

Economic & Labour Market Review

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The Director of ONS is also the National Statistician.

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In brief

Trade Union Membership 2007

The Department for Business, Enterprise & Regulatory Reform is responsible, in conjunction with the Office for National Statistics (ONS), for publishing the National Statistics on trade union membership.

In the past, trade union membership statistics were published in an annual article in the ONS journal *Labour Market Trends*. This was replaced in 2004 by an annual National Statistic report; the fifth of the series was published on 30 July 2008.

A question on trade union membership was introduced into the Labour Force Survey (LFS) in 1989 and was asked in the autumn quarter survey each year. Since 2006, when the LFS switched to a calendar quarter basis, the question on union membership has been asked in the fourth quarter. The extensive reweighting programme carried out by ONS in early 2008 to convert all existing seasonal LFS data sets to calendar quarters has meant that the *Trade Union Membership 2007* publication is the first in the series in which the data are published on a consistent basis for the fourth quarter each year.

Trade Union Membership 2007 uses the LFS to provide an estimate of the density of trade union membership for UK employees and all UK workers. Additionally, estimates of trade union densities are given for age, gender, ethnicity, income, major occupation, industry, full- and part-time employment, sector, nation and region gender, region and sector. The report also contains information on union presence in workplaces and whether an employee's pay and conditions are affected by collective agreement.

The rate of union membership for all employees in the UK was 28.0 per cent in 2007, down slightly from 28.3 per cent in 2006 and 4.5 percentage points down from 32.4 per cent in 1995.

For the sixth consecutive year, a higher proportion of women than men were trade union members. Union density among women remained unchanged at 29.6 per cent of employees in 2007, while for men it fell by 0.6 percentage points to 26.4 per cent.

Estimates are also provided this year for trade union membership levels going back to 1995. In 2007, it was estimated that just under than 7 million employees

were union members, compared with just over 7 million in 1995. These figures compare favourably with data from the Certification Officer, the other main source of trade union membership data, which is published in *Trade Union Membership* for the first time this year. In the latest report from the Certification Officer, trade union membership was said to have been around 7.6 million in the period 2005–2006.

More information

www.berr.gov.uk/employment/research-evaluation/trade-union-statistics/index.html

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Integrating annual employment surveys

The new Business Register and Employment Survey (BRES) will replace and integrate two existing Office for National Statistics (ONS) surveys, which collect information for ONS's Inter-Departmental Business Register (IDBR) and for annual employment estimates. This will reduce the burden on respondents, while at the same time improving the quality of both the IDBR and annual employment estimates. In addition, the direct use of site employment data will improve annual employment estimates at regional and local levels.

BRES will collect the following data at the business enterprise level:

- address
- contact name
- VAT and PAYE reference numbers
- nature of overall business
- structure of business, including the number of sites in operation
- total number of employees, and
- number of working proprietors/partners

BRES will collect the following data at site level:

- address
- nature of the business carried out on the site
- number of full-time employees
- number of part-time employees, and
- site turnover

BRES will not collect male and female employment data, since businesses have difficulty providing these. Responses from businesses to the Annual Survey of Hours and Earnings will be used to calculate these figures instead.

The new survey will be piloted with 10,000 businesses across the whole economy in September 2008, and full live running is planned for September 2009, provided the pilot is successful.

More information

www.statistics.gov.uk/about/consultations/BRES_users.asp
www.statistics.gov.uk/about/data/development/allsopp

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New business demography publication

The EU Structural Business Statistics Regulation of 2008 requires Member States to produce statistics on business births, deaths and survival rates. In advance of this Regulation, Eurostat has published estimates for births (1997 onwards), deaths (1998 onwards) and survivals (1999 onwards) in *Statistics in Focus* since 2003, based on data from most Member States, including the UK. These statistics use definitions and methodology that permits EU-wide comparisons. The Department for Business Enterprise & Regulatory Reform has published 'Business Start-ups and Closures: VAT Registrations and De-registrations in the UK' annually since 1980. Publication on this basis will cease following the release of estimates for 2007 in November 2008. The Office for National Statistics (ONS) will publish statistics on business births, deaths and survival rates using the Eurostat methodology from November 2008. More information on the differences in methodology will be published in the November issue of *Economic & Labour Market Review*.

ONS has published 'UK Business; Activity, Size and Location' annually since 1971, based on VAT registrations since 1984. The next release is scheduled for September 2008. It will widen its scope to include businesses registered as PAYE

employers who are not registered for VAT. This will provide comparability with the new business demography data. The Neighbourhood Statistics work deprivation statistics based on the business register will be produced on the same basis from October 2008.

More information

Statistics in Focus – Business Demography 048/2007

http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-SF-07-048/EN/KS-SF-07-048-EN.PDF

Statistics from the Enterprise Directorate Analytical Unit

www.berr.gov.uk/bbf/enterprise-smes/research-and-statistics/

UK business: Activity, Size and Location

www.statistics.gov.uk/statbase/product.asp?vlnk=933

Neighbourhood Statistics Service – Work Deprivation

<http://neighbourhood.statistics.gov.uk/dissemination/Download1.do>

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Replacement of Labour Force Survey with Annual Population Survey in the Regional Labour Market First Releases

The quarterly Regional Labour Market First Releases, along with the new monthly web tables introduced in March 2008, currently use the Labour Force Survey (LFS), and for smaller geographic regions, the Annual Population Survey (APS) as the source of information relating to the Government Office Regions and nations. The APS has the advantage of having a much larger sample than LFS estimates, producing higher-quality estimates, but at the cost of timeliness, with figures appearing around six months after the end of the reference period covered. APS also has the disadvantage of only existing as a consistent time series from 2004, compared with the much longer consistent time series available from LFS.

In 2005, a proposal was put forward to change tables in the Regional First Releases from LFS to APS for all data, not just the smaller geographic regions, giving

priority to the quality of the estimates, rather than timeliness. This would also bring these tables into line with the tables for smaller geographic regions within the release. The outcome of the consultation on this proposal was that users wanted the summary tables (Table 1) to continue on the basis of the LFS, providing the most up-to-date summary estimates, whereas other tables that provide breakdowns of the regional estimates should move to using the APS data. However, although this was agreed in 2005, it was decided to delay the switch until after the APS had been reweighted to the latest population estimates.

Following the release of APS data sets reweighted to 2007 population estimates in May 2008, and further consultation with key users, it is now intended to implement the change. It is planned that the Regional First Releases published in November 2008 will use APS instead of LFS in all tables (Tables 2, 3, 6, 9 10 and 11) except Table 1, which will remain on a three-monthly LFS basis. This change will also be implemented on the new monthly web tables.

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UPDATES

Updates to statistics on www.statistics.gov.uk

7 July

Index of production

Manufacturing: 0.2% three-monthly fall to May

www.statistics.gov.uk/cci/nugget.asp?id=198

9 July

UK trade

Deficit widened to £4.2 billion in May

www.statistics.gov.uk/cci/nugget.asp?id=199

14 July

Producer prices

Factory gate inflation rises to 10.0% in June

www.statistics.gov.uk/cci/nugget.asp?id=248

15 July

Inflation

June: CPI up to 3.8%; RPI up to 4.6%

www.statistics.gov.uk/cci/nugget.asp?id=19

16 July

Average earnings

Pay growth steady in year to May 2008

www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Rate unchanged at 74.9% in three months to May

www.statistics.gov.uk/cci/nugget.asp?id=12

18 July

Public sector

June: £7.6 billion current budget deficit

www.statistics.gov.uk/cci/nugget.asp?id=206

24 July

Retail sales

Growth slows with sharp fall in June

www.statistics.gov.uk/cci/nugget.asp?id=256

25 July

GDP growth

UK economy grew by 0.2% in Q2 2008

www.statistics.gov.uk/cci/nugget.asp?id=192

Index of services

0.4% three-monthly rise into May

www.statistics.gov.uk/cci/nugget.asp?id=558

31 July

Local employment

Test Valley, Hants 88.5% employment

www.statistics.gov.uk/cci/nugget.asp?id=252

Local unemployment

Unemployment hits 9.2% in Birmingham

www.statistics.gov.uk/cci/nugget.asp?id=1606

Local inactivity

Lowest inactivity rate 8.5% in Purbeck, Dorset

www.statistics.gov.uk/cci/nugget.asp?id=1013

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

5 August

Index of production – June 2008

7 August

New construction orders – June 2008

11 August

Producer prices – July 2008**UK trade – June 2008**

12 August

Consumer price indices – July 2008**MM22: Producer prices – July 2008**

13 August

Digest of engineering turnover and orders – June 2008**Labour market statistics – August 2008****MM19: Aerospace and electronics cost indices – May 2008**

14 August

Monthly review of external trade statistics – June 2008**New construction orders: additional monthly data – June 2008****Public and private sector breakdown of labour disputes**

15 August

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

18 August

Focus on consumer price indices – July 2008

20 August

Average weekly earnings – August 2008**Public sector finances – July 2008**

21 August

Business investment provisional results – Q2 2008**Retail sales – July 2008****SDM28: Retail sales – July 2008**

22 August

Index of services – June 2008**Market sector GVA****UK output, income and expenditure – Q2 2008**

26 August

Public sector finances: supplementary (quarterly) data

27 August

Services producer price index (experimental) – Q2 2008**Work and worklessness**

Economic review

July 2008

Anis Chowdhury

Office for National Statistics

SUMMARY

GDP output slowed in 2008 quarter two compared with the previous quarter. Growth was driven by modest service sector output, offset by weaker total production growth. Manufacturing output contracted in the latest quarter following positive growth in the previous quarter. On the expenditure side, household spending strengthened whilst business investment weakened in quarter one compared with the previous quarter. The current account deficit narrowed in quarter one. The goods trade deficit narrowed in the latest quarter. The labour market showed further signs of weakening in 2008 quarter two; average earnings remain relatively subdued. Public sector finances deteriorated in June 2008. Consumer price inflation accelerated further in June 2008 and was considerably above the Government's inflation target. Producer output and input price inflation accelerated in 2008 quarter two.

GROSS DOMESTIC PRODUCT

Second quarter growth of 0.2 per cent

The preliminary estimate of GDP growth for the second quarter of 2008 is now available. GDP growth for the second quarter of 2008 is estimated to have slowed compared with the previous quarter. Growth was a subdued 0.2 per cent, a marginal deceleration from 0.3 per cent growth in the previous quarter. The initial estimate for the annual rate of growth was 1.6 per cent, down from 2.2 per cent growth in the previous quarter. It should be noted

that these estimates are based on the output approach to measuring GDP. The headline figure will be firmed up later as more data becomes available (Figure 1).

The growth rate in the UK economy in quarter two continued to be driven by service sector output – albeit at a fairly moderate rate. Industrial production growth continued to display weakness for the fourth successive quarter, with output decelerating further in the latest quarter. The fragility in total production was driven by contraction in manufacturing output growth and also by a fall in the output of the electricity, gas and water supply industries.

This was offset by an acceleration in mining and quarrying (including oil and gas) output, although still exhibiting negative growth. The slowdown in GDP growth was also led by the contraction in the output of the construction sector after showing positive growth in the previous quarter.

OTHER MAJOR ECONOMIES

Global growth shows mixed fortunes in quarter one

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

US GDP growth continued to exhibit relative weakness in 2008 quarter one – growing by 0.2 per cent, up from 0.1 per cent in the previous quarter. This was, however, a marked slowdown from 1.2 per cent growth seen in 2007 quarter three. The weakness in growth was mainly due to a significant deceleration in consumer spending, partly due to negative conditions in the housing and credit markets. Fragile growth was also partly led by continued contraction in residential investment – for the ninth consecutive quarter. There was also contraction in non-residential investment following positive growth shown in previous quarters. The above weaknesses were partially offset by a positive net trade situation – contributing positively to growth.

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

Euro-zone growth picked up. According to Eurostat's estimate, euro area GDP growth accelerated to a buoyant 0.8 per cent compared with modest 0.3 per cent growth in the previous quarter. Growth for the two big mainland EU economies – Germany and France – showed an improved picture in 2008 quarter one compared with the previous quarter.

Figure 1
Gross domestic product

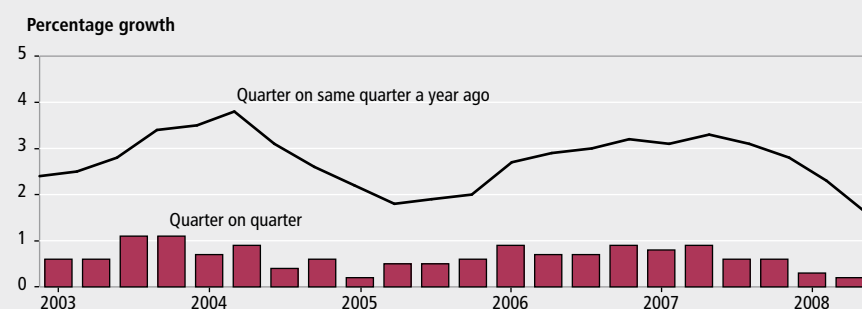
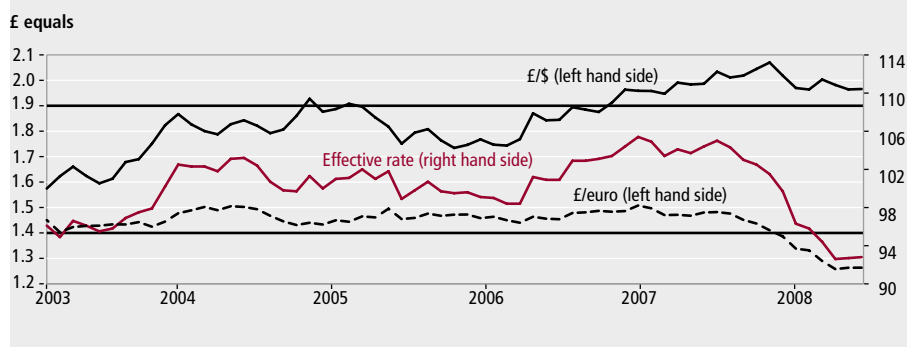


Figure 2
Exchange rates



German GDP growth accelerated sharply in 2008 quarter one, increasing by 1.5 per cent, up sharply from 0.3 per cent in the previous quarter. Growth was led partly by positive growth in household consumption following negative growth in the previous quarter. Capital and construction investment also contributed to growth with both accelerating in the latest quarter. Exports grew strongly and continued to be a key driver in Germany's economic growth.

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

FINANCIAL MARKETS

Share prices rally; pound depreciates

Equity performance has displayed volatility over the last couple of years. In recent quarters, equity growth has been particularly weak. In the latest quarter however, there appeared signs of a modest rebound in equity prices, after having fallen substantially in 2008 quarter one. In 2008 quarter two, the FTSE All-Share index rose by 1.7 per cent. This follows a decrease of 9.1 per cent in the previous quarter. The rise was partly driven by the purchase of stocks in the heavily weighted mining and energy sectors. However, the FTSE All-Share index still remains low compared to the peaks seen in the second quarter of 2007 – and may be attributed to global growth concerns, particularly regarding the US economy, brought on by financial

uncertainty and continued problems regarding the credit squeeze.

In the currency markets, 2008 quarter two saw sterling's broad average value continuing to depreciate but at a lesser rate compared with the first quarter. The pound's value against the dollar fell by around 0.5 per cent compared to a depreciation of around 3 per cent in the previous quarter. Against the euro, sterling's value depreciated by approximately 4 per cent in the second quarter, following depreciation of around 7 per cent in the previous quarter. Overall, the quarterly effective exchange rate depreciated by approximately 3 per cent in 2008 quarter two after depreciating by approximately 6 per cent in the previous quarter (Figure 2).

The recent movements in the exchange rate might be linked to interest rate and growth factors. Exchange rate movements can be related to the perceptions of the relative strengths of the US, the euro and UK economy. The depreciation of the pound against both the dollar and euro in quarter one may have come in response to fears about lower growth in the UK economy and therefore prospects of lower interest rates to stimulate the economy. Indeed, the Bank of England reduced interest rates by 25 basis points in April 2008 to 5 per cent, the third cut in interest rates since December 2007 and was mainly in response to the effects of the sub-prime crisis in terms of downward risks to growth and inflation. These interest rate reductions may have made the pound less appealing to investors compared to other currencies.

The lower rate of depreciation of the pound against the dollar in the latest quarter may have been partly a result of expectations amongst investors that the Bank of England was unlikely to cut interest rates further in the short to medium term given the current inflationary pressures facing the UK economy. This perception

coincided with US interest rates being lowered by a further 0.25 basis points in April 2008 to 2 per cent following a 0.75 basis points reduction in March.

In contrast in the euro area, the further depreciation of the pound against the euro in the second quarter of 2008 may have come in response to greater expectations of interest rates being raised by the European Central Bank (ECB). In fact, interest rates were increased by 0.25 basis points in July 2008 to 4.25 per cent after having been at 4 per cent since June 2007. The main factor cited by the ECB for the rise was a perception of deteriorating inflationary expectations over the coming months and the need in particular to manage and anchor those expectations.

OUTPUT

Easing growth driven by modest service sector output

GDP growth in 2008 quarter two was estimated to have grown at 0.2 per cent, a marginal decline from 0.3 per cent growth in the previous quarter. On an annual basis growth was 1.6 per cent, down from 2.2 per cent in the previous quarter.

Construction activity weakened in the latest quarter compared with the previous quarter. Construction output is estimated to have fallen by 0.7 per cent, after increasing by 0.4 per cent growth in the previous quarter. Comparing the quarter on the same quarter a year ago, construction output rose by 0.8 per cent, a slowdown from 2.4 per cent growth in the previous quarter (Figure 3).

External surveys pointed to sharp declines in housing activity in the latest quarter – attributing this to a combination of a slowing housing market and lack of availability of debt finance. The CIPS/Markit UK construction PMI (Purchasing Managers Index) reported that total construction contracted at record pace in the second quarter to a headline balance of 42.9 from 51.2 in the first quarter. The Royal Institute of Chartered Surveyors (RICS) construction survey for 2008 quarter two reported that workloads broke more than eleven years of uninterrupted growth to decline at the fastest pace since 1995 quarter three; the workload balance was at minus 19 in the second quarter from plus 1 in the previous quarter.

Total output from the production industries decelerated further in the

latest quarter. Output fell by 0.5 per cent following a decrease of 0.2 per cent in quarter one. On an annual basis, output contracted by 0.8 per cent, down from 0.4 per cent growth in the previous quarter.

The weakness in total production was driven by a contraction in the output of the manufacturing industries. Manufacturing output fell by 0.4 per cent in the second quarter reversing positive growth of 0.4 per cent in the previous quarter. On an annual basis, manufacturing output fell by 0.4 per cent, after having increased by 0.9 per cent in quarter one (**Figure 4**).

The weakness in total production in quarter two compared with the previous quarter was also to a lesser extent driven by a fall in the output of the electricity, gas and water supply industries. Output fell by 1.5 per cent compared with a fall of 1.3 per cent in the previous quarter. On an annual basis, output grew by 0.8 per cent down from 1.4 per cent growth in quarter one.

In contrast, the output of the mining and quarrying (including oil and gas) industries strengthened in the latest quarter, although growth was still in negative territory. Output fell by 0.9 per cent in the latest quarter, an acceleration compared to a decrease of 4.7 per cent in quarter one. On an annual basis, output contracted by 6.8 per cent, a deceleration from a 4.9 per cent reduction in growth in quarter one.

Production growth has generally been slow since the third quarter of 2007 due to weakness in manufacturing for most of that period, and a contraction in mining and quarrying output, offset through some of this period by relatively strong electricity, gas and water supplies industry output. There was a modest pick up in manufacturing output in the first quarter of 2008 but this appears not to have been sustained into the latest quarter. It should be noted that manufacturing output has displayed volatility in the recent past.

The output of the agriculture, forestry and fishing industries was flat in the latest quarter compared with 0.6 per cent growth in the previous quarter. On an annual basis growth was 1 per cent, similar to the rate in the previous quarter.

External surveys of manufacturing for 2008 quarter two showed a deteriorating picture compared with the previous quarter with weaker domestic demand cited as a major factor, broadly in line with official figures. (**Figure 5**). In the past, it has not been unusual for the path of business indicators and official data to diverge over the short term. These differences happen

Figure 3
Construction output

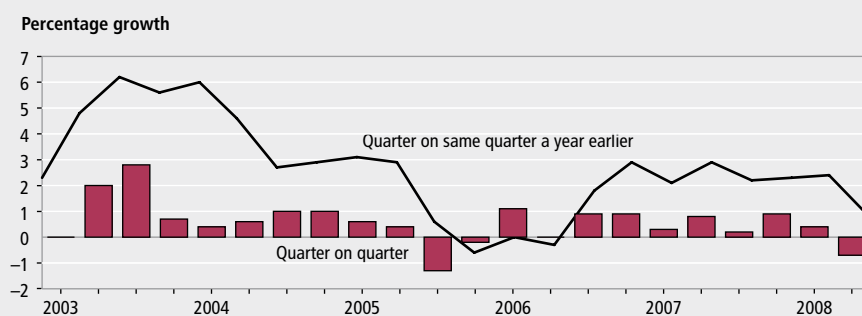


Figure 4
Manufacturing output

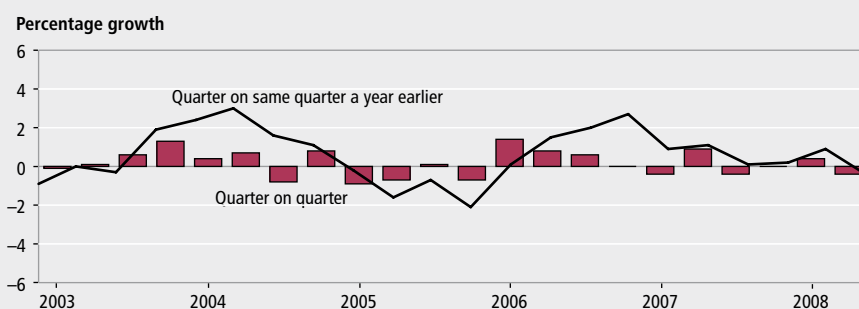


Figure 5
External manufacturing

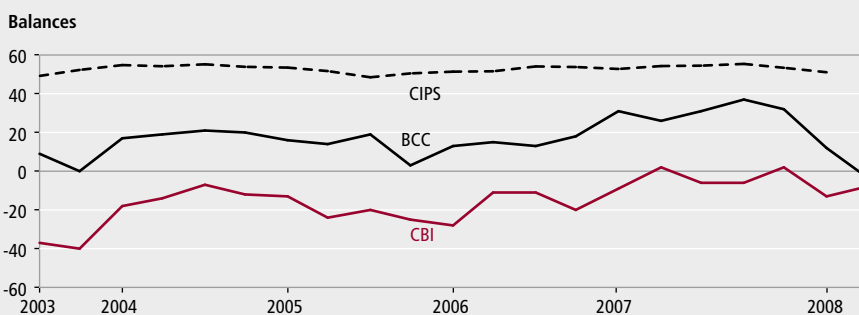
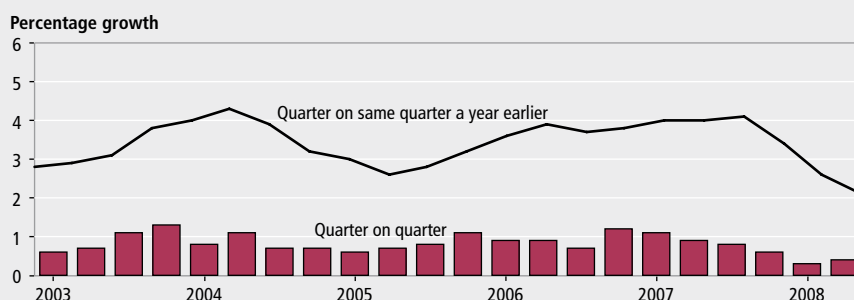


Figure 6
Services output



partly because the series are not measuring exactly the same thing. External surveys measure the direction rather than the magnitude of a change in output and often inquire into expectations rather than actual activity.

The CIPS/ Markit manufacturing PMI indicated a slight contraction in the latest quarter; the headline index fell below the no change 50.0 mark to 48.5 from 51.0 in quarter one. The CBI in its 2008 quarter two Industrial Trends survey reported continued weakness in its total order books with the balance at minus 8 in the second quarter, compared with minus 13 in the previous quarter. The BCC in its 2008 quarter two survey reported ominous results which highlighted serious risks of UK recession; the balances for home sales dropped by 15 points to minus 3 and the balance for home orders fell by 13 points to minus 5.

Overall the service sector, the largest part of the UK economy, continues to be the main driver of UK economic growth. However, services output growth showed below trend growth in the last couple of quarters compared to 2007.

Services output grew by 0.4 per cent in 2008 quarter two, a marginal acceleration from growth of 0.3 per cent in the previous quarter but a slowdown from a recent peak of 1.2 per cent recorded in 2006 quarter four (**Figure 6**). On an annual basis, services output expanded by 2.1 per cent, down from 2.6 per cent in the previous quarter.

Growth was recorded in varying degrees across all four broad sectors. The main contribution to the increase in services output growth came from transport, storage and communication where output growth jumped to 2.2 per cent from 0.7 per cent in the previous quarter. On an annual basis, growth was 4.7 per cent, up from 2.5 per cent in the previous quarter. Total services output was also driven by fairly modest growth in government and other services output of 0.4 per cent, similar to the rate in the previous quarter. On a yearly basis, growth was 1.9 per cent, also unchanged from the previous quarter. This was offset by slower growth in the distribution, hotels and catering and business services and finance sectors. Distribution, hotels and catering output grew by 0.2 per cent, a slight deceleration from growth of 0.3 per cent in the previous quarter. On an annual basis, growth was 1.5 per cent, down from 2.4 per cent in the previous quarter. Business services and finance output showed

Figure 7
External services

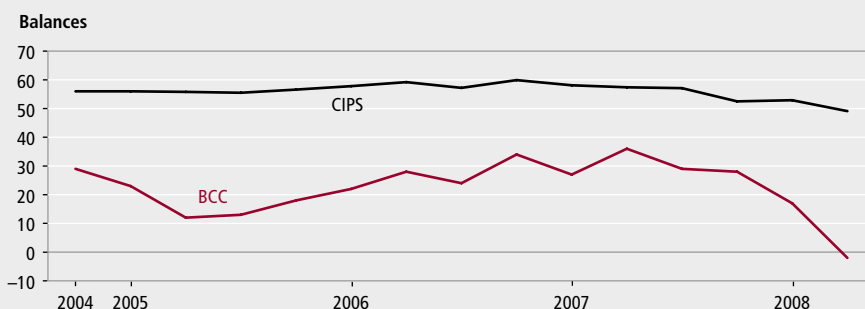
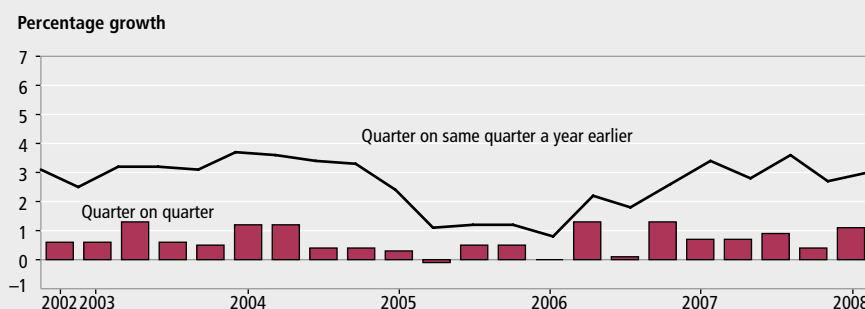


Figure 8
Household demand



virtually flat growth in the latest quarter of 0.1 per cent, down from 0.2 per cent growth in the previous quarter. On an annual basis, output increased by 2 per cent, down from 3.4 per cent growth in the previous quarter.

The external surveys on services showed a bleaker picture of service sector activity in 2008 quarter two. The CIPS/Markit services PMI survey pointed to a deteriorating picture of service sector activity. The average headline index in 2008 quarter two fell to 49.1, below the no change 50.0 mark, from 52.9 in the previous quarter. It should be noted that the CIPS survey has a narrow coverage of the distribution and government sectors.

The CBI and BCC also reported a generally weakening picture of service sector activity (**Figure 7**). The latest CBI service sector survey in June reported weakness as a whole in the sector and in line with the February survey. For consumer services, volume of business fell sharply with the balance at minus 44 per cent, the lowest since November 2001. For business and professional services, the balance was at plus 10, but still below the long-term average of plus 19. The BCC survey for 2008 quarter two, highlighted alarming falls in the domestic sector's services balances. The net balance for home sales declined 19 points to minus 2 and the

net balance for home orders fell 21 points to minus 7.

EXPENDITURE

Consumers' spending strengthens in quarter one

Household consumption expenditure accelerated in 2008 quarter one from the previous quarter. Growth was 1.1 per cent, up markedly from that of 0.4 per cent in quarter four. Compared with the same quarter a year ago, growth was 3 per cent, up from 2.7 per cent in the previous quarter (**Figure 8**). Higher spending was primarily driven by a rise in durable and semi-durable goods expenditure. This was offset by slower growth in non-durable goods expenditure. There was modest growth in services expenditure.

Indications for consumer expenditure in 2008 quarter two appear to be on the downside – possibly reflecting the continued impact of the financial turbulence in the UK economy and the intensifying pressures on real disposable income arising from modest wage growth coupled with higher inflation, particularly from higher fuel and food prices.

One key indicator of household

expenditure is retail sales. Retail sales growth weakened in 2008 quarter two compared with the previous quarter – driven by a sharp fall in June from strong growth in May. Retail sales volumes slowed to 0.6 per cent in quarter two, a marked deceleration from growth of 1.7 per cent in the previous quarter. One reason perhaps for the slower growth in retail sales may have been due the price deflator (that is, shop prices) where discounting appears not to be prevalent or widespread as was the case in quarter one. The price deflator fell on average by 0.2 per cent in quarter two compared with an average fall of 0.8 per cent in the previous quarter. In June, the price deflator increased by 0.5 per cent. This possibly suggests that the underlying picture regarding consumer finances is in a far weaker position than retail sales volume growth of the previous quarter indicated, with retail sales growth being discount as opposed to being income led.

Retail sales figures are published on a monthly basis and the latest available figures for June 2008 showed a slowing picture (**Figure 9**). In the three months to June the volume of retail sales increased by 0.6 per cent compared with an increase of 1.6 per cent in the three months to May. On an annual basis in June, the latest three months growth compared with the same

three months a year ago recorded fairly strong growth of 4.4 per cent, down from 5.2 per cent in May.

Retail sales can be disaggregated into 'predominantly food' and 'predominantly non-food' sectors. In the three months to June 2008 retail sales growth in volume terms was driven, albeit slowly, by the 'predominantly non-food stores' offset by a contraction in the 'predominantly food stores' sector. The 'predominantly non-food stores' sector grew by 1.1 per cent, down from 2.2 per cent in the previous month – reflecting a slowdown across most stores. Within this sector there was a weakening in the 'household goods stores' which grew by 0.3 per cent after increasing by 0.7 per cent in the previous month. There was also a slowdown in the 'textile, clothing and footwear stores' and 'other stores' with volume of retail sales growing by 0.6 per cent and 1.3 per cent, down from 1 per cent and 4.7 per cent respectively. 'Non-store retailing and repair stores' grew by 0.8 per cent, down from 1.9 per cent in May. This was offset by an acceleration in 'non-specialised stores' with growth of 3.1 per cent, up from 2.2 per cent in May. The 'predominantly food stores' sector in contrast fell by 0.2 per cent in the three months to June, down from 0.8 per cent growth in the previous month.

External surveys for retail sales presented a slowing picture of growth in 2008 quarter two compared to the previous quarter. The CBI reported an average balance of minus 16 in the latest quarter, down from plus 1 in the previous quarter. The BRC reported average growth of 2.6 per cent in 2008 quarter two on a total sales basis, down from 3.3 per cent in 2008 quarter one (**Figure 10**).

Another indicator of household consumption expenditure is borrowing. Household consumption has risen faster than disposable income in recent years as the household sector has become a considerable net borrower and therefore accumulated high debt levels. Bank of England data on stocks of household debt outstanding to banks and building societies shows household debt at unprecedented levels relative to disposable income. Until recently, this borrowing has fuelled consumption, but this appears to be less the case in the latest quarter.

There are two channels of borrowing available to households: i) secured lending, usually on homes; and ii) unsecured lending, for example on credit cards. The impact of the credit squeeze may have intensified in the latest quarter. According to the Bank of England's Credit Conditions Survey, lending conditions were tightened in quarter two, that is, by applying stringent credit-scoring criteria and by decreasing maximum loan-to-value (LTV) ratios – with lenders reporting that they had reduced the availability of both secured and unsecured lending to households. The tightening was driven by the slowdown in the housing market, the reduced appetite for risk and the worsening economic climate.

The Bank of England reported that total net lending to individuals in May (£5.4 billion) was below the increase in April (£7.3 billion) and the previous six-month average. Within the total, the increase in net lending secured on dwellings in May (£4.1 billion) was below April (£6.2 billion) and the previous six-month average. The number of loans approved for house purchases was 42,000 in May, down from 58,000 in April. In contrast net consumer credit increased in May (£1.4 billion), above that in April (£1.1 billion) and above the six-month average.

