an additional nominal interest payment and immediately paying it back to the FIs for financial intermediation services.

Looking at loans, in this example £100m is used for intermediate consumption and £200m is used for final consumption (Table 1). Assuming the average loan rate charged is 5 per cent the actual interest payments would be £5m and £10m respectively. Again in order to show interest receipts on a National Accounts basis, at the reference rate, it is necessary to apply adjustments to interest received in the Allocation of primary income account (Table 2), this time reducing interest payments by £3m and £6m respectively. As before, offsetting adjustments are applied to consumption; increasing intermediate consumption within the Production account by £3.0m and final consumption in the Use of disposable income account by £6.0m. Therefore the downward adjustment to interest paid is offset by upward adjustments to intermediate and

final consumption, leaving saving and net-lending/borrowing unaffected. This splits out the actual interest payments by householders into two parts; a National Account reference rate of interest recorded in the Allocation of primary income account, and a service charge recorded as consumption, either intermediate or final.

A more detailed example can be found within Annex III of the *System of National Accounts 1993* (see United Nations 1993) .

The FISIM adjustments used within National Accounts are published annually in *Blue Book* tables 1.8A, 1.8B and 1.8C and quarterly in the *United Kingdom Economic Accounts (UKEA)* table X15.

Summary of the effects of FISIM within the sector accounts

The new methodology for recording and allocating FISIM payments within the sector accounts introduced in *Blue Book* 2008 means that:

- National Accounts now records interest payments and receipts on a reference rate basis. Previously they were recorded at the effective rate, which represented the actual interest paid on loans or received on deposits
- FISIM is allocated as either final or intermediate consumption of the consuming sector

Although the example shown in Tables 1 and 2 specifically relates to the household sector, the principle of calculating interest at the reference rate and adjusting consumption by the difference between this and the actual interest paid and received applies to all sectors. For the household sector it is observed that consumption of FISIM can be either intermediate or final; for the corporate sector consumption of FISIM is only intermediate; for the government sector consumption of FISIM is both intermediate and final; and for the rest of the world sector consumption is classified as either exports if a UK FI is holding the deposit or issuing the loan or imports if it is a non-resident FI holding the deposit or issuing the loan.

Further consequences are:

- gross saving is unaffected
- net lending/borrowing is unaffected
- gross disposable income is affected

Household gross disposable income (and therefore real household gross disposable income) can be significantly affected. This is because gross disposable income is calculated before the off-setting FISIM adjustments have been made to final consumption. This is shown in Table 2 where gross disposable income calculated in the

Allocation of secondary income account includes the resources which have been earmarked for final consumption lower down in the accounts within the Use of disposable income account. Therefore the FISIM adjustments have the effect of pushing up the level of gross disposable income and, just to re-iterate, they also push up the level of household consumption by the same amount, leaving gross saving and net-lending/borrowing unaffected.

Finally:

- there are minimal effects on the household saving ratio

The household saving ratio is calculated as gross saving divided by gross disposable income adjusted for the change in net equity of household pension funds (recorded in the Use of disposable income account). Although gross saving is unaffected, gross disposable income is affected. FISIM has no effect on the adjustment for the change in net equity of household pension funds. The effects on the saving ratio therefore arise solely from the increase to gross disposable income. These effects are minimal (usually less than 0.1 per cent) as gross saving is typically below 5 per cent of the adjusted gross disposable income, and the FISIM adjustments to household final consumption are usually less than 3 per cent of the adjusted gross disposable income.

CONTACT

✉ elmr@ons.gov.uk

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ARTICLE

Cristina Penaloza
Office for National Statistics

Healthcare productivity

SUMMARY

This article presents new estimates of publicly funded healthcare outputs, inputs and productivity for the period 1995 to 2008. These update the estimates published in *Total Public Service Output and Productivity* in June 2009 (ONS 2009a) by incorporating new methods to improve the measurement of output and input volumes and give the first results for 2008.

Background

Since ONS last published estimates for multi-factor productivity growth of UK publicly funded healthcare in June 2009 (ONS 2009a, 2009b) it has implemented a number of improvements to the methods used to construct input and output volumes (see ONS 2010a, ONS 2010b and ONS 2010c). The way deflators are applied to construct volume measures of inputs have been updated, as have the cost weights used to construct output volumes following the inclusion of data for Wales. ONS has also published a Healthcare triangulation article (see ONS 2010d) to help users understand productivity estimates by providing additional contextual information, giving a wider picture than is possible in a single measure of healthcare productivity.

Incorporating these methods changes, along with new source data which allows the first productivity estimate for 2008 to be produced, has led to revisions from previously published data. In particular, the productivity estimate for 2007, which in ONS (2009a) was based on data for the financial year 2006-07, has been revised down. This is because newly available data for 2007–08 show that inputs rose more rapidly than output, reversing the previously published picture. However, in general revisions have increased output and reduced inputs, causing productivity estimates to be revised up in most years (see ONS 2010b for revision analysis).

Most of the methods and data for this article feed into the National Accounts.

However, the measure of UK output presented here differs from the National Accounts measure in that it is quality adjusted. The adjustment uses data on health outcomes and patient experience in England to create estimates of quality change for the UK.

Productivity trends

Latest estimates of healthcare productivity in the UK show that from 1995 to 2008 productivity fell by 3.3 per cent, an annual average decline of 0.3 per cent (see **Figure 1**). This is because over the whole period output grew by 69.3 per cent, an average annual increase of 4.1 per cent and inputs grew by 75.1 per cent, an average annual increase of 4.4 per cent. In 2008 productivity fell by 0.7 per cent, compared with a fall of 0.3 per cent in 2007.

Within the whole period there were two distinct cycles of productivity change:

- after 1995 productivity fell slightly and remained broadly stable until 2001 when it picked up to just under the 1995 level. Average annual productivity growth over this period was 0.0 per cent
- from 2001 to 2008 productivity declined by 3.0 per cent with the exception of a brief pick up in 2005 and 2006. Input growth was generally more rapid than output growth during this period. This was due mainly to increases in the volume of goods and services, particularly in the category that includes goods and services

Figure 1
Healthcare output, inputs and productivity, 1995–2008

United Kingdom
Index numbers, 1995=100
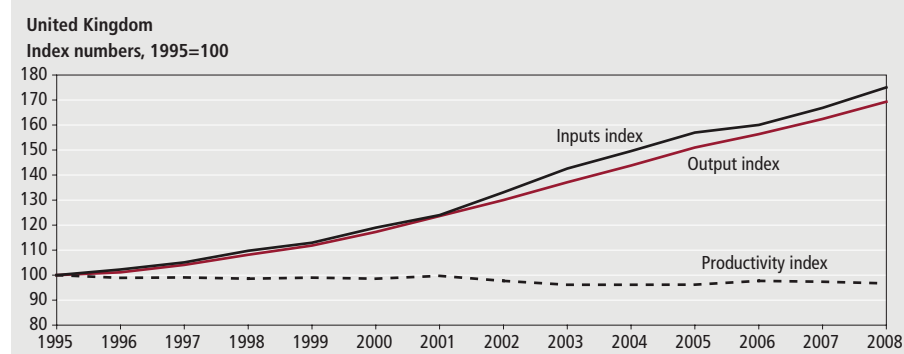
Source: Office for National Statistics

Figure 2
Healthcare output, 1995–2008

United Kingdom
Index numbers, 1995=100
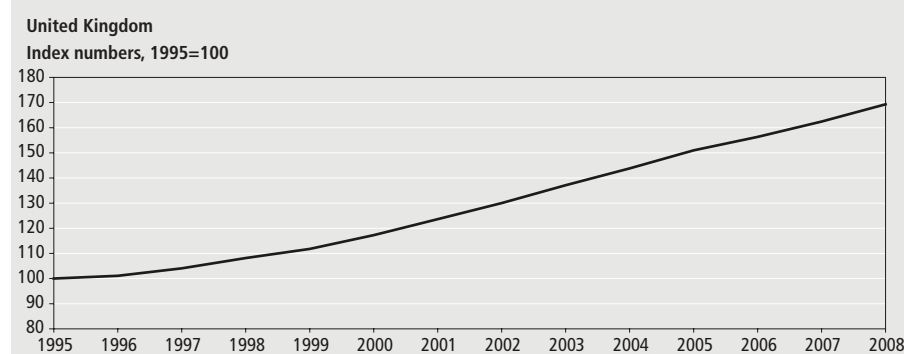
Source: Office for National Statistics

purchased by hospitals, those used in General Practitioner (GP) surgeries and healthcare purchased from outside the NHS

The pattern of productivity change in the UK is dominated by changes in England. The UK output pattern reflects:

- an increase of around 43 per cent in the quantity of Hospital and Community Health Services (HCHS) between 1995 and 2008
- an increase of just over 200 per cent in the volume of drugs prescribed by GPs between 1995 and 2008. Despite GP-prescribed drugs forming a small share of healthcare output, over the whole period they account for a contribution to output growth similar to that of Hospital and Community Health Services (HCHS), the largest component; and
- a positive growth in the composite measure of healthcare quality since 2002. The measure takes account of changes in post-operative survival rates, hospital waiting times, outcomes from primary medical care and patient experience

The UK inputs pattern reflects:

- an increase of around 40 per cent in the volume of labour used in the provision of publicly funded healthcare between 1995 and 2008; and
- a large increase in goods and services consumed in the production of healthcare services, which may reflect increased public resource into healthcare following the publication of the NHS plan in 2000 (NHS 2000). Some of the increase relates to greater expenditure on non-NHS procurement, which includes contracted-out services and Private Finance Initiatives (PFIs), but the main contribution to growth came from other 'goods and services' procured within the NHS. This category includes items ranging from bedding and bandages to electricity and water

Growth in output and inputs has been driven in general by an increase in the UK population, within which the proportion of older people has also been increasing. These changes have had a particular impact on publicly funded healthcare as older people place a greater demand on health services.

