Economic & Labour Market Review

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The Government Statistical Service

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In brief

GDP and unemployment: recessions compared

Recessions see falls in Gross Domestic Product (GDP) and are normally also characterised by rising unemployment. However, output and the labour market might not move in unison, for example, changes in unemployment might lag those in GDP. ONS' recession tracker shows the paths of these key variables in both the current recession, and compared to the two previous UK recessions in the early 1980s and early 1990s. It is updated every time GDP or unemployment data for a new quarter are published.

In the third quarter of 2009 GDP fell by 0.4 per cent on the quarter. This followed a decline of 0.6 per cent in the second quarter and marks the sixth successive quarter of negative growth. Since GDP started falling in the second quarter of 2008 the cumulative output loss in the UK economy is just under 6 per cent.

In the second quarter of 2009 the unemployment rate was 7.8 per cent, a 0.7 percentage point increase on the previous quarter. Unemployment estimates for the third quarter will be published on 11 November 2009.

More information

www.statistics.gov.uk/cci/nugget.asp?ID=2294

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Highest employment rate in Gosport, lowest in Newham

The latest local area labour market data for the 12 month period ending March 2009, show that the area with the highest employment rate was Gosport in Hampshire with 86.7 per cent while the lowest rate was in Newham, London (58.1 per cent). There was a considerable variation within each region. For example, in the region with the highest average rate, the South East (78.6 per cent), employment varied between 86.7 per cent in Gosport and 70.0 per cent in Hastings.

The area with the highest unemployment rate in the twelve months ending March 2009 was Sandwell in the West Midlands (12.2 per cent), while the lowest rate was 2.4 per cent in Aberdeenshire. Again, there was considerable variation within regions. The North East had the highest average rate (8.2 per cent), but varied between 10.6 per cent in Hartlepool and 4.8 per cent in both Tynedale and Alnwick. In the South West (4.6 per cent), unemployment varied between Gloucester (6.5 per cent) and Purbeck (2.8 per cent).

The latest estimates of jobs density (2007) show there were 0.83 jobs per working-age resident in the UK. London had the highest jobs density at 0.93 compared with 0.72 in the lowest region, the North East. The local area with the highest jobs density was the City of London, with over 50 jobs per working-age resident, while the lowest was in Carrickfergus, Northern Ireland, with 0.39 jobs per resident.

People who work in the City of London had the highest earnings, with median full-time gross pay of £896 a week as at April 2008. The lowest pay was for people who work in West Devon, South West, at £302 a week.

The report, 'Local area labour markets: Statistical indicators October 2009', was published on the National Statistics website on 30 October 2009. It also contains sections looking at economic inactivity, ethnicity and the labour market, claimants of Jobseeker's Allowance (the claimant count), and earnings by place of residence. It brings together data from a number of different sources – the Annual Population Survey, Annual Survey of Hours and Earnings, and administrative data on benefits from the Department for Work and Pensions – to give an overall picture of the labour market looking at both labour supply and demand in each area.

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

More information

www.statistics.gov.uk/StatBase/Product.asp?vlnk=14160

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UK population to exceed 65 million by 2018

The population of the United Kingdom is projected to increase by over 4 million to 65.6 million in 2018 – according to new population projections released by ONS on 21 October 2009. Rising from an estimated 61.4 million, the UK population is projected to exceed 70 million by 2029 and reach 71.6 million in 2033.

The 2008-based national population projections are based on the estimated population in the middle of 2008 and a set of demographic assumptions about the future. They do not attempt to predict the impact of future government policies, economic conditions or other factors on demographic behaviour.

Of the projected 10.2 million increase in the UK population over the next 25 years, 55 per cent is projected from natural increase (more births than deaths) and 45 per cent is projected net migration. However, future numbers of births and deaths are themselves partly dependent on future migration, and taking this into account, just over two-thirds of the projected increase in the UK population between 2008 and 2033 is expected to be either directly or indirectly due to future migration.

The population is expected to rise most quickly for oldest age groups – with the number of people aged 85 and over projected to more than double over the next 25 years from 1.3 million in 2008 to 3.3 million by 2033. Despite the forthcoming increases in state pension age (SPA), the population of state pensionable age is expected to increase by 32 per cent over the next 25 years from 11.8 million in 2008 to 15.6 million in 2033. In contrast the population of working age is projected to rise by just 14 per cent, from 38.1 million in 2008 to 43.3 million in 2033. The ratio of working age people to each person of SPA is projected to decline from 3.23 in 2008 to 2.78 in 2033.

More information

http://www.statistics.gov.uk/pdfdir/pproj1009.pdf

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UK productivity growth is the fastest in the G7

New data for 2008 continue to show that the UK has experienced faster productivity *growth* than all other G7 countries since 1991. By 2008, UK Gross Domestic Product (GDP) per worker had grown by 39 per cent since 1991 compared to an average of 29 per cent in the rest of the G7. In terms of GDP per hour worked, UK productivity increased by 49 per cent between 1991 and 2007 – the fastest rate of growth in the G7 and well above the average elsewhere in the G7 of 36 per cent. These results were published by ONS in the International Comparisons of Productivity Statistical Bulletin on 8 October 2009.

A comparison of productivity *levels* in 2008 show that GDP per worker in the UK was:

- above that of Japan
- similar to that of Canada and Germany
- lower than that Italy, France and the US
- lower than the average of G7 countries excluding the UK

On the basis of GDP per hour worked, the UK is above Japan, on a par with Canada and Italy and below France, Germany and the US which continues to lead the G7 countries.

More information

http://www.statistics.gov.uk/pdfdir/icp1009.pdf

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Life expectancy continues to rise

Life expectancy at birth has reached its highest level on record for both males and females according to new figures released by ONS on 21 October 2009. A newborn baby boy could expect to live until 77.4 and a newborn girl to 81.6 years, if mortality rates remain the same as they were in 2006-08. Although females continue to live longer than males the gap has been narrowing over the last 26 years from 6.0 years to 4.2 years.

Based on mortality rates in 1980-82, 26 per cent of newborn males would die before age 65, but this had fallen to 15 per cent based on 2006-08 rates. Equivalent figures for newborn females were 16 per cent and 10 per cent. Life expectancy at 65 – the number of further years somebody reaching 65 in 2006-08 could expect to live – is also higher for woman than men. Based on 2006-08 mortality rates, a man aged 65 could expect to live another 17.4 years, and a woman another 20.0 years.

Within the UK, life expectancy at birth for 2006-08 varies by region. For males, highest life expectancy was 79.2 in the South East and for females it was 83.1 years in the South West. In contrast, Scotland had the lowest life expectancy at birth at of 75 years for males and 79.9 years for females.

More information

http://www.statistics.gov.uk/pdfdir/liexnr1009.pdf

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The labour market across the UK in the current recession

On 14 May 2009, the Office for National Statistics published a series of articles looking at the impact of the most recent recession on the labour market. This covered analysis for the UK and for various sub-groups of the population, of which one was by region.

On 18 November 2009, the Office for National Statistics are publishing a non-journal article 'The labour market across the UK in the current recession' updating previous analysis by Government Office Region in England and the countries of the UK.

The article will also:

- present the impact of the recession on deprived and non-deprived areas using the constituent countries Indices Of Multiple Deprivation
- present the impact of the recession on rural and urban areas
- present local area data using the Annual Population Survey
- assess the changes in earnings using the Annual Survey of Hours and Earnings

More information

The impact of the recession on the labour market: May 2009
http://www.statistics.gov.uk/cci/article.asp?id=2187

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27.7 million members of occupational pension schemes

The total membership of occupational pension schemes in 2008 was estimated at 27.7 million, an increase of 1.0 million from 2007. This is according to the Occupational Pension Schemes Annual Report, containing detailed analysis of the 2008 Occupational Pension Schemes Survey, which was published by ONS on 28 October 2009.

Active membership of private sector defined benefit occupational pension schemes (often referred to as 'final salary' schemes) is little changed in 2008, estimated at 2.6 million compared with 2.7 million in 2007. Active membership of private sector defined contribution schemes is estimated at 1.0 million in 2008 compared with 0.9 million in 2007.