The slowdown in secured lending may have impacted on house prices in terms of lower growth. The housing market plays a major influence on consumer expenditure patterns. Firstly, as a barometer

Figure 9
Retail sales

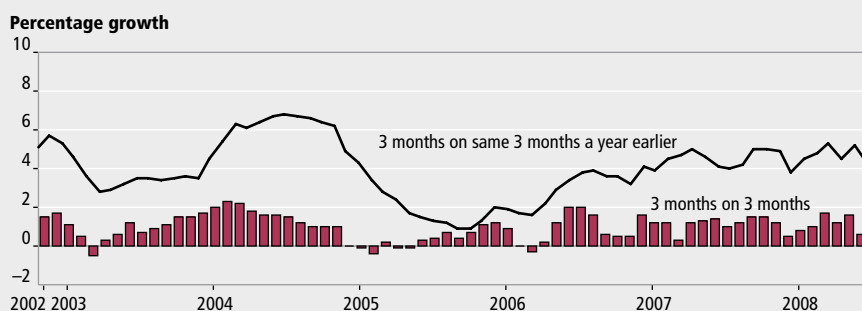
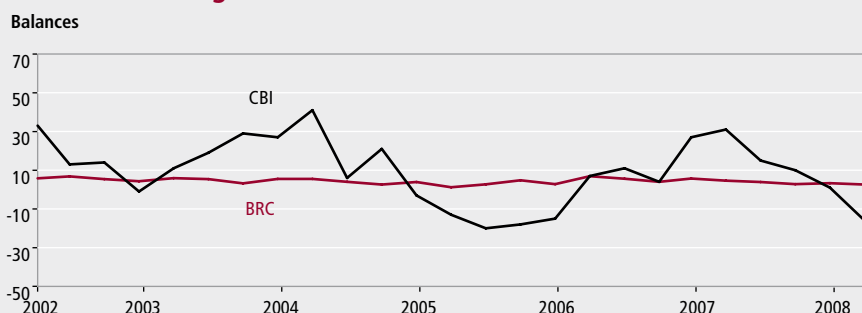


Figure 10
External retailing



of confidence in the economy and therefore a willingness to spend; secondly, in terms of demand it creates for household goods via house purchases; and thirdly, household expenditure may be linked to household equity withdrawal (HEW) – slower house price growth can signify lower equity growth and therefore decreasing purchasing power. The recent slowdown in house prices and the housing market generally may have affected all three of the above, compounded by the credit squeeze.

One uncertainty in the latest quarter is the savings ratio. In 2008 quarter one households resorted to a draw-down in their savings to fund consumption. There is a question whether households will dip further into their savings or choose to retrench; all this may be determined by their outlook with regard to confidence in the economy and labour market conditions.

BUSINESS DEMAND

Business investment weakens

Total investment fell by 1.5 per cent in 2008 quarter one compared with growth of 2.2 per cent in the previous quarter. On an annual basis, total investment grew by 1.4 per cent, a slowdown from 4.4 per cent growth in the previous quarter. The decrease in total investment was due to both business and dwelling investment falling over the quarter (Figure 11).

Business investment decelerated markedly in 2008 quarter one, contracting by 1.8 per cent, following growth of 3.1 per cent in 2007 quarter four. On an annual basis, business investment grew by 4.5 per cent in the latest quarter, a slowdown from 6.7 per cent growth in the previous quarter. The slowdown in business investment was due to sharp declines in construction, consumer goods manufacturing and distribution.

Business investment could have decreased for a number of reasons. Firstly, increased uncertainty and pessimism, particularly in regards to global demand, may have deterred investment; secondly, the downturn in investment could have come on the back of lower corporate profits; thirdly, the weakness in the equity market in recent quarters may have constrained revenue generation and hence investment; and last but not least, the general weakness in the property market in terms of lower price growth may have inhibited investment spending.

Figure 11
Total fixed investment

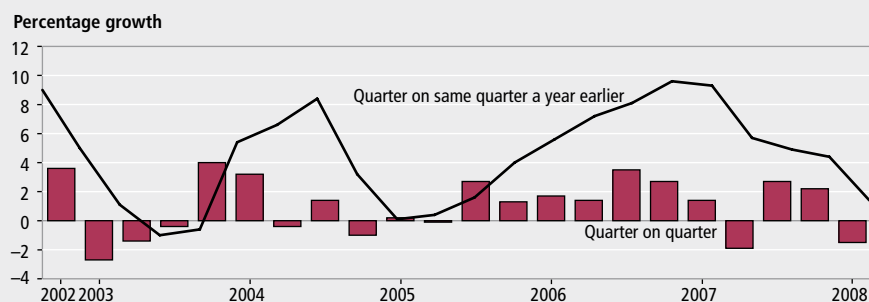
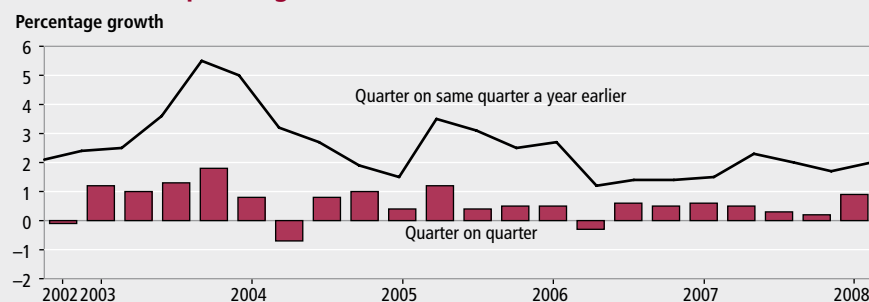


Figure 12
Government spending



Evidence on investment intentions from the latest BCC and CBI surveys painted a picture of weakness. According to the latest quarterly BCC survey, the balance of manufacturing firms planning to increase investment in plant and machinery plummeted by 10 points to plus 2. The CBI's Quarterly Industrial Survey in 2008 quarter two also reported a bleaker investment picture, with the investment balance of plant and machinery weakening to minus 24 from minus 18 in the previous quarter.

GOVERNMENT DEMAND

Government expenditure increases

Government final consumption expenditure accelerated in 2008 quarter one. Growth jumped to 0.9 per cent following growth of 0.2 per cent in the previous quarter. On an annual basis, growth was 2 per cent, up from 1.7 per cent in the previous quarter (Figure 12).

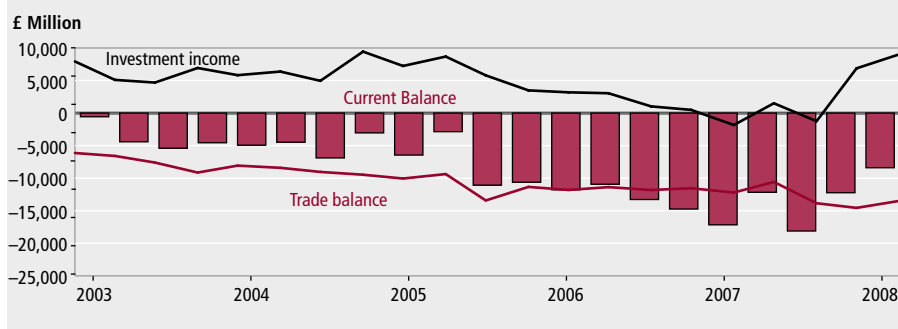
Public sector finances deteriorate

The latest figures on the public sector finances to June 2008 illustrated a relatively weak position. The figures showed a higher current budget deficit together with an increased net borrowing

situation – reflecting government expenditure continuing to exceed revenues. In the financial year 2008/09 to date, the current budget was in deficit by £20.4 billion; this compares with a budget deficit of £12.5 billion in the same period of 2007/08. Public sector net borrowing in the financial year 2008/09 to date was £24.4 billion; this compares with net borrowing of £14.7 billion in the same period of 2007/08. Slower growth in current receipts were exceeded by a larger increase in the rate of current expenditure, particularly on capital projects – resulting in both a higher budget deficit and net borrowing.

Since net borrowing became positive in 2002, following the current budget moving from surplus into deficit, net debt as a proportion of annual GDP has risen steadily. Public sector net debt in June 2008 was 38.3 per cent of GDP, up from 37.3 in June 2007. In the full financial year 2006/07, net debt as a percentage of GDP was 36.9 per cent.

Figure 13
Balance of payments



TRADE AND THE BALANCE OF PAYMENTS

Current account deficit narrows; goods trade deficit narrows

The publication of the latest quarterly Balance of Payments figures shows that the current account deficit narrowed in 2008 quarter one to £8.4 billion, from a revised deficit of £12.2 billion in the previous quarter (**Figure 13**). As a proportion of GDP, the deficit fell to 2.4 per cent of GDP from 3.5 per cent in 2007 quarter four. The narrowing in the current account deficit in 2008 quarter one was due to a higher surplus on income, together with lower deficits on trade in goods and on current transfers, partially offset by a fall in the surplus on trade in services. The surplus on income increased by £2.2 billion to £9 billion. The deficit in current transfers narrowed to £3.9 billion, while the surplus on trade in services fell to £9.2 billion. The deficit on trade in goods fell by £1.4 billion to £22.7 billion.

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

The figures in 2008 quarter one showed a continuation in the goods trade deficit. The goods trade deficit was £22.7 billion in 2008 quarter one, down from a deficit of £24.1 billion in the previous quarter. In terms of growth, exports of goods grew by 0.8 per cent while goods imports fell by 2 per cent. Services exports grew by 0.4 per cent and services imports grew by 1.3 per cent. Over the quarter, total exports increased by 0.6 per cent. Total imports in contrast fell by 1.2

per cent.

According to the latest monthly figures, in the three months ended May, the deficit on trade in goods and services narrowed to £12.3 billion, from a £14.5 billion deficit in the previous three months. This could be partly due to the depreciation of the pound against both the dollar and the euro and partly due to the slowing UK economy. The surplus on the trade in services was £9.9 billion, up from £9.2 billion in the previous three months. The deficit in the trade in goods was £22.1 billion in the three months to May, down from £23.7 billion in the previous three months. In terms of growth, total volume exports grew by 1.1 per cent while total imports fell by 2 per cent, in the three months to May.

External surveys on exports reported a mixed picture for the latest quarter. The BCC reported that the export sales net balance rose by 12 points to plus 28. The latest CBI quarterly survey reported a weak picture. The export orders balance was minus 7 in 2008 quarter two, from minus 12 in the previous quarter.

LABOUR MARKET

Labour market activity weakens

The labour market in the latest reference period showed further signs of softening but, overall, still reflected a fairly buoyant picture – with relatively high levels of employment and low levels of unemployment seen throughout 2006 and in 2007. The weakening in certain indicators of the labour market in the latest period may reflect the lagged effect of the slowdown in the economy which began in the third quarter of 2007 and which has quickened in the last two quarters, starting to feed through into a deeper and probably an extended period of weakness in labour market activity.

The latest figures from the Labour Force Survey (LFS) pertain to the three-month period up to May 2008. On the upside, the number of people in employment rose but the employment rate was unchanged. On the downside, the number of unemployed people and the number of inactive people of working age rose but the corresponding rates were unchanged. Also on the downside, the claimant count increased. The number of vacancies fell. Average earnings, including and excluding bonuses decreased. Overall, average earnings remain subdued with weak real-wage growth.

Record levels of employment continue. The current working-age employment rate was 74.9 per cent in the three months to May 2008, unchanged from the three months to February 2008 but up 0.4 percentage points from a year earlier. The number of people in employment rose by 61,000 compared to the previous quarter and by 413,000 on a year earlier, to an employment level of 29.59 million – the highest since comparable records began in 1971. However, this compares with an increase of 76,000 in the three months to April and 117,000 in the three months to March, which may suggest that lower GDP growth is starting to impact on lower employment growth. Unemployment levels on the other hand have risen for a third month in a row. The number of unemployed people increased by 12,000 in the three months to May 2008 but was down 47,000 from a year earlier, leaving the unemployment level at 1.62 million. The unemployment rate was 5.2 per cent, in the three months to May 2008, unchanged from the three months to February 2008 but down 0.2 percentage points from a year earlier (**Figure 14**).

Looking at a detailed level, the increase in the employment level was mainly driven by employees and full-time employment offset by a small decline in self-employment. Employees rose by 60,000 while the self-employed decreased by 10,000, continuing the trend from earlier months. In terms of full and part-time workers, the numbers of people in full-time employment rose by 79,000 while the number of people in part-time employment fell by 19,000.

Workforce jobs increases

According to employer surveys, there was an increase of 30,000 jobs in March 2008. The largest quarterly contribution to the increase came from other services (up 27,000), followed by

agriculture, forestry and fishing (up 18,000). This was offset by decreases across a number of sectors with the largest decrease in business services and finance (down 20,000) followed by manufacturing (down 11,000). Over the year, total workforce jobs increased by 209,000. Of the total, the largest contribution to the increase over the year came from finance and business services (up 84,000) followed by distribution, hotels and restaurants (up 83,000). The manufacturing sector, in contrast, was the only sector to lose jobs on the year (down 52,000).

Claimant count level increases

The claimant count measures the number of people claiming the Jobseeker's Allowance. The latest figures for June 2008 showed the claimant count level rose by 15,500 – the fifth consecutive monthly increase and the fastest rise in over 15 years but was down 23,100 on a year earlier to reach a level of 840,100. The claimant count rate in June 2008 was 2.6 per cent, unchanged from the previous month but down 0.1 percentage points from a year earlier.

Vacancies fall

The number of vacancies was down compared to the previous month which may reflect weaker demand conditions in the UK economy. There were 655,100 job vacancies in the three months to June 2008, down 32,200 from the previous three months but up 5,900 from the same period a year earlier.

Inactivity level rises

The working-age inactivity rate was 20.9 per cent in the three months to May 2008, unchanged on the three

months to February 2008 but down 0.3 percentage points from a year earlier. In level terms, the number of economically inactive people of working age rose by 7,000 over the quarter but fell by 60,000 over the year to reach a level of 7.87 million in the three months to May 2008. The largest rise in level of inactivity was recorded for those categorised as 'looking after family/home' (up 31,000). This was partially offset by a number of decreases, with the largest decrease in inactivity amongst the 'student' category (down 34,000).

Average earnings decrease

Growth in whole-economy average earnings showed a relatively subdued picture in the three months to May 2008. Average earnings including bonuses increased by 3.8 per cent in the three months to May 2008, down 0.1 percentage points from the previous month. Average earnings excluding bonuses also rose by 3.8 per cent, down 0.1 percentage points from the previous month. In terms of the public and private sector split, the gap in average earnings (excluding bonuses) maintained the parity of the previous month with a difference of 0.2 percentage points. Public sector wage growth was 4.0 per cent, down 0.1 percentage points from the previous month. Private sector wages grew by 3.8 per cent, also falling by 0.1 percentage point from April 2008.

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

PRICES

Producer output and input prices accelerate

Industrial input and output prices are an indication of inflationary pressures in the economy. During the second quarter of 2008, output and input prices accelerated further from 2008 quarter one – another sign that a rise in world commodity prices was continuing to exert considerable influence in generating UK inflation through higher product prices. The rise in output prices suggests that firms were attempting to maintain their profit margins by passing on the higher costs of inputs to customers. However, the slower rate of growth of output inflation in the latest quarter compared to faster input price growth may suggest that firms may have been tempered, in part, from passing on higher input price rises to customers due to spending pressures faced by households – with a possible impact on firms profits.

Input prices on average rose by around 28 per cent in 2008 quarter two. This compares with around 20 per cent in 2008 quarter one. On the core measure, which strips out the effect of food, beverages, tobacco and petroleum prices, input prices rose by an average of around 14 per cent in 2008 quarter two (12 month non-seasonally adjusted growth), an acceleration from growth of around 9 per cent in the previous quarter. The sharp rise in input prices came mainly on the back of rising crude oil and home food materials prices. According to the latest monthly figures, the annual rate of input price inflation rose by 30.3 per cent in the twelve months to June 2008, up from 28.7 in May – driven by an 86.4 per cent increase in the price of crude oil on the year.

Output prices grew on average by around 9 per cent in 2008 quarter one, an acceleration from growth of around 6 per cent in the previous quarter. The underlying picture also suggests inflationary pressures. On the core measure which excludes food, beverages, tobacco and petroleum, producer output prices rose on average by around 6 per cent in 2008 quarter one, up from around 3 per cent in the previous quarter. The main contributions to the increase in output prices were provided by rises in petroleum products and food prices. According to the latest monthly figures, annual output price inflation rose by 10 per cent in the twelve months to June, up from 9.3 per cent in May – mainly driven by petroleum products which rose 34.2 per

Figure 14
Employment and unemployment

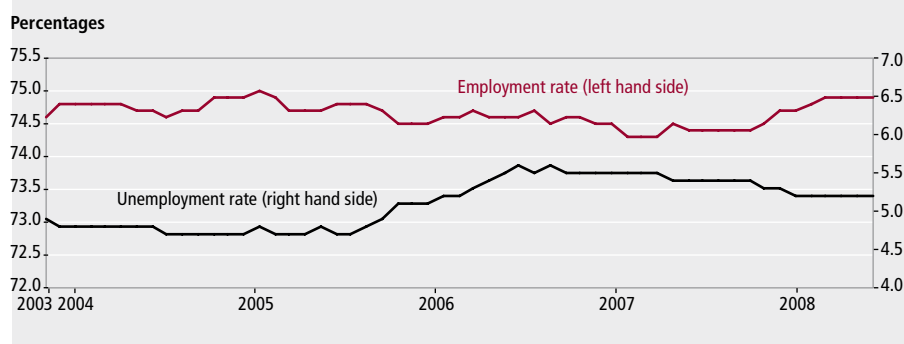
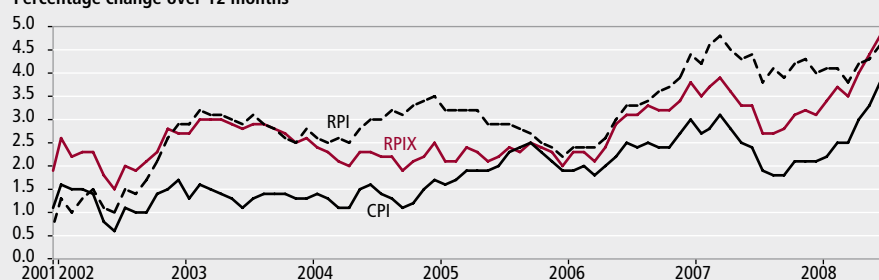


Figure 15

Inflation

Percentage change over 12 months



cent on the year. Higher output and input prices appear to be fuelling consumer price inflation.

Consumer prices accelerates further and above target

Growth in the consumer prices index (CPI) – the Government's target measure of inflation – jumped to 3.8 per cent in June, up from 3.3 per cent in May 2008, and considerably above the Government's 2 per cent inflation target (Figure 15).

The largest upward pressure came from food and non-alcoholic beverages. There were also large effects from meat, fruit, and bread and cereals.

There were further large upward pressures from:

- Transport costs, mainly due to the price of fuels and lubricants. The average price of petrol increased by 5.3 pence per litre between May and June this year, to stand at 117.6 pence, compared with a rise of 1.3 pence over the same period last year. There was a small effect from air transport where prices rose by more than last year
- Recreation and culture. The main upward pressures came from digital cameras, where prices fell by less than last year, pre-recorded DVDs, computer games and package holidays, where the price of foreign holidays rose
- Housing and household services, where gas and electricity bills were unchanged this year but fell a year ago

There was a small upward pressure from communication, where prices rose this year but fell last year. The effect came mainly from mobile phone charges and cable telephone charges.

There was a large downward pressure from clothing and footwear where price discounting was greater than last year. And a small downward pressure from alcohol where the price of spirits decreased this year but rose last year, and the price of wine increased by less than last year.

Retail Prices Index (RPI) inflation rose to 4.6 per cent in June, up from 4.3 per cent in May. The main factors affecting the CPI also affected the RPI. Additionally, there was a large downward contribution from housing. The effect came mainly from mortgage interest payments where there was a smaller increase this year than last year and, to a lesser extent, from house depreciation. Both mortgage interest payments and depreciation are excluded from the CPI.

RPIX inflation – the all items included in RPI excluding mortgage interest payments – was 4.8 per cent in June, up from 4.4 per cent in May.

Independent forecasts

July 2008

UK forecasts

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

2008

	Average	Lowest	Highest
GDP growth (per cent)	1.6	0.7	1.9
Inflation rate (Q4, per cent)			
CPI	3.6	2.4	4.7
RPI	4.1	2.7	5.7
Claimant count (Q4, million)	0.90	0.79	1.00
Current account (£ billion)	-53.4	-69.9	-32.8
Public Sector Net Borrowing (2007-08, £ billion)	44.1	32.0	53.7

2009

	Average	Lowest	Highest
GDP growth (per cent)	1.3	-1.9	2.7
Inflation rate (Q4, per cent)			
CPI	2.3	1.0	4.1
RPI	2.6	0.4	4.5
Claimant count (Q4, million)	1.00	0.76	1.31
Current account (£ billion)	-49.8	-88.5	-22.2
Public Sector Net Borrowing (2009-10, £ billion)	46.1	36.5	61.7

Notes

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

Selected world forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the world economy. The tables show forecasts for a range of economic indicators taken from Economic Outlook (June 2008), published by OECD (Organisation for Economic Co-operation and Development).

2008

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	1.2	1.7	1.7	1.8
Consumer price (percentage change from previous year)	3.2	0.9	3.4	3.0
Unemployment rate (per cent of the labour force)	5.4	3.8	7.2	5.7
Current account (as a percentage of GDP)	-5.0	4.4	0.1	-1.3
Fiscal balance (as a percentage of GDP)	-5.2	-1.6	-1.0	-2.8

2009

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	1.1	1.5	1.4	1.7
Consumer price (percentage change from previous year)	2.0	0.4	2.4	2.1
Unemployment rate (per cent of the labour force)	6.1	3.8	7.4	6.0
Current account (as a percentage of GDP)	-4.4	4.4	0.0	-1.1
Fiscal balance (as a percentage of GDP)	-4.4	-2.5	-0.8	-2.5

Notes

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

Key indicators

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

Seasonally adjusted unless otherwise stated									
	Source CDID	2006	2007	2007 Q4	2008 Q1	2008 Q2	2008 Apr	2008 May	2008 Jun
GDP growth - chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	2.9	3.1	0.6	0.6	0.2	..	..	..
Output growth - chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	3.0	3.0	0.6	0.3	0.2	..	..	..
Industrial production	CKYW	0.3	0.3	0.2	-0.2	-0.5	0.1	-0.8	..
Manufacturing	CKYY	1.6	0.6	0.1	0.3	-0.3	0.1	-0.6	..
Construction	GDQB	1.0	2.3	0.9	0.5	-0.7	..	..	..
Services	GDQS	3.6	3.9	0.6	0.3	0.3	..	..	..
Oil and gas extraction	CKZO	-9.4	-2.4	0.8	-3.6	..	-1.0	1.4	..
Electricity, gas and water supply	CKYZ	-2.0	0.1	2.9	-1.3	-1.5	1.3	-5.2	..
Business services and finance	GDQN	5.4	5.3	0.4	0.2	0.1	..	..	..
Household demand									
Retail sales volume growth	EAPS	3.2	4.3	0.4	1.7	0.6	-0.4	3.7	-3.9
Household final consumption expenditure growth (CVM)	ABJR	1.9	3.1	0.4	1.1	..	..	..	..
GB new registrations of cars (thousands) ¹	BCGT	2,340	2,390	468	675	..	173	177	..
Labour market^{2,3}									
Employment: 16 and over (thousands)	MGRZ	29,027	29,233	29,421	29,538	..	29,587	..	..
Employment rate: working age (%)	MGSU	74.6	74.5	74.8	74.9	..	74.9	..	..
Workforce jobs (thousands)	DYDC	31,294	31,536	31,611	31,640	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	928.6	936.3	937.0	948.4	..	945.0	..	..
Unemployment: 16 and over (thousands)	MGSC	1,671	1,652	1,599	1,612	..	1,619	..	..
Unemployment rate: 16 and over (%)	MG SX	5.4	5.4	5.2	5.2	..	5.2	..	..
Claimant count (thousands)	BCJD	944.7	863.3	816.1	796.5	825.0	810.3	824.6	840.1
Economically active: 16 and over (thousands)	MG SF	30,698	30,885	31,020	31,151	..	31,206	..	..
Economic activity rate: working age (%)	MG SO	78.9	78.9	79.0	79.1	..	79.1	..	..
Economically inactive: working age (thousands)	YBSN	7,861	7,946	7,911	7,878	..	7,874	..	..
Economic inactivity rate: working age (%)	YBTL	21.0	21.1	21.0	20.9	..	20.9	..	..
Vacancies (thousands)	AP2Y	597.1	656.6	675.6	687.3	655.1	684.6	675.1	655.1
Redundancies (thousands)	BEAO	139	128	111	111	..	118	..	...
Productivity and earnings annual growth									
GB average earnings (including bonuses) ³	LNNC	..	..	3.8	4.0	..	3.9	3.8	..
GB average earnings (excluding bonuses) ³	JQDY	..	..	3.7	3.8	..	3.9	3.8	..
Whole economy productivity (output per worker)	A4YN	..	..	1.6	0.6	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	2.4	1.8	..
Unit wage costs: whole economy	LOJE	..	..	2.1	2.6	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	1.1	1.8	..
Business demand									
Business investment growth (CVM)	NPEL	-4.6	8.3	3.1	-1.8	..	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	1.7	1.9	0.2	0.9	..	..	..	..
Prices (12-monthly percentage change – except oil prices)									
Consumer prices index ¹	D7G7	2.3	2.3	2.1	2.4	3.4	3.0	3.3	3.8
Retail prices index ¹	CZBH	3.2	4.3	4.2	4.0	4.4	4.2	4.3	4.6
Retail prices index (excluding mortgage interest payments)	CDKQ	2.9	3.2	3.1	3.5	4.4	4.0	4.4	4.8
Producer output prices (excluding FBTP) ⁴	EUAA	2.3	2.3	2.5	3.5	5.7	4.7	5.9	6.3
Producer input prices	EUAB	9.7	3.3	11.4	20.8	27.8	25.1	28.2	30.0
Oil price: sterling (£ per barrel)	ETXR	35.93	36.11	43.51	48.72	62.35	55.72	63.32	68.02
Oil price: dollars (\$ per barrel)	ETXQ	66.11	72.44	88.91	96.47	122.87	110.35	124.48	133.78

Seasonally adjusted unless otherwise stated									
	Source CDID	2006	2007	2007 Q4	2008 Q1	2008 Q2	2008 Apr	2008 May	2008 Jun
Financial markets									
Sterling ERI (January 2005=100)	BK67	101.2	103.5	101.2	95.5	92.7	92.6	92.7	92.8
Average exchange rate /US\$	AUSS	1.8429	2.0018	2.0444	1.9789	1.9705	1.9817	1.9641	1.9658
Average exchange rate /Euro	THAP	1.4670	1.4619	1.4129	1.3212	1.2615	1.2580	1.2633	1.2636
3-month inter-bank rate	HSAJ	5.26	5.95	5.95	5.95	5.88	5.76	5.80	5.88
Selected retail banks: base rate	ZCMG						5.00	5.00	5.00
3-month interest rate on US Treasury bills	LUST	4.89	3.29	3.29	1.36	1.83	1.44	1.85	1.83
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	-77,555	-89,515	-24,143	-22,720	..	-7,527	-7,494	..
Exports of services (£m)	IKBB	127,157	139,156	35,342	36,194	..	12,030	11,948	..
Non-EU balance on trade in goods (£m)	LGDT	-45,468	-47,691	-13,121	-12,111	..	-4,143	-4,027	..
Non-EU exports of goods (excl oil & erratics) ⁵	SHDJ	118.0	116.5	116.0	122.7	..	123.7	127.6	..
Non-EU imports of goods (excl oil & erratics) ⁵	SHED	124.5	131.6	134.4	131.0	..	128.2	130.4	..
Non-EU import and price index (excl oil) ⁵	LKWQ	103.9	104.2	104.1	109.6	..	112.6	113.6	..
Non-EU export and price index (excl oil) ⁵	LKVX	101.5	102.5	104.0	106.6	..	107.8	108.3	...
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth) ⁶	VQUU	5.1	5.8	5.8	6.8	5.7	6.7	6.0	5.7
M4 (year on year percentage growth)	VQJW	12.9	12.8	12.4	11.7	11.4	10.9	10.0	11.4
Public sector net borrowing (£m)	-ANNX	29,146	35,791	16,805	-3,792	24,368	2,688	12,516	9,164
Net lending to consumers (£m)	RLMH	13,253	12,939	3,359	4,435	..	1,122	1,376	..

External indicators – non-ONS statistics

		2007 Dec	2008 Jan	2008 Feb	2008 Mar	2008 Apr	2008 May	2008 Jun	2008 Jul
Activity and expectations									
CBI output expectations balance	ETCU	3	9	11	18	0	0	2	-7
CBI optimism balance	ETBV		-18			-23			-40
CBI price expectations balance	ETDQ	17	15	19	22	23	30	30	39

Notes:

1 Not seasonally adjusted.

2 Annual data are the average of the four quarters except for workforce jobs (June).

3 Monthly data for vacancies and average earnings are averages of the three months ending in the month shown. Monthly data for all other series except claimant count are averages of the three months centred on the month shown.

4 FBTP: food, beverages, tobacco and petroleum.

5 Volumes, 2003 = 100.

6 Replacement for series M0 which has ceased publication.

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

FEATURE

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Modelling the gender pay gap in the UK: 1998 to 2006

SUMMARY

This article examines the reasons for the gender pay gap in the UK labour market by using data from the Annual Survey of Hours and Earnings (ASHE). Panel data for 1998 to 2006 is used to allow individuals to be tracked over time, using fixed-effect regression models. Regional, industrial, sectoral and other effects are investigated. The article breaks up the results using the Oaxaca method (explained in the Technical Note) to identify gender pay differentials and the trend over the time period.

The difference in the pay of men and women, commonly referred to as the gender pay gap, is a subject that attracts much interest from policy makers, researchers and the public. Studies of the gender pay gap typically aim to answer one or both of the following questions: the size of the gap and the reasons for the gap. This article will examine the latter question.

The gender pay gap is a measure of the difference between the earnings of men and women. The Office for National Statistics (ONS) regularly publishes the size of the gender pay gap in 'Patterns of Pay', and further analysis was recently undertaken by Leaker (2008). The principal source for ONS earnings estimates is the Annual Survey of Hours and Earnings (ASHE). In contrast, most empirical studies have used other sources, including the British Household Panel Survey.

This article adds to existing literature by using ASHE data for the years 1998 to 2006 using a standard wage-modelling technique. The benefit of using a wage model, compared with simple wage comparisons, is that it allows all factors to be considered simultaneously. For example, while simple statistical analysis can provide an estimate of regional differences in gender pay, the estimates will not take into account differences that may exist in the industries the individuals work in (or any other factor that affects earnings).

The article uses fixed-effect regression models, which is a technique that takes account of unobserved differences that are constant over time. For example, while

ASHE data do not include information about educational achievement (which is an important wage-related factor), education received before entry to the labour market is constant over time and is therefore controlled for using this method. The article uses the regression output to feed into an Oaxaca wage decomposition. The Oaxaca method estimates how much of the gender pay gap can be explained by differences in the observed characteristics of men and women and how much cannot. This is explained further in the Technical Note.

Why are women paid less than men?

The reason for differences in the pay of subgroups of the population is because of a combination of discriminatory and economic reasons. Determining a person's wage at the microeconomic level involves a complex interaction of several individual specific characteristics and compensating differentials, specific to individuals, jobs and workplaces. Individual characteristics are related to their productivity in the workplace and can include educational achievement and work experience. Job security and the risk of injury at work are examples of difficult to measure compensating differentials.

Discrimination occurs when one person's wage is different from another otherwise identical person's for reasons of non-productivity related characteristics, such as gender. There are several theories why discrimination exists in the labour market, including:

Box 1**The Annual Survey of Hours and Earnings (ASHE)**

The Annual Survey of Hours and Earnings (ASHE) samples 0.8 per cent (1 per cent before 2007) of all employee jobs, taken from HM Revenue & Customs' pay-as-you-earn records. The Department of Enterprise, Trade and Investment conducts a similar but separate survey for employees in Northern Ireland, which enables UK-wide estimates to be made. Employers provide information about their employees, including earnings and hours worked. In 2006, ASHE had around 100,000 observations of full-time individuals who had at least one other observation in a previous time period, comprising around 62,000 males and 38,000 females.

ASHE replaced the New Earnings Survey (NES) in 2004. ASHE improved NES in the following areas:

- better coverage of employees who are lower earners
- imputation for item non-response
- weighting of earnings estimates to allow for unit non-response (not applicable to the panel analysis)

Reworking of the NES data between 1997 and 2003 using the ASHE imputation method allows for a further time series, although clearly the data do not take account of the better coverage introduced from 2004. This results in a discontinuity in the series between 2003 and 2004.

- Becker's theory of discrimination, that employers are willing to give up some profits to pay for their taste for discrimination
- judging individuals based on the average characteristics of a group they belong to, known as statistical discrimination. An example of this is the assumption that a woman aged 30 will go on maternity leave in the near future. The cause of this is imperfect information. This leads employers to make statistical assumptions based on averages – whether accurate or not – to reduce their (perceived) risk
- crowding models which lead to occupational segregation. For example, some occupations may be more attractive to women and, therefore, all other things being equal, the increased supply of labour will lead to reduced wages within those occupations

Some discrimination occurs to people before they enter the labour market, whereas other discrimination occurs within the labour market. For example, the crowding model could be related to unequal promotion of some occupations among the sexes. Expectations could also be a factor since lower expectations of wages can influence career choices.