Trends in output

Latest estimates of change in healthcare output show that between 1995 and 2008, healthcare output grew by 69.3 per cent, an average annual increase of 4.1 per cent (**Figure 2**). Growth was highest from 2000 to 2005, averaging 5.3 per cent a year. In 2008 growth was 4.2 per cent, compared with 3.9 per cent in 2007.

Key drivers of output change from 1995 to 2008 include:

- a rapid increase in the volume of drugs prescribed by GPs. Over the whole period, the volume of drugs increased by over 200 per cent, with growth averaging just under 9 per cent a year. This component accounts for just over one-sixth of output by expenditure weight
- a rise of around 43 per cent in the quantity of Hospital and Community Health Services (HCHS) over the whole period, or just under 3 per cent a year on average. HCHS is the largest component of output, accounting for around two-thirds of the total by expenditure weight
- an increase of just under 25 per cent in the quantity of Family Health Services (FHS), with growth averaging 1.7 per cent a year. This is the smallest output component, accounting for a little under one-sixth of the total
- a positive impact from healthcare quality in all years from 2002 onwards, following a slightly negative impact in 2001, when quality adjustment first enters into output estimates

Healthcare output has two components, quantity and quality – with quantity adjusted for quality. Change in the quantity of UK healthcare is assumed to be the same as the change in a cost weighted activity index covering most types of healthcare activity in England, Northern Ireland and Wales. Measured activities fall into one of three categories:

- Hospital and Community Health Services (HCHS), which include hospital inpatient, day case and outpatient episodes, distinguished by Health Resource Group (HRG)
- Family Health Services (FHS), which include GP and practice nurse consultations, publicly funded dental treatment and sight tests; and
- GP prescribing

Figure 3 summarises quantity growth for

Figure 3
Quantity measure of healthcare, 1995–2008

United Kingdom
Index numbers, 1995=100
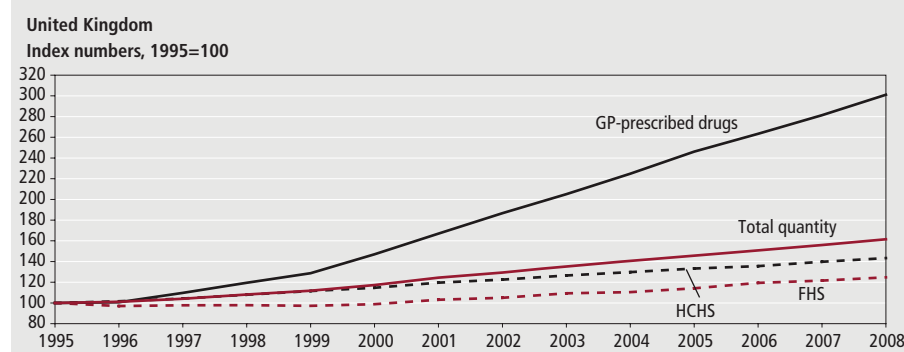
Source: Office for National Statistics

Figure 4
Healthcare quantity and output, 1995–2008

United Kingdom
Index numbers, 1995=100
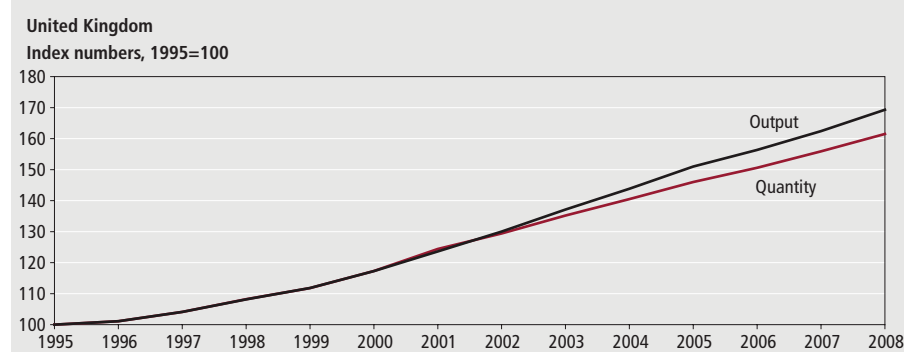
Source: Office for National Statistics

Table 1
Contributors to quality-adjusted output growth, 2001–02 to 2008–09

England   Percentages

	Service is responsive to user needs	Outcome from primary medical care	Survival, health gain and waiting times	Total
2001–02	0.00	0.00	−0.09	−0.09
2002–03	0.00	0.12	1.25	1.37
2003–04	0.02	0.09	0.64	0.76
2004–05	0.01	0.12	1.06	1.18
2005–06	0.00	0.09	0.72	0.81
2006–07	0.03	0.06	0.28	0.37
2007–08	0.03	0.12	0.29	0.44
2008–09	–	–	–	0.44
Average 2001–02 to 2007–08	0.01	0.08	0.59	0.69
Average 2001–02 to 2008–09				0.66

Source: Office for National Statistics

each healthcare component from 1995 to 2008.

Quality adjustments in healthcare reflect two dimensions of quality:

- the extent to which the service succeeds in delivering intended outcomes; and
- the extent to which the service is responsive to users' needs

The first dimension accounts for around 97.5 per cent of total quality change. It consists of two measures to adjust the quantity of healthcare output based on success in delivering health gain: using data on short-term survival rates, health gain following treatment in hospital and impact on health gain as a result of change in waiting times for health treatment, and outcomes from primary medical care. The second dimension accounts for the remaining 2.5 per cent of quality change and uses patient-reported outcome measures as an indicator of the responsiveness of the service to users' needs.

The main contribution to quality change came from the extent to which the service succeeds in delivering intended outcomes (short term survival rates, health gain following treatment in hospital and impact on health gain as a result of change in waiting times for health treatment), which improved by an annual average of 0.59 per cent from 2001–02 to 2007–08. Smaller contributions come from outcomes from primary medical care and responsiveness to users' needs, with an annual average improvement of 0.08 per cent and 0.01 per cent respectively over the same period (**Table 1**). The overall adjustment for 2008–09 is assumed to be the same as in 2007–08, as source data for that period will not be available until late 2010.

The cumulative impact of quality adjustments is shown in **Figure 4** on a calendar year basis. In 2008, quality-adjusted output was 7.8 index points, or 4.8 per cent, greater than quantity (unadjusted output). From 2001 to 2008, quality adjustments have added an average of 0.6 percentage points a year to output growth.

Trends in inputs
Latest estimates show that between 1995 and 2008, healthcare inputs grew by 75.1 per cent, an average annual increase of 4.4 per cent. From 2002 to 2005 inputs growth was above the average for the whole time period. More than half of overall inputs growth was accounted for by increases in the volume of goods and services inputs, despite labour accounting for the largest share of input expenditure (**Figure 5**).