Private sector defined benefit schemes continue to have higher regular contribution rates than defined contribution schemes. The average total contribution rate (member and employer) for open defined benefit schemes in 2008 was 19.7 per cent compared with an average of 9.0 per cent for open defined contribution schemes.

The largest change in private sector contribution rates was for employer contributions to closed defined benefit schemes, which increased from 16.1 per cent in 2007 to 18.1 per cent in 2008. Closed schemes also saw an increase in member contributions: from 4.3 per cent to 4.8 per cent for defined benefit schemes, and from 3.2 per cent to 3.4 per cent for defined contribution schemes. Employer contributions to closed defined contribution schemes remained the same at 7.0 per cent.

More information

http://www.statistics.gov.uk/StatBase/Product.asp?vlnk=1721

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Public consultation on the Measurement of Mortgage Interest Payments within the Retail Prices Index

The Retail Prices Index (RPI) is a monthly domestic measure of inflation in the United Kingdom which has been produced continuously from June 1947. The Government uses it for uprating of pensions, benefits and index-linked gilts. It is also commonly used in private contracts and wage bargaining.

The UK Statistics Authority has endorsed a recommendation from the Consumer Prices Advisory Committee (CPAC) to update the interest rate measure used in the calculation of mortgage interest payments in the RPI from the Standard Variable Rate (SVR) to an Average Effective Rate (AER). The SVR covers approximately 10 per cent of the current stock of existing mortgages whereas the AER covers around 90 per cent of the bank and building society mortgages.

The Authority plans to reach a final decision in January 2010 following public consultation as well as discussions with the Bank of England, and if required with the Chancellor, under the provisions of the relevant part of the Statistics and Registration Service Act 2007. The public consultation of this proposed change is currently underway, closing on 22 January 2010. The Office for National Statistics (ONS) currently plans to introduce this change at the time of the next RPI re-weighting which will occur in March 2010.

More information

www.ons.gov.uk/about/consultations/
open-consultations/index.html

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Updates to statistics on www.statistics.gov.uk

5 October

Investment by insurance companies, pension funds and trusts

Institutional net investment £23.5 billion in Q2 2009
www.statistics.gov.uk/cci/nugget.asp?id=396

6 October

Index of production

0.2% fall for the three months to August
www.statistics.gov.uk/cci/nugget.asp?id=198

7 October

Corporate profitability

11.6% in Q2 2009
www.statistics.gov.uk/cci/nugget.asp?id=196

8 October

International productivity

New 2008 estimates
www.statistics.gov.uk/cci/nugget.asp?id=196

9 October

Producer prices

Factory gate inflation rises 0.4%
www.statistics.gov.uk/cci/nugget.asp?id=248

UK Trade

Deficit narrowed to £2.3 billion in August
www.statistics.gov.uk/cci/nugget.asp?id=199

13 October

Inflation

CPI inflation 1.1%, RPI inflation -1.4%
www.statistics.gov.uk/cci/nugget.asp?id=19

14 October

Average earnings

Regular pay slows in year to August 2009
www.statistics.gov.uk/cci/nugget.asp?id=10

Unemployment

Rate rises to 7.9% for 3 months to August
www.statistics.gov.uk/cci/nugget.asp?id=12

15 October

Travel and tourism

Visits abroad continue to fall
www.statistics.gov.uk/cci/nugget.asp?id=352

20 October

Public sector

September: £11.3 billion current budget deficit
www.statistics.gov.uk/cci/nugget.asp?id=206

22 October

Retail sales

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

23 October

Index of services

0.1% three-monthly fall into August
www.statistics.gov.uk/cci/nugget.asp?id=558

GDP growth

UK output decreases by 0.4% in Q2 2009
www.statistics.gov.uk/cci/nugget.asp?id=192

Future statistical releases on www.statistics.gov.uk

5 November

New orders in the construction industry – September 2009

Index of production – September 2009

6 November

Producer price index – October 2009

10 November

UK trade – September 2009

11 November

Labour market statistics – November 2009

Financial statistics – November 2009

Aerospace and electronic cost indices – August 2009

12 November

Low pay – April 2009

Annual Survey of Hours and Earnings – ASHE results 2009

13 November

Digest of engineering turnover and orders – September 2009

17 November

Consumer price indices – October 2009

18 November

Average weekly earnings (experimental) – August 2009

19 November

Overseas travel and tourism – September 2009

Public sector finances – October 2009

Retail sales – October 2009

24 November

Business investment – Q3 2009 provisional results

25 November

Index of services – September 2009

Services produce price index – Q3 2009

Distributive and services trade – September 2009

GDP output, income and expenditure – Q3 2009

Economic review

November 2009

Graeme Chamberlin
Office for National Statistics

SUMMARY

The GDP Preliminary Estimate reported a 0.4 per cent fall in output for the third quarter. As a result the recession was prolonged for a sixth successive quarter – the longest continual decline in output since quarterly records began. However, the pace of contraction is moderating, driven by a slower rate of decline in business and financial services output. The unemployment rate increased to 7.9 per cent in the three months to August, but the increase was less marked than in recent quarters. The redundancy rate also fell further in August. Inflation in the Consumer Prices Index dropped to 1.1 per cent in September as the sharp rises in electricity and gas prices in September 2008 dropped out of the calculation.

NATIONAL ACCOUNTS

Output falls for the sixth successive quarter

Preliminary estimates of Gross Domestic Product (GDP) and its main production components showed the UK economy contracted by 0.4 per cent in the third quarter of 2009. This marks the sixth successive quarter where output has fallen, and compared to the same quarter in 2008 the level of GDP was 5.2 per cent

lower (see **Figure 1**). Despite the continuing recession it is clear, however, that the pace of contraction has moderated in the last two quarters, especially compared to the very large quarterly falls in 2008Q4 and 2009Q1.

The ONS website compares the course of the current recession with earlier ones (see www.statistics.gov.uk/cci/nugget. asp?id=2294). **Figure 2** shows the cumulative loss in output during the current recession compared to those of the early 1980s and early 1990s. In each case, the dates have been chosen to reflect the peak in output (which

is indexed to 100) and then the time taken for output to return to that level. Since the first quarter of 2008, GDP has fallen by a little under 6 per cent, similar to the peak to trough fall of 6.1 per cent in the early 1980s recession; and much more severe than the peak to trough fall of 2.6 per cent in the recession of the early 1990s.

An important feature of the early 1980s recession was its global nature as most of the world's major industrialised economies entered a synchronised downturn. This is also very much a feature of the current recession and may help to explain its relative depth. By contrast the recession in the early 1990s was more concentrated in the UK than elsewhere reflecting a sharp tightening in monetary policy geared at bringing down inflation. UK output was supported by more robust demand from the rest of the world – which was further buoyed by the competitiveness effects of a significant devaluation in sterling following the exit from the European Exchange Rate Mechanism (ERM).

After reaching a local peak in 1979Q2, GDP fell to a trough seven quarters (not successive falls) later in 1981Q1. It then took a further 10 quarters, or two-and-a-half years, for output to recovery to its pre-recessionary level in 1983Q3. Therefore, even though growth returned, a negative output gap remained for a considerable period of time, reflected in other measures of economic performance – notably growing unemployment and weaker growth in households' real disposable incomes.