Using panel data to model the gender pay gap

Analysis of the gender pay gap is often presented in terms of average differences

in the pay of men and women with comparison to one other variable. For example, analysis will often quote the average difference in men's and women's wages in an industrial sector. However, this has limitations, since the factors that influence a person's wage do not act in isolation. Regression techniques enable wages to be modelled using many variables at once, which can give better estimates of the effect of each factor on earnings.

Wage modelling falls into two broad categories:

- cross-sectional analysis, using data for one time period, and
- panel (or longitudinal) analysis, where the same individuals are analysed over many time periods

There are many advantages to using panel data rather than cross-sectional, including increased degrees of freedom, reduced problems of data multicollinearity and controls for time-invariant variables which cannot otherwise be included (Hsiao 2003). The last point is useful when dealing with labour market data. For example, education received before entry to the labour market would be controlled for in a fixed-effect wage equation model even if the data set did not include individual educational attainment information. Application of the same principal to other individual characteristics that do not change over time is possible.

ASHE variables used for wage modelling

Since most ASHE data come from the company payroll, it is an excellent source for earnings estimation – many other sources rely on respondents' answers to earnings questions which can be inaccurate. A downside of ASHE data is that they lack information about individual characteristics which would be present in a perfect wage model. For example, ASHE does not hold information on motivation and yet this will have an effect on a person's wage. Also, ASHE does not record whether an individual has returned to work from unemployment or inactivity (for example, being on maternity leave) but these factors are known to matter. Nevertheless, ASHE does have several variables which can be used directly or as proxies for individual characteristics and compensating differentials. These include age (an imperfect but reasonable proxy for work experience), tenure, occupation, industry of employment, region and coverage of the wage by a collective bargaining agreement.

The analysis considers only individuals in full-time employment. ASHE defines part-time as less than 30 basic weekly paid hours (except for teaching professionals which is less than 25 hours). Basic weekly paid hours refers to the weekly average number of hours paid at the basic rate of pay during the pay period that includes the survey reference date. The analysis excludes people who work part-time because of differences in their characteristics compared with people who work full-time. However, since excluding part-time individuals could lead to selection bias, the analysis was conducted with part-time individuals included, for comparison, with no visible differences to the results.

The data set employed by this study uses ASHE and reworked New Earnings Survey (NES) data for 1998 to 2006 (see **Box 1**). Merging the data for each year creates a panel, using the unique identifiers to distinguish individuals. Individuals identified as potentially sharing a National Insurance number, where individuals have a temporary number and individuals with second jobs are removed so the analysis covers main jobs only.

Model and methodology used

The results presented are based on a log-wage equation for female and male hourly earnings, based on a standard method, using a panel model approach:

$$\ln(w_{it}) = \beta X_{it} + \lambda_i + \alpha_t + \mu_{it} \quad (1)$$

where w_{it} is hourly earnings (for individual i), X_{it} is a vector of conditioning variables, β represents the rates of return to characteristics where $\beta_t = \beta$ for all t , λ_i and α_i are the coefficients on time and individual specific dummies, and μ_i is the disturbance term. The wage is logged as this has the useful property of causing the resulting coefficients to be the per cent effect on earnings.

It is also possible to relax the restriction to the rate of return to characteristics to allow it to change over time, so:

$$\ln(w_{it}) = \beta_t X_{it} + \lambda_i + \alpha_i + \mu_i \quad (2)$$

The benefit of equation (2) (allowing β to vary over time) is that it allows individuals who do not change status over time to contribute to the regression, whereas in (1) they do not (Bell and Ritchie 1998). A potential problem with equation (2) in practice is that it needs estimations of a far higher number of coefficients than equation (1), by a factor of the number of years in the panel data set. This can increase the size of the data matrix. Therefore, equation (1) was regressed over all t and for subsets of t to allow tracking of the estimated coefficients over time.

Estimation of the model takes place for both male and female workers to find out whether the coefficients of the variables differ, showing a difference in the rate of return of working in, for example, a particular occupation or sector. Any difference on the rates of return would suggest gender differences in the workings of the UK labour market.

The gender pay gap can be split into

two parts. The first is the 'explained' part, because of differences in the characteristics of men and women. The second is the 'unexplained' part, which refers to differences in the rate of return to characteristics. Using the model can assign how much of the gender pay gap is caused by each part. For further explanation, see the Technical Note on the Oaxaca Decomposition. Gender-specific differences in the rate of return to characteristics suggest that wage decisions by employers were made for non-productivity reasons. Therefore, using this method, the unexplained part gives a proxy for the level of discrimination which can be assessed over time. However, the unexplained part will inevitably include the effect of compensating differentials and individual characteristics that are not included within the model's specification. In this case, since ASHE has a shortage of individual characteristic variables, the model will lead to a large unexplained part not because of discriminatory reasons. Also, there are strong arguments that the 'explained' part could carry discrimination, for example, pre-labour market discrimination leading to women concentrating in lower-paid occupations.

Results

In the earnings model used, the dependent variable is the natural logarithm of hourly earnings excluding overtime, adjusted to the retail prices index to the base year 1987. The model includes all males and females employed full-time, with at least two observations for the years 1998 to 2006.

Removal takes place for individuals whose earnings are affected by absence.

The explanatory variables used are:

- occupational dummies based on the Standard Occupational Classification 2000 (SOC2000) one-digit groups. As the data were recorded using the previous SOC90 before 2002, mapping of observations to SOC2000 before 2002 allows comparison over time. See the Technical Note for further details
- industrial dummies, based on the Standard Industrial Classification 2003 (SIC2003). Because there are 17 sub-groups in SIC2003, these are arranged into nine groups. See the Technical Note for further details
- regional dummies, based on Government Office Region of workplace
- sector dummy, whether the employer is in the public or private sector
- coverage by collective bargaining agreement. It is worth noting that the collective bargaining agreement variables created using ASHE have discontinuities caused by changes to questionnaires and other reasons
- tenure dummy, whether the time spent in the current job is greater or less than one year
- age. Here the model uses two approaches, with the first a quadratic function of the age variable and second, dummy variables using age intervals
- selection dummy variables are included in the model because of the usual selection problem

Table 1

Full-time workers with at least two observations and no periods of pay affected by absence, excluding overtime

United Kingdom

Observed	Mean weekly wage (£) (2006 prices)		Median weekly wage (£) (2006 prices)		Mean hourly wage (£) (2006 prices)		Median hourly wage (£) (2006 prices)		Median hourly wage (£) (2006 prices)		Median hourly wage ratio (%)	Mean hourly wage ratio (%)
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Female/ Male	Female/ Male
1998	69,864	39,114	484.52	370.59	397.31	321.92	12.75	10.26	10.28	8.70	80.5%	84.6%
1999	69,529	39,364	496.58	384.93	406.36	332.88	13.08	10.67	10.51	9.00	81.6%	85.7%
2000	67,526	38,635	503.56	391.18	408.32	335.18	13.25	10.83	10.57	9.07	81.7%	85.8%
2001	67,019	39,081	524.23	410.89	422.63	351.05	13.81	11.36	10.92	9.43	82.3%	86.3%
2002	67,109	39,589	544.97	423.68	432.71	360.62	14.37	11.69	11.24	9.73	81.3%	86.5%
2003	67,487	40,548	545.92	427.88	436.30	364.99	14.36	11.81	11.24	9.89	82.2%	88.0%
2004	65,874	39,828	537.01	430.98	435.03	366.59	14.11	11.87	11.22	9.91	84.1%	88.3%
2005	66,189	41,288	547.28	439.47	440.74	373.43	14.44	12.14	11.41	10.14	84.1%	88.9%
2006	62,181	38,156	560.53	449.72	451.29	383.30	14.73	12.39	11.63	10.41	84.1%	89.5%

Note:

Total observations: 958,381 (602,778 male; 355,603 female).

Source: Annual Survey of Hours and Earnings

Inclusion of industrial and occupation dummies identifies some of the compensating differentials in the model. There are arguments against including occupational variables in wage modelling, since they may be endogenous to people's wages. This is because a person's choice of occupation may be influenced by average wages on offer by occupations.

There are three types of regressions run on the data:

- cross-sectional regressions for each year 1998 to 2006 (CS)
- a panel fixed-effect regression for the years 1998 to 2006 (PFE)
- three separate fixed-effect panel regressions for the years 1998 to 2000, 2001 to 2003 and 2004 to 2006 (PTV)

Separate regressions take place for men and women.

Nearly all observations exceed the 5 per cent significance level because of the large number of observations; this includes t-statistics and F tests. A standard (Hausman) test supported the use of the fixed effects model.

Females account for just over one-third of the total observations between 1998 and 2006 (see **Table 1**). Over this period, the female to male median hourly wage ratio, excluding overtime, has risen from 81 to 84 per cent, meaning the gender hourly wage gap has fallen from around 19 to 16 per

cent. Leaker (2008) describes alternative measures of gender pay differentials for the UK.

The effect of age on earnings is as expected, that is, as age increases there is a positive but decreasing effect on earnings. Experiments with a quadratic age function and age-banded dummies provided similar regression estimates and this article presents the latter.

Comparing the age effect for females and males shows that men progress faster than women until about age 21. Earnings then increase at a similar rate until age 40, after which the increase in females' earnings is steeper than males' (see **Figure 1**).

Bell and Ritchie (1998), using NES data for the period 1977 to 1994, found that females had a flatter earnings profile than males. They argue this could be because age represents a better proxy for work experience for men, since women are more likely to take career breaks. It is therefore useful to compare the results of PFE regression with CS regression to assess for any bias. For example, many high-earning women may return to the labour market later in life. All cross-sectional results provide flatter earnings profiles for women than men, supporting the argument that women returning to the panel may be causing an effect to the analysis, at ages 45 and over.

The crude tenure variable, which takes account of people who have been in their

job for less than one year, highlights little difference between males and females. The analysis highlights that there is a negative effect of approximately 3 per cent of earnings for those people who have been in their job for less than one year. This is a small increase on previous studies, although PTV regression does not pick up any trend in the effect over the time period.

The results show that, on average, people working in the public sector earn more than otherwise identical people working in the private sector and the effect is larger for women than for men. This is often referred to as the 'public sector premium'. Differences in understanding and applying pay equality legislation are attributed to causing part of the public sector premium. For example, working conditions offered by public sector employers are often more flexible than those in the private sector, and this could benefit women more than men. Preliminary work by Chatterji *et al* (2007) supported this, implying that family friendly policies in the public sector translated to higher public sector wages, especially for women. Comparing the results of the PTV regressions, it appears that the public sector premium for both men and women grew in 2004–06.

A feature of all the results is that the regional earnings effect of not working in London is much larger for women than men (see **Figure 2**). The regional effect on female earnings is always more negative than on males, relative to London (other than in the South East in 2004–06, PTV results). This supports theories of reduced labour mobility within the female workforce which leads to labour supply imbalances and therefore reduced earnings in some areas (namely, all bar London). Since London has a much larger and integrated job market than other regions, it is likely to lessen labour mobility issues.

The results of the PFE regression highlights that men in the South East earn 4 per cent less than their London counterparts (all other things being equal), whereas women earn 7 per cent less. A possible explanation is that while men benefit from proximity to London, the benefits do not pass as well to women. Interestingly, the PTV analysis shows that women in the South East significantly improved their position compared with women in London over the time period. There is no graphical presentation of the results from the PTV regression because of the large numbers of coefficients. These are available on request.

Regional Trends 2008 provided estimates

Figure 1
Age effect on earnings, relative to 31- to 35-year-olds

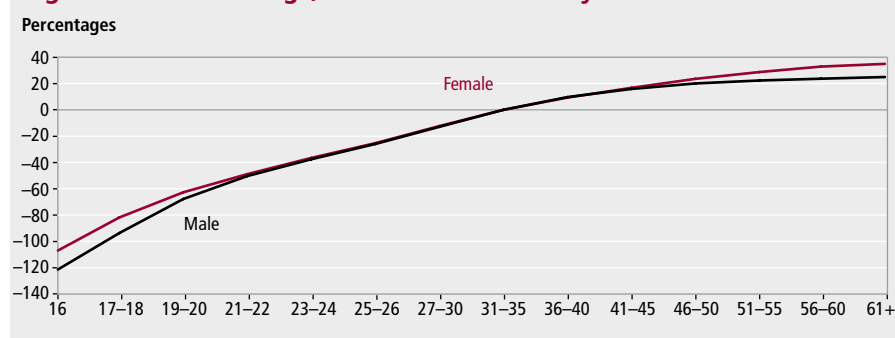


Figure 2
Regional effect on earnings, relative to London



of regional gender earnings gaps using data from the Survey of Personal Incomes (managed by HM Revenue & Customs). The largest proportional difference in gender pay for the period presented (2004/05) was in the South East and the smallest was in Wales. At first this appears to contradict the results presented in Figure 2, as this shows the two regions have similar differences in gender pay. However, this demonstrates the limitation of simple estimates of gender pay differentials compared with estimates (as in this article) which take account of some of the reasons which influence a person's wage.

A second regional effect highlighted by the PTV regression results is improving wages in Wales, compared with wages in London. The relative improvement for men over the time period exceeds that for women. This could contribute to Wales having the largest regional gender difference in earnings coefficients (see Figure 2). The regeneration of Wales, especially in Cardiff, may explain this improvement. An alternative or added explanation is that labour market interventions such as the National Minimum Wage and New Deal have had a disproportionate effect in Wales.

Males living in the South West of England have improved their position compared with males in London in recent years, although this improvement is not seen in the female group.

Focusing on occupational effects in the PFE regressions, differences are observed in the gender returns to working within Managers and senior officials, Professional occupations and Elementary occupations, compared with Administrative and secretarial occupations. In other occupations there is little difference between the female and male returns (see Figure 3). Males receive a 2 per cent greater premium for working in Managerial and senior positions whereas females receive a 2 per cent greater premium for working in Professional occupations. A possible explanation is that individuals working within Professional occupations find it easier, and less damaging to their future earnings (if at all), to take career breaks than those working in Senior official occupations. For example, Teaching professionals and Chartered accountants (subsets of Professional occupations) may be more flexible careers than Directors and chief executives of major organisations and Purchasing managers (subsets of Senior officials). A feature of the PTV regressions is that the occupational earnings effects are smaller in the 2001 to 2003 period for both males and females.

The results of the PFE regression show a larger wage premium for males in manufacturing (the industrial effect) (see Figure 4). This could be a result of women

working in less skilled manufacturing positions, or could be evidence of discrimination in that sector. The former argument is backed up loosely through evidence such as that presented by the House of Commons Trade and Industry Committee (TSO 2007). This reported that women make up 25 per cent of those reading manufacturing-related degrees, 3 per cent of modern apprentices in manufacturing and engineering and 6 per cent of professional engineers. There is also a larger wage premium for males in Finance, Mining and quarrying, Energy and water and Agriculture and fishing. In fact, the only industry to show a slightly higher wage premium for women was in the group Other services (public), which could be because of the public sector premium effect.

To test the effect of the selection dummies, the PFE regression was undertaken with the selection dummies removed. The effect was to make the tenure coefficient larger (1 per cent greater impact on wages) and all age coefficients were larger, especially those for the lowest and highest age bracket dummies. This is not surprising, since the likelihood of going into unemployment or economic inactivity is highest when changing jobs, or when young or old (Bell and Ritchie 1998).

Decomposing the results

Finally, an Oaxaca type decomposition is applied to the results of the CS, PFE and PTV regressions: the last named is presented in Table 2. See the box in the Technical Note for further information about how to interpret these results, including a detailed explanation of the weighting methods used. A simple interpretation of the decomposition is that the male and female weightings are the upper and lower bounds of the part of the wage difference accounted for by explained and unexplained reasons. The pooled weighting is therefore a midpoint (calculated according to the Oaxaca-Ransom method) between the upper and lower bounds. Figures in italics show the proportion of the total explained and unexplained.

The total weighted effect falls over time, especially from 2001–03 to 2004–06. This shows that the modelled gender wage gap falls over the time period. All weighting methods display a fall in the unexplained part over all time periods, while the explained part rises and falls. The pooled weighting method shows that almost two-thirds of the wage gap is because of reasons unexplained and one-third for reasons

Figure 3
Occupational effect on earnings, relative to Administration and secretarial

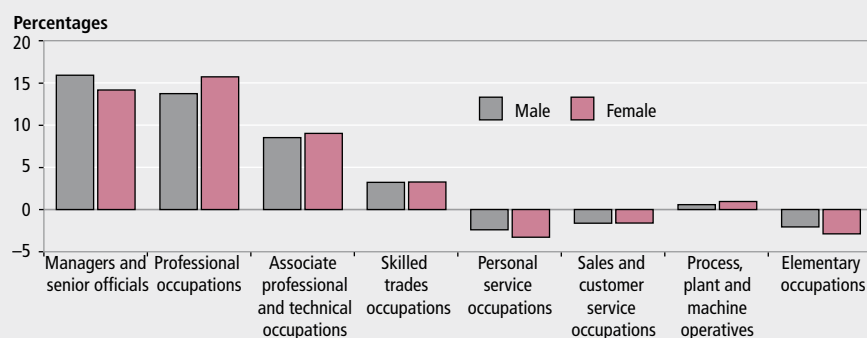


Figure 4
Industrial effect on earnings, relative to Real estate, retail and wholesale

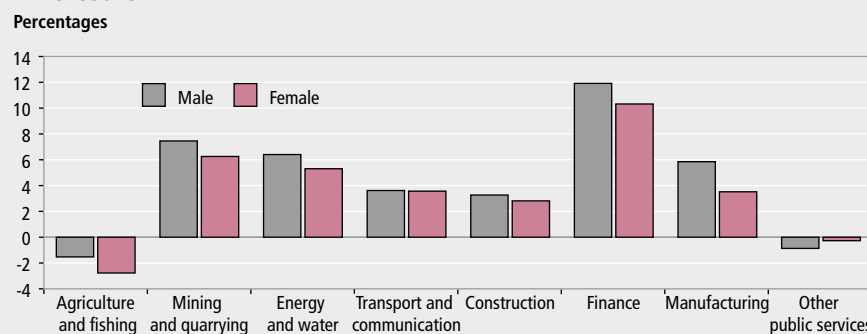


Table 2
The Oaxaca decomposition

		1998–2000		2001–03		2004–06	
Weighting method		Weighting	Proportions (%)	Weighting	Proportions (%)	Weighting	Proportions (%)
Male	Explained	0.027	17	0.021	14	0.026	20
	Unexplained	0.134	83	0.127	86	0.100	80
Female	Explained	0.021	13	0.020	13	0.015	12
	Unexplained	0.141	87	0.129	87	0.110	88
Pooled	Explained	0.053	33	0.048	33	0.045	36
	Unexplained	0.109	67	0.100	67	0.080	64
Total		0.161		0.148		0.126	

explained. The unexplained element is large, primarily because of a lack of individual characteristic variables in ASHE; however, this is constant over time. Therefore, the falls in the unexplained component could be caused by a reduction in discrimination over the time period, although other factors that cannot be measured could also be the reason.

Looking at the decompositions in detail, it is clear that most of the fall in the unexplained part is because of falls in the occupational and age terms and because of large falls in the constant term. Interestingly, the sector terms show increases over the time periods. The small falls seen in nearly all explained parts are because of falls in the age and occupation elements.

Conclusions

Reductions in the gender pay gap since 1998 can be attributed mainly to unobservable differences between men and women. Due to limitations in the data, it is not possible to say how much of the decrease is due to a reduction in discrimination and how much is because of other unobservable factors that cannot be identified in ASHE.

Of the observable factors, the age, region, occupation, industry and sector variables have a significant impact on earnings for men and women. In particular, women's wages are more dispersed by region than men's and, save for the exceptions of South East and Wales, there is little change over the period. This supports theories of reduced female labour mobility which result in lower female earnings in all regions except London. Senior official occupations, which are among the highest paid, benefit men's wages more than women's, although Professional occupations benefit women more than men. This could be due to more flexibility within the Professional occupations, compared with Senior officials. It is also clear that there is a benefit for

working within the public sector, and the effect is greater for women than men.

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TECHNICAL NOTE

The Oaxaca decomposition

To find out whether differences in pay are caused by differences in characteristics or differences to rates of return to the characteristics, an Oaxaca (1973) decomposition method is used. This is shown as:

$$\overline{\ln(w_m)} - \overline{\ln(w_f)} = \sum_{i=1}^n (\bar{X}_{mi} - \bar{X}_{fi}) \cdot \beta_{mi} + \sum_{i=1}^n (\beta_{mi} - \beta_{fi}) \cdot \bar{X}_{fi}$$

Where $\overline{\ln(w_m)}$ and $\overline{\ln(w_f)}$ are the average (naturally logged) wages for males and females respectively, \bar{X}_{mi} and \bar{X}_{fi} are the means of the observations for individual i , and β_{mi} and β_{fi} are the estimated coefficients for individual i for males and females.

In the equation, the first term on the right-hand side represents the part of the gender wage difference that is caused by the difference in observed human capital between males and females. For example, the difference in experience (in this article proxied by age) and differences with any non-productivity related variables included in the analysis (differences in occupational, industrial, sectoral distributions). This is usually referred to as the explained, or observable, part of the decomposition.

The second term represents the part of the gender wage difference which cannot be explained by differences in human capital, or by any of the other variables used. Therefore, this is attributed to differences in the rate of return to wage determining variates. This is referred to as the unexplained, or unobservable, part.

It is useful to interpret the decomposition as follows:

	Possible non-discriminatory components	Possible discriminatory components
Explained	Differences in compensating differentials. Differences in individual characteristics.	'Pre' and 'within' labour market discrimination that prevents women from improving their human capital.
Unexplained	Omitted variables.	Discrimination that prevents women from obtaining the same rate of return to the wage determining variates.

The Oaxaca method presented above assumes that the 'post-model' wage for both males and females (that is, the wage rate for an identical male or female) equals the 'pre-model' wage for men (W_m). In Table 2, this is labelled as the 'Male' weighting method. It is also possible to rearrange the equation to enable other scenarios to be considered. In the decompositions presented, the other scenarios considered for the post-model wage structure are as follows:

- the same as the average female pre-model wage ('Female'), and
- weighted according to the Oaxaca-Ransom method (Oaxaca and Ransom 1994) ('Pooled')

Additional weighting methods, not presented for sake of space, include:

- an average of male and female pre-model wages ('Average')
- a weighted average of male and female pre-model wages, according to the number of males and females in the sample ('Weighted Average')

Mapping SOC90 to SOC2000

SOC2000 group	Original SOC90 two-digit groups
Senior officials	10, 11, 12, 13, 14, 15, 16, 17, 19
Professional occupations	20, 21, 22, 23, 24, 25, 26, 27, 29
Associate professional and technical occupations	30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 60, 61, 70, 71
Administrative and secretarial occupations	40, 41, 42, 43, 45, 46, 49
Skilled trades occupations	50, 51, 52, 53, 54, 55, 56, 57, 58, 59
Personal service occupations	63, 64, 65, 66, 67
Sales and customer service occupations	72, 73, 79
Process, plant and machine operatives	80, 81, 82, 83, 84, 85, 87, 88, 89
Elementary occupations	86, 90, 91, 92, 94, 95, 99

Grouping for SIC2003

Industrial groups used in this article are combined into the following nine groups, showing SIC2003 constituent letter groups:

- Agriculture and fishing (A+B)
- Mining and quarrying (C)
- Manufacturing (D)
- Energy and water (E)
- Construction (F)
- Transport and communication (I)
- Finance (J)
- Real estate, retail and wholesale (G+H+K+O+P+Q)
- Other public services (L+M+N)

FEATURE

Barry Williams
Office for National Statistics

Inventories: a cross-country comparison of behaviour and methodology

SUMMARY

There are a number of contrasting economic theories regarding companies' motivations for holding inventories. One theory suggests firms use inventories to smooth production levels over time in response to demand; another suggests firms have an optimal range of inventory levels which they will maintain by varying production levels. The purpose of this article is not to resolve this debate but instead to highlight the relationships within component inventories data, the relationships between gross domestic product and inventories and the relative importance of individual sectors' holdings within the series as a whole. Subsequently, a comparison of official data and external survey data within the UK will be discussed. In addition, the article aims to highlight the difficulty in measuring inventory data and discusses issues surrounding methodology.

This article will initially set out the theoretical basis behind inventory measurement, first defining change in inventories and then highlighting the intricacies and difficulties involved in the estimation process. The methodology followed in the UK will then be covered in some detail. A comparison of change in inventories in relation to gross domestic product (GDP) will be carried out for the UK and the US and some explanations put forward for these trends. Further to this, the manufacturing sector will be studied in some greater detail in order to expand upon the relationships behind the headline data. Finally, this article will compare Office for National Statistics (ONS) data to that of the Confederation of British Industry (CBI) as an external source of inventory figures.

Inventories are a crucial input of managing a firm's efficient production process. They are defined as 'the unsold stock of materials, stores and fuel, work in progress, finished goods and goods for resale held over a reference period' (European System of Accounts (ESA) 1995). In the UK, inventories data are published by ONS within the GDP release as a chain volume change in inventories series (chain-linking is a process used to fix the current year's quantities to the previous year's prices, in effect taking inflation into account). The inventories data are also available on a current price basis within the same release.

The difficulty in measuring inventories is due to price changes during the holding period, the effect of which need to be

removed. For example, an increase in the value of inventories which is brought about entirely by price changes does not represent a real change in inventories because the volume has remained the same. These holding gains may come in the form of a gain or a loss and can be calculated as the difference between the value of inventories at the end and beginning of the period, minus the actual change in inventories. The need to remove holding gains represents the root of most of the difficulties associated with compiling inventories data.

Ideally, information would be collected on the exact times and quantities of additions to, and withdrawals from, inventories and the price of the product at those times. If the ideal case were possible, much more analysis could be undertaken into the firm's reaction to the external environment. With this, the potential to accurately forecast the change in inventories series could be useful as an economic indicator. However, in reality, information is only available on opening and closing inventory book values as reported by the firm. In this case, change in inventories must be measured using an average price for the period. If the price has been constant, this is an exact measure – as is the case if there has been no change in quantity. However, when both price and quantity have fluctuated, change in inventories is only an approximation. The greater the fluctuation, the greater the need to calculate change in inventories over a shorter time period (monthly/quarterly) in order to capture accurate estimates.

UK inventory methodology

In the UK, ONS publishes change in inventories data on a quarterly basis within the GDP release. Data are available at an aggregate level and spilt down into certain industry sectors. In the UK, the alignment adjustment for the quarterly expenditure measure of GDP is applied to the inventories series; the adjustment does not affect the annual estimates (see **Box 1**). It is not known whether similar adjustments are applied to the quarterly inventories estimates in other countries. Therefore, all cross-country comparisons in this article use annual estimates.

The vast majority of data used to estimate the quarterly change in inventories series are collected in ONS survey questionnaires (specifically the Quarterly Stocks Inquiry). Each survey is tailored to the characteristics of the sector being covered and survey documents are accompanied by a set of explanatory notes to ensure firms understand the scope of the survey. This ensures that any changes in bookkeeping practices by the respondents

are captured, in order that consistency can be achieved between individual respondents and between different survey periods. Weights are applied at Standard Industrial Classification (SIC) level in order to estimate economy-wide book values from the survey responses. The difficulty in maintaining current weights consistent with the time period for respondents' information adds to the complexity of creating accurate series.

If a firm has previously contributed to the survey but is late returning data for the current quarter, an imputed value is calculated based on the average movement in inventories between quarters in the current and previous years.

If a firm is late in responding to the survey and is a new contributor (the ONS has a duty to spread the burden of survey responses and, as such, certain firms will rotate in and out of the survey sample), then a process of system construction is carried out whereby a construction ratio is created (see **Box 2**). The ratio gives a representative inventories value per head of

survey respondents; the new contributor's employment figure can then be used to estimate an inventory value for the quarter. Once this process is complete, the inventory book value data are ready to be processed into a chained volume data set.

The process of deflation must be applied to the book value inventories data in order to strip the holding gains from the series. It is essential that the appropriate index is used to specifically deflate the inventory series in question. ONS uses a large number of producer price indices; wholesale, construction and agricultural (supplied by the Department for Environment, Food and Rural Affairs) deflators; the all items retail prices index (RPI); and metal bulletin data to provide around 800 indices and derive around another 20 for use in the deflation process. The system also takes into account the fact that different types of inventory will not typically follow the same holding pattern; as such, it allows for varying holding periods for different types of inventory. Once this process has been carried out, the change in inventories series is ready for the top-level release.

The international comparisons in this article compare in detail the UK with the US and include a brief comparison with Australia and Canada. In terms of methodology, the UK follows the recommendations in the Eurostat Handbook on price and volume measures in National Accounts closely, using the best practice methods available (always falling into the category of an A method or a B method, where the former represents the ideal case and the latter the next best scenario). The level of detail provided by foreign statistics offices is generally on a par with, or more detailed than, that in the UK. Australia and Canada both report quarterly and annual data and the US also produces monthly inventories estimates. The US provides a wider breakdown of inventories than any of the other countries (nearly 80 individual series). The core components – manufacturing, wholesale and retail – are consistently reported by all statistical offices in the countries analysed.

Having outlined the methodology and potential difficulties in the inventories process, the focus of the article will now shift towards the actual figures and the relationships found in the data. The main focus will be the relationship between change in inventories and GDP but the relationships within the inventories series and some comparison to external survey data will also be discussed.

Box 1

The alignment adjustment

The final balancing step in calculating GDP is the incorporation of the calculated alignment adjustment which will sum to zero over a calendar year. These adjustments smooth the quarterly paths of income and expenditure estimates of GDP so that they match, as closely as possible, the movement in output without altering annual totals. In the expenditure analysis, the adjustments are allocated to changes in inventories and, within the income analysis, to the operating surplus of private non-financial corporations, as these areas are considered to have the widest error margins.

Box 2

The construction ratio

When a contributor is rotated into the inventories sample, and has not yet returned data, a constructed value is calculated. There is no back data on which to base an imputation, so the construction uses the employment level of the firm. It works out a stock value per head, and then multiplies this by the late contributor's employment.

- Non-response firms are removed from the sample cell and the remaining firms' employment numbers are added to the data
- If there are more than ten firms with response data, then outliers are removed:
 - a ratio is created for the returned value of change in inventory divided by the employment level, then
 - the top 10 per cent of firms are removed from this group and then from the remaining firms the bottom 10 per cent are removed
- For those firms that remain, the values for the change in inventories and level of employment are summed and the first is divided by the second to obtain the construction ratio for the series

Note that the choice of a 10 per cent trim is designed to minimise the degree of bias in creating the ratio; if the degree of skew in the data were significant, this might lead to an asymmetric trimming parameter.

GDP and inventories

Explaining the relationships

Figure 1 shows the relationship between movements in GDP and changes in inventories from 1948 or 1949 to 2006 (annual figures) in the UK. The period is dominated by a strong relationship between the two series from 1958 to 1997. However, looking closely at the movements before and after this period for the available data, the appearance is of an apparently weaker relationship. This deterioration in the relationship is confirmed when a correlation coefficient for the individual periods is calculated.

In the early post-war period, there appears to be no relationship between GDP and inventory movements. This period can be thought of as a 'recovery' phase after the Second World War and as such is excluded

from the analysis. Considering the period 1959 onwards, it can be seen that, until the 1990s, inventories track GDP movements closely. In the late 1990s onwards, the relationship becomes less clear.

The just-in-time (see **Box 3**) inventory system popularised in the 1950s sparked a period where change in inventories track change in GDP closely. If GDP is assumed to be an indicator of the demand for goods, then this relationship ties in with the notion that firms attempt to change their holdings in response to demand in order to minimise the level of stock at the end of any given period. It is also likely that, as the sophistication of computerised inventory management systems increased and the cost of introducing these systems decreased, firms became better able to effectively manage their level of inventories. If this is

the case, then it must be considered why this relationship appears to deteriorate from the mid 1990s, a period when relatively few economic shocks directly affected the UK economy.

A possible explanation for this deteriorating relationship could be the potential divergence between short-term GDP movements and the path of consumption in the UK economy. As consumers become more willing to fund current consumption through borrowing (as indicated by the spiralling UK debt to income ratio), movements in GDP may not be a good indicator of short-run future demand for goods from the private sector. If this is the case, then firms' ability to anticipate inventory requirements is lessened, which could help to explain the weakening relationship between GDP and inventories. Another potential factor influencing inventory behaviour would be the rapid rate of technological change (especially in computing and home entertainment goods), meaning certain inventory types will have a much shorter lifespan before becoming obsolete than has previously been the case. This could be an area where the inventories system may struggle to keep up.