Key changes in inputs between 1995 and 2008 include:

- 143 per cent of the volume of goods and services used in the production of health output, about half of which came from a rise in the volume of 'other' goods and services inputs. This category includes a variety of goods and services used in the provision of healthcare in both hospitals and elsewhere. For example, it includes clinical supplies used in hospitals, supplies used in GP surgeries and premises maintenance costs
- 41 per cent increase in the volume of labour, which at least partly relates to the recruitment drive following the NHS Plan (Department of Health 2000)

Healthcare inputs are divided into three broad components: labour (for example medical staff), goods and services (such as clinical supplies and electricity), and capital

Figure 5
Growth in the volume of healthcare inputs, 1995–2008

United Kingdom
Index numbers, 1995=100
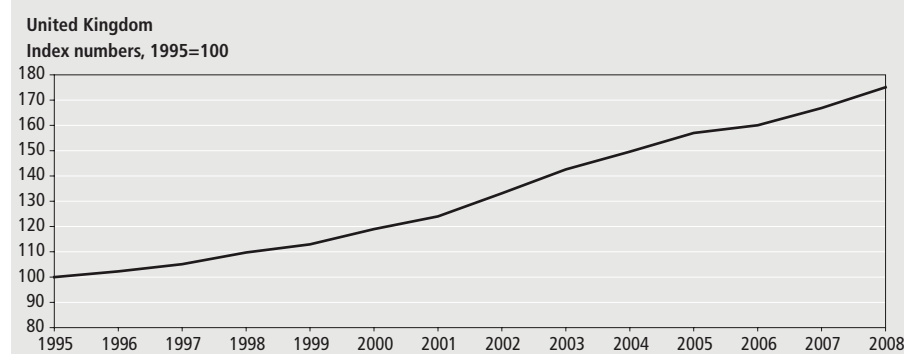
Source: Office for National Statistics

consumption, a measure of the extent to which the capital stock is used up in a given period (for example, depreciation of goods such as buildings and vehicles).

Expenditure on labour and on goods and services is measured in current prices (what was actually paid). Capital consumption in current prices is estimated using a Perpetual Inventory Model (see Dey-Chowdhury 2008).

Table 2 summarises changes in expenditure on publicly funded healthcare from 1995 to 2008.

In 2008 expenditure on healthcare inputs was approximately £102 billion. Healthcare is the largest component of General Government Final Consumption Expenditure (GGFCE), accounting for 33 per cent of the total and accounts for around 7 per cent of the expenditure

measure of Gross Domestic Product (GDP).

Labour costs make up the largest component of healthcare expenditure. In 2008 current price labour expenditure was £58 billion, 57 per cent of the annual total. In 1995 labour accounted for 61 per cent of total expenditure. Goods and services expenditure accounted for 41 per cent of expenditure in 2008 (£42 billion) in current prices. The component consists of the goods and services procured outside the NHS that are consumed in the production of healthcare services in any given year. In 1995 goods and services accounted for 35 per cent of total expenditure. The smallest inputs component is capital consumption, which in 2008 was estimated at £1.8 billion, or approximately 2 per cent of the total.

Table 3 summarises changes in the volume of healthcare inputs by component

over the period 1995 to 2008. Components are weighted by their relative share of expenditure to calculate the overall index.

The volume of UK healthcare inputs grew by 75.1 per cent between 1995 and 2008, an annual average of 4.4 per cent. Between 1995 and 2001, average growth in the volume of total healthcare inputs was lower than the overall average at 3.7 per cent a year. Growth was highest between 2001 and 2003 at an average of 7.2 per cent a year; then grew less quickly between 2003 and 2008 at 4.2 per cent a year on average.

The largest component of growth in the volume of healthcare inputs was goods and services, although labour was also important. Of the 75.1 per cent increase in the total index, goods and services and labour contribute 46.7 and 27.0 percentage points respectively, while capital consumption contributes 1.4 percentage points.

Further work
ONS will continue to work with the Department of Health, the NHS Information Centre, health departments in the devolved administrations and others on a number of developments:

■ improvements in coverage, the productivity measure in this article includes output and inputs data for England, Northern Ireland and Wales, although coverage for Northern Ireland and Wales is narrower than

Table 2
Expenditure[1] on publicly funded healthcare inputs 1995–2008

United Kingdom															£ billions
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average annual percentage change
Labour	23.3	25.2	26.3	27.2	28.1	30.1	33.4	36.5	41.3	46.7	49.6	52.1	54.4	58.1	7.3
Goods and Services	13.5	15.2	15.1	17.0	19.9	20.7	22.3	25.0	26.4	28.5	30.7	35.9	38.5	41.8	9.1
Capital Consumption	1.2	1.3	1.4	1.4	1.4	1.6	1.5	1.6	1.8	1.7	1.8	1.8	1.9	1.8	2.9
Total	38.1	41.7	42.8	45.6	49.4	52.4	57.2	63.1	69.4	76.9	82.1	89.8	94.8	101.7	7.8

Note:

Source: Office for National Statistics

1 Figures are based on General Government Final Consumption Expenditure for healthcare. In the UK National Accounts, all expenditure on GP services is allocated to goods and services. For this article, estimates of expenditure on labour in GP surgeries, and expenditure on capital in GP surgeries have been calculated, subtracted from goods and services expenditure and added to the labour and capital consumption categories.

Table 3
Volume of healthcare inputs by component

United Kingdom														Index numbers, 1995=100
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average annual percentage change
Labour	100.0	101.2	101.7	103.2	105.5	108.0	112.3	118.4	124.4	130.4	134.8	135.5	136.4	141.0	2.7
Goods and Services	100.0	103.0	108.9	119.4	123.6	135.1	142.1	156.8	173.2	182.0	197.2	206.4	226.3	243.1	7.1
Capital Consumption	100.0	114.2	126.5	133.3	144.1	158.9	154.0	159.8	164.6	170.8	155.8	149.7	149.8	147.3	3.0
Total inputs index	100.0	102.3	105.1	109.7	112.9	119.0	124.0	133.1	142.6	149.6	157.0	160.1	166.9	175.1	4.4

Source: Office for National Statistics

for England. Future work will look into expanding coverage to include full data for these countries and also for Scotland by working closely with their respective health departments. Work will also focus on increasing the coverage of existing output measures to match more closely the activity covered by expenditure

- improvements to the quality adjustments, ONS will continue to work with Department for Health and the Centre for Health Economics at the University of York to build upon the existing quality adjustments. In particular, future work will look into replacing some of the assumptions in the survival rate calculation with real data and also into the use of new patient reported outcome measures (PROMs) data collected by the Department for Health

- improvements to the measure of the volume of inputs, ONS will shortly publish a scoping paper looking into an alternative measurement of primary care input. Since the establishment of the NHS, GPs have been contracted to, rather than being directly employed by, the public sector. The paper will present an alternative approach that considers GP expenditure as part of the intermediate consumption of the NHS, in contrast to the current treatment of GP labour, goods and services and capital consumption alongside directly publicly funded NHS activities. A period of user consultation will follow the paper's publication.

CONTACT

✉ elmr@ons.gov.uk

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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.

Real time data

Graeme Chamberlin
Office for National Statistics

SUMMARY

Real time data are snapshots of unrevised data available at different points in time. This article provides a literature review on how real time databases can be used to better understand the nature of revisions to economic data, and are also a fairer basis on which to evaluate forecasts and policy–decisions made in the past.

What is real time data?

It is well understood that early estimates of economic statistics may be subject to revision over time. Furthermore, the reasons for revisions are accepted as part of the process, reflecting either the incorporation of previously unavailable information into the estimates, or the result of methodological changes to the way the economy is measured. As Marian Bell, then a member of the Monetary Policy Committee, commented in a speech in 2004

' The Monetary Policy Committee recognises that revisions are inevitable. Indeed, so far as they bring us to a better understanding of reality, we welcome them.'

She continued

' There is inevitably a trade–off between timeliness and accuracy, but in general we would prefer early imperfect data to late perfect series – it gives us something to work with'

Later that year, Rachel Lomax, then the Deputy Governor of the Bank of England said

' If the ONS waited two or three years before publishing their first estimates they would have reasonably complete information. But it would be of rather limited use for policy purposes. We need more timely indicators of economic activity, even though these will tend to be less accurate than later vintages.'

However, when data are revised economists face unique problems in studying the economy, forecasting and analysing economic policy.

Results of empirical research in macroeconomics can change markedly when data is revised. Estimated coefficients may not be robust to changes in the underlying data – leading to different interpretations of the variables that matter (significance) and the magnitude of their effects. Croushore and Stark (2003) demonstrate this in several important economic studies.

Likewise, models used to produce forecasts of economic time series may be sensitive to changes in the data. It also becomes harder to evaluate the relative success of different forecasting models. A newly estimated forecast equation may exhibit good out–of–sample performance on final vintages of the data, but perform woefully on the actual data that was available at the time. As a result, when the forecasting potential of these models are tested the availability of hindsight may overstate the model's success. For this reason, it is now often recommended that forecast models are tested both out–of–sample and on the data available to the forecaster at the time.

Data revisions are also important from a policy perspective. As decisions made at the time reflect the data available at the time, with hindsight, and facing the revised datasets, these decisions may then appear strange at a later date. Therefore, knowledge of the data facing policy–makers is essential to evaluate past decisions about policy changes.