Various factors have been at play in the current recession. On the one hand, looking at the UK Financial and Sector Accounts, it is clear that both the household and corporate sectors are undergoing a period of de-leveraging, seeking to pay down debts and strengthen their balance sheets. While this continues, the two most important drivers of aggregate demand – consumer expenditure and fixed investment – may not pick up significantly. This factor was highlighted by both the Organisation of Economic Co-operation and Development (OECD) and the International Monetary Fund (IMF) in explaining their recent (summer 2009) UK growth forecasts for 2010.
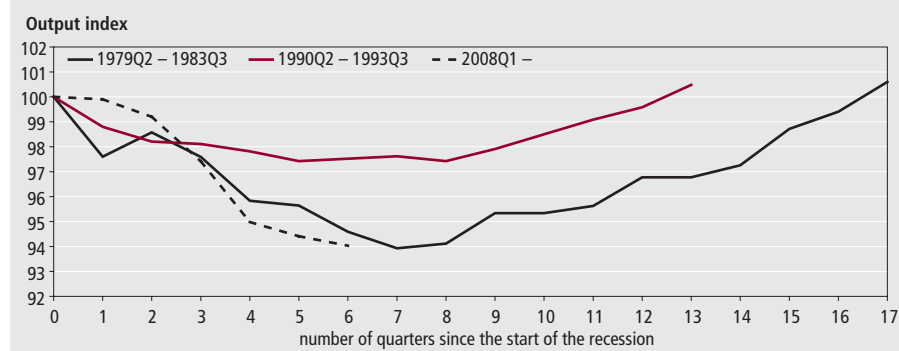
On the other hand domestic policy, particularly monetary policy, has been proactive in supporting the economy. Interest rates, having been cut to 0.5 per cent,

Figure 1
GDP growth

Per cent

Quarter on same quarter one year ago

Quarter on quarter growth
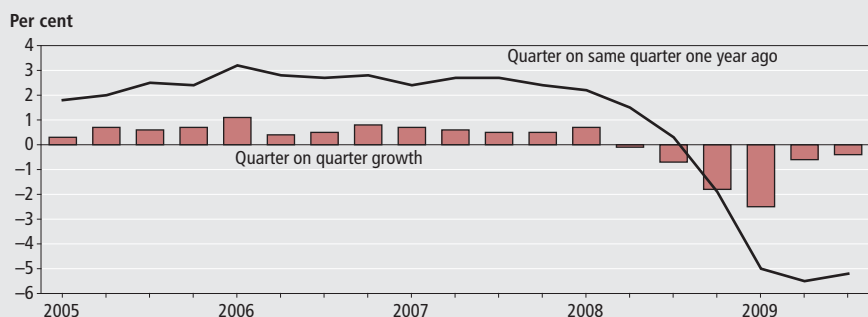
Source: GDP Preliminary Estimate

Figure 2
Recession tracking

Output index

Source: GDP Preliminary Estimate

are at a historical low, and the quantitative easing programme has seen large injections of liquidity into the banking system. Second, global growth may no longer be as dependent on the US consumer as before if a new independent source of demand arises from the fast growing economies of the Far East, especially China. There have also been structural and supply-side changes in the UK economy that make direct comparisons with previous recessions more difficult.

Faster declines in the output of oil and gas extraction, and hotels and restaurants

The contributions to growth by main industrial categories in the second and third quarters of 2009 are presented in **Figure 3**. Two main observations can be drawn from the data. First, although the rate of fall in GDP has slowed, it continues to be broad based. Second, the pattern of growth across industries has changed between the second and third quarters.

The negative contributions to growth from business services and finance; transport, storage and communication; and government and other services have all reduced. The improvement in business and financial services is particularly encouraging as this includes many business to business services, and could be an indicator of growing confidence in the corporate sector. Contributions to growth from manufacturing and construction both deteriorated slightly, but the combined negative effect on GDP growth was well below 0.1 percentage points. The largest downward contributions came from mining and quarrying; and distribution, hotels and catering. Together they pulled the quarterly GDP growth rate down by just under 0.2 percentage points between the second and third quarters.

Oil and gas extraction was the main reason for the faster fall in mining and quarrying output. Here, output can be volatile on a quarter on quarter basis, especially due to the timing of repair and maintenance. This fall was first reported in the August Index of Production Statistical Bulletin. The August Index of Services Statistical Bulletin points to hotels and restaurants leading the fall in the distribution, hotels and catering industry. As a more discretionary component of consumer demand, it may reflect a number of ongoing pressures on household balance sheets – in particular an increased propensity to save and a weakening labour market. The data here might also be consistent with falling numbers of overseas visitors to the UK despite sterling's depreciation. In the twelve months to August visits from the residents of North America to the UK fell by 18 per cent compared to the same period the year

before. During the same period of time visits from residents from Europe and the rest of the world both fell by 9 per cent.

PMI data reports positive growth in the third quarter

Preliminary estimates of GDP are often compared to business survey data on the manufacturing and services sectors. In particular, Purchasing Managers Index (PMI) data are widely used by analysts, forecasters and policy-makers. For example, the Bank of England has publicly stated that in forming their short-term view of the economy PMI data are sometimes used alongside official data. So understanding the coherence between official preliminary estimates, PMI and other business survey data is important.

PMI data is presented as a balance statistic between the percentage of respondents reporting an increase in output/activity during the month and those reporting a decrease. The aggregated figures are then rebased so that a statistic of 50 represents no change in the aggregate. These statistics are presented next to the ONS Preliminary estimates for manufacturing in **Figure 4** and services in **Figure 5**.

ONS and PMI data generally show similar patterns in output growth over the downturn but there was an important difference in the most recent quarter. While ONS data shows an easing in the pace of contraction, PMI data went further in reporting an actual return to growth for

Figure 3
Contributions to growth, 2009Q2 and 2009Q3

Per cent
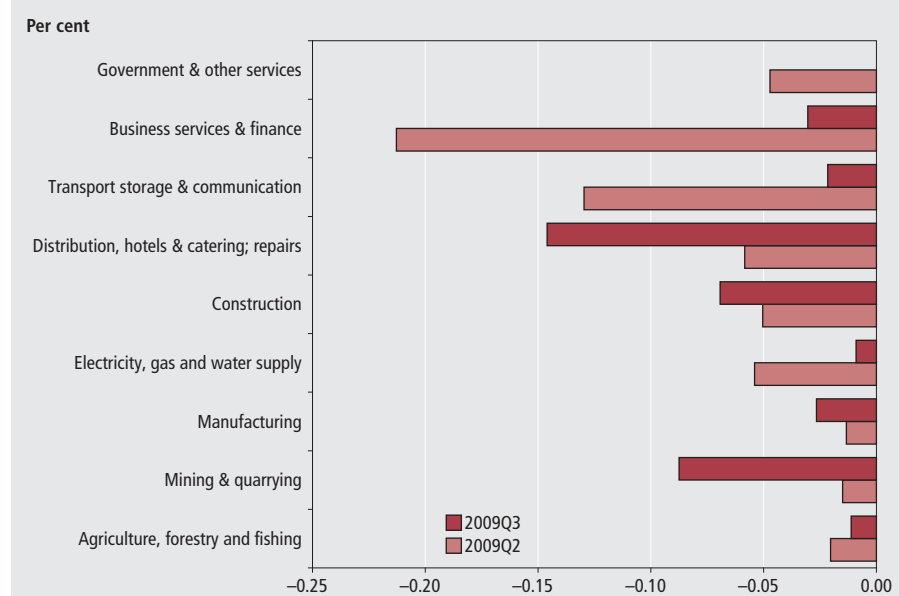
Source: GDP Preliminary Estimate

Figure 4
PMI and ONS data – manufacturing

Source: PMI Report on Manufacturing and GDP Preliminary Estimate
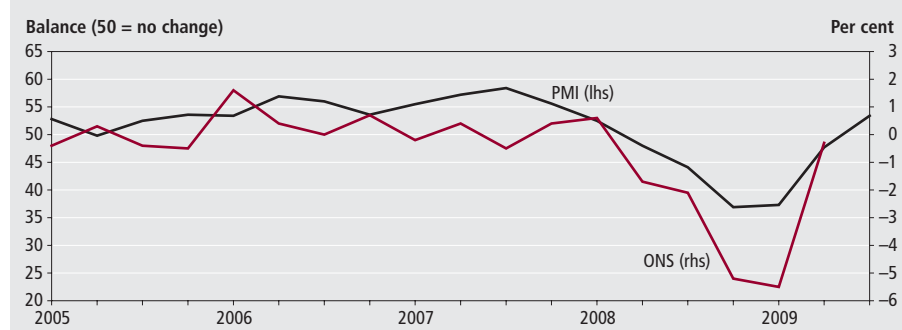
Figure 5
PMI and ONS data – services