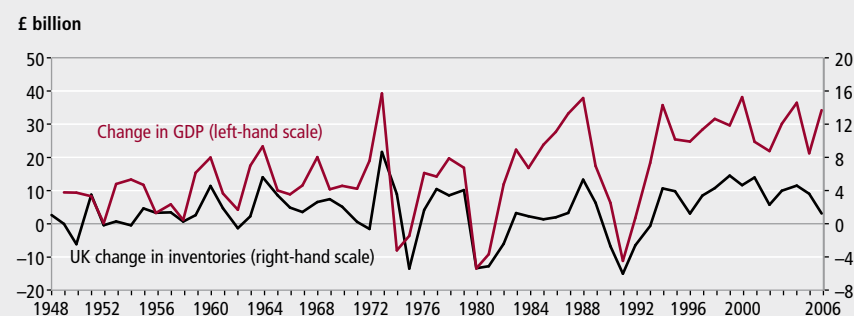
A second explanation of the deteriorating relationship comes from the costs associated in holding inventories. Inventories represent a form of investment by the firm. If firms are holding more inventories than in the past, it should be the case that the relative rate of return on inventory investment exceeds that of the other available options. One of the key determinants of return on alternate forms of investment is the rate of interest and, as such, there might be expected to be an inverse relationship between the real rate of interest and the change in inventories. As **Table 1** shows, the real level of interest using both short- and long-term measures (calculated using RPI) fell by around 40 per cent during the second half of the 1990s, decreasing the return on alternative forms of investment.

Other factors which could affect the cost of holding inventories and therefore their relative appeal as an investment include:

- the cost of shortage – what is lost if the stock is insufficient to meet all demand (a stockout)
- the cost of space
- spoilage or inventory damage
- insurance

Deregulation and increased competition within insurance markets coupled with

Figure 1
GDP and inventories for the UK



Source: Office for National Statistics

Box 3

Just-in-time policy

The 'just-in-time' inventory system was first introduced by the Ford Motor Company in the 1920s and was popularised by the Toyota Motor Corporation in Japan in the 1950s. Utilising the forward steps in transportation technology in the post-war period, this process considers the holding of inventories to be a wasteful endeavour, imposing needless storage costs and opportunity cost to the firm. The system therefore aims to minimise the reliance on stocks as a buffer in order to reduce costs as much as possible. The advances in computer technology throughout the mid/late 20th century also improved the ability to implement a just-in-time production technique.

There is a risk involved with a just-in-time strategy as it leaves the firm with no protection to demand and supply shocks. If demand increases at such a rate that production capacity is insufficient to meet output requirements, the firm will lose out on custom. If there is a negative supply shock which affects the short run availability of key inputs, then the firm will have little or no outstanding inventory stock to meet existing contracts as well as losing out on new business.

Table 1

Real lending rates (short- and long-term)

	Long-term rates (20-year government bonds)	Short-term (Bank of England base rate)
1980–1989	3.73	4.33
1990–1995	4.62	4.60
1996–2005	2.78	2.73

technological developments, including the internet, has led to a broad decrease in the premium of insurance policies within the UK. As a result, the spoilage cost of inventory holdings will also be reduced. However, it seems likely that the cost of space in which to store inventories increased over the same period. Therefore it is unclear as to the direction of real cost movements with regard to holding inventories.

The inventories data time series for the US starts in 1968 so does not allow analysis of the early post-war period. Using the data available, change in inventories and change in GDP exhibit a strong correlation which does not suffer the same degree of deterioration during the late 1990s seen in the UK (see **Figure 2**). The chart presents data in US dollars rather than sterling so the actual numbers should not be compared

with **Figure 1**. It is the relationship in the movement of the series that is being considered at this point; the relative importance of inventory movements in terms of total GDP is considered below.

The data for Canada show a similar relationship between GDP and inventories to the UK; there appears to be a reasonably strong relationship between the series until more recent years, when the relationship weakens. The data for Australia suggest a much weaker relationship throughout the period.

The cyclical and declining importance of inventories in GDP

This section presents analysis of the ratio of change in inventories to GDP levels in current prices for the UK and international comparisons. The analysis highlights the cyclical nature of inventories and shows

that inventory changes have become proportionately less important to GDP over time (**Figure 3**).

Figure 3 illustrates cyclical nature in the ratio of change in inventories to the level of GDP in current prices. There are significant troughs during 1975, the early 1980s and the early 1990s. It also shows a decline in the size of the cycles throughout the period. It is possible that the more stable series towards the end of the period reflects the consistent performance of the UK economy. It will be interesting to see if this trend continues amid the uncertainty of the current economic climate. However, as this graph uses annual data in order to remove the potential of alignment adjustments causing complications with international comparisons, it may be difficult to study any change in this trend in the short-term.

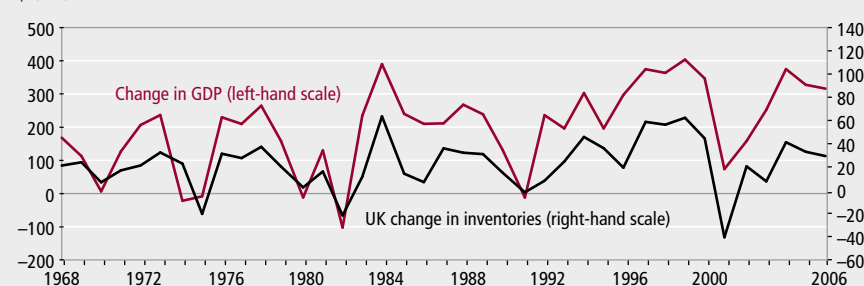
Analysis of the relationship between the change in inventories and level of GDP can be taken further by grouping the data into two time periods; pre- and post-1990. Pre-1990 represents the more volatile time period and post-1990 the less volatile period. The results show a decline in the ratio in the more recent period. Comparisons can also be made between the size of the ratios across countries. Data are provided below in **Table 2**.

The period from 1967 represents the earliest date when inventories data are available for all countries in the comparison; this table does not capture the earliest movements in the UK data. **Table 2** does, however, show that the UK data exhibit a similar degree of volatility compared with the comparison countries, with the value of the ratio of change in inventories to GDP being comparable with that of Australia and Canada and well below that of the US. Although the percentage decline in the ratio is smaller in the UK, this is partly due to the lower starting level in the early period.

Figure 4 illustrates the ratio of change in inventories to level of GDP for the US. Cyclical nature is evident for the US as it was for the UK (**Figure 3**), with the series falling below zero in 1975, 1982 (oil price shocks) and 2001 (the dot.com bubble) and dipping severely at the start of the 1990s, though not turning negative.

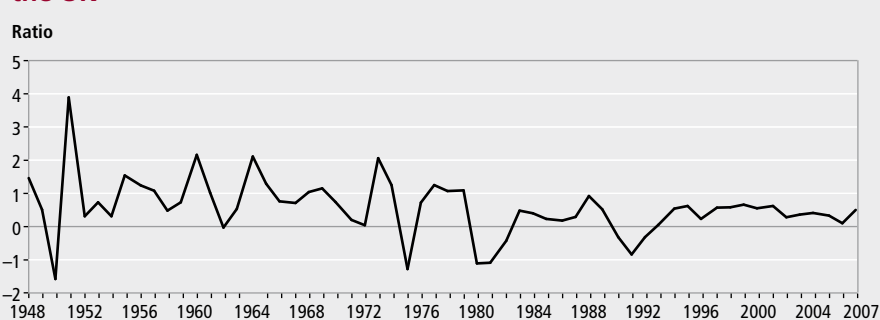
The analysis in this section shows a relationship between the change in inventories and level of GDP. It demonstrates a significant decline in the strength of this relationship over the last 10 to 15 years within the UK. Most interestingly, the international comparisons show there is a strong degree of similarity

Figure 2
GDP and inventories for the US
\$ billion



Source: US Bureau of Economic Analysis

Figure 3
Ratio of change in inventories to level of GDP in current prices for the UK
Ratio



Source: Office for National Statistics

Table 2

Cross-country averages of the change in inventories to GDP in current prices

	UK	Australia	USA	Percentages Canada
Average since 1990	0.273	0.227	1.668	0.206
Average 1967–1990	0.374	0.476	3.682	0.428
Percentage decline	26.97	52.29	54.71	51.82

in the trends between countries and give a clear indication that the UK data are within the range of data reported by other statistical agencies.

Inventory data and its components

For the UK, change in inventories data are available for certain sectors of the economy: manufacturing, retail and wholesale (Figure 5). The series for the manufacturing and retail sectors began in 1955 and the wholesale series began in 1959. More recently, the level of detail has expanded to add the Electricity, gas and water; and Mining and quarrying sectors. The volatility and importance of the two more recent

series are minimal in comparison with the other components and the total change in inventories series; they will not be considered in this analysis.

The volatility in the aggregate change in inventories series appears to be driven by movements in change in inventories within the manufacturing sector. This is particularly evident during the major economic downturns in the UK since the 1970s. The change in inventories series for the retail sector has the largest positive correlation with the aggregate series during the period analysed. This may be surprising given the dominance of the manufacturing series during volatile periods. It is worth noting, however, that the correlation

between each of the main components to the aggregate change in inventories is strong.

The volatility of the aggregate change in inventories series has decreased since the mid-1990s; as mentioned earlier, this may be a symptom of the more stable economic growth during this period. However, if the economy experienced another period of instability, the inventories series may not be as volatile as it has been in the past. The declining importance of the change in manufacturing inventories, the most volatile component series, could mean that the aggregate change in inventories series is less reactive to the economic cycle. However, with the recent credit crisis still unwinding, it is difficult to make any strong assertions about this relationship in the short-term.

The component series for the US present a similar picture to the UK. Movements in the change in inventories series for the manufacturing sector again dominate the peaks and troughs in the aggregate series. However, unlike the UK, a significant degree of volatility is also displayed in the wholesale and retail series, which may help to explain the continued volatility of the series in the more recent period.

Change in inventories for the manufacturing sector by stage of production

Given the apparent importance of the manufacturing sector's change in inventories series, it is useful to analyse a further breakdown of the series.

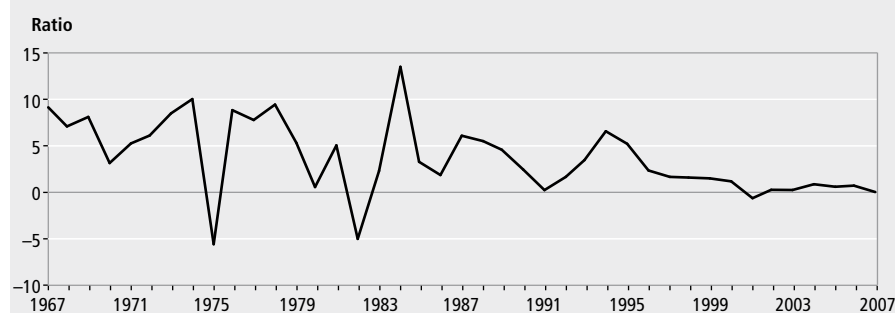
Figure 6 shows the breakdown of change in inventories for the manufacturing sector by stage of production (materials and fuel, work in progress and finished goods). The materials and fuel component appears to be dominant in the early part of the time series. After 1982, the volatility of materials and fuel series declines relative to that of work in progress, which takes over as the key driver of movements in volatile periods.

So far, the volatility of the aggregate change in inventories series has been explained by a dominant manufacturing component. This has been analysed further using the change in inventories series for components within manufacturing. The hypothesis that the decline in variability can be attributed to the changing composition of the economy away from manufacturing and towards services has been discussed earlier in the article. A further hypothesis may explain a decline in volatility within manufacturing as the composition of UK firms in this sector changes.

With the emergence of low-cost

Figure 4

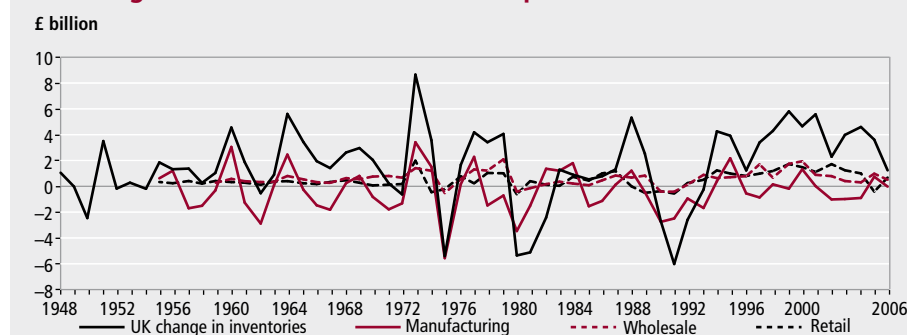
Ratio of change in inventories to level of GDP in current prices for the US



Source: US Bureau of Economic Analysis

Figure 5

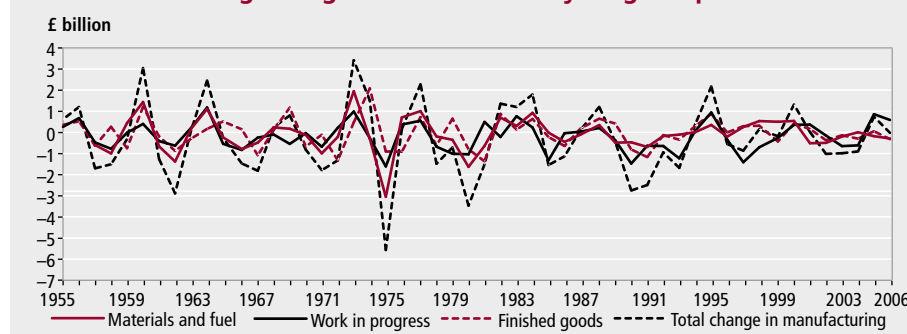
UK change in inventories and main components



Source: Office for National Statistics

Figure 6

UK manufacturing change in inventories: by stage of production



Source: Office for National Statistics

economies in world trade markets, the UK manufacturing sector has had to adapt to compete, with successful manufacturing firms concentrating their business efforts in high technology/high value-added industries, competing in terms of sophistication of product rather than cost. With this in mind, it seems likely that the majority of inventory holdings in these types of manufacturing firms would be work in progress rather than stores of raw materials. This is because component parts for high value-added products are likely to be costly and therefore would probably be added straight into the production process rather than stored as inventories. If this is taken in combination with the increasing globalisation of firm activities and the proliferation of outsourcing (the movement of certain aspects of the production process abroad, for example, the production of computer components in East Asia) which might further reduce the level of materials and stores, it is possible to explain the patterns in the data.

Change in inventories data for the manufacturing sector in the US are also available in more detail (Figure 7). Consistent with the UK, the data show that the work in progress component is the dominant factor in volatile periods. However, it does not mirror the decline in volatility of materials, stores and fuel seen in the UK. This can again be argued as a perfectly plausible trend in the data; the US has not suffered the same decline in basic manufacturers as the UK, and is also a world leader in many of the high-technology manufacturing sectors. As such, the economy has a much broader manufacturing base and the degree of outsourcing in early stage production processes will be much smaller.

ONS data and external comparison

The CBI produces a variety of inventory information in its monthly and quarterly survey releases. The survey data are available for retail, wholesale and for the stages of the manufacturing production process. It is therefore possible to compare ONS estimates with those published by the CBI from 1985 onwards.

Unfortunately, the data for retail and wholesale are collected and reported on a monthly basis in the CBI survey and as such do not have the same reference period as ONS data. For the purpose of this analysis, a monthly change in inventories series was constructed from the quarterly series published by ONS. The monthly series was created by assuming a linear relationship between the two quarterly data points.

The degree of correlation between the two sets of data is virtually zero. The series do not match up to any degree and it is often the case that the direction of movement of the two series is opposite. A potential reason for this difference is in the structure of the CBI survey itself. It is not a direct measure of inventory volumes, merely a response to a survey question about the levels of stocks relative to expected demand. Respondents reply with an answer of 'high', 'adequate' or 'low' and, over the recent period, the vast majority of respondents to the survey have given the answer 'adequate'. As such, the use of this series as a comparison to the ONS estimates is limited.

In the CBI quarterly industrial trends survey, the question is a much more suitable proxy for the ONS data, asking whether 'the level of stock is up, down or the same over the last three months'; as such, it is more likely to match. The relationship between the two data sets is stronger for all subsets of manufacturing inventories, but the overall strength of this relationship

is still quite weak. The data move closely in certain time periods, but are seemingly unconnected in others. The strongest relationship is found between the finished goods series. The two series display a number of periods of strong correlation but no consistent lag or link in other time periods. This limits the conclusions that can be safely made about any meaningful relationship between the series.

The lack of coherence between the two data sources is not particularly worrying, having established a reasonably strong degree of similarity between the UK, the US and Canada. As the CBI survey is based on a balance statistic estimated from responses of a chosen panel of firms, it would only be a proxy for actual movements in inventories.

Conclusion

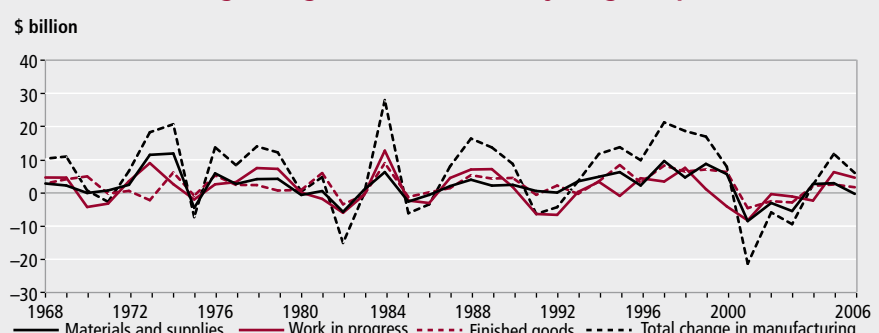
The work carried out and summarised within this article serves to highlight some of the complications involved in creating the real change in inventories data with holding gains removed. It highlights the methodological difficulties and provides a short guide to the processes involved in creating the series. The UK methodology for estimating the change in inventories is comparable with that of other national statistical agencies, following the Eurostat guidance closely. Data are available on an aggregate and industry level for the UK and are further disaggregated for various stages of the production process within the manufacturing sector. This level of detail is limited compared with the US, but provides a similar level of detail as Canada and Australia.

The main difficulties in producing inventories data are:

- accurately aggregating the sample data to a whole economy series due to the issues involved in timing of data collection and collation
- accurately deflating the series with the most appropriate set of price indices to remove holding gains from the book value figures reported
- ensuring that respondents understand the scope of the survey in order to capture the correct items from the firm's balance sheet and to identify any change in accounting practices which would affect the data

The international comparisons made in the article show that, in terms of the relationship between the change in inventories and the change in GDP and the

Figure 7
US manufacturing change in inventories: by stage of production



Source: US Bureau of Economic Analysis

patterns within the industry sectors, there is a strong degree of similarity between the UK, the US and Canada. It appears that firms behave differently in Australia, as the relationships and behaviour of the change in inventory series are often at odds with the other countries.

The patterns in the data seem consistent with the story of the economy over the recent time period; it is also reassuring that some of the patterns seen in the UK are mirrored in the US.

In the UK, there appears to be a relationship between the movements in GDP and the change in inventories, but this relationship shows signs of weakening in the recent time period. The importance of inventory movements within GDP appears to be in decline. Whether this is a symptom of the more stable economic climate, or a fundamental change in the relationship, is left as an unanswered question. However, if the recent instability in commodities and financial markets results in slower economic growth, it may be possible to provide an answer to this question in the future.

It seems clear that the movement of the UK economy away from an industrial base towards the service sector has increased

the stability within the inventories series. This is because the driving force behind many of the periods of volatility has come from within the manufacturing sector. It has been argued that the increased degree of globalisation and outsourcing during the recent past may have contributed to the reduction in volatility in the series.

This article has considered some of the key relationships within the change in inventories series in the UK and made some cross-country comparisons on trends within the data. There have been a number of suggestions put forward to explain the patterns witnessed, but there remains a great deal of work which could be carried out to provide greater insight, especially in relation to how the changing relationships within the data might impact upon future movements in the series.

ACKNOWLEDGEMENTS

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FEATURE

Eddie Holmes

Office for National Statistics

Regional gross disposable household income

SUMMARY

This article looks at estimates of regional gross disposable household income (GDHI) at current basic prices, published in May 2008. These data are published using the European Union Nomenclature of Units for Territorial Statistics (NUTS) regions. Data are published for the NUTS1, NUTS2 and NUTS3 levels for the period 1995 to 2006. There is an overview of the methodology used in the calculation of regional GDHI and the article concludes with Office for National Statistics (ONS) future plans for regional economic data.

Regional gross disposable household income (GDHI) is presented at the NUTS1, NUTS2 and NUTS3 levels. GDHI for 1995 (the year in which the time series using the current methodology starts) are compared with 2006 (the latest year for which data are available).

NUTS1 data

Total GDHI has been increasing in all NUTS1 regions (Table 1) at a similar rate between 2005 and 2006. The highest growth rate was Northern Ireland (4.0 per cent) and the lowest growth rate for NUTS1 regions

were the East of England and the South East (3.2 per cent). The UK growth rate was 3.5 per cent.

GDHI per head of population for the UK as a whole excluding Extra-regio was £13,802 in 2006. London had the highest GDHI per head (£16,939). The South East and East of England were also above the UK average at £15,367 and £14,548, respectively. All other regions had a GDHI per head below the UK average. The North East (£11,846) had the lowest GDHI per head, followed by Northern Ireland (£12,041) (see Map 1).

Table 1
GDHI: by NUTS1 region, 2006

Region	Total (£ billion) ¹	Share of UK (%) ¹	Growth on 2005 (%)	Per head (£) ²	Per head index (UK=100) ²	GVA per head index UK=100 ²
United Kingdom	836.2	100.0	3.5	13,778	100	100
North East	30.3	3.6	3.6	11,846	86	81
North West	86.7	10.4	3.6	12,655	92	87
Yorkshire and The Humber	64.3	7.7	3.6	12,504	91	86
East Midlands	56.1	6.7	3.5	12,853	93	91
West Midlands	67.3	8.1	3.3	12,546	91	89
East of England	81.8	9.8	3.2	14,584	106	95
London	127.3	15.2	3.8	16,939	123	155
South East	126.6	15.1	3.2	15,367	112	109
South West	70.1	8.4	3.5	13,673	99	94
England	710.4	85.0	3.5	13,994	102	102
Wales	36.5	4.4	3.5	12,312	89	77
Scotland	66.9	8.0	3.6	13,071	95	95
Northern Ireland	21.1	2.5	4.0	12,041	87	81
Extra-regio ³	1.4	0.2	2.6	n/a	n/a	n/a

Notes:

- Figures may not sum due to rounding.
- £ per head and per head index exclude Extra-regio.
- Parts of the UK economic territory that cannot be assigned to any particular region.

Box 1**Regional gross disposable household income: definition and methodology**

GDHI is the amount of money that individuals – the household sector – have available for spending or saving. This is money left after expenditure associated with income, for example, taxes and social contributions, property ownership and provision for future pension income. It is calculated gross of any deductions for capital consumption.

The household sector covers people living in traditional households as well as those living in institutions. The latter includes people living in retirement homes and prisons. The sector includes sole trader enterprises and non-profit institutions serving households (NPISHs), for example, most charities and universities.

Derivation of gross disposable household income

Total gross disposable household income is derived from the balances of primary and secondary income.

Balance of primary income
 + Balance of secondary income
 = Gross disposable household income

The primary income account

The account shows the income received by households for their role in the production process, and also property income (rent on land, dividends and interest) received and paid. The main source of household income is compensation of employees (wages and salaries and employers' social contributions).

The balance of primary income is the difference between total primary resources and uses.

Total primary resources
 – Total primary uses
 = Balance of primary income

Total primary resources consists of compensation of employees (wages and salaries); operating surplus (mainly rental, imputed or otherwise, in the household sector); mixed income (income from self-employment); and property income receipts.

Total primary uses represents property income paid.

The secondary distribution of income account

This account shows how the balance of primary income of households is modified by redistribution of payments of current taxes; payments of social contributions and receipts of benefits (other than in kind); and net other current transfers.

The balance of secondary income is derived as the difference of total secondary resources less uses.

Total secondary resources
 – Total secondary uses
 = Balance of secondary income

Total secondary resources consists of social benefits received and other current transfers received (for example, financial gifts and non-life insurance claims).

Total secondary uses consists of current taxes on income and wealth (income tax, council tax) and social contributions paid (employees' pension/social security contributions).

Regional GDHI estimates are published annually for the period 1995 to T-2 years (T being the year of publication) and are consistent with the National Accounts *Blue Book*. Component data are produced at the NUTS2 level and the balances of primary and secondary incomes are published for the NUTS3 regions. This breakdown is required by Eurostat (the Statistical Office of the European Union).

The national aggregate of GDHI is allocated to regions using a variety of regional indicators. Regional GDHI estimates are initially produced at the NUTS3 level and aggregated up to obtain NUTS2 and NUTS1 levels of data. These estimates are on a residence basis, that is, incomes of individuals are allocated to the region in which they live. The data referenced in this article are called headline GDHI, which are calculated using a five-period moving average. These adjusted figures remove some year-on-year volatility caused by sampling and non-sampling errors in the data sources. The unadjusted data are also published by ONS and are supplied to Eurostat.

Regional GDHI are produced at current basic prices, and so the effects of inflation are not taken into account in these data.

Data sources

The data are allocated at the regional level using the most appropriate indicators available and are drawn from a wide variety of survey and administrative sources. The main data sets used for the compilation of regional GDHI are HM Revenue & Customs (HMRC) pay-as-you-earn (PAYE), self-assessment tax and survey of personal incomes and other HMRC taxes data, and various benefit data sets.

These data are available by region and are used as indicator series to apportion the National Accounts household accounts components. The methods used are consistent with the guidance set out in the European System of Accounts 1995.

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

Box 2

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. Regional GDHI are produced at three levels of NUTS in the UK. These are:

- NUTS1: the devolved administrations of Scotland, Wales and Northern Ireland and the Government Office Regions of England
- NUTS2: 37 areas – sometimes referred to as subregions
- NUTS3: 133 areas – generally groups of unitary authorities or districts, also known as local areas
- Extra-region GDHI is that which cannot be assigned to regions, such as the GDHI of embassies and UK armed forces stationed overseas, along with the elements relating to activities on the continental shelf

Figure 1

Share of UK GDHI: by region, 2006

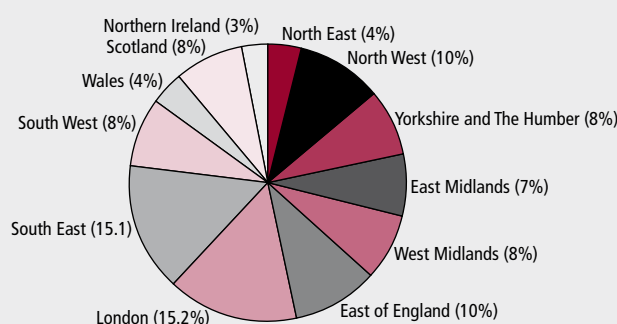


Figure 2

GDHI per head indices: by NUTS1 region

Indices (UK=100)

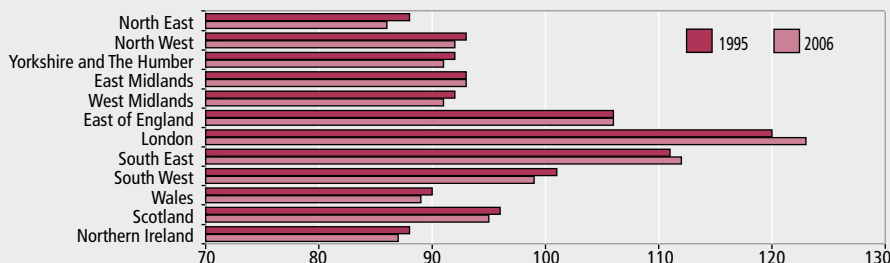


Table 1 also shows the gross value added (GVA) per head index figures for the NUTS1 regions in 2006. GVA is the value added by any given unit engaged in production and was examined in detail in Holmes (2008). The GVA data in this table are workplace based (that is, GVA is allocated to where people work) and the GDHI residence based. London also had the highest GVA per head index (155) and the largest differential between the GDHI and GVA per head indices, with a 32 percentage point difference (123 for GDHI compared with 155 for GVA).

Figure 1 shows that London (15.2 per cent) and the South East (15.1 per cent) had the largest share of total GDHI in 2006, while Northern Ireland (2.5 per cent), the North East (3.6 per cent) and Wales (4.4 per cent) had the smallest share.

Figure 2 shows that London had the highest regional GDHI per head of population index in 2006 (123), which was 23 per cent greater than the UK average and three points above the 1995 index (120). The North East (86) and Northern Ireland (87) had the lowest index, 14 and 13 index points below the UK average, respectively. Between 1995 and 2006, London and the South East were the only regions where per head indices rose. The South East's per head index rose from 111 to 112. All the other NUTS1 regions' per head indices were either the same between 1995 and 2006 or fell over this period.

Sub-regional (NUTS2) GDHI data

Within the 37 subregions (mainly groups of counties) of the UK, Inner London had

the highest household income per head (£18,808) in 2006 while the West Midlands had the lowest household income per head (£11,636).

In 2006, 13 of the 37 regions were above the UK household income per head (see Map 2), including all those within London and the South East. All areas within the North East, East Midlands, Wales and Scotland were below the UK average.

Table 2 also shows the GVA per head indices for the top and bottom five regions of GDHI per head for 2005 (the latest year in which GVA data are available for the NUTS2 and NUTS3 regions). Inner London had the highest GVA per head index, 152 per cent higher than the UK average, and is by far the largest percentage point differential between the GVA and GDHI per head indices, although Inner London has the highest per head indices in both cases.

Figure 3 and Figure 4 compare the top five and bottom five ranked subregions in 2006 and 1995 (the year in which the current time series began). The top five ranked subregions remained the same in 1995 and 2006 and there was little change in the bottom five subregions. The largest movement of a GDHI per head index between 1995 and 2006 was in Inner London, rising from 129 to 137.

Local area (NUTS3) GDHI data

The NUTS3 regions with the highest GDHI per head in 2006 were Inner London West (£25,745), Surrey (£18,893), Buckinghamshire County Council (£18,063), Hertfordshire (£17,054) and Outer London West and North West (£16,749). These estimates compare with the UK average GDHI per head of £13,802. Nottingham (£10,215), Kingston upon Hull (£10,316), Blackburn with Darwen (£10,497), Stoke on Trent (£10,659) and Leicester (£10,750) were the NUTS3 areas with the lowest GDHI per head in 2006.

Table 3 also contrasts GDHI with the 2005 GVA data for the NUTS3 regions. Inner London West had both the highest

Table 2

Top five and bottom five GDHI per head: by NUTS2 regions, 2006

Region	Share of UK (%)	GDHI (£ million) ¹	Per head (£) ¹	Per head index (UK=100) ¹	GVA per head index for 2005 ¹	GVA per head UK ranking
United Kingdom¹	100.0	836.2	13,778	100	100	n/a
Top five GDHI per head						
Inner London	6.7	55.9	18,808	137	252	1
Surrey, East and West Sussex	5.2	43.3	16,569	120	105	7
Berkshire, Buckinghamshire and Oxfordshire	4.2	34.8	16,089	117	141	2
Bedfordshire and Hertfordshire	3.1	26.1	15,842	115	112	5
Outer London	8.5	71.3	15,715	114	92	15
Bottom five GDHI per head						
Northern Ireland	2.5	21.0	12,041	87	81	27
West Wales and the Valleys	2.7	22.6	11,986	87	65	36
Northumberland and Tyne and Wear	2.0	16.7	11,978	87	87	21
Tees Valley and Durham	1.6	13.5	11,687	85	73	34
West Midlands	3.6	30.3	11,636	84	95	12

Note:

1 £ per head and per head index exclude Extra-region, while the total £ million for the UK includes Extra-region.

Figure 3

Top and bottom five GDHI per head indices: by NUTS2 region, 2006

Indices (UK=100)

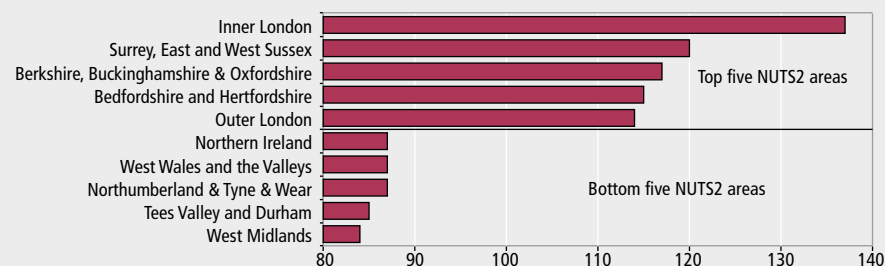
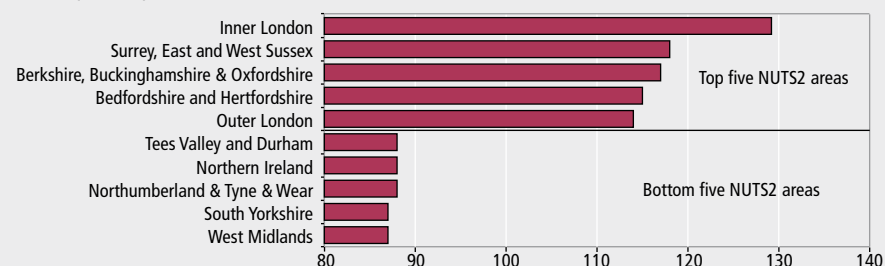


Figure 4

Top and bottom five GDHI per head indices: by NUTS2 region, 1995

Indices (UK=100)



GVA (439) and GDHI (187) per head index. Nottingham had a low GDHI per head index of 74, but a high GVA per head index of 138, the eighth highest NUTS3 region in the UK and 38 per cent above the UK average. In comparison, the GDHI per head index for Nottingham was 26 per cent below the UK average. Leicester also had a GVA per head index above the national average (113), but a GDHI index below the UK average (78).