Real time data is a snapshot of the published and unrevised data available at various points in time. It therefore provides the resource to better understand patterns of revisions and the consequences for economic modelling, forecasting and policy–making. These issues are particularly acute in the setting of monetary policy in pursuit of an inflation target. Here interest rates are usually set to hit an inflation target in the medium term, so policy is set pre-emptively making accurate forecasts an imperative. It is no surprise that interest in real time data has grown with the general move to independent central banks who have led much of the research.

The aim of this short article is to provide a brief overview on the subject of real time data and the key literature. After describing some of the real time data resources currently available, the article will proceed to:

■ see if real time data can improve the understanding and analysis of revisions
■ assess how forecast models have evolved to incorporate real time data issues, and
■ look at the impact on and the response of monetary policy to data uncertainty

Real time data bases

Brown et al (2009) presents work undertaken by the Office for National Statistics (ONS) looking at a long history of revisions to real gross domestic product (GDP). The principle aim of this article was

to assess the quality of early estimates of GDP, but in order to do this a real time database for GDP was developed. This showed a monthly snapshot of GDP taken from successive monthly publications of *Economic Trends* between 1961 and 2006 and then subsequently from *Economic & Labour Market Review*.

The usual structure of a real time database is where each column represents a particular vintage of the data, and each row a particular date for which the economic activity is measured. Therefore, moving across the rows observes different vintages of the same data, and each column is a snapshot of the data facing users at each point in time. The diagonals of the database provide a history of different vintages. For example, the first diagonal will give the first published data for each observation, and so on. More details on the structure of a real time data base can be found in Box 1 in Brown et al (2009) and the GDP real time data set underlying the analysis in this article is available from the ONS web site at: www.statistis.gov.uk/downloads/theme_economy/Real-time-GDP-database.xls

Constructing a real time data base is a very manual exercise. Most of the historical records of data publication exist only in paper and not electronic formats. Building real time databases can therefore be a labour intensive job, consisting of data entry from past publications into spreadsheets. Inputting by hand gives possibility of errors so time must also be spent checking and verifying the data. However, as interest in real time data analysis has gathered pace, more and more databases have become available.

Croushore and Stark (2000, 2001) have led the recent development of real time data resources in the US with the cooperation of the Federal Bank of Philadelphia and the University of Richmond. Their real time data set consists of 23 quarterly variables and 10 monthly variables including: nominal and real GDP; consumption and its main components; investment and its main components; government spending; exports and imports; money supply and other reserve measures; civilian unemployment rate, consumer prices index; and 3 year Treasury bill and 10 year Treasury bond rates. These, and an extensive bibliography of research undertaken on real time data, are available from the Federal Reserve Bank of Philadelphia's web site at: www.philadelphiafed.org/research-and-data/real-time-center/. Croushore (2009) is also a good summary of the real time literature.

In the UK, two principle real time data bases have emerged which have been occasionally updated. Castle and Ellis (2002) provide, quarterly from 1961 and in constant prices, real time data for the expenditure measure of GDP (GDP(E)) and its main components: private consumption, investment, government consumption, changes in inventories, exports and imports. The Bank of England's real time database has since been extended to include a broader set of variables, reflecting the importance of real time data in forecasting and monetary policy (see www.bankofengland.co.uk/statistics/gdpdatabase). This also formed the basis for the real time data set used in Brown et al (2009).

Eggington, Pick and Vahey (2002) produced a real time data set that contains less historical information in terms of shorter samples, but a wider set of variables and also monthly data. These include: an output measure of GDP (GDP(O)), private consumption, retail sales, government surplus/deficit, unemployment (total claimant count), money supply measures (M0, M3 and M4), industrial production

and average earnings. Some analysis on the characteristics of these databases can be found in Garratt and Vahey (2006).

Real time data and revisions

Real time data sets and the analysis of revisions may help official statistics providers to understand revisions better and make modifications that improve earlier data vintages. The publication of this data also makes the issue of revisions more transparent to users, increasing awareness of how data are produced and the relative quality of different estimates. To this end ONS publishes revisions tables in many of its Statistical Bulletins covering economic data and provides regular analysis on the patterns of revisions in National Accounts data (for example, see Murphy 2009).

Conventional wisdom points to two potential source of data revisions:

■ the measurement error hypothesis (noise)
■ the efficient forecast hypothesis (news)

If revisions are noise then it implies that each data vintage is measured with an error, but as the data matures this error diminishes. As Patterson and Heravi (1990) state, if this process governs revisions then the variance (standard deviation) of successive vintages of data should diminish as the noise is reduced. Alternatively, revisions should be orthogonal (uncorrelated) to later data vintages. Mankiw and Shapiro find that revisions to US GNP between 1965 and 1997 are consistent with this process.

The measurement error hypothesis suggests that preliminary data are just noisier versions of later data vintages. Therefore, a better understanding of the underlying data may be obtainable by using filters to smooth out the idiosyncratic noise in more preliminary estimates. Kapetanios and Yates (2004) describe how measurement error across different vintages of the same data may be estimated by using the variance of revisions in real time and then the gain in forecasting from exploiting these estimates of measurement error.

The efficient forecast hypothesis argues that revisions reflect the incorporation of new information into a new vintage of the data that was not available at the time the previous data vintage was compiled. Patterson and Heravi (1990) show that if the revisions process follows a news process then the variance (standard deviation) of successive data vintages should increase and that revisions are uncorrelated with the previous data vintage. Several studies have suggested that UK National Accounts revisions are driven by the news hypothesis including Faust et al (2005) and Richardson (2003).

A test of the efficient forecasts hypothesis is that revisions should be unpredictable. Tests though show that UK GDP data fails the efficient forecast hypothesis, implying at the time preliminary estimates are compiled there is data available that can be used to predict future revisions – this may be a bias adjustment, information contained within the preliminary estimate itself, or from other data sources. As this finding suggests that data revisions are predictable this information could be exploited by a model in order to improve the trade–off between timeliness and accuracy. Chamberlin (2007) looks at the possibility of using external data sources such as business surveys to predict revisions to GDP and its components – and finds that although some indicators can have good predictive power in

some periods, the relationships tend to be unstable over time. Brown et al (2009) also looks at whether bias adjustments could lead to lower revisions and finds that bias in National Accounts data is very unstable over time, especially over the economic cycle. Therefore great caution should be attached to using information on the past history of revisions to predict the size and direction of revisions in the future. Dynan and Elmendorf (2005) also find a cyclical pattern in revisions by observing correlations with accelerations and decelerations in the data.

It is not surprising that one of the key results from Brown et al (2009), using a very long history of revisions data, is that revisions performance tend to be unstable over time. Patterson (2002) using cointegration analysis on a number of different data vintages, finds multiple stochastic trends implying that data revisions are not well behave and that different vintages of National Accounts data are not driven by the same underlying stochastic trend. These findings suggest that care should be taken when using the recent/past history of revisions to infer the likely extent of revisions in the future.

Finally, it should be noted that revisions to economic data need not be either pure noise or pure news but a mixture (see Fixler and Naleewaik (2009).

Forecasting

Stark and Croushore (2002) noted that forecasts can be affected in a number of ways by data revisions:

- directly: by changing the underlying data used in models so that the same model will produce different forecasts
- indirectly: by leading to changes in the estimated coefficients and hence the model's predictions
- model revisions: by leading to a change in model specification such as the choice of right hand side variables including the number of lags

Therefore, when using the latest available data in a forecasting model the econometrician is essentially giving themselves an informational advantage. Knowing what the final data looks like allows them to build a better model than if they had to face the data that were available at the time. For example, the latest data may contain revisions information that the forecaster shouldn't be expected to anticipate.

This then becomes a key issue in the evaluation and ranking of different forecasting models. Suppose an econometrician investigates whether they can improve upon a particular model in producing forecasts that have a lower root mean squared error (RMSE) against the actual data outturns. Constructing this model over the same sample period as the original model, but using a later data vintage, and then testing on the same out of sample period may well produce lower RMSE, and therefore according to the forecaster, a better model. But however, if the new forecast model was run on the data facing the original forecaster the out of sample predictions may have been worse. Stark and Croushore therefore caution against the basing forecast models on the latest data with only a few out of sample observations for testing as here RMSE may be misleadingly low. Instead, forecast performance should be evaluated on both out of sample and real time data as this comes closest to replicating the conditions under which forecasts will actually be produced.