Source: PMI Report on Services and GDP Preliminary Estimate
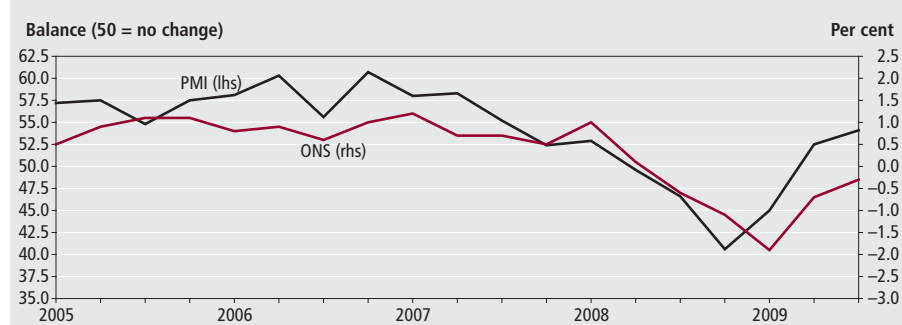
Figure 6
Level and changes in the level of unemployed

Source: ONS Labour Market Statistics
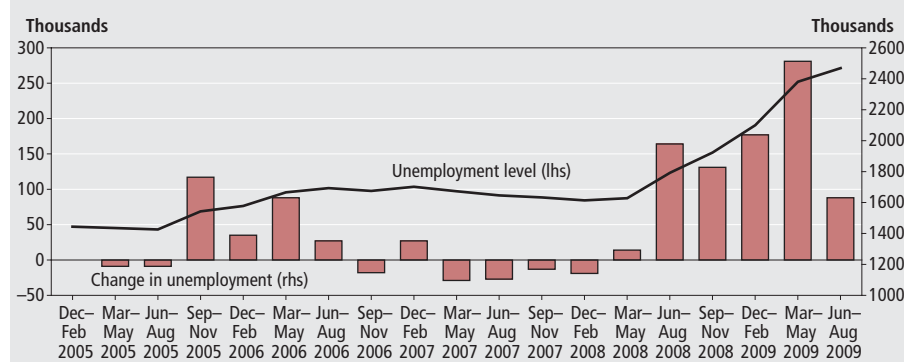
both manufacturing and services (balance statistic above 50).

For the manufacturing sector, higher output was linked to an improvement in order books – particularly export orders, due to growing overseas markets as the global economy recovers and from a more competitive exchange rate. However, the rate of expansion through the quarter appears to be easing rather than getting stronger. With future demand expected to be fragile firms are continuing to de-stock in order to reduce costs and improve cash flow. While consumer and intermediate goods producers reported higher levels of output, capital goods producers saw

output falls intensify in line with the continual weakness in global investment. Consideration of these issues meant that the survey was less bullish about calling the end of the manufacturing recession.

PMI service sector balances reported growth in the second quarter of 2009. This momentum has continued through the third quarter, and by September growth had been maintained for five successive months and the survey was at its highest level for two years. With confidence regarding the one-year outlook also reaching a two and a half year peak, and a third successive monthly rise in incoming new business, the September survey was a major factor

behind the consensus forecast of a return to growth and an end to recession. The Preliminary Estimate for service sector output, though, reported a 0.2 per cent contraction.

There is no reason to expect exact coherence between ONS and PMI data. ONS data are based on larger samples and a wider coverage. In addition they both measure activity in different ways – for example in the PMI survey firms cannot attach an order of magnitude to output movements. So for instance, suppose the majority of firms report 'no change', a small proportion report a large contraction, and a slightly larger proportion a small rise in output. In this case, the balance statistic will report positive growth (subject to weighting) even though actual aggregate output may be falling. Also business survey data, in asking more qualitative and prospective questions, could be more influenced by confidence and hence forward-looking relative to official data sources.

Other, non-PMI, business survey data are generally more in line with ONS data. The Confederation of British Industry (CBI) *Industrial Trends Survey* for September reported that output balances for manufacturing had eased considerably, but were still negative. The British Chambers of Commerce (BCC) survey for 2009 was also much closer to ONS figures: reporting that the economy is moving towards a recovery – but the improvement is not strong enough to support the view that positive growth has undoubtedly returned. Furthermore, the survey stated that although confidence indicators appear to be improving, the economy is still frail.

LABOUR MARKET

Unemployment rate at 7.9 per cent

In the three month period, June to August 2009, the level of UK unemployment was 2.469 million. This corresponds to a rate of 7.9 per cent of the active population over 16 years of age (the headline rate). The latest figures mark an increase of 88,000 from the previous three month period (March to May 2009) when the level of unemployment was 2.38 million and the unemployment rate was 7.6 per cent (**Figure 6**).

Unemployment has now increased by 677,000 over the last year as the downturn in output feeds through to the labour market. But despite recording a further quarterly rise, the latest figures did present some ground for optimism. As Figure 6 shows, the latest period has seen

the smallest quarterly rise in numbers unemployed since the three-month period March–May 2008, and a much smaller increase than in previous quarters.

Over the last year (comparing the period June to August 2009 with the same period in 2008) the number of people in employment has fallen by 529,000. Despite this, the numbers in temporary and part-time employment actually increased by 51,000 and 97,000 respectively. The main drivers though are people undertaking temporary or part-time work because they are unable to find either permanent or full time work. These numbers increased by a respective 93,000 and 277,000. The numbers citing the inability to find permanent or full-time work as a reason for temporary or part-time employment, as a proportion of the active population over the age of 16, are shown alongside the unemployment rate in **Figure 7**. This suggests that the weakening labour market has had a wider impact than just though unemployment, with increasing numbers facing under-employment or less-permanent employment.

Redundancies down but the vacancy ratio remains low

The rise in unemployment over the last year has coincided with a sharp increase in the number of redundancies. The redundancy rate is given by the ratio of the redundancy level for the given quarter to the number of employees in the previous quarter, multiplied by 1,000. Between June and August, the rate stood at 9.3, but down considerably from the peak of 11.9 recorded in the three month period March–May (as shown in **Figure 8**).

This is evidence that although redundancies remain at an elevated number and rate, there has been moderation of late. The speed at which the economy is contracting has slowed in recent quarters, suggesting a weaker pass through from output to the labour market. Business surveys have also indicated that firms have reduced employment as they restructure their businesses and look to cut costs in the face of weak/uncertain demand, especially in large companies. But, having already undertaken significant restructuring exercises, the need for further restructuring is diminishing, especially as the economy starts to stabilize.

While the redundancy rate is improving there is no sign as yet of a pick up in vacancies. The vacancy ratio is the number of vacancies per 100 employee jobs, with

the published headline figure calculated as a three-month rolling average. The current vacancy ratio of 1.7 per cent, based on the period July–September, has been unchanged for most of 2009 and down 0.6 percentage points on the same three-month period in 2008 (see Figure 8).

Taking changes in the redundancy rate and vacancy ratio together there is evidence that firms are beginning to reduce the speed and extent workers are laid off, but are still cautious about committing to hiring new workers. These trends are consistent with the overall movement in unemployment, which continues to rise, but now at a slower rate.

Official labour market data is also consistent with the employment balances reported in the PMI surveys for manufacturing and services (**Figure 9**). Both have shown 17 successive months of declining employee numbers, but the rate of decline has recently slowed. In the services sector the main reason is excess resources combined with a falling backlog of work – leaving firms to cut costs through the non-replacement of leavers or forced redundancies. Although job shedding remains high, the balance statistics are now at their highest level since September 2008. In the manufacturing sector, it was reported

Figure 7
Evidence of labour market constraints
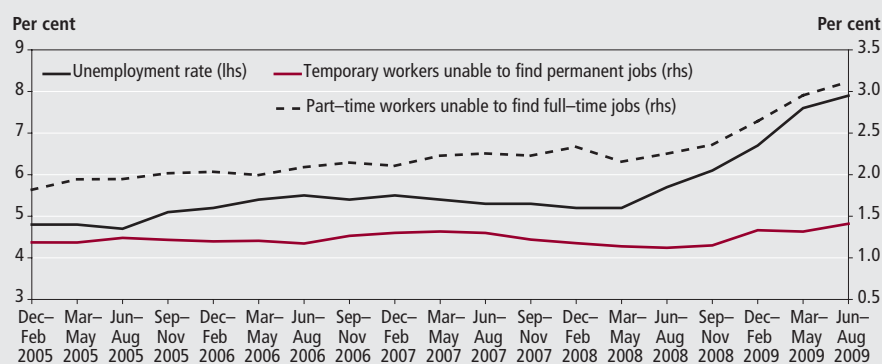
Source: ONS Labour Market Statistics