Figure 5 and Figure 6 compare the top five and bottom five ranked local area

(NUTS3) regions in 2006 and 1995. The top five ranked subregions had only one minor change when comparing 1995 and 2006, with Outer London South being fifth in 1995 and Outer London West and North West fifth in 2006. There was some change in the bottom five subregions, with the two Northern Ireland regions in the bottom five, West/South West Northern Ireland and North of Northern Ireland, moving out of the bottom five by 2006. Their per head indices increased from 77 to 80 and from 72 to 79 between 1995 and 2006, respectively.

The largest movement of household per head indices between 1995 and 2006 was in Inner London West, increasing from 177 in 1995 to 187 in 2006. This region moved from being 77 per cent to 87 per cent above the UK average.

Figure 7 shows the variation within NUTS regions. The graph represents the constituent NUTS3 region with the highest and lowest GDHI per head in each NUTS1 region in 2006. London shows the biggest contrast, with Inner London West having the highest GDHI per head (£25,745) and Outer London East and North East the lowest (£13,985). The region with the least variation was Wales, with Monmouthshire and Newport having the highest GDHI per head (£13,161) and South West Wales the lowest (£11,388).

Revisions

The May 2008 GDHI estimates include some revisions to earlier published estimates for the period 1995 to 2005.

The main reasons for revisions are:

- revisions to the UK National Accounts (*Blue Book* 2007), which go back to 2004
- replacing provisional estimates with actual data, for example, latest available HMRC PAYE data replaces previously used estimates back to 2004/05
- further changes due to replacing estimates with actual data and methodological improvements

Future work plans

ONS plans to publish regional GVA for 1989 to 2007 at the NUTS1 level and 1995 to 2006 for NUTS2 and NUTS3

Table 3

Top five and bottom five GDHI per head: by NUTS3 region, 2006

Region	GDHI (£ million) ¹	Per head (£) ¹	Per head index (UK=100) ¹	GVA per head index for 2005 ¹	GVA per head UK Ranking
United Kingdom¹	836.2	13,778	100	100	n/a
Top five GDHI per head					
Inner London West	28.2	25,745	187	439	1
Surrey	20.5	18,893	137	130	11
Buckinghamshire County Council	8.8	18,063	131	121	16
Hertfordshire	18.1	17,054	124	124	14
Outer London West and North West	29.6	16,749	122	115	20
Bottom five GDHI per head					
Leicester	3.1	10,750	78	113	24
Stoke on Trent	2.6	10,659	77	79	83
Blackburn with Darwen	1.5	10,497	76	78	86
Kingston upon Hull	2.6	10,316	75	89	49
Nottingham	2.9	10,215	74	138	8

Note:

¹ £ per head and per head index exclude Extra-regio, while the total £m for the UK includes Extra-regio.

Figure 5

Top and bottom five GDHI per head indices: by NUTS3 region, 2006

Indices (UK=100)

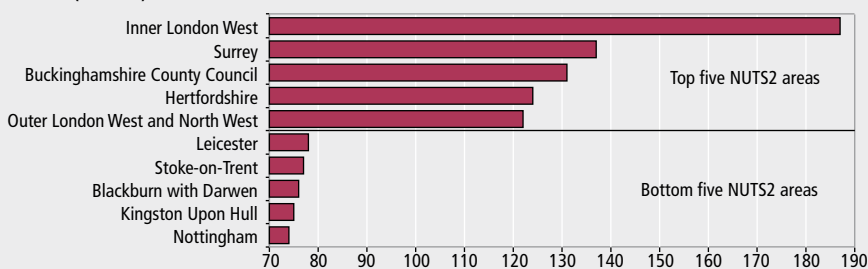


Figure 6

Top and bottom five GDHI per head indices: by NUTS3 region, 1995

Indices (UK=100)

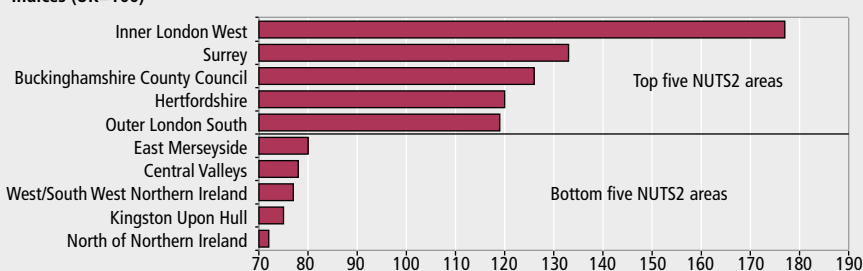
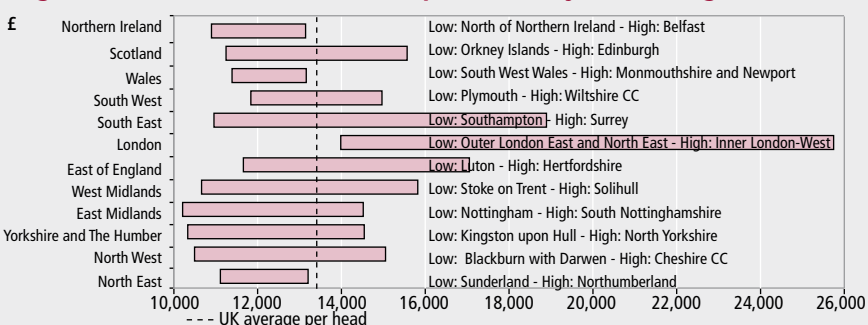


Figure 7

Highest and lowest NUTS3 GDHI per head: by NUTS1 region, 2006

in December 2008. These data will be consistent with the National Accounts *Blue Book* 2008. A full industrial breakdown will be restored when the supply and use framework has been published at the national level.

It is also planned to publish regional GDHI estimates at the NUTS1, 2 and 3 levels from 1995 to 2007 (consistent with the National Accounts *Blue Book* 2008) in spring 2009.

It is planned to publish experimental estimates of GVA, using a production approach, at the NUTS1 level in December 2009. This will present constant prices estimates consistent with National Accounts *Blue Book* 2009.

Notes

- 1 The full Regional Accounts gross disposable household income publication can be accessed on the National Statistics website at www.statistics.gov.uk/statbase/product.asp?vlnk=14651
- 2 The full Regional Accounts gross value added publication can be accessed on the National Statistics website at www.statistics.gov.uk/statbase/product.asp?vlnk=14650
- 3 A guide to the regional geographies can be accessed on the National Statistics website at www.statistics.gov.uk/geography/gazetteer.asp

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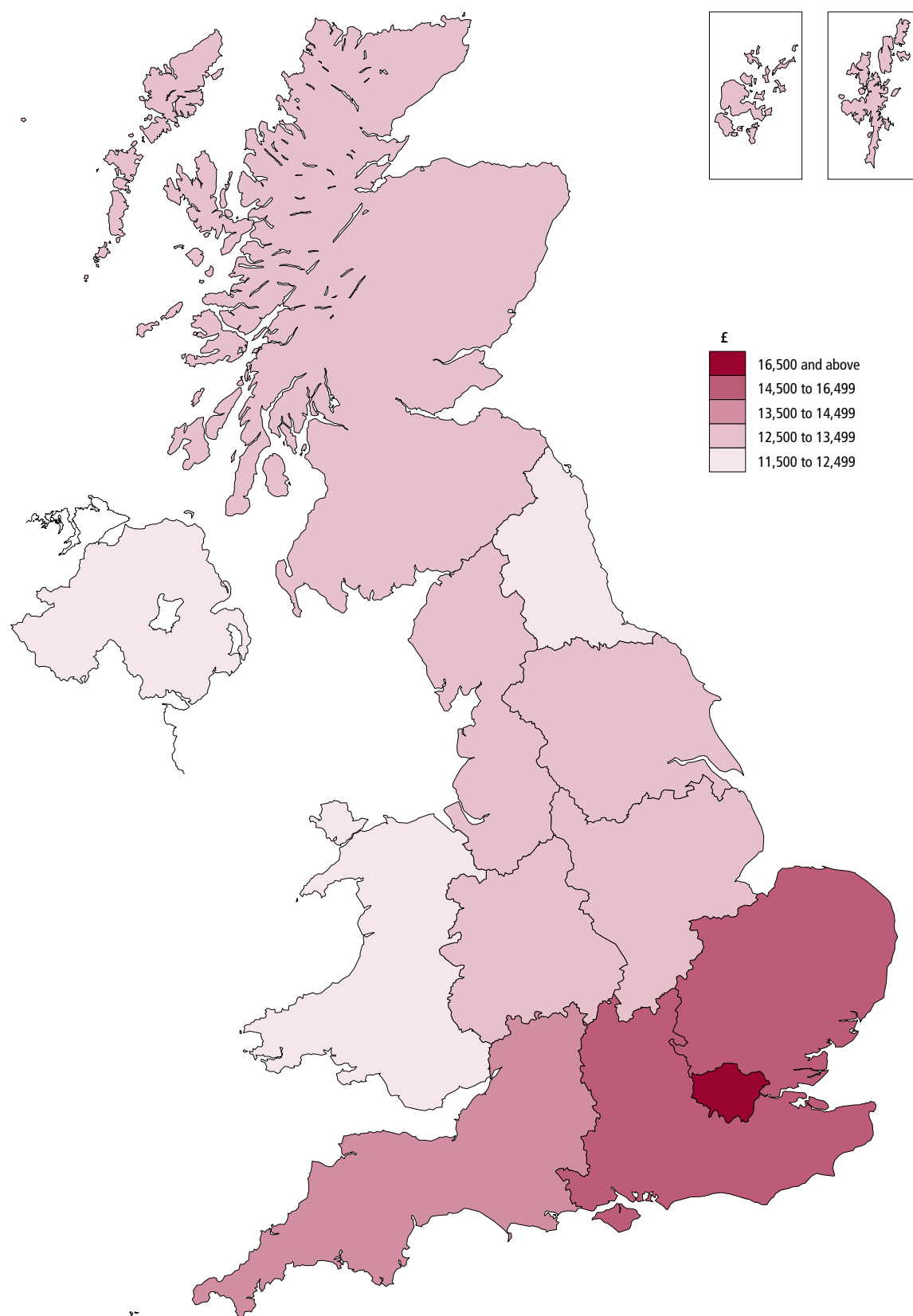
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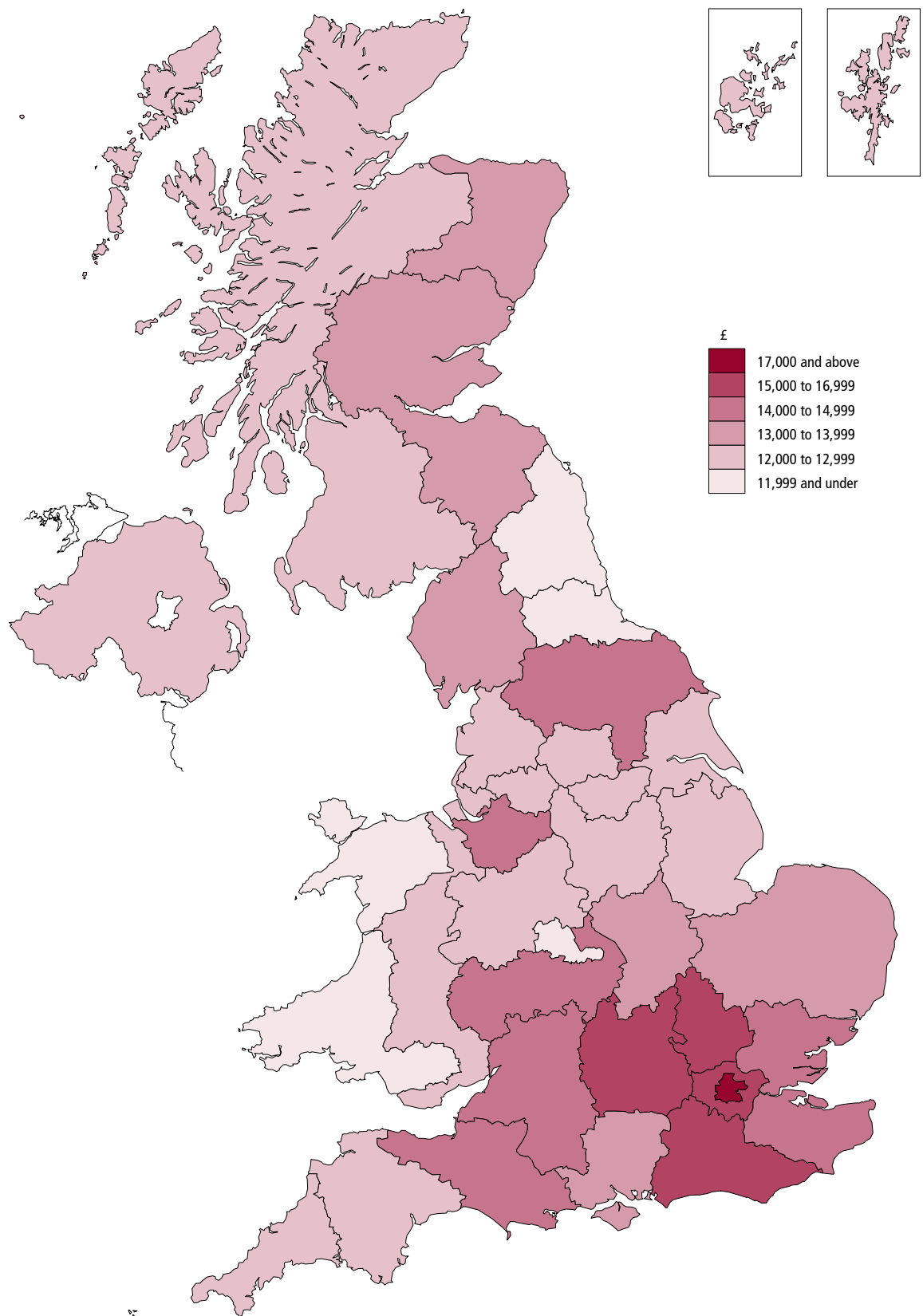
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APPENDIX

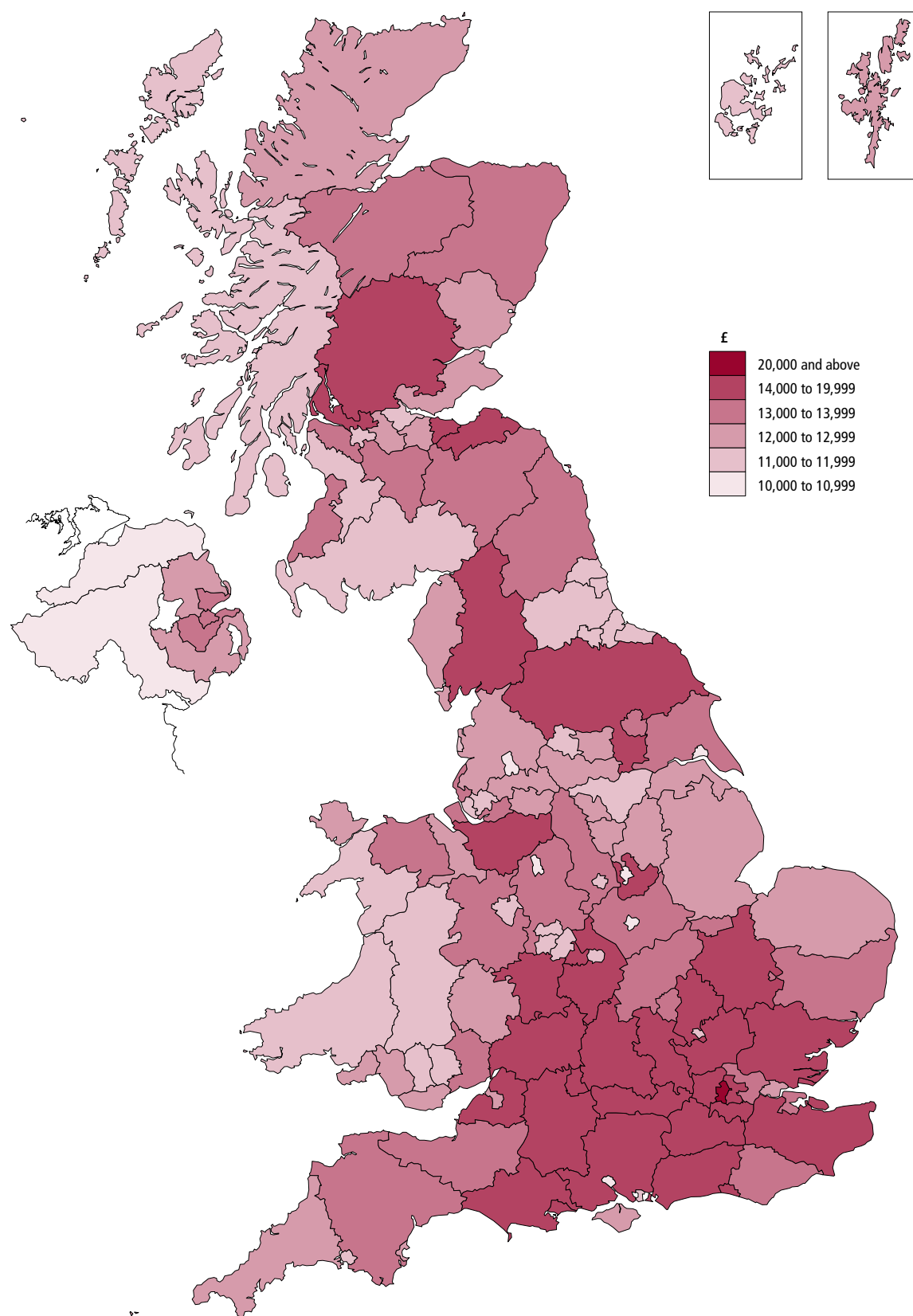
Map 1

Gross disposable household income per head: by NUTS1 area, 2006

Map 2

Gross disposable household income per head: by NUTS2 area, 2006

Map 3

Gross disposable household income per head: by NUTS3 area, 2006

FEATURE

John C Hughes
Office for National Statistics

SIC 2007: implementation in ONS

SUMMARY

The Office for National Statistics (ONS) is currently formalising its plans to implement the United Kingdom Standard Industrial Classification of All Economic Activities 2007 (UK SIC 2007). This article is a summary of the major differences between the current classification, SIC 2003, and SIC 2007, and sets out ONS's plans for implementation across a range of business and household surveys, and for the National Accounts.

Classification systems underpin the vast majority of statistical measures that are used in modern society. Presenting data by age, size, product, industry, or in any number of differing classifications, adds meaning and context to the bare facts and enables the user to pinpoint movements and identify trends. The Domesday Book (1086) had elements of classification and, while categorising data by 'size of plough' or 'number of oxen' may be less relevant in the 21st century, many of the basic principles are still applied to the measurement of modern economies.

A Standard Industrial Classification (SIC) was first introduced into the UK in 1948 for use in classifying businesses by the type of economic activity in which they are engaged. The classification provides a framework for the collection, tabulation, presentation and analysis of data and its use promotes uniformity. In addition, it can be used for administrative purposes and by non-government bodies as a convenient way of classifying industrial activities into a common structure.

Since 1948, the United Kingdom Standard Industrial Classification of All Economic Activities (UK SIC) has been revised six times, in 1958, 1968, 1980, 1992, 1997¹ and 2003. The changes in 1997 and 2003 were not full-scale revisions but a response to user demand for a limited number of additional subclasses, some minor renumbering and a small number of changes at class level. The introduction of SIC 2007 represents the first major revision since 1992, and is the outcome of Operation

2007 – a series of consultations started in 2002 and carried out in conjunction with the major revision of the European Union's industrial classification system, NACE (Nomenclature Générale des Activités Économiques dans les Communautés Européennes).

These revisions are motivated by the need to adapt the classifications to changes in the world economy. While milling and ploughing were predominant activities in the economy in 1086, retailing and financial services might be considered more significant in 2008, and the range of today's economic activity is more diverse. In essence, the introduction of SIC 2007 reflects the growing importance of service activities in the economy over the last 15 years, and in particular the developments in information and communication technologies (ICT).

In this respect, SIC 2007 also presents many challenges not previously encountered, taking place in the more technological environments in which people now live and work. Whereas the previous major revision in the early 1990s took place in predominantly paper-based offices, the new classification requires significant changes to the computerised systems which support the statistical process.

In a broader context, there are significantly greater international requirements for data classified by industry than in 1992. There is also a greater demand for statistics relating to the services sector than at any time previously and, in general,

more analytical work using statistics for comparability. In many ways, therefore, the introduction of SIC 2007 represents the biggest change to industrial classifications since their formal introduction in 1948.

The international context

The UK SIC is a hierarchical five-digit classification system which is required by EU legislation to be identical to NACE down to, and including, the four-digit Class level. The five-digit level has been added, for UK purposes only, to form Subclasses in cases where it was considered necessary or potentially helpful. In turn, both SIC and NACE are based on the United Nations International Standard Industrial Classification (ISIC), and are identical at the two-digit level. Beyond this there are some differences in terms of combinations and numbering. SIC 2007 is based on NACE Revision 2,² which in turn is based on ISIC Revision 4.

The new classification

SIC 2007 comprises 21 Sections (denoted by a single letter from A to U), 88 Divisions (denoted by two digits), 272 Groups (three digits), 615 Classes (four digits) and 191 Subclasses (five digits). A key difference in the structure of SIC 2007 is the removal of subsections, of which there were 16 for SIC 2003 relating mainly to 'Mining and quarrying' and to 'Manufacturing'.

SIC 2007 includes a number of new sections giving more service sector detail:

- Section J – 'Information and communication': this is a major new section, consisting of 26 four-digit level classes and pulling in activity from many parts of NACE. It will bring together: publishing; motion picture and sound recording industries; broadcasting (radio and TV industries); telecommunications; internet activities; and other news services
- Section L – 'Real estate activities': currently part of SIC 2003 Section K, 'Real estate, renting and business activities'. Development and selling

of real estate moves from the service sector to 'Construction'

- Section M – 'Professional, scientific and technical services': currently part of SIC 2003 Section K which consists of only 17 four-digit level classes, this new section will contain 19 four-digit classes
- Section N – 'Administrative and support services': currently part of SIC 2003 Section K, this new section contains 33 four-digit classes and will include: employment services; call centres; travel arrangements and reservation services; and investigation and security services
- Section R – 'Arts, entertainment and recreation': currently part of SIC 2003 Section O, 'Other community, social and personal service activities'. There are 15 four-digit level classes

The introduction and guidance notes to the new classification, and the SIC 2007 index, were published on the National Statistics website³ on 14 December 2007. The Office for National Statistics (ONS) Business Registers Unit has produced a correlation between SIC 2003 and SIC 2007 – this can also be accessed via the ONS website. ONS is currently working on a correspondence table based on 'counts' of businesses, and similar tables based on other variables, for example, employment and turnover. Beyond this, it should be possible to produce correspondence tables based on survey data, initially using the results from the 2008 Annual Business Inquiry (ABI).

Key changes between SIC 2003 and SIC 2007

Table 1 presents a broad breakdown of the change in structure between SIC 2003 and SIC 2007. A key difference is the removal of subsections for SIC 2007 but, in general, the table demonstrates the expansion in the number of categories under the new classification.

Most of the new categories relate to service activities: for example, at two-digit level, the number of divisions for manufacturing remains roughly the same,

whereas there are almost three times as many divisions for 'Real estate, professional and administrative' service activities under SIC 2007 as under SIC 2003.

The precise impact of the change in structure on data outputs will become more apparent once more detailed analysis has been carried out, but it is clear that the move to SIC 2007 will require careful management in order to avoid distorting statistical series. Communication of these issues to data users will also be fundamental to ONS plans for implementing this change.

As mentioned earlier, the new classification reflects the economic world in which people now live when compared with the time of the last major revision in the early 1990s. Some of the significant changes are detailed below.

- Business activities – this broad heading was part of section K, 'Real estate, renting and business activities', under the previous classification, but now moves to several different areas including Section M, 'Professional, scientific and technical activities'; Section N, 'Administration and support services'; Section S, 'Other service activities'; and Section J, 'Information and communication'. This major new section covers many activities that are now taken for granted but which were barely conceived of in the early 1990s. Even though the earliest mobile phones and portable music systems date back to early 1970s, most people would have gained access to these and other technological items some time in the last ten to 15 years. The explosion of ICT activities is well reflected in the new Section J, which includes publishing, film and broadcasting activities and news agencies, in addition to telecommunication and computer-related activities
- Retail sale of automotive fuel – until now, this activity has been considered part of the motor trade, which to many might conjure up an image of a bygone age when filling up with a tank of petrol meant stopping at a roadside garage and being attended to by a mechanic who might check oil levels and tyre pressures as part of the service. In today's motoring world, most people fill up at an out-of-town supermarket complex where, thanks to automation, they can pay at the pump without even engaging with a member of staff. The sale of fuel is now considered very much a retail activity – and this is reflected by its

Table 1

Changes in structure: SIC 2003 to SIC 2007

	SIC 2003	SIC 2007	Difference	of which:	
				Manufacturing	Other
Sections	17	21	4	0	4
Subsections	16	0	-16	-14	-2
Divisions (two-digit SIC)	62	88	26	1	25
Groups (three-digit SIC)	224	272	48	-8	56
Classes (four-digit SIC)	514	615	101	-12	113
Subclasses (five-digit SIC)	285	191	-94	-29	-65

new classification to Group 47.3 (Retail sale of automotive fuel in specialised stores). For ONS, this presents certain challenges, particularly given that the Retail Sales Index currently excludes petrol sales

- Recycling – in the early 1990s, most would have considered their waste management activity to involve no more than ‘putting the bins out’ on the night before collection. In the environmentally-conscious 21st century, recycling is part of people’s everyday lives, with a variety of receptacles provided by local authorities to assist with waste management. This significant culture shift sees recycling move from Section D, ‘Manufacturing’, in SIC 2003 to Section E, ‘Water supply, sewerage, waste management and remediation activities’, under SIC 2007
- Manufacturing – recycling is one of several key activities which are no longer considered part of manufacturing (another significant activity is publishing, which moves to Section J). In these cases, new sectors have been created for their classification under SIC 2007 and this has been achieved partly by moving activity to them from the current sectors. However, manufacturing is significantly smaller as a proportion of economic activity under SIC 2007, which reflects the move towards more services-based economies over the past 20 years

In essence, SIC 2007 paints a picture of economic life in the early 21st century, in the same way that the Doomsday Book reflected life in the 11th century. The changes made since SIC 2003 and SIC

92 also underline the scale and pace of change in the modern world, the inevitable continuation of which will require a further revision in the not too distant future.

ONS plans for the transition

The outline implementation plan for SIC 2007 across all ONS outputs is:

- for reference year 2008, the ABI (parts 1 and 2) will be based on SIC 2007
- PRODCOM (Products of the European Community) will also be based on SIC 2007 from reference year 2008
- other annual outputs will be based on SIC 2007 from reference year 2009, unless otherwise determined by regulation or other requirements
- short-term surveys (those carried out on a quarterly and monthly basis) and prices surveys will be based on SIC 2007 from the first reference period in 2010, unless otherwise determined by regulation or other requirements
- National Accounts will move to SIC 2007 in September 2011

Within the scope of this implementation strategy, the following timetable is emerging, as detailed in **Table 2**.

In terms of data outputs, plans are being developed: for example, ABI1 will publish data on the new basis for reference year 2008, and will make some information available on the old basis; ABI2 will have results on both bases for reference year 2007 and will be published based on SIC 2007 only from 2008; PRODCOM plans to publish on one basis only (SIC 2003 for reference year 2007 and SIC 2007 from 2008).

The short-term surveys will produce

back series on the new SIC, although final decisions on the length and detail of these series have yet to be made. Where ONS has time series in an index form, any significant discontinuities will be linked out of the series (for the Index of Production and the Index of Services, for example). The early work on these indicators will show if there are lower-level series which are subject to large changes. ONS will investigate the largest of any such discontinuities. For structural surveys such as ABI, it will not be practical to perform such a linking exercise but, in these cases, there will be two years of parallel running.

ONS is aware that the phased timetable presents challenges which will impact upon survey respondents, data suppliers and customers. ONS will continue to present details of the new classification, index and explanatory notes on the SIC page of the National Statistics website. Changes to specific surveys and outputs will be pre-announced at an appropriate time through the relevant media. Other articles publicising details of the transition to SIC 2007 will be released periodically at key points in the process.

Implementation of SIC 2007 for non-ONS surveys is the responsibility of the relevant government department. However, where ONS manages such surveys on behalf of a department, plans made in consultation with the client department are already in hand. Most of these surveys make use of the Inter-Departmental Business Register as a sampling frame. The Department for Business, Enterprise & Regulatory Reform is undertaking a wider role to coordinate implementation timetables for all non-ONS surveys.

Conclusion

All of this presents the statistical community with a massive challenge over the next three and a half years, by which time all National Accounts systems and outputs will also be based on SIC 2007. Communicating plans in terms of changes to surveys, outputs and publication will be central to the implementation. Further articles will be published in *Economic & Labour Market Review* in order to expand on implementation for non-ONS surveys and to add further detail to the plans for National Accounts outputs such as the Index of Production, the Index of Services and the Retail Sales Index.

Table 2
Timetable for the implementation of SIC 2007 in ONS

Date	Event
January 2008	All units on the business register dual coded to SIC 2003 and SIC 2007
September 2008	ABI (parts 1 and 2) and PRODCOM surveys (reference year 2008) will be selected on an SIC 2007 basis for the first time
March 2009	Monthly survey statistics will be converted from SIC 2003 to SIC 2007 to meet European obligations
May 2009	Quarterly survey statistics will be converted from SIC 2003 to SIC 2007 to meet European obligations
During 2009	Household surveys will implement SIC 2007 (including the Labour Force Survey from quarter 1 – published in May 2009)
During 2009	Other annual business surveys will implement SIC 2007 for reference year 2009
October 2009	PRODCOM 2008 reference year publication based on SIC 2007
December 2009	ABI2 2007 reference year data converted to SIC 2007 to meet European obligations
January 2010	Monthly surveys selected on SIC 2007 basis for the first time
March 2010	Quarterly surveys selected on SIC 2007 basis for the first time
During 2010	Short-term survey statistics converted from SIC 2007 to SIC 2003 for use by National Accounts
During 2010	Prices surveys will be based on SIC 2007 for the first time
June 2010	ABI2 2008 reference year data published on SIC 2007 for the first time
July 2010	ABI2 2008 reference year regional data published on SIC 2007 for the first time
September 2011	National Accounts (<i>Blue Book</i> 2010) based on SIC 2007 for the first time
December 2011	Regional Accounts based on SIC 2007 for the first time

Notes

- 1 The minor revision in 1997 was not accompanied by a visible change of title, so no reference is made to an SIC(97).
- 2 For further details see <http://circa.europa.eu/irc/dsis/nacecpacon/info/data/en/index.htm>
- 3 For further details see www.statistics.gov.uk/statbase/product.asp?vlnk=14012

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FEATURE

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Measuring the quality of the producer price index – an update

SUMMARY

Standard errors are used to calculate the difference between the estimate and its true population growth rate. They are one way of measuring the quality of a price index. This article looks at the standard errors for the output producer price index (PPI), the monthly index measuring growth in UK factory gate prices. It provides an update of the estimates of the standard errors for month-on-month and 12-month growth rates of the gross sector output PPI. The article presents the main findings from the analysis, along with an explanation of other aspects of the quality of price indices.

This article provides an update to the previously published article 'Measuring the quality of the producer price index', Morris and Green (2007), using growth rates from July 2006 to June 2007. The output producer price index (PPI), produced by the Office for National Statistics (ONS), is a monthly index that measures the growth in UK factory gate prices. The overall standard error for the month-on-month growth rate of the gross sector output (GSO) PPI (including duty) was 0.2 percentage points. The standard error for the 12-month growth rate was 0.6 percentage points.

Ensuring the quality of a price index

Price indices are exposed to several sources of potential error. As sample surveys, price indices are vulnerable to both sampling error and non-sampling error. In addition, they are further exposed to a range of price index-specific biases.

Non-sampling error may be encountered through a variety of sources. For example:

- the observation of any data, including prices, is subject to measurement error and response error
- the list of businesses which form the sample frame may be incomplete or out-of-date
- the failure of some respondents to participate in the survey exposes the resulting statistics to non-response bias

ONS employs sound principles in the design of surveys to mitigate against these sorts of biases. Questionnaire design principles help reduce measurement error. The construction of the sample frame is based on the Products of the European Community (PRODCOM) survey, which itself adopts the Inter-Departmental Business Register, ensuring that the sample is drawn from the most complete and contemporary data set available in the UK.