Kozicki (2002) also concludes that forecasts of a particular variable for a particular date and the rankings of different forecast models can depend on the vintage of data used. If mean revisions to a time series are relatively large then potential differences between real time and latest data forecasts are also relatively large – so choice of data vintage becomes more important in these cases. Correspondingly, if a time series isn't subject to much revision then the choice of data vintage to evaluate different models becomes less important. Kozicki also notes that most commercial forecasters will be judged against an early release of data. For example, in the UK most forecasters of GDP aim to predict in advance the Preliminary estimate of GDP which is available around 25 days after the end of the reference quarter, rather than a later vintage of the same data. As the target of the forecast model is therefore a relatively unrevised vintage of the data, a time series of similarly unrevised data, that can be taken from real time data bases, may be useful in evaluating the best forecasts.

Harrison et al (2004), recognising that most recent data provide new valuable information but are likely to be the least well–measured, investigate how best to balance news in recent data against the contaminating effects of measurement error. Two classes of the forecasting problem are studied:

- take coefficients from the forecast model as given and decide how much of the past time series to use in the forecast
- using a general class of linear forecasting model and calculate the optimal weight to place on a data observation of some age

In the first case, if the new data is sufficiently badly measured it may not be used at all – in this case it would be that a many step ahead forecast based on older data may provide a better forecast than a one-step ahead forecast on the more recent but noisier data. In the second case, as the amount of noise in earlier estimates increases more weight is attached to the coefficients on past data in the optimal forecasting model.

Elliot (2002), in his response to Stark and Croushore (2002) argues that model building for forecasting should use all available information, not just a choice of the appropriate data vintage. This prescriptive approach covers the question of how forecasts should be made in the knowledge that the underlying data is subject to revision. Using a system enables the way in which data is revised and the relationship between revised and unrevised data to help to refine forecasts. For example, if revisions are predictable then the information can be exploited in a model.

One approach would be to use factor models. These assume that from within a large range of variables there are a reduced number of factors that drive and are behind the movement of all relevant variables. The idea would be to extract a common factor or principal component from the large number of data series in the hope that the measurement error averages out to zero across many variables. Alternatively, state space models allow forecasts to be produced that take into account the distinction between preliminary and revised data to improve prediction accuracy as in Howrey (1978) and Cunningham et al (2007a, 2007b).

Monetary policy

The Bank of England coined the term 'data uncertainty' to describe the difficulty of making policy judgements when the statistical

indicators they use are subject to change (see Ashley et al, 2005). Therefore, this final section looks at the question of how much does it matter that data are revised?

The answer comes in three parts. First, what are the possible implications if policy is set in ignorance of the fact that data might be revised? Here, policy mistakes may emerge which are obvious with hindsight, but when facing the data available at the time are not so obvious. Secondly, how might monetary policy–makers change their behaviour if they know data is subject to revision. And finally, how might those responsible for operating monetary policy go about to actively deal with the data uncertainty problem?

Simple policy rules and data uncertainty

The Taylor rule (see Taylor 1993) is a simple policy reaction function that describes how a central bank or other monetary policy-maker may go about setting interest rates (their policy tool) in order to stabilise the economy (around an inflation target or at the full employment level of output – their policy target). Interest rates respond in the same direction as the deviation of inflation from the inflation target and the output gap. For example, if inflation is above target interest rates will rise. Likewise, if output is above its potential level, meaning there is a positive output gap and demand exceeds supply in the economy, interest rates will also increase.

The Taylor rule attracted a great deal of interest for its ability to explain Federal Reserve policy in the US fairly well between 1987 and 1992. And as Orphanides (2003a) finds, the Taylor rule is a good description of how policy has been implemented over a long period of time. However, policy errors have emerged when there are misperceptions over the economy's productive potential – leading to slow or incorrect policy. Part of the issue is that when looking at later vintages of data the Taylor rule would suggest a different policy reaction than when the data is viewed in real time.

The clearest example is in 1978. After the success of stabilisation policy in the 1960s the Great Inflation in the 1970s was considered one of the biggest failures of macroeconomics. Did policy makers do enough to guide the economy towards a non-inflationary stable outcome? Taylor (1999) argued that had his rule been followed, then interest rates would have been set higher at that time and the period of Great Inflation avoided.

With hindsight it is clear that the economy was overheated, but at the time this was not so obvious. Orphanides (2002) finds that for much of the 1970s, monetary policy was operating on the wrong belief that the economy was below its full employment potential. Monetary policy was therefore not intentionally expansionary, it did not aim to push output above potential, rather official estimates of the output gap were belatedly revised in response to the fall in productivity growth.

This means the real time policy prognosis from the Taylor rule would have given very different interest rate prescriptions to those based on later vintages of the output gap. Based on real time measures of the output gap which supported the view that output was below potential in the 1970s, the Taylor rule produces an interest rate response similar to the actual Fed rate at the time. If the revised history of the output gap in the 1970s had been known at the time policy would have been tighter than implemented and the Great Inflation may well

have been avoided. Orphanides (2001) demonstrates that real time policy recommendations differ considerably from those obtained with ex post revised data, and that information actually available to policy–makers in real time is essential for the analysis of monetary policy rules.

Nelson and Nicolov (2001) produce similar analysis for the UK. Although UK monetary authorities have not published their estimates of the output gap, some policy–makers have disclosed their view over the output gap or the extent of potential (trend) growth in documented sources, allowing real time output gap measures to be deduced. Again, mismeasurement of the output gap was found to be partly responsible for the rise in UK inflation in the 1970s and 1980s. Policy errors due to output gap mismeasurement contributed approximately 3.0 to 7.1 percentage points to average UK inflation in the 1970s and 0.7 to 5.5 percentage points to average inflation in the early 1980s.

To what extent though are data revisions to official economic time series responsible for errors in assessing the size of the output gap? The non-accelerating inflation rate of unemployment (NAIRU) and the potential level of output are variables that determine the size of the output gap, but they are also unobserved and conceptual, so their values are based on the judgements of policy makers. An important issue in the real time data debate is the extent to which policy mistakes may have arisen due to data uncertainty relative to an incorrect assessment of these conceptual variables.

Watson (2007) identifies one of the main problems in using these conceptual variables. Potential output is often derived as a trend from the measured output. However, trends and gaps (the deviation of time series from the trend) are two–sided concepts, with the output gap at any point in time being determined by the observed values before and after. This creates a problem at the end of the sample where there are no forward observations to accurately measure the trend. Unfortunately, this means that the output gap at the end of the sample happens to be of most interest to policy makers but also the most poorly measured. As time progresses the trend (potential output) is likely to be revised as more forward data observations become available. Revisions to output gaps therefore largely reflect the way potential output is measured at the end of the sample and not just revisions to the underlying data.

This is one of the reasons why Orphanides and Van Norden (2004) find that output gap estimates normally do quite well in forecasting inflation ex post, but in real time do not perform anywhere nearly as well. Ex post measures of the output gap severely overstate its usefulness in forecasting inflation because it relies on information unavailable to the forecasters – these are the forward observations necessary to accurately calculate the output gap itself. In real time output gap measures are far less stable and subject to significant revisions, calling into question their practical/operational usefulness in forecasting inflation.

Do uncertain policy makers do less?

Data released in recent periods contain the most noise, but are also of the most interest to policy makers – so how should policy be designed in the face of this trade–off? Jaaskela and Yates (2005) find that the coefficients on the lagged values in monetary policy rules increase as the relative measurement error in early vintages

increases. This means that, as the amount of noise in the output gap increases, more weight is placed on older data (lags of inflation and the output gap) which is deemed more reliable.

This result is also found by Aoki (2003) who investigates the optimal monetary response to noisy indicators. The noisier the data faced by the policy–maker the harder it is for them to distil correct information, hence beliefs about the state of the economy are updated more slowly. As a consequence the central bank will respond more cautiously to new data and interest rate responses will be smoother.

Orphanides (2003b) studies the implications of noisy information for the evaluation of monetary policy. When the noise content in data is taken into consideration, the policy reaction function become more cautious and less responsive to apparent output or unemployment gaps. One of the key results it that failing to take account of noise may actually lead to excessively activist policy that can increase rather than decrease economic instability.

In the absence of noise, activist control through monetary policy rules can substantially improve on the actual macroeconomic performance of the economy. However, if data is noisy, this improvement may be illusory as it provides a distorted view of the feasible outcomes. If imbalances perceived at any time may be partly based on faulty measurement then policy reaction functions risk increasing rather than reducing economic instability. Using simulations, it is shown that if in the US during the 1980s and 1990s the optimal policy response is followed pretending that noise in economic data doesn't exist, the outcomes are worse than the actual performance of the US economy over this period. In the presence of noise monetary policy is therefore recommended to follow neither total passivity or extreme activism.

Dealing with data uncertainty

The approach taken by several monetary policy–makers, including the Bank of England, is to argue that data revisions are, to some extent, predictable. Therefore, by exploiting this predictability in a model a better trade–off between timeliness and accuracy may be achievable.