Figure 8
Vacancy ratio and the redundancy rate
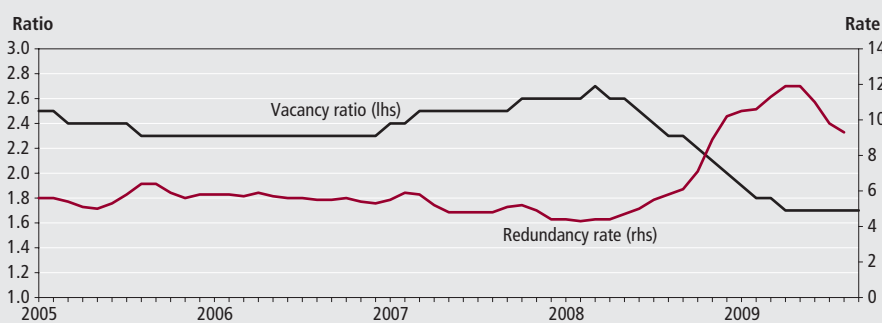
Source: ONS Labour Market Statistics

Figure 9
PMI employment balances
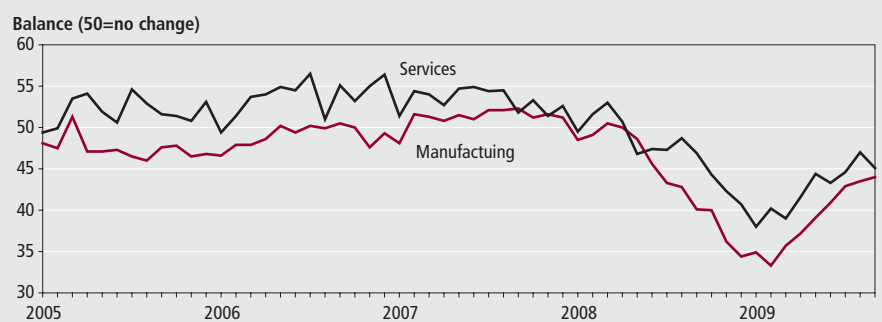
Source: PMI Reports on Manufacturing and Services

Figure 10
Contributions of food and energy to all-items CPI inflation
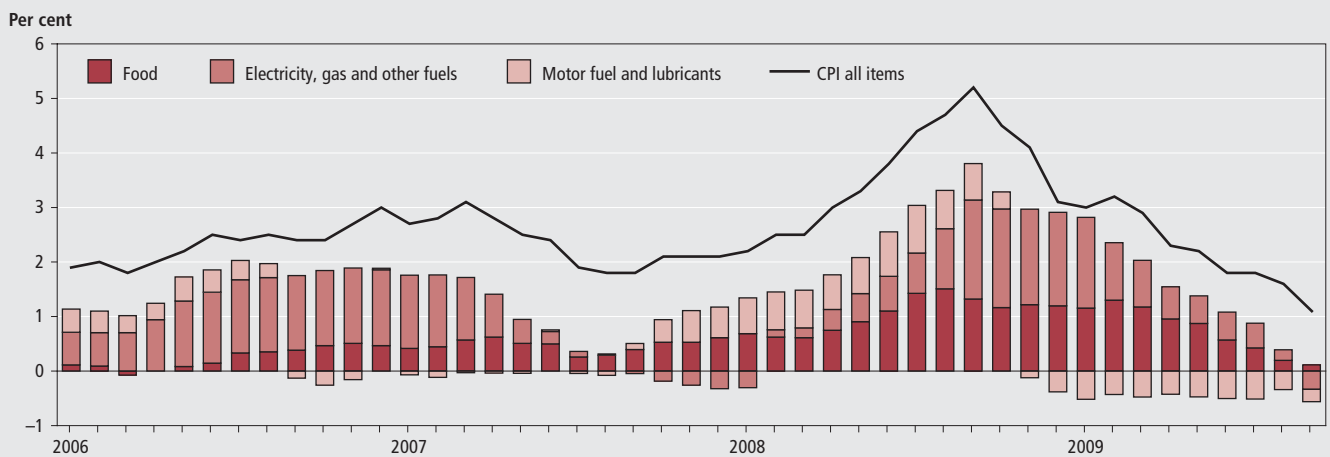
Source: ONS Consumer Prices

Figure 11
Indices of food and energy prices
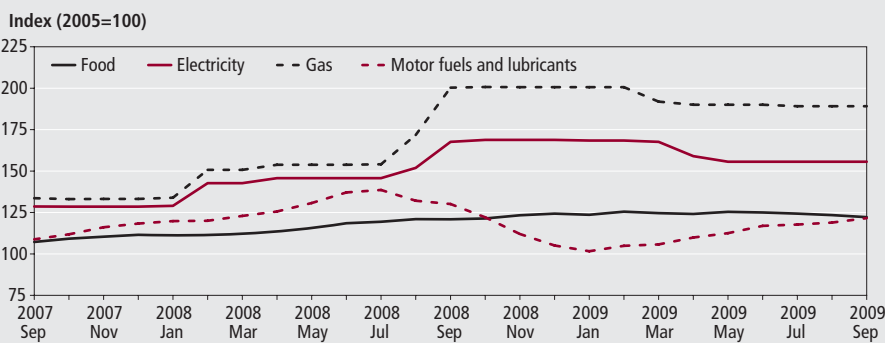
Source: ONS Consumer Prices

that job losses continued to result from ongoing cost reductions and workforce restructuring but the decline has fallen to its lowest rate since June 2008.

PRICES

CPI inflation falls to 1.1 per cent

The Consumer Prices Index (CPI), the headline measure of UK inflation, peaked at 5.2 per cent in September of last year. As **Figure 10** shows, much of the increase during the year leading up to then had been driven by rising food and energy prices.

The price of motor fuels (petrol and diesel) had peaked two months previously, when oil reached a record $147.29 per barrel. Although it had fallen slightly by September 2008, it was still nearly 20 per cent higher than a year earlier (**Figure 11**). Gas and electricity prices also reflected the sharp increase in primary energy prices – although the pass through to consumer prices was a little slower, reflecting the more infrequent rate at which prices are

set and regulatory controls. Over the year to September 2008, electricity prices had increased by over 30 per cent and gas prices by a little less than 50 per cent. The increase in food prices was less at nearly 13 per cent, but, given its large weight in the CPI basket, it too had a significant impact on the overall inflation rate.

Because headline inflation figures are based on a year on year comparison, the current rate of inflation reflects not just recent price changes, but what happened a year previously. For this reason one-off but permanent price changes will stay in the calculation for a year, but then drop out.

Between August and September 2008, there were a number of significant price movements. Although motor fuels (and lubricants) saw a monthly price fall of 1.5 per cent and food prices were broadly unchanged, there were 10.3 per cent and 16.6 per cent increases in electricity and gas prices respectively. In 2009 both gas and electricity prices were flat from August to September. Therefore, as last year's sharp price increases drop out of the calculation, to be replaced by flat prices in 2009, there

will be downward pressure on annual CPI inflation.

Naturally, the impact on inflation will also depend on price movements during the year. But as gas prices fell by 7.2 per cent and electricity prices by 6.6 per cent, these items made a negative contribution to CPI inflation in September 2009 (see Figure 10). From August to September 2009 the all-items CPI inflation rate rose by 0.5 percentage points from 4.7 per cent to 5.2 per cent. Although the September 2009 inflation figures reflects other factors as well, the index also fell by 0.5 percentage points as last year's electricity and gas price increases fell out of the calculation.

The contribution of motor vehicles to overall CPI inflation is another example of how an annual comparison can mask more recent price movements. Since January, motor fuels have increased by 19.7 per cent. But when this is set against the 21.9 per cent fall between September 2008 and January 2009 (26.7 per cent fall from July 2008 to January 2009 as the oil price fell to below $40 per barrel) the overall contribution to the annual comparison is still negative. However, as the fall in prices in the second half of 2008 drop out of the calculation to be replaced by rising prices this year, motor fuels will start to make a positive contribution to the 12-month CPI inflation rate.