Price indices such as the PPI that are constructed using a 'fixed basket approach' are further subject to specific types of bias. These include:

- substitution bias, that potentially arises because producers change the types of goods they produce
- new item bias, that potentially arises because of the introduction of revolutionary goods into the market place (historic examples include video recorders and microwave ovens)
- quality change bias, that potentially arises because of changes to the product or changes to the production function

As with other sources of non-sampling error, it is not generally possible to measure directly the impact of these types of biases. Instead, ONS takes steps to mitigate these biases: the sample of businesses from which the fixed basket is constructed is updated annually to reflect findings from the latest PRODCOM enquiry – PRODCOM literally serves as the first phase of sampling, so

that the types of product included in the basket better reflect recent activity. This process helps mitigate the various types of substitution bias. Quality change bias is mitigated through detection of specification changes, which then allow quality adjustment where appropriate. In the special case of computers, hedonic price indexes, which are used to value changes in quality of high-technology goods, are constructed to allow for the rapid quality changes observable in this sector.

Beyond the types of non-sampling error, and those errors specific to price

indices, the PPI is a sample survey, and as such is exposed to sampling error. As with the other sources of possible error, sampling error can be reduced (although not eliminated) through sample design techniques. However, unlike the possible non-sampling errors, sampling error can itself be estimated and reported so as to allow users to make informed decisions from the PPI indices.

The magnitude of the sampling error can be quantified using the estimated standard error, which is a measure of the spread of possible estimates of the sample average

that are likely to be obtained when taking a sample. The use of standard errors provides a method of assessing the precision of the estimate – the lower the standard error, the more confident one can be that the estimate of the average price growth is close to the true population value.

Estimating standard errors

The following section summarises how the standard error for the PPI is calculated. For a more complete description, see Wood *et al* (2008).

The PPI is based on the estimation of average price movements for a fixed and representative sample of products. A new method for estimating standard errors of growth, over any fixed time, was first published in 2007. The concept of this method was that the PPI could be expressed as a function of monthly growth rates of the price relatives. The means, variances, and covariances between these growth rates are then modelled to provide the monthly standard error. For a 12-month estimated standard error, the growth rates are based on the estimated variance-covariance matrix of the monthly growth over the 12-month period. Quality adjustment is used to produce the standard errors in this analysis and no modelling error for the actual adjustment has been explicitly allowed for.

Analysis and results

Table 1 presents the overall GSO (including duty) PPI and the divisional PPI month-on-month percentage growth rates along with their standard errors. The median divisional standard error of the month-on-month growth was 0.2 percentage points. As was the case in June 2006, divisions 23, 27, 30 and 37 had particularly large standard errors due to high variations of price movements within the component subcategories.

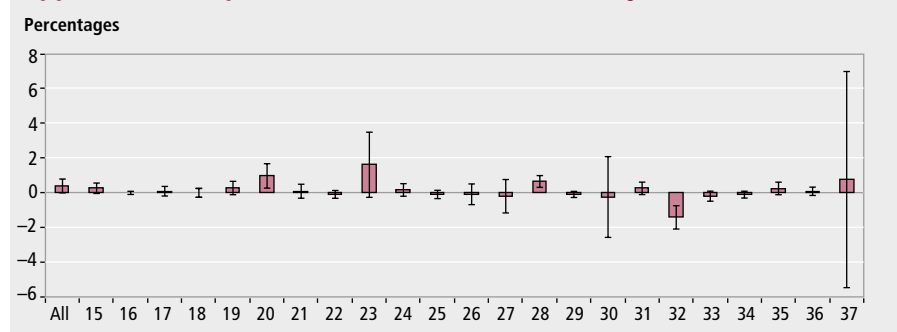
Figure 1 shows the month-on-month growth rates in June 2007, along with an approximate 95 per cent confidence interval of ± 2 standard errors. The confidence intervals were calculated from the individual observations of interest at the divisional level. This illustrates that the divisions with the larger growth rates have a greater standard error, particularly divisions 23, 27, 30 and 37. Division 37 had a very large standard error because prices for copper and aluminium behave very differently from those of steel and they are all included in the same subcategory. The confidence intervals were used to test the null hypothesis, that the growth rate was

Table 1
Month-on-month growth rates and standard errors: by division

Two digit (division)	Division description	Standard error of the month-on-month growth,	
		Month-on-month growth, June 2007 (percentages)	12-month average, July 2006 to June 2007 (percentage points)
All			
manufacturing	Gross sector output including duty	0.4	0.2
15	Food products and beverages including duty	0.3	0.2
16	Tobacco products including duty	0.0	0.0
17	Textiles	0.1	0.1
18	Wearing apparel	0.0	0.1
19	Leather and leather products	0.3	0.2
20	Wood and wood products	1.0	0.4
21	Pulp paper and paper products	0.1	0.2
22	Printed matter and recorded media	-0.1	0.1
23	Petroleum products including duty	1.6	0.9
24	Chemicals, chemical products and man-made fibres	0.2	0.2
25	Rubber and plastic products	-0.1	0.1
26	Other non-metallic mineral products	-0.1	0.3
27	Base metals	-0.2	0.5
28	Fabricated metal products, except machinery and equipment	0.7	0.2
29	Machinery and equipment not elsewhere classified	-0.1	0.1
30	Office machinery and computers	-0.2	1.2
31	Electrical machinery and apparatus not elsewhere classified	0.3	0.2
32	Radio, television, and communication equipment and apparatus	-1.4	0.3
33	Medical precision and optical instruments, watches and clocks	-0.2	0.1
34	Motor vehicles, trailers and semi-trailers	-0.1	0.1
35	Other transport	0.3	0.2
36	Furniture: other manufactured goods not elsewhere classified	0.1	0.1
37	Recovered secondary raw materials	0.8	3.1

Figure 1

Month-on-month growth rates: by division, June 2007, with approximate 95 per cent confidence intervals, July 2006 to June 2007¹



Note:

1 12-month average.

equal to zero, with an alternative hypothesis that the growth rate was not equal to zero. From Figure 1, it was clear that all but three divisions (20, 28 and 32) should retain the null hypothesis, that the growth rate was equal to zero, because their confidence intervals include zero. However, some caution must be applied to this statement as the confidence intervals are themselves estimates, and most of them fall very closely to zero. On the other hand, divisions 30 and 37 have much wider intervals and the data show no strong evidence to suggest a non-zero growth rate.

Table 2 shows the overall GSO (including duty) PPI and the divisional PPI 12-month percentage growth rates along with their standard errors. The median divisional standard error of the 12-month growth rate was 0.6 percentage points. The GSO growth rate was four times higher than its standard error, indicating that there was some real distinguishable movement over the year. Divisions 23, 27, 30 and 37 have particularly large standard errors; division 32 was also quite high.

Figure 2 shows the 12-month growth rate in June 2007, along with an approximate 95

per cent confidence interval of ± 2 standard errors calculated from the individual observations of interest at a divisional level. As with the month-on-month growth rates, the same null hypothesis can be tested on the 12-month growth rates. The null hypothesis, that the growth rate equals zero, should be retained for only seven divisions, four of which with caution, as the narrow intervals are approximate and are very close to zero. For divisions 23, 30 and 37, the data show no strong evidence to suggest a non-zero growth rate. The difference in results from the month-on-month and 12-month growth rates illustrates the distinguishable movement over the year, as mentioned above.

Table 2
12-month growth rates and standard errors: by division

Two digit (division)	Division description	Twelve-month growth, June 2007 (percentages)	Standard error of the twelve-month growth, 12-month average, July 2006 to June 2007 (percentage points)
All			
manufacturing	Gross sector output including duty	2.4	0.6
15	Food products and beverages including duty	3.7	0.5
16	Tobacco products including duty	4.2	0.6
17	Textiles	1.8	0.5
18	Wearing apparel	0.3	0.7
19	Leather and leather products	0.9	1.0
20	Wood and wood products	10.2	1.0
21	Pulp paper and paper products	3.9	0.6
22	Printed matter and recorded media	1.4	0.4
23	Petroleum products including duty	-0.3	4.1
24	Chemicals, chemical products and man-made fibres	1.6	0.6
25	Rubber and plastic products	1.0	0.5
26	Other non-metallic mineral products	4.5	0.9
27	Base metals	9.6	1.9
28	Fabricated metal products, except machinery and equipment	4.6	0.5
29	Machinery and equipment not elsewhere classified	2.8	0.4
30	Office machinery and computers	-5.0	4.7
31	Electrical machinery and apparatus not elsewhere classified	1.8	0.7
32	Radio, television, and communication equipment and apparatus	-3.2	1.2
33	Medical precision and optical instruments, watches and clocks	0.4	0.6
34	Motor vehicles, trailers and semi-trailers	-0.7	0.4
35	Other transport	4.7	0.8
36	Furniture: other manufactured goods not elsewhere classified	2.6	0.5
37	Recovered secondary raw materials	16.3	14.0

Net sector output

The same basic price information was used to feed into each of the PPI series using different weighting structures. The overall standard error for the month-on-month growth rate of the net sector output (NSO) PPI (including duty) was 0.1 percentage points. The 12-month growth rate had a standard error of 0.5 percentage points. These are lower than the respective GSO standard errors (0.2 and 0.6, respectively).

PPI cut in sample size

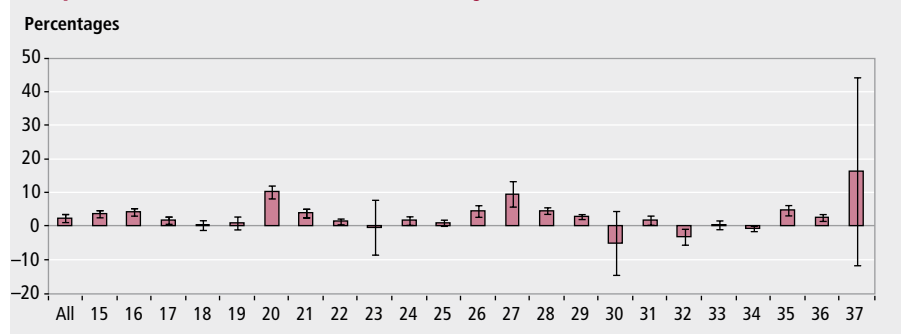
The first of three phases to cut the PPI sample size was completed in March 2007. As a result, the standard errors calculated between July 2006 and June 2007 have used a slightly smaller sample size to that of the previous year's analysis.

There was very little difference between the month-on-month standard errors calculated in June 2006 and June 2007. Two-thirds of the divisions, including the GSO, have unchanged standard errors, at one decimal place, from the previous year. Division 37 saw the largest change in standard error, where it has decreased from 3.9 to 3.1, improving the accuracy of this year's estimate for division 37. The reduction in the sample size of the PPI has not had a visible effect on the month-on-month standard errors.

The reduction of the sample size has had little effect on the quality of the index. The 12-month standard errors in June 2007 are very similar to those produced for June 2006. Division 23 saw the largest change in standard error, with a decrease of 0.4 percentage points from June 2006.

The reduction in the sample size has had no visible effect on the NSO PPI standard errors, as they have remained unchanged, at one decimal place, from those published for the year ending June 2006.

Figure 2
12-month growth rates: by division, June 2007, with approximate 95 per cent confidence intervals, July 2006 to June 2007¹



Note:

1 12-month average.

Most of the sample cut was applied in phases two and three, so the full effect of reducing the sample size will not be seen until next year's analysis for July 2007 to June 2008. The reallocation of the sample should substantially, or completely, negate the effect on the standard error of the reduction in sample size. The confirmation of this, or otherwise, will be presented in next year's article.

Further information on this survey is shown in the PPI Summary Quality Report on the National Statistics website at www.statistics.gov.uk/about/data/methodology/quality/information_business_statistics.asp

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FEATURE

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Regional economic indicators

August 2008

with a focus on household income

SUMMARY

This quarter, the regional economic indicators (REI) article focuses on gross disposable household income per head and the decomposition of this indicator into three components. The analysis investigates the development of this indicator from 1996 to 2006. The regular part of the article then gives an overview of the economic activity of UK regions in terms of their GVA, their GVA per head and their labour productivity. This is followed by a presentation of headline indicators of regional welfare and of various drivers of regional productivity. At the end of this article labour market data are presented. The indicators cover the nine Government Office Regions of England and the devolved administrations of Northern Ireland, Scotland and Wales. These 12 areas comprise level 1 of the European Nomenclature of Units for Territorial Statistics (NUTS level 1) for the UK. The term 'region' is used to describe this level of geography for convenience in the rest of this article.

Focus on household income

Gross disposable household income (GDHI) per head is a useful indicator of prosperity and well-being of the people living in the regions and countries of the United Kingdom. Presenting GDHI on a per head basis allows the making of reliable comparisons of regional income levels as it takes into account the population distribution both within and between regions.

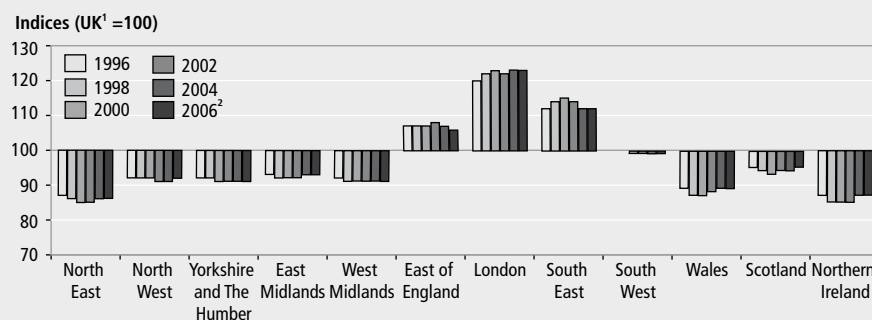
This 'focus' section looks at explanations for the differences in GDHI per head estimates between UK NUTS1 regions from 1996 to 2006 (Figure 1). London, the South East and the East of England were the only regions with a GDHI per head above the UK average since 1996. The regions with the lowest GDHI per head were Northern Ireland, the North East and

Wales. It can be seen that until 2000 GDHI per head has been diverging from the UK average in most regions. However, after 2000 all regions except London have either converged to the UK average or remained at the same level relative to the UK average.

GDHI is derived from the balances of primary and secondary income and can therefore be decomposed into several components. These different components can help explain the GDHI per head divergences from the UK average across regions. For a detailed discussion of the definition and methodology of GDHI, see the article on regional gross disposable household income in this edition of *Economic & Labour Market Review*.

The analysis in this 'focus' section decomposes GDHI per head into three components:

Figure 1
Headline gross disposable household income per head:
by NUTS1 region



Notes:

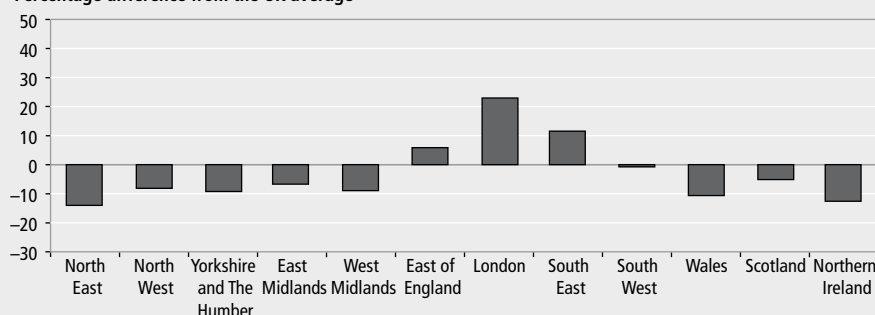
1 UK less Extra-regio.

2 Provisional.

Source: Office for National Statistics

Figure 2
Headline gross disposable household income per head:
by NUTS1 region, 2006¹

Percentage difference from the UK² average



Notes:

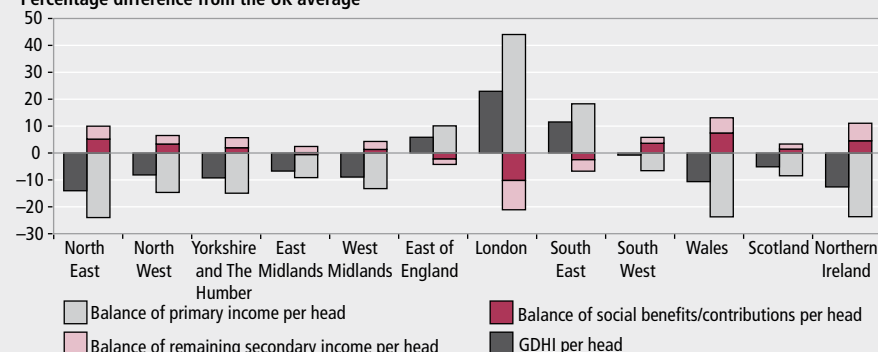
1 Provisional.

2 UK less Extra-regio.

Source: Office for National Statistics

Figure 3
Headline gross disposable household income per head and its components: by NUTS1 region, 2006¹

Percentage difference from the UK² average



Notes:

1 Provisional.

2 UK less Extra-regio.

Source: Office for National Statistics

- The balance of primary income per head
- The balance of social benefits/contributions per head (secondary income)
- The balance of remaining secondary income per head

The balance of primary income per head consists of wages and salaries; rental income; income from self-employment; and property income receipts less property income paid on a per head basis (referred to as primary income in the rest of the article). The balance of secondary income per head consists of social benefits less social contributions; and other current transfers less taxes on income and wealth on a per head basis. This article splits the balance of secondary income into two components – the balance of social benefits/contributions per head and the balance of remaining secondary income per head (in the rest of the article these two components

are referred to as 'net social benefits' and 'remaining secondary income', respectively). To compare GDHI and its components with each other and across regions, each component is expressed as per head of population.

Figure 2 shows the distribution of GDHI per head across all UK NUTS1 regions in terms of each region's percentage difference from the UK average in 2006. By decomposing this GDHI per head measure into its three components, the differences in household income per head across regions can be explained.

Figure 3 shows GDHI per head (left bar) and additionally the decomposition into the three components that add up to form GDHI per head – primary income, net social benefits, and remaining secondary income (right bar).

Primary income per head makes up the largest component of GDHI per head. 70 to 80 per cent of primary income in each region is accounted for by wages and

salaries. In 2006 London, the South East and the East of England had the highest primary income per head far above the UK average. All other regions had primary incomes per head below the UK average. The North East, Wales and Northern Ireland had the lowest primary incomes per head.

The divide between primary incomes per head across the UK NUTS1 regions in 2006 was significantly larger than the divide in terms of GDHI per head, which includes the distribution of secondary incomes.

In terms of secondary incomes per head, all regions except the three regions of the 'Greater South East', London, the South East and the East of England, received net social benefits above the UK average. In the three south eastern regions, net social benefits were below the UK average in 2006, with London being furthest below average. London was the only region in 2006 where residents paid more in social contributions than they received in social benefits on average.

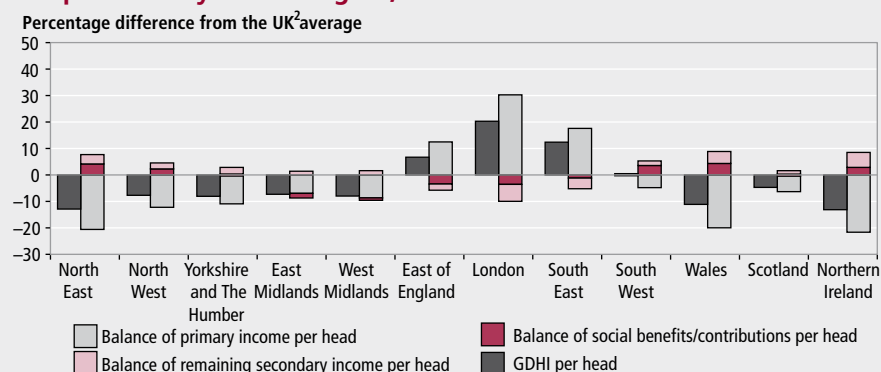
The remaining secondary income per head, which is current transfers (other than social benefits) less taxes on income and wealth, was below average in London, the South East and the East of England in 2006. All other regions benefited from above average remaining secondary income.

Figure 3 shows that secondary income helps to equalise household income across regions, but also that the divergences caused by the large differences in primary income, in particular between the three south eastern regions (London, the South East and the East of England) and the rest of the UK, remain despite the distribution of secondary income.

Figure 4 shows GDHI per head and its components in 1996 and serves as a comparison to **Figure 3**. In 1996 London, the South East and the East of England were already the top three GDHI per head performers. However, their divergences in primary incomes per head from the UK average, especially in London, were much lower than in 2006. All other regions were below the UK average in terms of primary incomes per head; however, the differences were much smaller. In terms of net social benefits, the percentage differences to the UK average were smaller in each region and the East Midlands and the West Midlands even had below average net social benefits, unlike in 2006. The distribution of remaining secondary income contributed slightly less to GDHI per head in 1996 than it did in 2006 in most of the regions.

Figure 4

Headline gross disposable household income per head and its components: by NUTS1 region, 1996



Note:

1 UK less Extra-regio.

Source: Office for National Statistics

Regional overview

Key figures on a regional basis indicate that:

- in 2006, London was the region with the highest GVA per hour worked, 22.9 percentage points above the UK average. Northern Ireland had the lowest GVA per hour worked, 16.1 percentage points below the UK average
- London and the South East had the highest levels of gross disposable household income (GDHI) per head in 2006 at £16,939 and £15,367, respectively, but among the lowest average annual percentage growth at 4.0 and 3.5 per cent, respectively. The North East (£11,846), Northern Ireland (£12,041) and Wales (£12,312) had the lowest GDHI per head
- the South East had the highest employment rate in the first quarter of 2008 at 79.5 per cent; Northern Ireland had the lowest rate at 69.6 per cent, compared with the UK employment rate of 74.9 per cent

Headline indicators

This section presents a selection of regional economic indicators that provide an overview of the economic activity of UK regions. Firstly, absolute GVA and GVA per head are presented as measures of regional economic performance. Subsequently, two labour productivity indicators, GVA per filled job and GVA per hour worked are discussed.

Regional performance

The February edition of this article presented the latest data on economic performance in terms of workplace-based nominal GVA and GVA per head for all UK NUTS1 areas. These nominal figures do not take account of inflation or regional differences in prices. The data demonstrated that the regional breakdown of GVA changed little in 2006. London and the South East remained the regions with the largest share of UK GVA (at 19.2 per cent and 14.9 per cent, respectively) while Northern Ireland and the North East had the smallest (at 2.4 and 3.4 per cent, respectively).

Table 1 shows that all regions experienced annual nominal growth in GVA and GVA per head in 2006. Compared with 2005, annual nominal growth in GVA was considerably higher for every UK region except London, where the growth rate further declined. However, the 2006 growth rates were still below their 2004 levels for ten of the 12 regions. Only the East Midlands and the South East had higher growth rates in 2006 compared with 2004. In 2006, overall UK growth in nominal GVA was 5.1 per cent compared with 4.1 per cent in 2005 and 6.0 per cent in 2004. The East Midlands, the South East, Northern Ireland and Wales had the highest annual percentage growth (above 6.0 per cent) in 2006. While Northern Ireland and the North East had the smallest absolute values of GVA, their annual nominal growth in 2006 was higher than the growth of the region that had by far the largest value of GVA (London).

Due to the wide variations in geographical size among the UK regions, comparisons are generally expressed in terms of GVA per head of population, rather than absolute values. The February edition of this article demonstrated that in 2006, GVA per head for the UK was £18,631. London was the region with the highest GVA per head in 2006 at £28,813, well above the UK average (by 55 per cent). GVA per head for the South East was also above the UK average (by 10 per cent) at £20,452 per head. Wales, the North East and Northern Ireland had the lowest GVA per head at £14,462, £15,181 and £15,320, respectively. Despite these figures being less than 85 per cent of the UK average, Table 1 shows that annual nominal growth in Wales, Northern Ireland and the North East was high at 5.7, 5.1 and 4.9 per cent. The North West had one of the weakest growth rates in 2006 at 3.4 per cent. The

Table 1

Annual nominal growth of workplace-based gross value added and gross value added per head: by NUTS1 region

													Percentages
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
GVA annual percentage growth													
2004	6.0	8.2	6.5	6.6	5.1	5.2	6.7	5.9	4.6	6.4	6.7	6.1	6.4
2005 ²	4.1	4.6	2.9	2.3	3.5	3.5	3.4	5.7	4.5	4.6	2.1	4.7	5.5
2006 ²	5.1	5.2	3.6	4.6	6.7	4.8	4.6	4.4	6.3	5.1	6.1	5.9	6.2
GVA per head annual percentage growth													
2006 ²	4.5	4.9	3.4	3.9	5.8	4.5	3.7	3.6	5.6	4.3	5.7	5.4	5.1

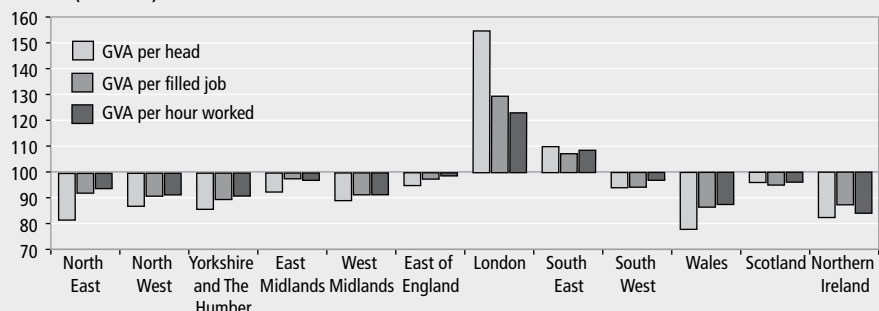
Notes:

1 UK less Extra-regio.

2 Provisional.

Source: Regional Accounts, Office for National Statistics

Figure 5

Comparison of regional economic indicators: by NUTS1 region, 2006¹Indices (UK² = 100)

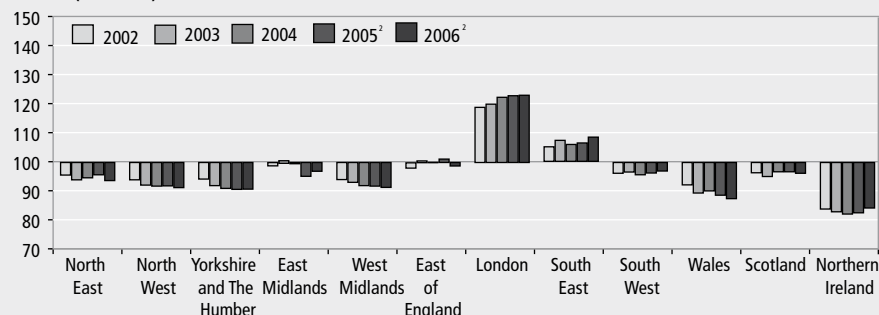
Notes:

- 1 Provisional.
- 2 UK less Extra-region and statistical discrepancy.

Source: Office for National Statistics

Figure 6

GVA per hour worked: by NUTS1 region

Indices (UK¹ = 100)

Notes:

- 1 UK less Extra-region and statistical discrepancy.
- 2 Provisional.

Source: Office for National Statistics

East Midlands (5.8 per cent), Wales (5.7 per cent), the South East (5.6 per cent) and Scotland (5.4 per cent) were the best performers in terms of GVA per head growth rates in 2006.

Labour productivity

Labour productivity indicators provide the most effective comparisons of regional economic performance. Due to a methodological change that was introduced in the February edition of this article, GVA per head is now presented on a workplace basis instead of the previously used residence basis. This switch mainly affects the estimates for London, the South East and the East of England as these regions experience significant levels of net commuting.

Figure 5 compares estimates for GVA per head, GVA per filled job and GVA per hour worked for 2006. While GVA per head looks at the entire regional population and GVA per filled job looks at regional workforce jobs, GVA per hour worked additionally takes into account

any variations in labour market structures across regions, such as the proportions of full- and part-time workers or job share availability. Due to these reasons, GVA per hour worked is the preferred indicator of productivity. **Figure 5** shows that GVA per hour worked generally exhibits fewer and smaller differences in regional economic performance when compared with the other two indicators. Furthermore, **Figure 5** shows that London and the South East were the only two regions where the productivity indicators were above the UK average.

Figure 6 shows the regional GVA per hour worked productivity index on a time series basis. The five regions that improved their productivity relative to the UK average between 2002 and 2006 were London, the South East, the East of England, the South West and Northern Ireland. Generally, the chart suggests that, since 2002, regional productivity differences between the highest and the lowest performing regions have widened. Productivity in London was the highest in all years and by 2006 was above the UK average by 4.2 percentage points

more than it was in 2002. The opposite occurred in Wales, where GVA per hour worked in 2006 was below the UK average by 4.9 percentage points more than it was in 2002. The lowest productivity was experienced in Northern Ireland. In terms of the annual change in the GVA per hour worked indicator, six regions experienced declining productivity against the UK average in 2006: the East of England, the North East, Wales, the North West, Scotland and the West Midlands.

Welfare

Gross disposable household income (GDHI) by region gives an indication of regional welfare. New GDHI estimates up to 2006 were published in May 2008 and are available at www.statistics.gov.uk/statbase/Product.asp?vlnk=14651. GDHI estimates are published at current basic prices and so do not take inflation effects or regional price differences into account.

Table 2 shows GDHI per head estimates from 2000 to 2006. In 2006 London (£16,939), the South East (£15,367) and the East of England (£14,584) were the only regions with GDHI per head greater than the UK average. However, the South East and the East of England also had the lowest average annual growth rates over this period (at 3.5 and 3.8 per cent, respectively), while London's average annual growth rate was 4.0 per cent. The only region that had a level of GDHI per head lower than £12,000 was the North East (£11,846). However, the North East also had an average annual growth rate of 4.2 per cent, with only Wales, Northern Ireland and the East Midlands having stronger average annual growth rates between 2000 and 2006 (at 4.5, 4.4 and 4.3 per cent, respectively).

Compared with the GDHI estimates published in May 2007, the revisions made to the May 2008 estimates are small. The biggest GDHI per head revision took place in London – partly due to new data and partly due to revised population estimates, which included a significant downward revision for London.

Gross median weekly earnings represent another indicator of regional welfare. The latest estimates were published in November 2007. These estimates take account of a small number of methodological changes which improve the quality of results. These include changes to the sample design itself, as well as the introduction of an automatic occupation coding tool, called ACTR.

Figure 7 shows the gross median weekly pay for all full-time employees and a

Table 2

Headline gross disposable household income per head at current basic prices: by NUTS1 region

	£ per head and percentages												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2000	10,906	9,277	9,982	9,969	9,985	9,960	11,681	13,391	12,508	10,812	11,122	9,442	9,275
2001	11,588	9,810	10,567	10,529	10,653	10,549	12,500	14,190	13,320	11,511	11,818	10,070	9,827
2002	11,930	10,139	10,885	10,814	11,022	10,855	12,877	14,556	13,613	11,861	12,150	10,512	10,165
2003	12,409	10,565	11,310	11,262	11,516	11,292	13,333	15,173	14,082	12,331	12,627	10,924	10,701
2004	12,771	10,922	11,657	11,604	11,914	11,628	13,642	15,667	14,362	12,695	12,986	11,318	11,091
2005 ²	13,390	11,462	12,245	12,151	12,527	12,180	14,237	16,440	14,987	13,309	13,605	11,943	11,697
2006 ²	13,778	11,846	12,655	12,504	12,853	12,546	14,584	16,939	15,367	13,673	13,994	12,312	12,041
Average annual percentage growth, 2000–2006 ²	4.0	4.2	4.0	3.8	4.3	3.9	3.8	4.0	3.5	4.0	3.9	4.5	4.4

Notes:

1 UK less Extra-region.

2 Provisional.

Source: *Regional Accounts, Office for National Statistics*

breakdown into its gender components, female and male full-time employees, in each region in 2007. In terms of all employees, only London and the South East had a gross median weekly pay above the UK average of £456.7. However, when looking at male full-time employees, the gross median weekly pay was higher than the UK average in nine of the 12 NUTS1 regions, while for female full-time employees it was above the UK average only in London and substantially below it in all other regions. Concerning the gross median weekly pay for all full-time employees, Northern Ireland (£401.9), the North East (£402.9) and Wales (£404.7) experienced the lowest earnings in 2007.

Drivers of productivity

The following indicators represent the drivers of productivity as identified by HM Treasury and the Department for Business, Enterprise & Regulatory Reform (BERR). These drivers include innovation, enterprise, competition and

skills. Investment, which influences the physical capital stock and consequently the quantity that can be produced by one unit of labour, is another driver of productivity. However, due to quality concerns regarding the regional allocations of investment (net capital expenditure), this variable is not included.

Innovation is measured by business expenditure on research and development (R&D); the enterprise driver is measured by net change of VAT registrations and de-registrations and business survival rates; competition is measured in terms of UK regional trade in goods; and the qualifications of the current working age population and those of young people provide an indicator for the skills driver.

Innovation

Innovation is a necessary, although not sufficient, condition for economic success and is therefore recognised as an important driver of productivity. Innovation comprises, among other things,

the development of new technologies that increase efficiency and the introduction of new, more valuable goods and services. It also includes intangibles such as new methods of working and improvements to services.

R&D is one of the determinants to the innovation process and is defined by the OECD as 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of the stock of knowledge to devise new applications'. Statistics on Business Expenditure on Research and Development (BERD), consistent with these internationally agreed standards, were published in November 2007 and provide estimates of business expenditure on R&D for NUTS1 regions up to 2006.