Ashley et al (2005) represented the first attempt by the Bank of England at this. The model followed a basic three step procedure in order to estimate where preliminary estimates may eventually be revised to (that is a more mature vintage of the same data). First, preliminary estimates are mapped on to mature data using a basic regression approach which gives an indication of how movements in one may relate to movements in the other and also the degree of bias involved. This was referred to as the preliminary based estimate (PBE). Second, an estimate of a later vintage of data was produced using external survey data, specifically Purchasing Managers Indices for manufacturing and services. This was referred to as the survey based estimate (SBE). Finally an overall forecast was produced by combining the PBE and SBE together with weights calculated by a regression on past data.

This follows the basic forecast combination approach – that a better overall forecast may result by combining a number of individual forecasts. It is after all easier to combine forecasts than data sets. However, these estimates were never tested out of sample or in real

time – so whether or not it gave the Bank of England a better short–term estimate of manufacturing or services output is not known.

Chamberlin (2007) investigated in some depth the possibility of using external data sources to reduce revisions to GDP. The view from the literature appears to be that when the forecasting potential of business survey data was tested in real time its performance tended to be unstable over time.

Cunningham et al (2007a, 2007b) offers a more sophisticated approach to the modelling of data revisions that has now been more explicitly adopted with the results frequently published in Bank of England inflation reports. Here a filter is used to model revisions to preliminary estimates based on a history of past revisions and the relationship of different vintages with external survey data. Also, by modelling the rate at which measurement error is expected to decline as the data matures enables the construction of confidence intervals to be placed around the central estimate.

One of the issues here is that the recent past history of revisions may have some bearing on the outcomes produced by the model – where the central projection often appears as if a progressively declining bias adjustment has been attached to the preliminary estimate – pointing to a continual upward revision. However, as Brown et al have found in a long historical study of revisions, bias is unstable over time and there are a number of structural breaks in the revisions process. Therefore care should be taken when using the recent record of past revisions to predict the near–term pattern of future revisions.

In the US, Bernanke and Boivin (2002) advocated the development of a real time expert system for policy making. This reflects the large amount of information (data) that are available to central bankers on various forms of economic activity – all of which may provide a basis for better understanding the current behaviour of the economy. The first stage in this proposed model would be to use a factor approach to assimilate information from a huge number of data sources as they become available, which will then feed into the second stage of producing suggested policy setting based on a forward looking reaction function.

CONTACT

✉ elmr@ons.gsi.gov.uk

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Key time series

1 National accounts aggregates

Last updated: 25/05/10

Seasonally adjusted

	£ million		Indices (2005 = 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
2004	1,202,956	1,070,951	95.9	95.9	98.4	97.9	97.7	98.0	98.2
2005	1,254,058	1,116,648	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2006	1,325,795	1,181,141	105.7	105.8	101.7	102.9	103.0	102.8	102.7
2007	1,398,882	1,245,735	111.5	111.6	105.4	105.5	105.7	105.7	105.6
2008	1,448,391	1,298,795	115.5	116.3	106.9	106.1	106.2	108.9	109.6
2009	1,395,872	1,260,660	111.3	112.9	101.3	100.8	101.3	110.4	111.5
2004 Q1	294,112	261,280	93.8	93.6	97.9	97.2	96.9	96.5	96.5
2004 Q2	299,142	265,977	95.4	95.3	98.0	97.8	97.6	97.6	97.6
2004 Q3	302,115	269,503	96.4	96.5	97.8	97.9	97.7	98.5	98.8
2004 Q4	307,587	274,191	98.1	98.2	100.0	98.7	98.5	99.5	99.7
2005 Q1	308,723	274,756	98.5	98.4	99.6	99.0	99.0	99.5	99.4
2005 Q2	313,479	279,258	100.0	100.0	101.1	99.7	99.7	100.3	100.3
2005 Q3	313,378	278,669	100.0	99.8	99.2	100.3	100.3	99.6	99.6
2005 Q4	318,478	283,965	101.6	101.7	100.0	101.0	101.0	100.6	100.7
2006 Q1	326,085	291,002	104.0	104.2	101.2	102.1	102.2	101.9	102.0
2006 Q2	327,836	291,886	104.6	104.6	101.5	102.5	102.6	102.0	101.9
2006 Q3	333,542	297,046	106.4	106.4	101.8	103.0	103.1	103.3	103.2
2006 Q4	338,332	301,207	107.9	107.9	102.3	103.8	104.0	103.9	103.8
2007 Q1	344,238	306,154	109.8	109.7	103.6	104.6	104.7	105.0	104.7
2007 Q2	348,010	309,585	111.0	110.9	104.7	105.2	105.4	105.5	105.2
2007 Q3	351,635	313,159	112.2	112.2	105.1	105.8	106.0	106.0	105.8
2007 Q4	354,999	316,837	113.2	113.5	108.0	106.3	106.6	106.5	106.5
2008 Q1	363,438	324,362	115.9	116.2	109.6	107.1	107.2	108.2	108.4
2008 Q2	363,981	324,596	116.1	116.3	107.9	107.0	107.1	108.5	108.6
2008 Q3	361,706	325,359	115.4	116.5	106.3	106.0	106.1	108.8	109.8
2008 Q4	359,266	324,478	114.6	116.2	103.9	104.1	104.2	110.1	111.6
2009 Q1	348,525	315,778	111.2	113.1	102.1	101.4	101.6	109.6	111.3
2009 Q2	345,463	312,335	110.2	111.9	100.3	100.7	101.1	109.4	110.7
2009 Q3	348,982	314,688	111.3	112.7	100.4	100.4	100.9	110.8	111.7
2009 Q4	352,902	317,859	112.6	113.9	102.4	100.9	101.3	111.6	112.4
2010 Q1	360,158	321,812	114.9	115.3		101.2	101.6	113.5	113.5

Percentage change, quarter on corresponding quarter of previous year

			IHYO	ABML[4]	YBGO[4]	IHYR	ABMM[4]	IHYU	ABML/ABMM[4]
2004 Q1			5.7	5.4	3.0	3.6	3.4	2.0	1.9
2004 Q2			5.6	5.3	3.4	3.2	3.2	2.3	2.1
2004 Q3			5.2	5.4	2.5	2.6	2.6	2.6	2.8
2004 Q4			5.7	5.9	3.0	2.4	2.4	3.1	3.4
2005 Q1			5.0	5.2	1.8	1.8	2.1	3.1	3.0
2005 Q2			4.8	5.0	3.2	2.0	2.2	2.8	2.7
2005 Q3			3.7	3.4	1.4	2.5	2.6	1.2	0.7
2005 Q4			3.5	3.6	0.0	2.4	2.6	1.1	1.0
2006 Q1			5.6	5.9	1.6	3.2	3.2	2.4	2.6
2006 Q2			4.6	4.5	0.4	2.8	2.9	1.7	1.5
2006 Q3			6.4	6.6	2.6	2.7	2.9	3.7	3.6
2006 Q4			6.2	6.1	2.3	2.8	2.9	3.3	3.1
2007 Q1			5.6	5.2	2.3	2.4	2.5	3.1	2.7
2007 Q2			6.2	6.1	3.1	2.7	2.7	3.4	3.3
2007 Q3			5.4	5.4	3.3	2.7	2.8	2.6	2.5
2007 Q4			4.9	5.2	5.6	2.4	2.6	2.5	2.6
2008 Q1			5.6	5.9	5.8	2.4	2.4	3.1	3.5
2008 Q2			4.6	4.8	3.1	1.7	1.6	2.9	3.2
2008 Q3			2.9	3.9	1.0	0.2	0.1	2.6	3.8
2008 Q4			1.2	2.4	–3.8	–2.1	–2.3	3.4	4.8
2009 Q1			–4.1	–2.6	–6.9	–5.3	–5.2	1.3	2.7
2009 Q2			–5.1	–3.8	–7.1	–5.9	–5.6	0.9	1.9
2009 Q3			–3.5	–3.3	–5.5	–5.3	–4.9	1.9	1.7
2009 Q4			–1.8	–2.0	–1.4	–3.1	–2.7	1.4	0.7
2010 Q1			3.3	1.9		–0.2	0.0	3.6	1.9

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 Derived from these identification (CDID) codes.