Food prices may soon start making a negative contribution to inflation. Having risen steadily through 2008, they have been flat during most of 2009, which has seen the contribution to overall CPI inflation fall, as rising prices are replaced by flat prices. Since late summer food prices have started to fall, and if this trend continues, the overall impact on CPI inflation will become negative.

Figure 12
CPI, CPIY and CPI-CT inflation rates
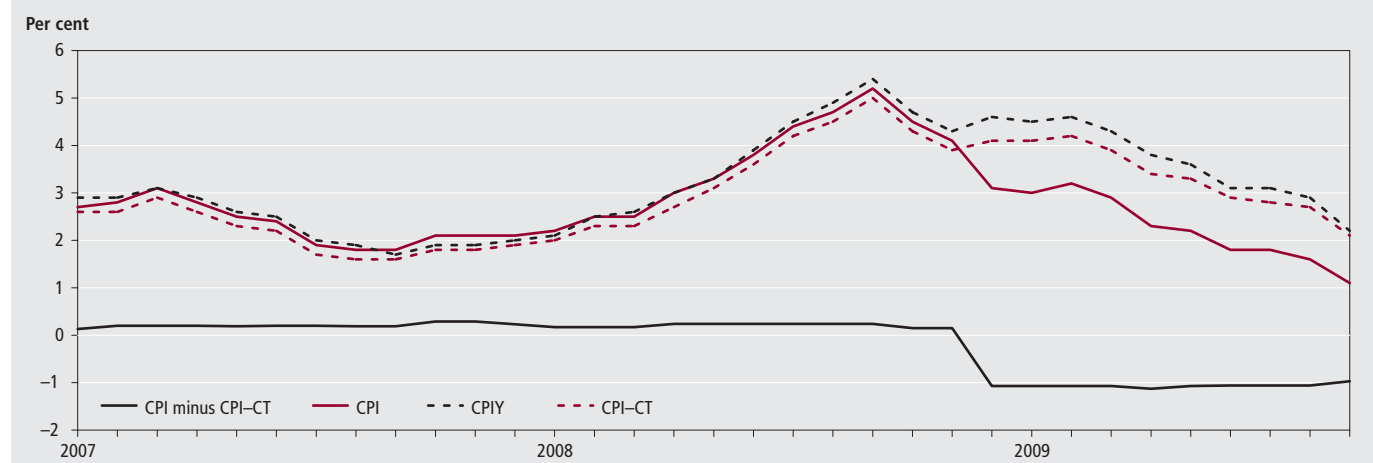
Indirect taxes push down on CPI inflation

Through their impact on market prices, changes in indirect taxes can feed through to CPI inflation measures. ONS publishes two series that attempt to remove these effects. CPIY excludes VAT, duties, insurance premium tax, air passenger duty and stamp duty on share transactions altogether. On the other hand, CPI-CT maintains them in the index but keeps them at constant values. These two measures can differ, largely because of weighting effects. Interest resides in their being 'core' measures of inflation – that is, in capturing the underlying rate of inflation in the economy.

In **Figure 12**, the annual rates of CPIY and CPI-CT inflation are compared with the headline all-items CPI measure. While the latter has fallen to 1.1 per cent in September 2009, the other measures were significantly higher at 2.2 per cent and 2.1 per cent. Although all three series have shown the same downward trend throughout 2009, a wedge opened up in December 2008. This is the result of the temporary VAT reduction implemented, as part of the fiscal stimulus package, in the 2008 Pre-Budget Report (PBR). Also shown in Figure 12 is the estimated impact of the change in indirect taxes on the all items CPI inflation rate, measured as the difference between the CPI and CPI-CT inflation rates.

The net impact of the indirect tax changes in the November 2008 PBR has pushed down on the inflation rate during the course of the year by around one percentage point. The significance of this is that the VAT reduction is expected to be reversed in January 2010. Although the likely impact is that this will increase CPI inflation, the exact impact will depend on a number of factors.

First, the extent and speed to which the VAT increase is passed on. Most retailers will be aware that it is coming, but there are still physical costs to changing prices, so the full impact may be delayed. It might also be harder for retailers to make an adjustment that raises prices at the till but not on the shelf, as actual prices will be higher than advertised. It may also be the case that retailers have delayed making price adjustments throughout the year, in which case the price movements induced by the VAT change could be larger than expected, especially if an opportunity to increase profit margins is taken. However, it could be that the VAT increase is absorbed in order to maintain strategically set prices, such as one penny under the pound.

Independent forecasts

October 2009

UK forecasts

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

2009

	Average	Lowest	Highest
GDP growth (per cent)	−4.3	−4.5	−3.9
Inflation rate (Q4, per cent)			
CPI	1.7	−0.1	2.5
RPI	−0.3	−2.1	1.0
Claimant count (Q4, million)	1.75	1.55	2.09
Current account (£ billion)	−28.2	−57.3	−17.1
Public Sector Net Borrowing (2009–10, £ billion)	183.4	158.6	220.0

2010

	Average	Lowest	Highest
GDP growth (per cent)	1.2	−0.5	2.2
Inflation rate (Q4, per cent)			
CPI	1.8	0.5	3.4
RPI	2.6	0.6	4.4
Claimant count (Q4, million)	1.97	1.57	2.50
Current account (£ billion)	−23.3	−70.3	−6.7
Public Sector Net Borrowing (2010–11, £ billion)	184.9	162.3	220.0

Notes

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

Selected world forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the world economy. The tables show forecasts for a range of economic indicators taken from *Economic Outlook* (June 2009), published by OECD (Organisation for Economic Co-operation and Development).

2009

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	−2.8	−6.8	−4.8	−4.1
Consumer price (percentage change from previous year)	−0.6	−1.4	0.5	..
Unemployment rate (per cent of the labour force)	9.3	5.2	10.0	8.5
Current account (as a percentage of GDP)	..	..	..	..
Fiscal balance (as a percentage of GDP)	−10.2	−7.8	−5.6	−7.7

2010

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	0.9	0.7	0.0	0.7
Consumer price (percentage change from previous year)	1.0	−1.4	0.7	..
Unemployment rate (per cent of the labour force)	10.1	5.7	12.0	9.8
Current account (as a percentage of GDP)	..	..	..	..
Fiscal balance (as a percentage of GDP)	−11.2	−8.7	−7.0	−8.8