Table 3 presents expenditure on R&D performed in UK businesses by region in 2006. It also shows the regional percentage shares of the UK total in 2006 and the percentage growth from 2005 to 2006. The East of England and the South East had the highest business expenditure on R&D in 2006, with expenditures above £3 billion, thus making up the largest percentage share of total expenditure in the UK. Northern Ireland, Wales and the North East remained the regions with the lowest R&D expenditure (below £300 million). London had the highest annual percentage growth in 2006 at 82.2 per cent. The West Midlands and Yorkshire and The Humber were the regions with the second highest growth in 2006 at 29.8 and 12.2 per cent, respectively, although their respective percentage shares of the UK total were among the lowest. The strongest decline in R&D expenditure took

Figure 7

Gross median weekly pay of full-time employees: by NUTS1 region, 2007Source: *Annual Survey of Hours and Earnings, Office for National Statistics*

Table 3

Expenditure on research and development performed in UK businesses: by NUTS1 region

£ million and percentages													
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
2006	14,306	293	1,627	386	977	933	3,570	980	3,279	1,316	222	579	145
Percentage share of UK total in 2006	100.0	2.0	11.4	2.7	6.8	6.5	25.0	6.9	22.9	9.2	1.6	4.0	1.0
2006 percentage growth ¹	7.5	1.4	-14.0	12.2	-2.4	29.8	8.6	82.2	8.0	5.4	-4.7	-1.2	6.6

Note:

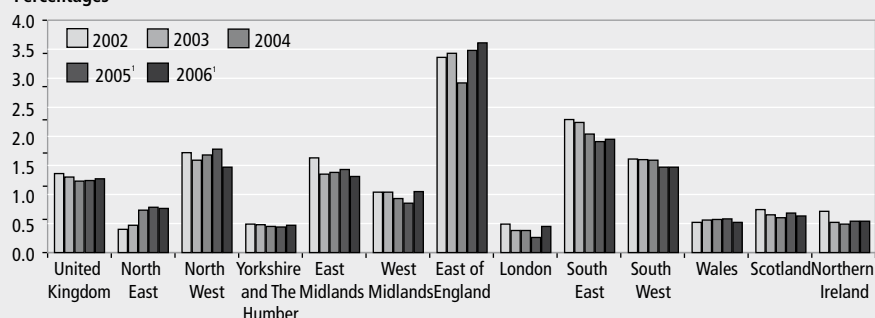
1 Year-on-year.

Source: *Statistics on Business Expenditure on Research and Development*, Office for National Statistics

Figure 8

Business expenditure on R&D as a percentage of workplace-based GVA: by NUTS1 region

Percentages

**Note:**

1 Provisional.

Source: *Office for National Statistics*

place in the North West (by 14.0 per cent), followed by Wales, the East Midlands and Scotland.

R&D as a percentage of GVA is a measure commonly used in international comparisons and can further explain the above trends. **Figure 8** shows that since 2002 the East of England has been the region with the highest share of R&D expenditure in terms of GVA, with 3.6 per cent in 2006. London had the lowest share in 2006 (0.45 per cent) followed by Yorkshire and The Humber (0.47 per cent), Wales (0.52 per cent) and Northern Ireland (0.54 per cent). The very low share for London may not be suggestive of low levels of innovation but could reflect how regional industry composition affects R&D as an indicator of innovation. London has a large concentration of service industries, but service industries may not be R&D intensive (within the OECD definition) if, for example, they rely heavily on human capital. If innovation occurs in other forms, it may not be captured by the R&D measure.

The large increase in R&D expenditure in London and the West Midlands in 2006 (identified in Table 3) is also reflected when R&D expenditure is analysed as a

percentage of GVA, with these regions' percentage shares both increasing by 0.2 percentage points in 2006. Despite this increase however, London remains the region with the lowest business expenditure on R&D as a percentage of GVA, as pointed out above.

Enterprise

Enterprise is another driver of productivity. It stands for the presence of a positive entrepreneurial culture, the ease of starting-up and overcoming the barriers to enterprise, a sustainable stock of enterprise activity in an economy, and the ability of firms to grow. In order to investigate the pattern of business start-ups and closures, VAT registrations and de-registrations are the best official indicator to use as they point out the level of entrepreneurship and the health of the business population. Among the many factors that influence the pattern of business start-ups, the most important is economic growth, which encourages new ventures and creates demand for business. Table 4 shows the net changes in VAT registered businesses for UK regions in the years 2002 to 2006. Estimates for 2006 and revisions to previous years were published in November 2007 by

BERR.

Table 4 shows positive net changes in VAT registrations and de-registrations from 2002 to 2006 for all UK NUTS1 regions, meaning that more enterprises were registered than de-registered during that period. All regions except Northern Ireland exhibited an increasing positive net change from 2002 to 2006. Northern Ireland had a much lower positive net change in 2006 (at 575) than in 2002 (at 1,110). Also, the North East and Wales experienced low net changes in 2006 (at 1,155 and 1,305, respectively). London and the South East had the highest net change in 2006, with 7,250 and 6,015, respectively.

Compared with 2005, half of the regions (East of England, Northern Ireland, the West Midlands, Wales, the North East and the North West) saw a smaller net change in 2006. However, due to the other half of the regions experiencing a stronger increase in the net change in 2006, the UK average was left with a larger net increase (of 935) in 2006 than in 2005.

It should be noted that regions with high registration rates tend to also have high de-registration rates. Part of the reason for this is, of course, the sheer difference in the sizes of the regions – regions with larger populations and economies would be expected to have higher absolute numbers of registrations and de-registrations if all other factors were equal. However, this could also be due to the effects of market sorting (when competitive entrants push the unproductive ones out of a market) being more significant in some regions than others. Another reason could be the industrial mix in each region, with some sectors prone to higher rates of turnover than others.

The regional variations were linked geographically in that five of the six regions with a net change over 3,000 are situated next to each other (London, East of England, East Midlands, South East and South West), with the exception (the North West) interestingly being situated next to

the North East – the region with the lowest net change in England.

In addition to the net change in VAT registrations and de-registrations, business survival rates give an indication of the entrepreneurship of a region. The latest available three-year business survival rates show the proportion of businesses registered in 2002 that remained registered for VAT in 2005. (Updated estimates of this indicator will not be available until at

least early 2009.) Although there has been a general increase in business survival rates since 1995, these rates vary greatly between regions. Northern Ireland had the highest survival rate (78.5 per cent) for businesses registered in 2002 and London had the lowest (66.9 per cent).

Competition

Vigorous competition enhances productivity by encouraging firms to strive

for efficiency gains. According to the HM Treasury's definition, trade in goods and services as a percentage of GDP serves as an indicator for competition.

HM Revenue & Customs (HMRC) publishes regional trade statistics on export trade in goods to the European Union and non-EU by statistical value. Trade in goods by definition excludes intangibles and services. The statistical value of export trade is calculated as the value of the goods

Table 4

Net change¹ in VAT registrations and de-registrations: by NUTS1 region

	Numbers												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
2002	22,135	580	1,835	1,375	2,265	2,470	2,975	1,695	4,220	2,450	270	880	1,110
2003	36,915	1,140	3,935	3,325	2,790	2,915	3,610	6,205	5,875	3,320	850	1,900	1,055
2004	32,470	845	3,340	2,510	2,425	2,720	2,870	5,685	4,700	2,860	1,430	1,975	1,100
2005	38,200	1,195	4,265	2,675	2,800	3,145	4,050	7,160	5,065	3,255	1,375	2,120	1,095
2006	39,135	1,155	4,250	2,775	3,140	2,945	3,475	7,250	6,015	3,650	1,305	2,600	575

Note:

¹ Net change is the net gain or loss in the stock of registered enterprises each year – equal to registrations less deregistrations.

Source: Department for Business, Enterprise & Regulatory Reform

Table 5

UK regional trade in goods – statistical value of exports: by NUTS1 region

	£ million												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
EU ¹ exports													
2006 Q2	46,100	1,449	4,774	2,292	3,248	3,652	3,510	5,576	5,185	1,748	1,517	1,858	814
2006 Q3	31,854	1,285	3,063	1,580	2,483	2,677	2,647	2,181	4,295	1,587	1,368	1,709	804
2006 Q4	31,086	1,398	2,566	1,694	2,152	2,171	2,793	2,164	4,708	1,641	1,307	1,694	835
2007 Q1 ²	31,741	1,303	2,791	1,765	2,296	2,267	3,163	2,243	4,598	1,725	1,440	1,569	847
12 months ending													
March 2007	140,781	5,435	13,194	7,331	10,179	10,767	12,113	12,164	18,786	6,701	5,632	6,830	3,300
2007 Q2 ²	31,226	1,285	2,946	1,696	2,037	2,331	2,985	2,064	4,602	1,579	1,413	1,632	849
2007 Q3 ²	30,611	1,329	2,766	1,647	2,042	2,037	2,895	2,178	4,479	1,635	1,312	1,375	830
2007 Q4 ²	32,834	1,556	2,836	1,729	2,059	2,302	3,166	2,138	4,871	1,726	1,319	1,521	853
2008 Q1 ²	34,161	1,634	3,086	1,718	2,163	2,370	3,242	2,256	4,827	1,789	1,450	1,453	864
12 months ending													
March 2008	128,832	5,804	11,634	6,790	8,301	9,040	12,288	8,636	18,779	6,729	5,494	5,981	3,396
Non-EU exports													
2006 Q2	24,312	701	2,633	1,247	1,830	1,797	2,058	4,147	3,965	1,071	952	1,766	483
2006 Q3	21,910	713	2,301	1,254	1,742	1,534	1,826	3,137	3,655	1,074	981	1,624	460
2006 Q4	23,575	848	2,421	1,313	1,791	1,579	2,022	3,939	3,531	1,113	947	1,495	505
2007 Q1 ²	21,183	807	2,261	1,247	1,622	1,479	1,775	3,477	3,112	917	839	1,683	469
12 months ending													
March 2007	90,980	3,069	9,616	5,061	6,985	6,389	7,681	14,700	14,263	4,175	3,719	6,568	1,917
2007 Q2 ²	23,944	1,009	2,484	1,564	1,654	1,607	2,004	3,448	4,003	992	957	1,991	521
2007 Q3 ²	22,979	1,021	2,417	1,402	1,685	1,595	1,843	3,400	3,667	1,100	851	2,012	520
2007 Q4 ²	25,138	1,261	2,462	1,762	1,784	1,801	2,001	3,595	4,125	1,155	912	1,894	578
2008 Q1 ²	23,754	1,164	2,452	1,641	1,743	1,767	2,169	3,194	3,892	1,052	869	1,835	555
12 months ending													
March 2008	95,815	4,455	9,815	6,369	6,866	6,770	8,017	13,637	15,687	4,299	3,589	7,732	2,174

Notes:

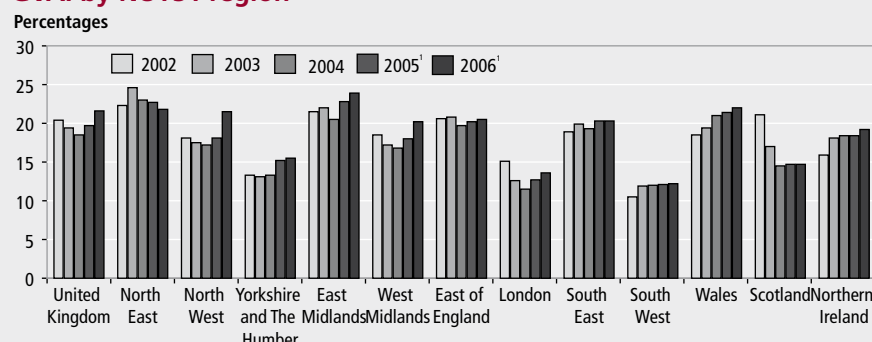
¹ EU data refer to EU25 up to 2006 Q4 and EU27 from 2007 Q1.

² Provisional.

Source: UK Regional Trade in Goods Statistics, HM Revenue & Customs

Figure 9

Value of total export goods as a percentage of workplace-based GVA: by NUTS1 region



Note:

1 Provisional.

Source: HM Revenue & Customs, Regional Trade Statistics and Office for National Statistics

Figure 10

Working-age population with no qualifications: by NUTS1 region, fourth quarter 2007



Source: Department for Innovation, Universities and Skills; Labour Force Survey, Office for National Statistics

plus the cost of movement to the country's border. **Table 5** presents the latest estimates for the first quarter of 2008.

The total value of UK exports for the 12 months ending March 2008 dropped by 3.1 per cent compared with the 12 months ending March 2007. The value of UK exports to the EU decreased by 8.5 per cent over this period. Four UK regions increased their exports to the EU; the North East by 6.8 per cent, Northern Ireland by 2.9 per cent, the East of England by 1.4 per cent and the South West by 0.4 per cent. While UK exports to the EU deteriorated, the value of UK exports to countries outside the EU increased by 5.3 per cent, with only three NUTS1 areas – London, Wales and the East Midlands – experiencing declines in their export value in the year ending March 2008 compared with the year ending March 2007. The strongest increases in export value to non-EU countries are found in the North East (45.2 per cent), Yorkshire and The Humber (25.8 per cent), Scotland (17.7 per cent) and Northern Ireland (13.4 per cent).

In terms of the latest quarter estimates

(2008 Q1) compared with the previous quarter, Scotland, the South East and Yorkshire and The Humber saw a decline in their value of exports to the EU. All other regions experienced an increase in the value of their EU exports, with Wales and the North West having the strongest increases at 9.9 and 8.8 per cent, respectively.

Concerning the values of exports to countries outside the EU, the last quarter estimates (2008 Q1) showed that all regions, except the East of England, experienced a decline. London saw the largest decrease (at 11.2 per cent) followed by the South West (at 8.9 per cent). The East of England was the only region that experienced an increase in its exports to non-EU countries, at 8.4 per cent.

In order to take into account the differing sizes of regional economies instead of only investigating the absolute numbers of export value, **Figure 9** shows the value of export goods as a percentage of headline workplace-based regional GVA. In 2006 exports from the East Midlands accounted for the highest percentage of GVA (at 23.9 per cent), 2.3 percentage points above the

UK average. Compared with 2002 this percentage has been increasing by 2.4 percentage points. The region where exports accounted for the smallest percentage of GVA in 2006 was the South West, with 12.2 per cent, although the percentage has been rising since 2002. The most significant drop was in Scotland, where exports in 2006 accounted for 6.3 percentage points less in terms of GVA than they did in 2002.

Skills

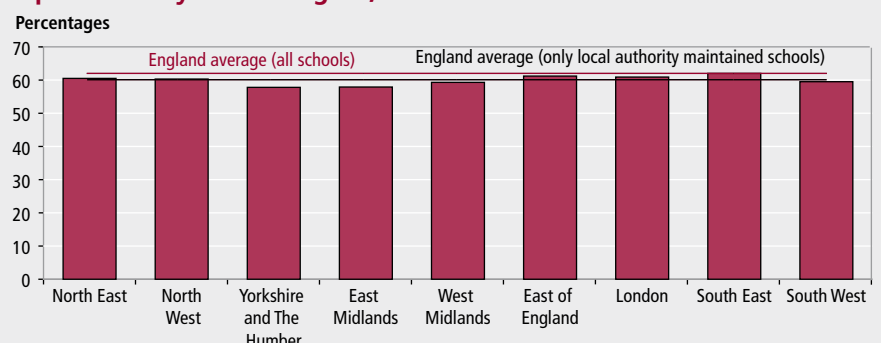
The skills of workers are important to productivity as they define the capabilities that the labour force can put into the production process. In order to analyse skills, it is useful to examine the qualifications of the current working-age population and the qualifications of young people representing the future capabilities of the labour force.

The latest estimates on the highest qualifications (degree or equivalent) of the working-age population (males aged 16 to 64 and females aged 16 to 59) are based on the fourth quarter 2007 Labour Force Survey (LFS) estimates. However, due to the fact that the characteristics of local economies dictate which labour skills are required, the comparability of these estimates is undermined. This problem can be overcome by investigating the percentage of the working-age population that has no qualifications. **Figure 10** compares the proportions for each region against the UK average. Northern Ireland had the highest proportion of population with no qualifications (8.4 percentage points above the UK average), whereas the South West and the South East had the lowest proportions at 3.9 and 3.3 percentage points below the UK average. This does not necessarily mean that these regions have the most qualified working-age population, but that they have the lowest proportion without a qualification. A reason for this might be the differing regional skill requirements, which might induce a significant number of those with qualifications to migrate into these regions. At the same time those without qualifications might have migrated out of these regions.

In order to assess the future capabilities of the labour force, **Figure 11** shows data on the percentage of pupils achieving five or more grades A* to C at GCSE level or equivalent in each English region in 2006/07. A definition for equivalent levels of qualifications can be found in Notes and Definitions: Education & Training on the ONS Regional Snapshot web pages

Figure 11

Pupils achieving five or more grades A* to C at GCSE level or equivalent: by NUTS1 region, 2006/07¹



Note:

1 Revised data, includes attempts and achievements by these pupils in previous academic years.

Source: Department for Children, Schools and Families

(www.statistics.gov.uk/statbase/Product.asp?vlnk=14712). Each region is compared to the England average of 60.1 per cent; this average only takes into account local authority maintained schools. A second average can be calculated when taking into account information on the devolved administrations, which is based on all schools. This yields an average of 62.0 per cent. The average is higher when calculated on all schools, implying that pupils in non-local authority establishments achieve higher results.

Within local authority maintained schools in English regions, the South East, the East of England, London, the North East and the North West performed above the England average, while Yorkshire and The Humber, the East Midlands, the West Midlands and the South West were the

lowest performing regions in England. When taking into account all schools, all English regions except the South East perform below the average of 62.0 per cent. In the South East, 62.0 per cent of pupils achieve five or more grades A* to C at GCSE level or equivalent.

The labour market

Table 6 shows the LFS seasonally adjusted employment rate (that is, the number of people of working age in employment) expressed as a proportion of the population.

In quarter one of 2008 the UK employment rate was 74.9 per cent, up 0.6 percentage points from a year ago and up 0.1 percentage points from quarter four of 2007. Regional rates varied from 79.5 per cent in the South East to 69.6 per cent in Northern Ireland.

Eight regions had an increase in the employment rate over the year. The South East had a rise of 1.3 percentage points and the rates for London and Yorkshire and The Humber both increased by 1.1 percentage points. Three regions experienced falls in their employment rate. Northern Ireland had an annual fall of 1.0 percentage points, the North East had an annual fall of 0.7 percentage points and Scotland decreased by 0.2 percentage points.

Table 7 shows the LFS unemployment rate (according to the internationally-consistent definition of the International Labour Organisation) for persons aged 16 and over. The UK rate in the first quarter of 2008 was 5.2 per cent, unchanged from the previous quarter and down 0.3 percentage points on a year earlier. Regionally, the rates ranged from 6.8 per cent in London to 3.6 per cent in the South West.

Over the year, the unemployment rate had decreased in nine regions. Two regions had a fall of more than 0.5 percentage points: Yorkshire and The Humber down 1.2 percentage points, and the South East down 0.7 percentage points. The unemployment rate rose in two regions: Northern Ireland had an increase of 0.5 percentage points while the North West showed a rise of 0.2 percentage points.

Table 8 shows the LFS economic inactivity rates for persons of working age. The UK rate in the first quarter of 2008 was 20.9 per cent, down 0.1 percentage points from the previous quarter and down 0.3 percentage points on a year earlier. Across the regions, rates varied from 17.2 per

Table 6

Employment¹ rates for persons of working age: by NUTS1 region

Percentages, seasonally adjusted															
		United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2005	Jan–Mar	74.9	70.6	73.3	74.6	76.4	74.7	78.8	69.9	78.9	78.9	75.2	71.7	75.3	68.8
	Apr–Jun	74.7	70.3	73.2	74.3	76.6	74.5	78.8	69.4	78.9	78.9	75.1	71.4	75.0	68.4
	Jul–Sep	74.8	69.7	73.6	74.6	77.2	74.0	78.6	69.7	78.8	78.4	75.1	72.2	75.3	70.1
	Oct–Dec	74.4	70.1	72.8	74.2	77.2	73.4	77.6	69.4	78.7	77.7	74.6	71.9	75.3	69.0
2006	Jan–Mar	74.7	71.3	73.5	74.4	77.0	73.9	77.3	69.9	78.9	78.3	75.0	71.6	75.1	69.4
	Apr–Jun	74.6	71.6	73.2	74.2	77.0	73.9	77.0	69.7	78.9	78.6	74.9	71.3	74.7	69.9
	Jul–Sep	74.5	70.8	73.5	73.4	77.0	73.8	77.3	69.7	78.8	77.9	74.8	72.0	75.4	69.3
	Oct–Dec	74.5	70.9	72.8	73.7	76.5	73.0	77.1	70.0	78.7	78.2	74.6	71.7	76.2	69.9
2007	Jan–Mar	74.3	71.1	72.5	72.9	76.0	72.6	77.4	70.0	78.2	78.1	74.4	71.5	76.7	70.6
	Apr–Jun	74.5	71.3	72.6	73.3	75.9	72.6	77.3	69.8	78.7	78.1	74.5	72.2	77.1	70.6
	Jul–Sep	74.5	72.0	72.2	73.3	75.7	73.0	77.3	70.6	78.8	78.6	74.7	71.3	76.4	70.0
	Oct–Dec	74.8	71.8	72.8	73.7	75.8	73.3	78.2	70.4	78.9	79.3	75.0	71.6	76.5	69.8
2008	Jan–Mar	74.9	70.4	72.5	74.0	76.4	73.4	77.8	71.1	79.5	79.1	75.1	71.8	76.5	69.6

Note:

1 Includes employees, self-employed, participants on government-supported training schemes and unpaid family workers.

Source: Labour Force Survey, Office for National Statistics

cent in the South East to 26.9 per cent in Northern Ireland.

Compared with a year earlier, nine regions had a decrease in their inactivity rate, and thus a corresponding increase in the working-age activity rate. London had the largest annual fall of 1.0 percentage points. Three regions had an increase in the economic inactivity rate over the year. The largest annual rise was in the North East with 1.1 percentage points.

Table 9 shows the number of employee jobs, not seasonally adjusted, from the Employers Surveys. The number of UK employee jobs was 27,111,000, an increase of 230,000 over the year since March 2007. In percentage terms, this was a 0.9 per cent

increase.

There were annual increases in ten regions. The largest percentage rise was in the East of England (1.7 per cent).

Table 10 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 2.6 per cent in June 2008, unchanged from May 2008, but 0.1 percentage points down on a year earlier. This national rate masks large variations between regions and component countries of the UK. For June 2008 the North East had the highest claimant count rate in the UK at 4.1 per cent. The North East was followed by the West Midlands (3.6 per cent), the North West

(3.2 per cent) and Yorkshire and The Humber (3.1 per cent). The lowest claimant count rate was measured in the South West (1.5 per cent). The claimant count rate was 2.7 per cent in Scotland, 2.9 per cent in Wales and 3.0 per cent in Northern Ireland.

Compared with a year earlier, six regions had a lower claimant count rate, with two remaining the same and four regions showing an increase. The largest decrease was 0.3 percentage points, which occurred in London, while the largest increase of 0.2 percentage points occurred in Northern Ireland.

Table 7

Unemployment rates for persons aged 16 and over: by NUTS1 region

Percentages, seasonally adjusted														
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2005	Jan-Mar	4.7	5.6	4.7	4.4	4.3	4.8	3.9	6.7	3.7	3.6	4.6	4.6	4.7
	Apr-Jun	4.8	6.8	4.4	4.8	4.3	4.6	3.9	7.1	3.8	3.2	4.7	4.5	5.0
	Jul-Sep	4.8	6.6	4.4	4.6	4.4	4.7	4.0	6.7	4.0	3.6	4.7	4.7	4.3
	Oct-Dec	5.2	6.6	5.0	5.5	4.5	5.3	4.6	7.3	4.2	4.0	5.2	5.0	4.5
2006	Jan-Mar	5.2	6.5	4.9	5.4	5.0	5.3	4.9	7.6	4.5	3.6	5.3	4.8	4.3
	Apr-Jun	5.5	6.1	5.3	5.8	5.5	5.6	5.0	7.8	4.7	3.8	5.5	5.6	4.3
	Jul-Sep	5.5	6.8	5.5	6.1	5.3	6.1	4.8	7.9	4.5	3.8	5.6	5.4	4.7
	Oct-Dec	5.5	6.7	5.4	6.0	5.7	6.7	4.5	7.7	4.3	3.9	5.6	5.4	4.2
2007	Jan-Mar	5.5	6.7	5.8	6.2	5.4	6.4	4.8	7.0	4.6	4.0	5.6	5.6	4.1
	Apr-Jun	5.4	6.4	5.8	5.6	5.0	6.8	4.6	7.4	4.2	4.0	5.5	5.5	3.8
	Jul-Sep	5.4	6.3	6.1	5.5	5.7	6.4	5.1	6.2	4.5	4.0	5.5	5.3	3.9
	Oct-Dec	5.2	5.7	5.9	5.3	5.2	5.7	4.4	6.6	4.5	3.6	5.2	5.1	4.2
2008	Jan-Mar	5.2	6.3	6.0	5.0	5.4	6.2	4.5	6.8	3.9	3.6	5.2	5.4	4.6

Source: Labour Force Survey, Office for National Statistics

Table 8

Economic inactivity rates for persons of working age: by NUTS1 region

Percentages, seasonally adjusted														
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2005	Jan-Mar	21.4	25.1	23.0	21.9	20.1	21.5	17.9	25.0	17.9	18.1	21.1	24.7	27.7
	Apr-Jun	21.5	24.5	23.3	21.8	19.9	21.8	18.0	25.2	17.9	18.4	21.1	25.2	27.9
	Jul-Sep	21.4	25.3	22.9	21.7	19.2	22.2	18.0	25.2	17.8	18.6	21.1	24.2	26.7
	Oct-Dec	21.4	24.9	23.3	21.4	19.0	22.3	18.6	25.0	17.7	19.0	21.2	24.3	27.6
2006	Jan-Mar	21.1	23.7	22.7	21.3	18.8	21.9	18.6	24.2	17.4	18.7	20.7	24.7	27.5
	Apr-Jun	21.0	23.6	22.6	21.2	18.4	21.5	18.8	24.3	17.1	18.3	20.6	24.3	26.9
	Jul-Sep	21.0	23.9	22.0	21.7	18.6	21.2	18.8	24.1	17.5	18.9	20.7	23.8	27.2
	Oct-Dec	21.1	23.9	22.9	21.5	18.7	21.6	19.1	24.0	17.7	18.5	20.8	24.1	27.0
2007	Jan-Mar	21.2	23.7	22.9	22.2	19.5	22.3	18.5	24.5	17.9	18.6	21.1	24.1	26.4
	Apr-Jun	21.2	23.7	22.7	22.3	20.1	22.0	18.8	24.6	17.8	18.5	21.1	23.4	26.6
	Jul-Sep	21.1	23.1	23.0	22.4	19.5	21.9	18.5	24.6	17.3	18.1	20.9	24.6	27.1
	Oct-Dec	21.0	23.8	22.5	22.1	19.9	22.0	18.1	24.5	17.2	17.6	20.8	24.5	27.0
2008	Jan-Mar	20.9	24.8	22.8	22.1	19.1	21.6	18.4	23.5	17.2	17.9	20.6	24.0	26.9

Source: Labour Force Survey, Office for National Statistics

Table 9
Employee jobs:¹ by NUTS1 region

Thousands, not seasonally adjusted

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
Mar 04	26,231	1,007	2,972	2,198	1,744	2,303	2,291	3,897	3,606	2,132	22,150	1,117	2,283	681
Mar 05	26,650	1,028	3,003	2,212	1,811	2,332	2,303	3,960	3,641	2,165	22,454	1,152	2,348	696
Mar 06	26,795	1,042	2,952	2,208	1,825	2,335	2,325	3,980	3,682	2,203	22,551	1,172	2,367	705
Mar 07	26,881	1,047	2,986	2,223	1,839	2,358	2,347	3,998	3,631	2,195	22,624	1,182	2,362	713
Jun 07	27,030	1,050	3,002	2,238	1,841	2,371	2,360	4,018	3,657	2,208	22,744	1,192	2,377	717
Sep 07	27,106	1,053	3,002	2,237	1,859	2,375	2,373	4,027	3,664	2,222	22,813	1,195	2,380	717
Dec 07 ²	27,318	1,068	3,028	2,247	1,864	2,389	2,396	4,077	3,705	2,232	23,005	1,188	2,400	726
Mar 08	27,111	1,058	2,981	2,233	1,851	2,377	2,386	4,051	3,685	2,213	22,833	1,176	2,380	722

Note:

1 Employee jobs figures are of a measure of jobs rather than people. For example, if a person holds two jobs, each job will be counted in the employee jobs total. Employees jobs figures come from quarterly surveys of employers carried out by ONS and administrative sources.

2 Revised.

Source: Employer Surveys

Table 10
Claimant count rates:¹ by NUTS1 region

Percentages, seasonally adjusted

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2003	3.0	4.5	3.2	3.3	2.8	3.5	2.1	3.6	1.7	1.9	2.9	3.3	3.7	4.1
2004	2.7	4.0	2.8	2.8	2.5	3.3	2.0	3.5	1.6	1.6	2.6	3.0	3.4	3.6
2005	2.7	3.9	2.9	2.9	2.5	3.4	2.1	3.4	1.6	1.6	2.6	3.0	3.2	3.3
2006	2.9	4.1	3.3	3.3	2.8	3.9	2.3	3.4	1.8	1.8	2.9	3.1	3.1	3.2
2007	2.7	4.0	3.1	3.0	2.6	3.7	2.1	3.0	1.6	1.6	2.6	2.8	2.8	2.8
2007 Jun	2.7	4.0	3.1	3.1	2.7	3.7	2.1	3.0	1.6	1.6	2.6	2.8	2.8	2.8
Jul	2.6	4.0	3.1	3.0	2.6	3.6	2.1	3.0	1.6	1.6	2.6	2.8	2.7	2.7
Aug	2.6	3.9	3.1	3.0	2.6	3.6	2.1	3.0	1.6	1.5	2.6	2.8	2.7	2.7
Sep	2.6	3.9	3.1	3.0	2.6	3.6	2.0	2.9	1.5	1.5	2.6	2.8	2.7	2.7
Oct	2.6	3.9	3.1	2.9	2.5	3.6	2.0	2.8	1.5	1.5	2.5	2.7	2.6	2.7
Nov	2.5	3.9	3.0	2.9	2.5	3.5	2.0	2.8	1.5	1.4	2.5	2.7	2.6	2.7
Dec	2.5	3.8	3.0	2.9	2.4	3.5	1.9	2.8	1.5	1.4	2.5	2.7	2.6	2.7
2008 Jan	2.5	3.8	3.0	2.8	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.7
Feb	2.5	3.9	3.0	2.9	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.8
Mar	2.5	3.9	3.0	2.9	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.8
Apr	2.5	3.9	3.1	2.9	2.5	3.4	1.9	2.7	1.5	1.4	2.5	2.8	2.5	2.8
May	2.6	4.0	3.1	3.0	2.5	3.5	2.0	2.7	1.5	1.5	2.5	2.8	2.6	2.9
Jun	2.6	4.1	3.2	3.1	2.6	3.6	2.0	2.7	1.6	1.5	2.6	2.9	2.7	3.0

Note:

1 Count of claimants of Jobseeker's Allowance expressed as a percentage of the total workforce – that is, workforce jobs plus claimants.