2 Gross domestic product: by category of expenditure

Last updated: 26/05/10

£ million, chained volume measures, reference year 2005, 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
2004	766,856	30,827	262,917	204,756	4,843	−39	1,270,173	306,582	1,576,497	348,894	0	1,227,387
2005	784,140	30,824	268,088	209,758	4,472	−377	1,296,905	330,794	1,627,699	373,641	0	1,254,058
2006	795,595	31,868	272,271	223,305	4,789	304	1,328,132	368,076	1,696,207	406,374	0	1,289,833
2007	815,157	30,040	275,488	240,613	6,646	562	1,368,506	357,677	1,726,183	403,341	0	1,322,842
2008	822,086	30,832	282,681	232,202	866	1,295	1,369,962	361,535	1,731,497	401,137	−271	1,330,088
2009	795,847	29,628	288,819	197,592	−15,185	1,233	1,297,934	323,256	1,621,190	353,383	−3,161	1,264,646
2004 Q1	189,235	7,875	65,615	50,706	515	−113	314,855	74,389	389,121	84,284	0	304,784
2004 Q2	191,672	7,737	65,323	51,680	294	65	316,727	76,058	392,705	86,139	0	306,510
2004 Q3	192,642	7,664	65,746	51,351	953	8	317,863	76,895	394,700	87,840	0	306,806
2004 Q4	193,307	7,551	66,233	51,019	3,081	1	320,728	79,240	399,971	90,631	0	309,287
2005 Q1	194,294	7,745	66,418	51,092	2,978	−45	322,029	77,762	399,757	89,398	0	310,313
2005 Q2	195,610	7,676	66,986	51,273	2,025	90	323,588	80,830	404,405	91,846	0	312,550
2005 Q3	196,450	7,687	67,265	53,964	−251	−292	325,046	84,250	409,304	94,834	0	314,490
2005 Q4	197,786	7,716	67,419	53,429	−280	−130	326,242	87,952	414,233	97,563	0	316,705
2006 Q1	197,278	7,941	67,862	53,372	2,346	106	328,906	95,835	424,741	104,616	0	320,125
2006 Q2	199,392	8,025	67,692	54,499	63	241	329,912	97,932	427,844	106,555	0	321,289
2006 Q3	198,692	8,012	68,232	56,780	1,679	−30	333,365	86,854	420,220	97,364	0	322,855
2006 Q4	200,233	7,890	68,485	58,654	701	−13	335,949	87,455	423,402	97,839	0	325,564
2007 Q1	202,299	7,447	68,394	59,659	928	76	338,804	88,279	427,083	99,211	0	327,872
2007 Q2	203,492	7,413	68,650	59,620	−12	348	339,510	88,650	428,160	98,193	0	329,967
2007 Q3	204,321	7,471	69,165	59,777	3,130	45	343,909	90,348	434,256	102,647	0	331,609
2007 Q4	205,045	7,709	69,279	61,557	2,600	93	346,283	90,400	436,684	103,290	0	333,394
2008 Q1	206,823	7,693	69,853	59,370	3,261	212	347,212	91,462	438,674	102,979	86	335,781
2008 Q2	206,278	7,789	70,423	59,512	1,529	436	345,968	91,727	437,696	102,201	17	335,511
2008 Q3	205,676	7,723	70,809	57,362	378	366	342,315	91,219	433,534	101,037	−104	332,393
2008 Q4	203,309	7,627	71,596	55,958	−4,302	281	334,467	87,127	421,593	94,920	−270	326,403
2009 Q1	200,058	7,556	71,304	51,855	−4,757	418	326,434	80,888	407,322	88,742	−681	317,899
2009 Q2	198,344	7,470	71,963	48,119	−2,949	244	323,191	79,466	402,657	86,168	−773	315,716
2009 Q3	198,359	7,354	72,402	49,475	−4,883	217	322,924	79,938	402,862	87,201	−835	314,826
2009 Q4	199,086	7,248	73,150	48,143	−2,596	354	325,385	82,964	408,349	91,272	−872	316,205
2010 Q1	199,111	7,069	73,490	48,888	−1,347	270	327,481	83,000	410,481	92,549	−748	317,184

Percentage change, quarter on corresponding quarter of previous year

											IHYR
	ABJR	HAYO	NMRY	NPQT			YBIM	IKBK	ABMG	IKBL		IHYR
2004 Q1	3.4	1.6	4.7	3.8			4.4	0.2	3.5	3.3		3.6
2004 Q2	3.3	0.7	3.2	7.4			3.9	5.3	4.2	7.6		3.2
2004 Q3	3.2	−0.6	2.6	7.1			3.1	6.8	3.8	8.5		2.6
2004 Q4	3.0	−2.1	1.7	2.3			2.7	7.9	3.7	8.4		2.4
2005 Q1	2.7	−1.7	1.2	0.8			2.3	4.5	2.7	6.1		1.8
2005 Q2	2.1	−0.8	2.5	−0.8			2.2	6.3	3.0	6.6		2.0
2005 Q3	2.0	0.3	2.3	5.1			2.3	9.6	3.7	8.0		2.5
2005 Q4	2.3	2.2	1.8	4.7			1.7	11.0	3.6	7.6		2.4
2006 Q1	1.5	2.5	2.2	4.5			2.1	23.2	6.2	17.0		3.2
2006 Q2	1.9	4.5	1.1	6.3			2.0	21.2	5.8	16.0		2.8
2006 Q3	1.1	4.2	1.4	5.2			2.6	3.1	2.7	2.7		2.7
2006 Q4	1.2	2.3	1.6	9.8			3.0	−0.6	2.2	0.3		2.8
2007 Q1	2.5	−6.2	0.8	11.8			3.0	−7.9	0.6	−5.2		2.4
2007 Q2	2.1	−7.6	1.4	9.4			2.9	−9.5	0.1	−7.8		2.7
2007 Q3	2.8	−6.8	1.4	5.3			3.2	4.0	3.3	5.4		2.7
2007 Q4	2.4	−2.3	1.2	4.9			3.1	3.4	3.1	5.6		2.4
2008 Q1	2.2	3.3	2.1	−0.5			2.5	3.6	2.7	3.8		2.4
2008 Q2	1.4	5.1	2.6	−0.2			1.9	3.5	2.2	4.1		1.7
2008 Q3	0.7	3.4	2.4	−4.0			−0.5	1.0	−0.2	−1.6		0.2
2008 Q4	−0.8	−1.1	3.3	−9.1			−3.4	−3.6	−3.5	−8.1		−2.1
2009 Q1	−3.3	−1.8	2.1	−12.7			−6.0	−11.6	−7.1	−13.8		−5.3
2009 Q2	−3.8	−4.1	2.2	−19.1			−6.6	−13.4	−8.0	−15.7		−5.9
2009 Q3	−3.6	−4.8	2.2	−13.7			−5.7	−12.4	−7.1	−13.7		−5.3
2009 Q4	−2.1	−5.0	2.2	−14.0			−2.7	−4.8	−3.1	−3.8		−3.1
2010 Q1	−0.5	−6.4	3.1	−5.7			0.3	2.6	0.8	4.3		−0.2

Notes:

Source: Office for National Statistics

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

3 Labour market summary

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 2008	48,939	31,109	29,490	1,619	17,830	63.6	60.3	5.2	36.4
Jan–Mar 2009	49,323	31,401	29,170	2,231	17,922	63.7	59.1	7.1	36.3
Apr–Jun 2009	49,418	31,356	28,925	2,431	18,062	63.5	58.5	7.8	36.5
Jul–Sep 2009	49,516	31,378	28,917	2,461	18,138	63.4	58.4	7.8	36.6
Oct–Dec 2009	49,613	31,363	28,905	2,457	18,251	63.2	58.3	7.8	36.8
Jan–Mar 2010	49,711	31,340	28,829	2,510	18,372	63.0	58.0	8.0	37.0
Male	MGSM	MGSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Jan–Mar 2008	23,814	16,887	15,945	942	6,927	70.9	67.0	5.6	29.1
Jan–Mar 2009	24,026	17,035	15,685	1,350	6,991	70.9	65.3	7.9	29.1
Apr–Jun 2009	24,076	16,977	15,486	1,491	7,099	70.5	64.3	8.8	29.5
Jul–Sep 2009	24,129	16,945	15,425	1,521	7,184	70.2	63.9	9.0	29.8
Oct–Dec 2009	24,184	16,892	15,393	1,499	7,292	69.8	63.7	8.9	30.2
Jan–Mar 2010	24,238	16,897	15,350	1,547	7,341	69.7	63.3	9.2	30.3
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Jan–Mar 2008	25,125	14,222	13,545	677	10,903	56.6	53.9	4.8	43.4
Jan–Mar 2009	25,298	14,367	13,486	881	10,931	56.8	53.3	6.1	43.2
Apr–Jun 2009	25,342	14,379	13,439	940	10,963	56.7	53.0	6.5	43.3
Jul–Sep 2009	25,386	14,432	13,492	940	10,954	56.9	53.1	6.5	43.1
Oct–Dec 2009	25,430	14,470	13,512	959	10,959	56.9	53.1	6.6	43.1
Jan–Mar 2010	25,473	14,442	13,479	963	11,031	56.7	52.9	6.7	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 2008	37,671	29,786	28,187	1,599	7,885	79.1	74.8	5.4	20.9
Jan–Mar 2009	37,853	30,019	27,821	2,198	7,835	79.3	73.5	7.3	20.7
Apr–Jun 2009	37,900	29,949	27,554	2,396	7,951	79.0	72.7	8.0	21.0
Jul–Sep 2009	37,946	29,941	27,517	2,424	8,006	78.9	72.5	8.1	21.1
Oct–Dec 2009	37,991	29,914	27,495	2,418	8,077	78.7	72.4	8.1	21.3
Jan–Mar 2010	38,036	29,870	27,401	2,469	8,166	78.5	72.0	8.3	21.5
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Jan–Mar 2008	19,642	16,437	15,505	932	3,205	83.7	78.9	5.7	16.3
Jan–Mar 2009	19,766	16,586	15,250	1,336	3,180	83.9	77.2	8.1	16.1
Apr–Jun 2009	19,794	16,527	15,051	1,476	3,267	83.5	76.0	8.9	16.5
Jul–Sep 2009	19,821	16,479	14,976	1,503	3,342	83.1	75.6	9.1	16.9
Oct–Dec 2009	19,848	16,422	14,942	1,481	3,426	82.7	75.3	9.0	17.3
Jan–Mar 2010	19,875	16,407	14,879	1,528	3,468	82.6	74.9	9.3	17.4
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Jan–Mar 2008	18,029	13,349	12,682	667	4,680	74.0	70.3	5.0	26.0
Jan–Mar 2009	18,088	13,433	12,571	862	4,655	74.3	69.5	6.4	25.7
Apr–Jun 2009	18,107	13,422	12,502	920	4,684	74.1	69.0	6.9	25.9
Jul–Sep 2009	18,125	13,462	12,541	921	4,663	74.3	69.2	6.8	25.7
Oct–Dec 2009	18,143	13,491	12,554	938	4,652	74.4	69.2	7.0	25.6
Jan–Mar 2010	18,160	13,463	12,522	941	4,697	74.1	69.0	7.0	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

4 Prices

| | Consumer prices | | | | | | 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]	PLLV[3,4]	RNNK[3,4]	RNNQ[3,4]
2007 Jan	2.7	2.9	2.6	4.2	3.5	3.7	1.5	1.6	−3.4	−0.5
2007 Feb	2.8	2.9	2.6	4.6	3.7	3.9	1.9	2.0	−2.1	−0.2
2007 Mar	3.1	3.1	2.9	4.8	3.9	4.0	2.2	2.2	−0.3	1.0
2007 Apr	2.8	2.9	2.6	4.5	3.6	3.7	1.8	1.8	−1.5	0.0
2007 May	2.5	2.6	2.3	4.3	3.3	3.4	1.9	1.9	0.6	1.9
2007 Jun	2.4	2.5	2.2	4.4	3.3	3.3	1.9	1.7	1.7	2.2
2007 Jul	1.9	2.0	1.7	3.8	2.7	2.6	2.0	1.8	0.3	0.6
2007 Aug	1.8	1.9	1.6	4.1	2.7	2.6	2.1	2.0	−0.2	1.0
2007 Sep	1.8	1.7	1.6	3.9	2.8	2.8	2.6	1.9	6.0	3.6
2007 Oct	2.1	1.9	1.8	4.2	3.1	3.0	3.6	1.8	9.4	4.6
2007 Nov	2.1	1.9	1.8	4.3	3.2	3.0	4.5	1.9	12.1	5.6
2007 Dec	2.1	2.0	1.9	4.0	3.1	3.1	4.7	2.2	13.2	6.9
2008 Jan	2.2	2.1	2.0	4.1	3.4	3.3	5.7	3.0	20.4	11.0
2008 Feb	2.5	2.5	2.3	4.1	3.7	3.6	5.7	2.8	20.9	11.9
2008 Mar	2.5	2.6	2.3	3.8	3.5	3.6	6.2	2.9	20.8	12.7
2008 Apr	3.0	3.0	2.7	4.2	4.0	3.9	7.4	4.1	25.3	16.6
2008 May	3.3	3.3	3.1	4.3	4.4	4.4	9.1	5.6	30.2	18.9
2008 Jun	3.8	3.9	3.6	4.6	4.8	4.9	9.8	5.9	34.1	21.1
2008 Jul	4.4	4.5	4.2	5.0	5.3	5.4	10.0	6.3	31.3	21.3
2008 Aug	4.7	4.9	4.5	4.8	5.2	5.4	9.1	5.7	29.0	20.8
2008 Sep	5.2	5.4	5.0	5.0	5.5	5.6	8.5	5.6	24.1	19.5
2008 Oct	4.5	4.7	4.3	4.2	4.7	4.9	6.7	5.0	16.0	16.9
2008 Nov	4.1	4.3	3.9	3.0	3.9	3.9	5.0	5.0	8.1	14.1
2008 Dec	3.1	4.6	4.1	0.9	2.8	3.9	4.6	5.0	3.2	12.6
2009 Jan	3.0	4.5	4.1	0.1	2.4	3.4	3.5	4.0	1.7	10.8
2009 Feb	3.2	4.6	4.2	0.0	2.5	3.5	3.0	3.7	0.8	8.9
2009 Mar	2.9	4.3	3.9	−0.4	2.2	3.2	2.0	3.2	−0.4	7.5
2009 Apr	2.3	3.8	3.4	−1.2	1.7	2.7	1.3	2.5	−5.8	2.6
2009 May	2.2	3.6	3.3	−1.1	1.6	2.6	−0.3	1.2	−8.8	0.2
2009 Jun	1.8	3.1	2.9	−1.6	1.0	1.9	−1.0	0.3	−12.0	−2.9
2009 Jul	1.8	3.1	2.8	−1.4	1.2	2.1	−1.3	0.2	−12.2	−3.4
2009 Aug	1.6	2.9	2.7	−1.3	1.4	2.3	−0.3	0.8	−7.7	−2.1
2009 Sep	1.1	2.2	2.1	−1.4	1.3	2.0	0.4	1.3	−6.2	−1.2
2009 Oct	1.5	2.6	2.5	−0.8	1.9	2.8	1.8	2.1	0.5	0.9
2009 Nov	1.9	3.0	2.9	0.3	2.7	3.5	2.9	2.0	4.2	0.8
2009 Dec	2.9	2.8	2.6	2.4	3.8	3.8	3.5	2.5	7.4	1.1
2010 Jan	3.5	1.9	1.7	3.7	4.6	3.3	3.8	2.6	7.7	1.4
2010 Feb	3.0	1.4	1.2	3.7	4.2	2.9	4.2	3.0	7.6	2.3
2010 Mar	3.4	1.8	1.6	4.4	4.8	3.5	5.0	3.7	10.3	4.3
2010 Apr	3.7	2.0	1.9	5.3	5.4	3.9	5.7	4.4	13.1	6.4

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.
4 These derived series replace those previously shown.

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 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. The old *Economic Trends* tables are no longer being updated with effect from January 2009.

Weblink: www.statistics.gov.uk/elmr/06_10/data_page.asp

Title	Frequency of update
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[1]	Q
1.14 Private non-financial corporations: secondary distribution of income account and capital account[1]	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 weekly earnings – total pay	M
2.16A Average weekly earnings – bonus pay	M
2.17 Average weekly earnings – regular pay	M
2.18 Productivity and unit wage costs	M

Weblink: www.statistics.gov.uk/elmr/06_10/data_page.asp

2.19	Regional labour market summary	M
2.20	International comparisons	M
2.21	Labour disputes	M
2.22	Vacancies by size of enterprise	M
2.23	Vacancies by industry	M
2.24	Redundancies: levels and rates	M
2.25	Redundancies: by industry	Q
2.27	Employment levels by country of birth and nationality	M
2.28	Working age employment rates by country of birth and nationality	Q
2.29	Lone parent claimants of Jobseeker's Allowance by age of youngest child	M
2.30	Key out of work benefits	M
2.31	Production industry employee jobs	M
2.32	Public sector employment by industry	Q

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[1]	M
4.04	Indicators of fixed investment in dwellings	M
4.05	Number of property transactions	M
4.06	Change in inventories[1]	Q
4.07	Inventory ratios[1]	Q
4.08	Retail sales, new registrations of cars and credit business	M
4.09	Inland energy consumption: primary fuel input basis[1]	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[1]	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

Weblink: www.statistics.gov.uk/elmr/06_10/data_page.asp

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
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 and unemployment	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:

1 These tables, though still accessible, are no longer being updated.
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