Notes

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

Key indicators

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

	Source CDID	2007	2008	2009 Q1	2009 Q2	2009 Q3	2009 Jul	2009 Aug	2009 Sep
						Seasonally adjusted unless otherwise stated			
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	2.6	0.6	−2.5	−0.6	−0.4	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	2.6	0.6	−2.5	−0.6	−0.4	..	..	..
Industrial production	CKYW	0.3	−3.1	−5.0	−0.6	−0.7	0.6	−2.5	..
Manufacturing	CKYY	0.6	−2.9	−5.3	−0.1	−0.2	0.7	−1.9	..
Construction	GDQB	2.7	−0.4	−6.9	−0.8	−1.2	..	..	..
Services	GDQS	3.5	1.4	−1.9	−0.7	−0.3	..	..	..
Oil and gas extraction	CKZO	−2.2	−5.1	−1.8	−0.7	..	−0.6	−7.7	..
Electricity, gas and water supply	CKYZ	0.2	0.0	−3.8	−3.6	−0.7	−0.2	−0.4	..
Business services and finance	GDQN	5.6	2.5	−2.9	−0.8	−0.1	..	..	..
Household demand									
Retail sales volume growth	EAPS	4.2	2.6	0.2	0.8	0.9	0.3	0.1	0.0
Household final consumption expenditure growth (CVM)	ABJR	2.5	0.9	−1.5	−0.6	..	..	..	..
GB new registrations of cars (thousands)[1]	BCGT	2,390	2,112	338	472	..	..	..	..
Labour market[2,3]									
Employment: 16 and over (thousands)	MGRZ	29,222	29,443	29,204	28,933	..	28,952	..	..
Employment rate: working age (%)	MGSU	74.6	74.5	73.6	72.7	..	72.6	..	..
Workforce jobs (thousands)	DYDC	31,471	31,661	31,160	30,997	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	936.1	940.7	921.0	917.2	..	904.5	..	..
Unemployment: 16 and over (thousands)	MGSC	1,653	1,776	2,215	2,435	..	2,469	..	..
Unemployment rate: 16 and over (%)	MGSX	5.3	5.7	7.1	7.8	..	7.9	..	..
Claimant count (thousands)	BCJD	863.6	905.1	1,366.7	1,533.2	1,605.3	1,583.0	1,606.0	1,626.8
Economically active: 16 and over (thousands)	MGSF	30,875	31,220	31,419	31,368	..	31,422	..	..
Economic activity rate: working age (%)	MGSO	78.9	79.1	79.3	79.0	..	79.0	..	..
Economically inactive: working age (thousands)	YBSN	7,940	7,872	7,828	7,955	..	7,965	..	..
Economic inactivity rate: working age (%)	YBTL	21.1	20.9	20.7	21.0	..	21.0	..	..
Vacancies (thousands)	AP2Y	657	618	465	434	434	430	435	434
Redundancies (thousands)	BEAO	127	163	286	277	..	233	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses)[3]	LNNC	..	..	−0.5	2.5	..	1.8	1.6	..
GB average earnings (excluding bonuses)[3]	JQDY	..	..	3.0	2.4	..	2.2	1.9	..
Whole economy productivity (output per worker)	A4YN	..	..	−4.4	−3.9	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	−3.0	−2.2	..
Unit wage costs: whole economy	LOJE	..	..	4.5	5.7	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	3.9	3.5	..
Business demand									
Business investment growth (CVM)	NPEL	11.9	1.4	−8.9	−10.2	..	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	1.2	2.5	0.1	0.6	..	..	..	..
Prices (12-monthly percentage change – except oil prices)[1]									
Consumer prices index	D7G7	2.3	3.6	3.0	2.1	1.5	1.8	1.6	1.1
Retail prices index	CZBH	4.3	4.0	−0.1	−1.3	−1.4	−1.4	−1.3	−1.4
Retail prices index (excluding mortgage interest payments)	CDKQ	3.2	4.3	2.4	1.4	1.3	1.2	1.4	1.3
Producer output prices (excluding FBTP)[4,5]	PLLV	1.9	4.7	3.6	1.3	0.7	0.2	0.8	1.4
Producer input prices[5]	RNNK	3.0	21.6	0.7	−8.9	−8.9	−12.2	−7.7	−6.5
Oil price: sterling (£ per barrel)	ETXR	36.11	52.10	31.33	38.44	42.05	40.16	44.17	41.81
Oil price: dollars ($ per barrel)	ETXQ	72.44	98.37	44.94	59.82	69.02	65.75	72.99	68.32

| | | | | | | | | Seasonally adjusted unless otherwise stated |
	Source CDID	2007	2008	2009 Q1	2009 Q2	2009 Q3	2009 Jul	2009 Aug	2009 Sep
Financial markets[1]									
Sterling ERI (January 2005=100)	BK67	103.6	90.8	77.3	80.8	82.5	83.2	83.4	80.9
Average exchange rate /US$	AUSS	2.0018	1.8539	1.4342	1.5533	1.6406	1.6366	1.6539	1.6328
Average exchange rate /Euro	THAP	1.4619	1.2588	1.1010	1.1389	1.1475	1.1622	1.1597	1.1212
3-month inter-bank rate	HSAJ	5.95	2.75	1.60	1.15	0.55	0.90	0.70	0.55
Selected retail banks: base rate	ZCMG						0.50	0.50	..
3-month interest rate on US Treasury bills	LUST	3.29	0.11	0.13	0.20	0.13	0.18	0.15	0.13
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	−89,754	−93,446	−20,796	−19,886	..	−6,431	−6,240	..
Exports of services (£m)	IKBB	150,645	170,853	42,329	39,387	..	13,239	13,348	..
Non-EU balance on trade in goods (£m)	LGDT	−47,768	−53,963	−12,531	−10,967	..	−3,888	−3,046	..
Non-EU exports of goods (excl oil & erratics)[6]	SHDJ	98.8	105.8	92.6	92.4	..	94.3	99.1	..
Non-EU imports of goods (excl oil & erratics)[6]	SHED	113.3	113.5	100.8	96.1	..	95.8	95.2	..
Non-EU import and price index (excl oil)[6]	LKWQ	102.6	115.3	130.9	126.3	..	122.7	122.7	..
Non-EU export and price index (excl oil)[6]	LKVX	101.8	109.8	121.5	118.4	..	116.6	116.1	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth)[7]	VQUU	5.8	7.3	8.4	8.7	..	8.7	8.9	..
M4 (year on year percentage growth)	VQJW	12.7	12.9	17.9	13.6	..	14.4	12.5	..
Public sector net borrowing (£m)	−ANNX	33,552	60,852	22,184	41,201	36,091	6,621	14,658	14,812
Net lending to consumers (£m)	RLMH	12,936	11,197	201	475	..	−259	−309	..

External indicators – non-ONS statistics

		2009 Mar	2009 Apr	2009 May	2009 Jun	2009 Jul	2009 Aug	2009 Sep	2009 Oct
Activity and expectations									
CBI output expectations balance[1]	ETCU	−48	−32	−17	−17	−14	−5	−2	4
CBI optimism balance[1]	ETBV			−40			−16		
CBI price expectations balance	ETDQ	−12	−18	−14	−8	−13	6	−6	−3

Notes: *Source: Office for National Statistics*

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

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

Kevin Madden
Office for National Statistics

Coordinated Portfolio Investment Survey, 2002 to 2007

SUMMARY

This article analyses the final results from the Coordinated Portfolio Investment Survey (CPIS) 2007 for the United Kingdom and compares these with the 2002 results. An article on portfolio investment holdings by country of residency was last published by the Office for National Statistics three years ago at www.statistics.gov.uk/cci/article.asp?id=1303. This article updates events since that time, focusing on proportionate movements in the estimates between 2002 and 2007 across geographical regions.

Background

Portfolio investment is a title to ownership in equity and debt securities issued by a foreign-registered company or a foreign government in order to generate funds. It differs from direct investment in that it does not enable the investor to influence the operations of the company or institution in which they are investing and represents less than ten per cent of equity capital of the enterprise. The nature of portfolio investment is, therefore, less strategic and more liquid than direct investment.

The Coordinated Portfolio Investment Survey (CPIS) is conducted on an annual basis in response to global asymmetries in reported balance of payments data, especially those in portfolio investment flows. The survey aims to provide a comprehensive and harmonised picture of cross-border investments and is overseen by the International Monetary Fund (IMF). The UK's contribution to the CPIS 2007 is recorded in a geographical split of the portfolio investment assets issued by the rest of the world and held by UK residents.

This article analyses the final results for the UK arising from the CPIS 2007 and compares these with the results of 2002. Data was delivered to the IMF in July 2009, and will be published on their website in November 2009. A full country breakdown is available in the **Annex** which shows the geographical portfolio investment position split by type of security.

Although data are now available from the Office for National Statistics (ONS) publication *UK Balance of Payments: the Pink Book* 2009, this article is based on data delivered to the IMF and consistent with the ONS *Balance of Payments Statistical Bulletin* June 2009. Thereafter the initial 2008 data are to be delivered in October 2009 and this will be followed by a final delivery to the IMF in early 2010 when a full sectoral breakdown will be available. It should be noted that coverage of holdings of assets is wider than that presented in this article and further details can be found at the IMF website www.imf.org/external/np/sta/pi/datarsl.htm.

Introduction

An article on portfolio investment holdings by country of residency was last published by ONS three years ago at www.statistics.gov.uk/cci/article.asp?id=1303. This article aims to bring events since that time up to date, broadening the analysis through an examination of geographic regions rather than countries. This article also describes changes in the distribution of portfolio investment abroad by region since the 2002 CPIS.