Source: Jobcentre Plus administrative system

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Key time series

1 National accounts aggregates

Last updated: 25/07/08

	£ million		Indices (2003 = 100)							Seasonally adjusted
	At current prices		Value indices at current prices		Chained volume indices			Implied deflators ³		
	Gross domestic product (GDP) at market prices	Gross value added (GVA) at basic prices	GDP at market prices ¹	GVA at basic prices	Gross national disposable income at market prices ²	GDP at market prices	GVA at basic prices	GDP at market prices	GVA at basic prices	
	YBHA	ABML	YBEU	YBEX	YBFP	YBEZ	CGCE	YBGB	CGBV	
2002	1,055,793	937,323	94.4	94.3	97.1	97.3	97.3	97.0	97.0	
2003	1,118,245	993,507	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
2004	1,184,296	1,051,934	105.9	105.9	103.4	103.3	103.3	102.6	102.5	
2005	1,233,976	1,096,629	110.3	110.4	104.2	105.2	105.2	104.9	104.9	
2006	1,303,915	1,159,257	116.6	116.7	105.7	108.2	108.4	107.7	107.7	
2007	1,381,565	1,228,681	123.5	123.7	109.1	111.5	111.6	110.8	110.8	
2002 Q1	259,054	229,737	92.7	92.5	95.9	96.4	96.5	96.1	95.9	
2002 Q2	262,774	233,372	94.0	94.0	96.2	97.0	96.9	96.9	97.0	
2002 Q3	265,836	236,103	95.1	95.1	98.3	97.7	97.6	97.4	97.4	
2002 Q4	268,129	238,111	95.9	95.9	98.2	98.2	98.1	97.7	97.7	
2003 Q1	272,953	242,612	97.6	97.7	99.4	98.8	98.8	98.9	98.9	
2003 Q2	277,119	246,427	99.1	99.2	98.9	99.3	99.3	99.8	99.9	
2003 Q3	281,996	250,492	100.9	100.9	100.0	100.4	100.4	100.4	100.5	
2003 Q4	286,177	253,976	102.4	102.3	101.7	101.5	101.6	100.9	100.7	
2004 Q1	288,912	256,106	103.3	103.1	101.9	102.2	102.2	101.1	100.9	
2004 Q2	295,066	262,094	105.5	105.5	103.2	103.1	103.2	102.3	102.3	
2004 Q3	297,941	264,732	106.6	106.6	103.0	103.5	103.5	102.9	103.0	
2004 Q4	302,377	269,002	108.2	108.3	105.4	104.1	104.2	103.9	104.0	
2005 Q1	303,996	270,082	108.7	108.7	104.2	104.4	104.4	104.2	104.1	
2005 Q2	307,306	273,158	109.9	110.0	105.3	104.8	104.9	104.9	104.8	
2005 Q3	308,515	273,676	110.4	110.2	103.4	105.4	105.4	104.7	104.5	
2005 Q4	314,159	279,713	112.4	112.6	104.1	106.1	106.2	106.0	106.1	
2006 Q1	319,265	284,197	114.2	114.4	104.6	107.1	107.2	106.7	106.7	
2006 Q2	322,340	286,413	115.3	115.3	105.8	107.8	107.9	107.0	106.8	
2006 Q3	329,094	292,535	117.7	117.8	106.2	108.6	108.7	108.4	108.4	
2006 Q4	333,216	296,112	119.2	119.2	106.4	109.5	109.6	108.9	108.8	
2007 Q1	337,647	299,660	120.8	120.6	106.9	110.4	110.5	109.4	109.2	
2007 Q2	344,014	305,650	123.1	123.1	109.0	111.3	111.4	110.6	110.5	
2007 Q3	348,174	309,763	124.5	124.7	108.8	111.9	112.0	111.3	111.4	
2007 Q4	351,730	313,608	125.8	126.3	111.6	112.6	112.6	111.8	112.1	
2008 Q1	355,669	316,768	127.2	127.5	112.7	112.9	112.9	112.7	113.0	
2008 Q2						113.1	113.1			

Percentage change, quarter on corresponding quarter of previous year

	IHYO	ABML ⁴	YBGO ⁴	IHYR	ABMM ⁴	IHYU	ABML/ABMM ⁴
2002 Q1	4.5	4.6	2.9	1.6	1.2	2.8	3.4
2002 Q2	5.3	5.6	3.1	2.1	1.7	3.2	3.9
2002 Q3	5.9	6.1	4.2	2.2	1.9	3.6	4.1
2002 Q4	5.2	5.3	4.3	2.3	2.2	2.9	3.0
2003 Q1	5.4	5.6	3.7	2.4	2.4	2.9	3.1
2003 Q2	5.5	5.6	2.7	2.5	2.4	2.9	3.1
2003 Q3	6.1	6.1	1.7	2.8	2.9	3.2	3.1
2003 Q4	6.7	6.7	3.6	3.4	3.5	3.2	3.1
2004 Q1	5.8	5.6	2.5	3.5	3.5	2.3	2.0
2004 Q2	6.5	6.4	4.4	3.8	3.9	2.5	2.4
2004 Q3	5.7	5.7	3.0	3.1	3.1	2.5	2.5
2004 Q4	5.7	5.9	3.7	2.6	2.6	3.0	3.2
2005 Q1	5.2	5.5	2.2	2.1	2.1	3.1	3.2
2005 Q2	4.1	4.2	2.1	1.6	1.7	2.5	2.5
2005 Q3	3.5	3.4	0.4	1.8	1.8	1.7	1.5
2005 Q4	3.9	4.0	-1.3	1.8	1.9	2.0	2.0
2006 Q1	5.0	5.2	0.4	2.6	2.7	2.4	2.5
2006 Q2	4.9	4.9	0.5	2.8	2.9	2.0	1.9
2006 Q3	6.7	6.9	2.7	3.0	3.1	3.5	3.7
2006 Q4	6.1	5.9	2.2	3.2	3.2	2.7	2.6
2007 Q1	5.8	5.4	2.2	3.1	3.0	2.6	2.4
2007 Q2	6.7	6.7	2.9	3.2	3.2	3.4	3.4
2007 Q3	5.8	5.9	2.5	3.1	3.1	2.6	2.7
2007 Q4	5.6	5.9	4.9	2.8	2.7	2.7	3.1
2008 Q1	5.3	5.7	5.4	2.3	2.2	3.0	3.4
2008 Q2				1.6	1.6		

Notes:

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 (CIDI) codes.

Source: Office for National Statistics

2 Gross domestic product: by category of expenditure

Last updated: 25/07/08

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

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								
	Households	Non-profit institutions ¹	General government	Gross fixed capital formation	Changes in inventories ²	Acquisitions less disposals of valuables	Total	Exports of goods and services	Gross final expenditure	less imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic product at market prices
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2002	676,833	27,130	224,868	184,701	2,289	183	1,116,239	280,593	1,396,862	308,706	0	1,088,108
2003	697,160	27,185	232,699	186,700	3,983	-37	1,147,690	285,397	1,433,087	314,842	0	1,118,245
2004	721,434	27,327	240,129	197,655	4,597	-42	1,191,099	299,289	1,490,388	335,703	0	1,154,685
2005	732,005	28,167	246,527	200,654	3,611	-354	1,210,610	323,749	1,534,359	359,626	1,183	1,175,916
2006	745,737	29,858	250,630	215,985	2,416	290	1,244,916	358,356	1,603,272	394,789	1,805	1,210,286
2007	769,046	31,007	255,351	228,993	6,887	538	1,291,822	340,157	1,631,979	385,484	790	1,247,285
2002 Q1	167,588	6,762	55,756	44,562	1,059	66	275,814	69,440	345,256	75,709	0	269,595
2002 Q2	168,803	6,756	56,288	45,610	409	48	277,926	71,533	349,504	78,367	0	271,044
2002 Q3	169,715	6,793	56,429	46,422	520	62	280,004	71,056	351,089	78,006	0	273,034
2002 Q4	170,727	6,819	56,395	48,107	301	7	282,495	68,564	351,013	76,624	0	274,435
2003 Q1	171,828	6,843	57,099	46,805	-477	-8	282,249	72,662	354,921	78,836	0	276,082
2003 Q2	174,146	6,779	57,684	46,131	-635	94	284,342	70,610	354,945	77,283	0	277,686
2003 Q3	175,140	6,790	58,445	45,964	2,223	-68	288,498	70,334	358,825	78,089	0	280,743
2003 Q4	176,046	6,773	59,471	47,800	2,872	-55	292,601	71,791	364,396	80,634	0	283,734
2004 Q1	178,197	6,830	59,969	49,353	-439	112	294,023	73,389	367,412	81,648	0	285,764
2004 Q2	180,362	6,805	59,530	49,159	1,042	-90	296,808	74,861	371,670	83,313	0	288,357
2004 Q3	181,032	6,826	60,002	49,832	1,047	-96	298,644	75,097	373,741	84,300	0	289,441
2004 Q4	181,843	6,866	60,628	49,311	2,947	32	301,624	75,942	377,565	86,442	0	291,123
2005 Q1	182,466	7,005	60,858	49,393	1,894	-158	301,458	75,952	377,410	85,898	253	291,764
2005 Q2	182,306	6,987	61,613	49,334	797	86	301,122	79,576	380,698	87,920	300	293,078
2005 Q3	183,174	7,042	61,885	50,642	853	-201	303,394	82,357	385,751	91,483	320	294,588
2005 Q4	184,059	7,133	62,171	51,285	67	-81	304,636	85,864	390,500	94,325	310	296,486
2006 Q1	183,985	7,347	62,511	52,156	1,202	101	307,301	93,512	400,814	102,028	515	299,301
2006 Q2	186,369	7,428	62,342	52,872	564	229	309,804	95,747	405,551	104,683	503	301,371
2006 Q3	186,487	7,507	62,734	54,737	1,396	-28	312,833	84,334	397,167	94,116	445	303,495
2006 Q4	188,896	7,576	63,043	56,220	-746	-12	314,978	84,763	399,740	93,962	342	306,121
2007 Q1	190,272	7,640	63,445	57,006	708	73	319,144	84,165	403,308	95,034	253	308,527
2007 Q2	191,590	7,720	63,775	55,901	899	328	320,213	84,972	405,185	94,221	206	311,170
2007 Q3	193,224	7,783	63,990	57,417	2,680	47	325,141	86,075	411,216	98,462	173	312,926
2007 Q4	193,960	7,864	64,141	58,669	2,600	90	327,324	84,945	412,270	97,767	158	314,662
2008 Q1	196,034	7,999	64,722	57,813	-391	220	326,396	85,495	411,891	96,581	200	315,510
2008 Q2												316,141

Percentage change, quarter on corresponding quarter of previous year

2002 Q1	4.0	-1.6	4.0	0.9		3.1	-2.6	1.8	2.5		1.6
2002 Q2	4.0	-0.5	4.4	1.6		2.9	3.2	3.0	6.0		2.1
2002 Q3	3.3	0.5	3.3	3.1		2.8	4.6	3.2	6.4		2.2
2002 Q4	3.1	1.3	2.1	9.0		3.8	-0.8	2.8	4.5		2.3
2003 Q1	2.5	1.2	2.4	5.0		2.3	4.6	2.8	4.1		2.4
2003 Q2	3.2	0.3	2.5	1.1		2.3	-1.3	1.6	-1.4		2.5
2003 Q3	3.2	0.0	3.6	-1.0		3.0	-1.0	2.2	0.1		2.8
2003 Q4	3.1	-0.7	5.5	-0.6		3.6	4.7	3.8	5.2		3.4
2004 Q1	3.7	-0.2	5.0	5.4		4.2	1.0	3.5	3.6		3.5
2004 Q2	3.6	0.4	3.2	6.6		4.4	6.0	4.7	7.8		3.8
2004 Q3	3.4	0.5	2.7	8.4		3.5	6.8	4.2	8.0		3.1
2004 Q4	3.3	1.4	1.9	3.2		3.1	5.8	3.6	7.2		2.6
2005 Q1	2.4	2.6	1.5	0.1		2.5	3.5	2.7	5.2		2.1
2005 Q2	1.1	2.7	3.5	0.4		1.5	6.3	2.4	5.5		1.6
2005 Q3	1.2	3.2	3.1	1.6		1.6	9.7	3.2	8.5		1.8
2005 Q4	1.2	3.9	2.5	4.0		1.0	13.1	3.4	9.1		1.8
2006 Q1	0.8	4.9	2.7	5.6		1.9	23.1	6.2	18.8		2.6
2006 Q2	2.2	6.3	1.2	7.2		2.9	20.3	6.5	19.1		2.8
2006 Q3	1.8	6.6	1.4	8.1		3.1	2.4	3.0	2.9		3.0
2006 Q4	2.6	6.2	1.4	9.6		3.4	-1.3	2.4	-0.4		3.2
2007 Q1	3.4	4.0	1.5	9.3		3.9	-10.0	0.6	-6.9		3.1
2007 Q2	2.8	3.9	2.3	5.7		3.4	-11.3	-0.1	-10.0		3.3
2007 Q3	3.6	3.7	2.0	4.9		3.9	2.1	3.5	4.6		3.1
2007 Q4	2.7	3.8	1.7	4.4		3.9	0.2	3.1	4.0		2.8
2008 Q1	3.0	4.7	2.0	1.4		2.3	1.6	2.1	1.6		2.3
2008 Q2											1.6

Notes:

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

Source: Office for National Statistics

3 Labour market summary

Last updated: 16/07/08

United Kingdom (thousands), seasonally adjusted

All aged 16 and over									
	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	1	2	3	4	5	6	7	8	9
All persons	MGSL	MGSF	MGRZ	MGSC	MGSI	MGWG	MGSR	MGSX	YBTC
Mar–May 2006	48,185	30,625	28,959	1,666	17,560	63.6	60.1	5.4	36.4
Mar–May 2007	48,590	30,840	29,174	1,666	17,750	63.5	60.0	5.4	36.5
Jun–Aug 2007	48,694	30,872	29,216	1,656	17,823	63.4	60.0	5.4	36.6
Sep–Nov 2007	48,803	31,020	29,382	1,637	17,783	63.6	60.2	5.3	36.4
Dec–Feb 2008	48,911	31,133	29,526	1,606	17,778	63.7	60.4	5.2	36.3
Mar–May 2008	49,020	31,206	29,587	1,619	17,814	63.7	60.4	5.2	36.3
Male	MGSM	MMSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Mar–May 2006	23,391	16,585	15,611	974	6,806	70.9	66.7	5.9	29.1
Mar–May 2007	23,618	16,763	15,804	958	6,856	71.0	66.9	5.7	29.0
Jun–Aug 2007	23,676	16,757	15,810	948	6,919	70.8	66.8	5.7	29.2
Sep–Nov 2007	23,735	16,829	15,895	934	6,906	70.9	67.0	5.6	29.1
Dec–Feb 2008	23,794	16,869	15,941	928	6,925	70.9	67.0	5.5	29.1
Mar–May 2008	23,853	16,907	15,966	940	6,946	70.9	66.9	5.6	29.1
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Mar–May 2006	24,794	14,039	13,348	692	10,754	56.6	53.8	4.9	43.4
Mar–May 2007	24,972	14,078	13,370	708	10,894	56.4	53.5	5.0	43.6
Jun–Aug 2007	25,018	14,114	13,406	708	10,904	56.4	53.6	5.0	43.6
Sep–Nov 2007	25,068	14,191	13,488	703	10,877	56.6	53.8	5.0	43.4
Dec–Feb 2008	25,117	14,263	13,585	679	10,853	56.8	54.1	4.8	43.2
Mar–May 2008	25,167	14,299	13,621	678	10,868	56.8	54.1	4.7	43.2
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
Mar–May 2006	37,319	29,466	27,825	1,640	7,853	79.0	74.6	5.6	21.0
Mar–May 2007	37,539	29,605	27,966	1,639	7,934	78.9	74.5	5.5	21.1
Jun–Aug 2007	37,591	29,623	27,992	1,631	7,968	78.8	74.5	5.5	21.2
Sep–Nov 2007	37,641	29,741	28,124	1,617	7,900	79.0	74.7	5.4	21.0
Dec–Feb 2008	37,691	29,824	28,238	1,587	7,867	79.1	74.9	5.3	20.9
Mar–May 2008	37,741	29,867	28,272	1,595	7,874	79.1	74.9	5.3	20.9
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Mar–May 2006	19,343	16,193	15,229	964	3,150	83.7	78.7	6.0	16.3
Mar–May 2007	19,519	16,352	15,404	948	3,168	83.8	78.9	5.8	16.2
Jun–Aug 2007	19,561	16,333	15,395	938	3,228	83.5	78.7	5.7	16.5
Sep–Nov 2007	19,596	16,407	15,481	926	3,189	83.7	79.0	5.6	16.3
Dec–Feb 2008	19,631	16,430	15,512	918	3,201	83.7	79.0	5.6	16.3
Mar–May 2008	19,667	16,453	15,524	929	3,213	83.7	78.9	5.6	16.3
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Mar–May 2006	17,976	13,273	12,596	676	4,703	73.8	70.1	5.1	26.2
Mar–May 2007	18,020	13,253	12,561	692	4,766	73.5	69.7	5.2	26.5
Jun–Aug 2007	18,030	13,290	12,596	694	4,741	73.7	69.9	5.2	26.3
Sep–Nov 2007	18,045	13,334	12,643	691	4,711	73.9	70.1	5.2	26.1
Dec–Feb 2008	18,059	13,394	12,726	668	4,665	74.2	70.5	5.0	25.8
Mar–May 2008	18,075	13,414	12,748	666	4,661	74.2	70.5	5.0	25.8

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

Last updated: 15/07/08

Percentage change over 12 months

Consumer prices							Not seasonally adjusted, except for series PLLW, RNPE and RNPF			
Consumer prices index (CPI)							Producer prices			
Retail prices index (RPI)							Output prices		Input prices	
						All items excluding mortgage interest payments and indirect taxes (RPIY) ²				
	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 manufactured products	Excluding food, beverages, tobacco and petroleum products	Materials and fuels purchased by manufacturing industry	Excluding food, beverages, tobacco and petroleum products
	D7G7	EL2S	EAD6	CZBH	CDKQ	CBZX	PLLU ³	PLLW ³	RNPE ³	RNPF ³
2004 Jan	1.4	1.5	1.3	2.6	2.4	2.0	1.6	1.4	-0.3	0.0
2004 Feb	1.3	1.3	1.1	2.5	2.3	1.9	1.6	1.5	-0.8	-0.4
2004 Mar	1.1	1.1	1.0	2.6	2.1	1.7	1.4	1.5	0.8	-0.1
2004 Apr	1.1	1.1	1.0	2.5	2.0	1.8	1.8	1.3	2.9	-0.1
2004 May	1.5	1.4	1.3	2.8	2.3	2.2	2.5	1.4	5.6	0.6
2004 Jun	1.6	1.5	1.4	3.0	2.3	2.3	2.6	1.4	3.8	1.3
2004 Jul	1.4	1.4	1.2	3.0	2.2	2.0	2.6	1.7	3.9	1.8
2004 Aug	1.3	1.3	1.1	3.2	2.2	2.0	2.8	2.2	4.6	2.4
2004 Sep	1.1	1.0	0.9	3.1	1.9	1.7	3.1	2.3	8.1	3.6
2004 Oct	1.2	1.2	1.1	3.3	2.1	2.0	3.5	2.9	9.0	4.6
2004 Nov	1.5	1.4	1.4	3.4	2.2	2.2	3.5	3.0	6.4	4.5
2004 Dec	1.7	1.7	1.6	3.5	2.5	2.5	2.9	2.5	4.0	4.0
2005 Jan	1.6	1.7	1.5	3.2	2.1	2.0	2.6	2.6	9.7	7.5
2005 Feb	1.7	1.7	1.6	3.2	2.1	2.0	2.7	2.5	11.0	8.2
2005 Mar	1.9	2.0	1.8	3.2	2.4	2.3	2.9	2.4	11.1	7.4
2005 Apr	1.9	2.0	1.9	3.2	2.3	2.3	3.3	2.6	10.1	7.0
2005 May	1.9	2.0	1.8	2.9	2.1	2.2	2.7	2.5	7.6	6.7
2005 Jun	2.0	2.2	1.9	2.9	2.2	2.2	2.5	2.2	11.8	7.4
2005 Jul	2.3	2.5	2.3	2.9	2.4	2.5	3.1	2.2	14.1	8.7
2005 Aug	2.4	2.6	2.3	2.8	2.3	2.3	3.0	1.9	13.0	7.6
2005 Sep	2.5	2.6	2.4	2.7	2.5	2.5	3.3	2.1	10.6	5.6
2005 Oct	2.3	2.5	2.3	2.5	2.4	2.3	2.6	1.4	8.8	7.0
2005 Nov	2.1	2.3	2.1	2.4	2.3	2.3	2.3	1.3	13.5	9.6
2005 Dec	1.9	2.1	1.8	2.2	2.0	2.0	2.4	1.8	17.9	12.0
2006 Jan	1.9	2.1	1.9	2.4	2.3	2.3	2.9	1.7	15.8	10.2
2006 Feb	2.0	2.1	2.0	2.4	2.3	2.3	2.9	1.7	15.0	10.6
2006 Mar	1.8	1.9	1.7	2.4	2.1	2.2	2.5	1.9	13.0	10.0
2006 Apr	2.0	2.1	2.0	2.6	2.4	2.3	2.5	2.2	15.3	10.0
2006 May	2.2	2.3	2.2	3.0	2.9	2.8	3.1	2.4	13.6	8.6
2006 Jun	2.5	2.6	2.4	3.3	3.1	3.2	3.4	2.9	11.1	8.7
2006 Jul	2.4	2.4	2.3	3.3	3.1	3.2	2.9	2.5	10.6	8.3
2006 Aug	2.5	2.6	2.4	3.4	3.3	3.4	2.7	2.3	8.0	7.9
2006 Sep	2.4	2.6	2.3	3.6	3.2	3.3	1.9	2.2	5.4	7.4
2006 Oct	2.4	2.7	2.3	3.7	3.2	3.3	1.6	2.6	4.6	6.3
2006 Nov	2.7	3.0	2.6	3.9	3.4	3.6	1.8	2.5	3.4	4.9
2006 Dec	3.0	3.2	2.9	4.4	3.8	3.9	2.2	2.4	2.1	3.0
2007 Jan	2.7	2.9	2.6	4.2	3.5	3.7	2.2	2.5	-2.8	1.5
2007 Feb	2.8	2.9	2.6	4.6	3.7	3.9	2.3	2.7	-1.7	1.0
2007 Mar	3.1	3.1	2.9	4.8	3.9	4.0	2.7	2.7	0.2	2.0
2007 Apr	2.8	2.9	2.6	4.5	3.6	3.7	2.4	2.3	-1.5	1.4
2007 May	2.5	2.6	2.3	4.3	3.3	3.4	2.4	2.2	0.6	3.1
2007 Jun	2.4	2.5	2.2	4.4	3.3	3.3	2.5	2.0	1.6	2.7
2007 Jul	1.9	2.0	1.7	3.8	2.7	2.6	2.5	2.2	0.6	1.5
2007 Aug	1.8	1.9	1.6	4.1	2.7	2.6	2.4	2.4	1.1	2.1
2007 Sep	1.8	1.7	1.6	3.9	2.8	2.8	2.9	2.3	7.5	3.7
2007 Oct	2.1	1.9	1.8	4.2	3.1	3.0	4.0	2.4	9.7	3.2
2007 Nov	2.1	1.9	1.8	4.3	3.2	3.0	4.7	2.4	11.5	2.7
2007 Dec	2.1	2.0	1.9	4.0	3.1	3.1	5.0	2.7	13.0	4.5
2008 Jan	2.2	2.1	2.0	4.1	3.4	3.3	5.8	3.5	19.8	7.6
2008 Feb	2.5	2.5	2.3	4.1	3.7	3.6	5.9	3.5	21.1	9.4
2008 Mar	2.5	2.6	2.3	3.8	3.5	3.6	6.5	3.6	21.5	10.2
2008 Apr	3.0	3.0	2.7	4.2	4.0	3.9	7.6	4.7	25.1	13.5
2008 May	3.3	3.3	3.1	4.3	4.4	4.4	9.3	5.9	28.2	14.3
2008 Jun	3.8	3.9	3.6	4.6	4.8	4.9	10.0	6.3	30.0	15.4

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.

NOTES TO TABLES

Identification (CDID) codes

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

Conventions

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

The following standard symbols are used:

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

CONCEPTS AND DEFINITIONS

Labour Force Survey 'monthly' estimates

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

Labour market summary**Economically active**

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

Economically inactive

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

Employment and jobs

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

Unemployment

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

Unemployed people:

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

Other key indicators**Claimant count**

The number of people claiming Jobseeker's Allowance benefits.

Earnings

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

Productivity

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

Redundancies

The number of people who:

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

plus the number of people who:

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

Unit wage costs

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

Vacancies

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

Directory of online tables

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

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

Weblink: www.statistics.gov.uk/elmr/08_08/data_page.asp

Title	Frequency of update	Updated since last month
UK economic accounts		
1.01 National accounts aggregates	M	✓
1.02 Gross domestic product and gross national income	M	✓
1.03 Gross domestic product, by category of expenditure	M	✓
1.04 Gross domestic product, by category of income	M	.
1.05 Gross domestic product and shares of income and expenditure	M	.
1.06 Income, product and spending per head	Q	.
1.07 Households' disposable income and consumption	M	.
1.08 Household final consumption expenditure	M	.
1.09 Gross fixed capital formation	M	.
1.10 Gross value added, by category of output	M	✓
1.11 Gross value added, by category of output: service industries	M	✓
1.12 Summary capital accounts and net lending/net borrowing	Q	.
1.13 Private non-financial corporations: allocation of primary income account	Q	.
1.14 Private non-financial corporations: secondary distribution of income account and capital account	Q	.
1.15 Balance of payments: current account	M	✓
1.16 Trade in goods (on a balance of payments basis)	M	✓
1.17 Measures of variability of selected economic series	Q	.
1.18 Index of services	M	✓

Selected labour market statistics

2.01 Summary of Labour Force Survey data	M	✓
2.02 Employment by age	M	✓
2.03 Full-time, part-time and temporary workers	M	✓
2.04 Public and private sector employment	Q	.
2.05 Workforce jobs	Q	✓
2.06 Workforce jobs by industry	Q	✓
2.07 Actual weekly hours of work	M	✓
2.08 Usual weekly hours of work	M	✓
2.09 Unemployment by age and duration	M	✓
2.10 Claimant count levels and rates	M	✓
2.11 Claimant count by age and duration	M	✓
2.12 Economic activity by age	M	✓
2.13 Economic inactivity by age	M	✓
2.14 Economic inactivity: reasons	M	✓
2.15 Educational status, economic activity and inactivity of young people	M	✓
2.16 Average earnings – including bonuses	M	✓
2.17 Average earnings – excluding bonuses	M	✓
2.18 Productivity and unit wage costs	M	✓
2.19 Regional labour market summary	M	✓

Weblink: www.statistics.gov.uk/elmr/08_08/data_page.asp

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

Prices

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

Selected output and demand indicators

4.01	Output of the production industries	M	✓
4.02	Engineering and construction: output and orders	M	✓
4.03	Motor vehicle and steel production	M	✓
4.04	Indicators of fixed investment in dwellings	M	✓
4.05	Number of property transactions	M	✓
4.06	Change in inventories	Q	.
4.08	Retail sales, new registrations of cars and credit business	M	✓
4.09	Inland energy consumption: primary fuel input basis	M	.

Selected financial statistics

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

Further labour market statistics

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

Weblink: www.statistics.gov.uk/elmr/08_08/data_page.asp

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

Notes

A Annually
Q Quarterly
M Monthly

More information

Time series are available from www.statistics.gov.uk/statbase/tsdintro.asp

Subnational labour market data are available from www.statistics.gov.uk/statbase/Product.asp?vlnk=14160 and www.nomisweb.co.uk

Labour Force Survey tables are available from www.statistics.gov.uk/statbase/Product.asp?vlnk=14365

Annual Survey of Hours and Earnings data are available from www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101

Contact points

Recorded announcement of latest RPI

☎ 01633 456961
✉ rpi@ons.gsi.gov.uk

Labour Market Statistics Helpline

☎ 01633 456901
✉ labour.market@ons.gsi.gov.uk

Earnings Customer Helpline

☎ 01633 819024
✉ earnings@ons.gsi.gov.uk

National Statistics Customer Contact Centre

☎ 0845 601 3034
✉ info@statistics.gsi.gov.uk

Skills and Education Network

☎ 024 7682 3439
✉ senet@isc.gov.uk

Department for Children, Schools and Families Public Enquiry Unit

☎ 0870 000 2288

For statistical information on

Average Earnings Index (monthly)

☎ 01633 819024

Claimant count

☎ 01633 456901

Consumer Prices Index

☎ 01633 456900
✉ cpi@ons.gsi.gov.uk

Earnings

Annual Survey of Hours and Earnings
☎ 01633 456120

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

☎ 01633 819008

Low-paid workers

☎ 01633 819024
✉ lowpay@ons.gsi.gov.uk

Labour Force Survey

☎ 01633 456901
✉ labour.market@ons.gsi.gov.uk

Economic activity and inactivity

☎ 01633 456901

Employment

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

Employee jobs by industry

☎ 01633 456776

Total workforce hours worked per week

☎ 01633 456720
✉ productivity@ons.gsi.gov.uk

Workforce jobs series – short-term estimates

☎ 01633 456776
✉ workforce.jobs@ons.gsi.gov.uk

Labour costs

☎ 01633 819024

Labour disputes

☎ 01633 456721

Labour Force Survey

☎ 01633 456901
✉ labour.market@ons.gsi.gov.uk

Labour Force Survey Data Service

☎ 01633 455732
✉ lfs.dataservice@ons.gsi.gov.uk

New Deal

☎ 0114 209 8228

Productivity and unit wage costs

☎ 01633 456720

Public sector employment

General enquiries
☎ 01633 455889

Source and methodology enquiries

☎ 01633 812865

Qualifications (Department for Children, Schools and Families)

☎ 0870 000 2288

Redundancy statistics

☎ 01633 456901

Retail Prices Index

☎ 01633 456900
✉ rpi@ons.gsi.gov.uk

Skills (Department for Innovation, Universities & Skills)

☎ 0870 001 0336
Skill needs surveys and research into skill shortages
☎ 0870 001 0336

Small firms (BERR)

Enterprise Directorate
☎ 0114 279 4439

Subregional estimates

☎ 01633 812038

Annual employment statistics

✉ annual.employment.figures@ons.gsi.gov.uk

Annual Population Survey, local area statistics

☎ 01633 455070

Trade unions (BERR) Employment relations

☎ 020 7215 5934

Training

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

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

☎ 0870 001 0336

Travel-to-Work Areas Composition and review

☎ 01329 813054

Unemployment

☎ 01633 456901

Vacancies

Vacancy Survey: total stocks of vacancies
☎ 01633 455070

ONS economic and labour market publications

ANNUAL

Financial Statistics Explanatory Handbook

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

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

Foreign Direct Investment (MA4)

2006 edition

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

Input-Output analyses for the United Kingdom

2006 edition

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

Research and development in UK businesses (MA14)

2006 edition

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

Share Ownership

2006 edition

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

United Kingdom Balance of Payments (Pink Book)

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

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

United Kingdom National Accounts (Blue Book)

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

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

First releases

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

QUARTERLY

Consumer Trends

2008 quarter 1

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

United Kingdom Economic Accounts

2008 quarter 1. Palgrave Macmillan, ISBN 978-0-230-21759-1. Price £35.

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

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

2008 quarter 1

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

First releases

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

MONTHLY

Financial Statistics

July 2008. Palgrave Macmillan, ISBN 978-0-230-21741-6. Price £47.50.

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

Focus on Consumer Price Indices

June 2008

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

Monthly review of external trade statistics (MM24)

May 2008

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

Producer Price Indices (MM22)

June 2008

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

First releases

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

OTHER

The ONS Productivity Handbook: a statistical overview and guide

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

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

Labour Market Review

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

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

National Accounts Concepts, Sources and Methods

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

Sector classification guide (MA23)

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

Recent articles

FEBRUARY 2008

- Improvements to the measurement of government output in the National Accounts
Mark Pont
- Patterns of pay: results of the Annual Survey of Hours and Earnings, 1997 to 2007
Hywel Daniels
- The International Comparison Programme: 2005 results and supporting the programme
Ben Whitestone
- Linking the Annual Survey of Hours and Earnings to the Census: a feasibility study
Jamie Jenkins
- The revision of the 1993 System of National Accounts – what does it change?
Charles Aspden
- Regional economic indicators, February 2008, with a focus on regional productivity
Sumit Dey-Chowdhury, David Penny, Birgit Wosnitza and Martin Walker

MARCH 2008

- Comparison of statistics on jobs: September 2007
Andrew Machin
- Monitoring the quality of the National Accounts
Ross Meader and Geoff Tily
- International comparisons of productivity: an update to understanding revisions
Sumit Dey-Chowdhury
- Revisions to workforce jobs: December 2007
Nick Barford
- Regional gross value added
Eddie Holmes
- Methods explained: household saving ratio
Graeme Chamberlin and Sumit Dey-Chowdhury

APRIL 2008

- The gender pay gap in the UK
Debra Leaker
- CPI and RPI: the 2008 basket of goods and services
Damon Wingfield and Philip Gooding
- International comparisons of labour disputes in 2006
Dominic Hale
- New historical data for assets and liabilities in the UK
Teresa Sbrano
- First findings from the UK Innovation Survey 2007
Stephanie Robson and Greg Haigh
- Services producer price index (experimental) – fourth quarter 2007
Ian Richardson

MAY 2008

- Comparisons between unemployment and the claimant count: 1971 to 2007
Richard Clegg
- Private Finance Initiative and public debt
Martin Kellaway
- Monitoring the coherence of ONS and Purchasing Managers' Index data
Graeme Chamberlin
- Secure access to confidential microdata: four years of the Virtual Microdata Laboratory
Felix Ritchie
- Decomposing the Retail Sales Index implied price deflator and the CPI
Richard McCrae, Craig H McLaren, John Wood and Robin Youll
- Regional economic indicators, May 2008, with a focus on differences in sub-regional economic performances
Birgit Wosnitza and Martin Walker

JUNE 2008

- Labour disputes in 2007
Dominic Hale
- Modernisation of the UK's National Accounts: progress and plans for Blue Book and Pink Book 2008
Simon Humphries
- Labour Force Survey: reweighting and seasonal adjustment review 2008
Nicholas Palmer and Matthew Hughes
- Impact of methodological changes to the Index of Production
Andrew Walton, Robin Youll and Chris Hunt
- Review of Labour Statistics for the United Nations Statistical Commission
Catherine Barham
- Methods explained: the GDP implied deflator
Anis Chowdhury

JULY 2008

- Employment of foreign workers in the UK: 1997 to 2008
Gareth Clancy
- Regional analysis of public sector employment
Andrew Barnard
- The effects of taxes and benefits on household income, 2006/07
Francis Jones
- Dealing with potential bias in early estimates of GDP
Robin Youll
- Recent trends in corporate net lending
Graeme Chamberlin
- Measuring inflation
Rob Pike
- Services producer price index (experimental) – first quarter 2008
Ian Richardson

Future articles

List is provisional and subject to change.

SEPTEMBER 2008

- Job separations in the UK
- Impact of National Minimum Wage and low pay
- Coherence between annual and monthly indicators
- Measuring inflation