Overview

The financial account and international investment position are primarily made up of three categories; direct investment, portfolio investment and other investment. Examining of each of these forms of investment in terms of net transactions in the UK Financial Accounts emphasises the

importance of UK portfolio investment to the UK economy in 2007. Net UK portfolio investment at £111.3 billion was greater than the combined values of direct (admittedly estimates are distorted by the high level of disposals in this period) and other investment. An examination of the international investment position (the stock of assets and liabilities) between 2002 and 2007 revealed that UK direct investment abroad grew by 43.4 per cent to £913.9 billion while other investment abroad (which mainly comprises the growth of short-term loans, currency and deposits) grew by 142.7 per cent to £3,750.2 billion. UK portfolio investment abroad was considerable, rising by 100.7 per cent to £1,693.8 billion.

Portfolio investment in the UK was £1,917.6 billion in 2007, having grown by 107.2 per cent since 2002.

UK portfolio investment is held in the form of equities, short-term debt securities and long-term debt securities. Holdings of non-resident issued securities in the form of equities were £753.1 billion, while the remainder, £940.8 billion, was split between long-term and short-term debt securities. Overwhelmingly, debt securities were held in the form of long-term debt (defined as over one year maturity at time of issue), at £867.5 billion. The remainder, £73.3 billion, was mainly held in the form of certificates of deposit or commercial paper, with a maturity of less than one year and is referred to throughout the rest of this article as short-term debt securities.

Since 2002, the growth of equities at 146.2 per cent outpaced the growth of long-term debt securities at 77.2 per cent. In the same period, growth in short-term debt securities, at 51.1 per cent, was much slower. The remainder of the article will look at each of these three types of security from a broad regional perspective, and will analyse how various proportions have changed in the intervening five years. The article will conclude with an afterword about the phenomenon of offshore financial centres and emerging economies.

Regional distribution

Figure 1 shows the distribution among broad geographic regions in accordance with the balance of payments vademecum (the reference document published by the Statistical Commission of the European Commission in December 2007). Figure 1 illustrates that the proportion held in Europe of overall UK portfolio investment was the largest regional share at 42.7 per cent followed by America (North, Central and

South) at 32.7 per cent. The region identified within the figure's legend as 'Rest' includes countries not shown elsewhere and various international organisations.

Equities

Since 2002, the growth of equities at 146.2 per cent was approximately double that of debt securities. This growth is a reflection of the world equity markets which performed strongly over the period 2002–2007, as a generally benign world economy underpinned a strong period of growth.

Figure 2 shows some key stock market indices from within the broad regions covered by UK portfolio investment. The level of the Shanghai composite index within China had increased by over 180 per cent, with rapid growth towards the end of the period, the Hang Seng in Hong Kong had increased by more than 135 per cent, whilst the Dax in Germany and the AORD in Australia had grown by around 100 per cent. Growth in the Egyptian stock exchange, though only established in 2004 was remarkable (around 270 per cent) and hints at some of the strength in Northern African countries' financial markets. At the same time, growth in the US, Japan, France and the EuroStoxx

indicator had been between 45 to 60 per cent. In the UK, the FTSE-100 had grown by around 45 per cent.

Overall, the survey for 2007 showed that holdings of equities was highest in Europe where its share fell from 48.2 per cent in 2002 to 39.9 per cent in 2007 (**Figure 3**). The share for America fell from 31.8 per cent in 2002 to 27.6 per cent in 2007. Asia increased its share from 5.9 per cent to 25.6 per cent. The accumulation of equities between 2002 and 2007 has primarily been located in three regions: Europe, America and Asia and they represented 93.1 per cent of all holdings abroad. However, these holdings had risen 7.2 per cent on the proportion these regions held in 2002.

Within Europe in 2007, Germany, Ireland and France attracted 6.3 per cent, 5.3 per cent and 4.8 per cent respectively of all UK equity investment abroad while Switzerland and the Netherlands also had significant investment. In the Americas, the United States had the highest proportion of world equity investment at 24.0 per cent. In Asia, the three main destinations for equity investment were Japan at 9.7 per cent, Hong Kong at 2.7 per cent and the People's Republic of China at 2.5 per cent. In the region of Oceania, which had a world share of 2.6 per cent,

Figure 1
Overall overseas portfolio investment, 2007

Percentage of total
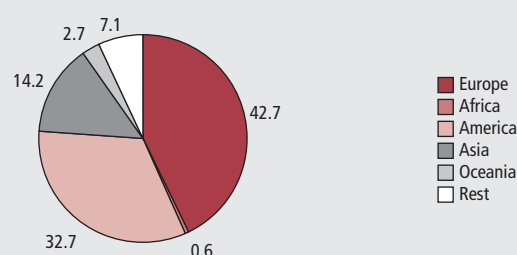
Source: CPIS

Figure 2
Growth in stock market indices, 2002–2007
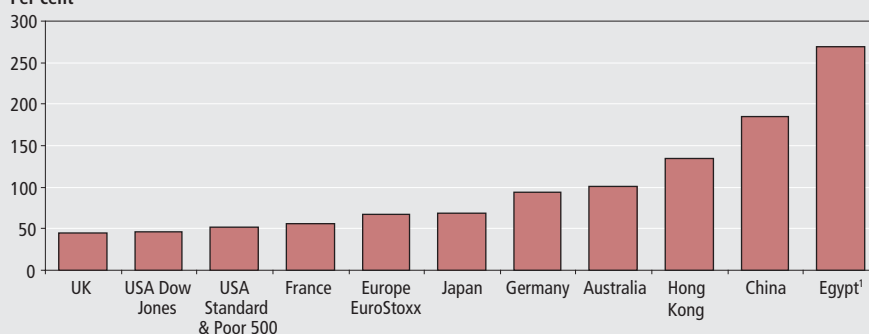
Note:

1 Growth from 2004 when index began.

Source: Yahoo Finance

Figure 3
Portfolio investment – equities

Per cent

Source: CPIS
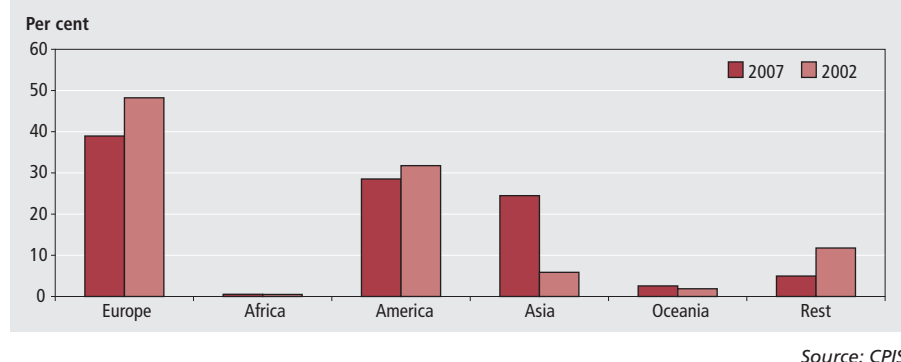
Figure 4
Portfolio investment – long-term debt securities

Per cent

Source: CPIS
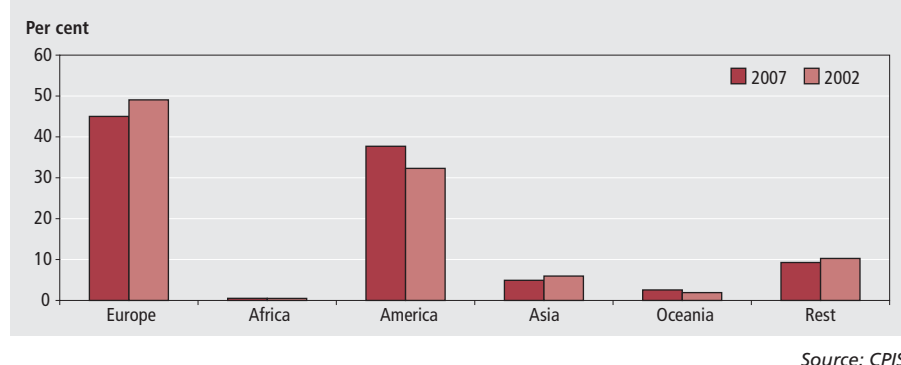
Figure 5
Portfolio investment – short-term debt securities

Per cent

Source: CPIS
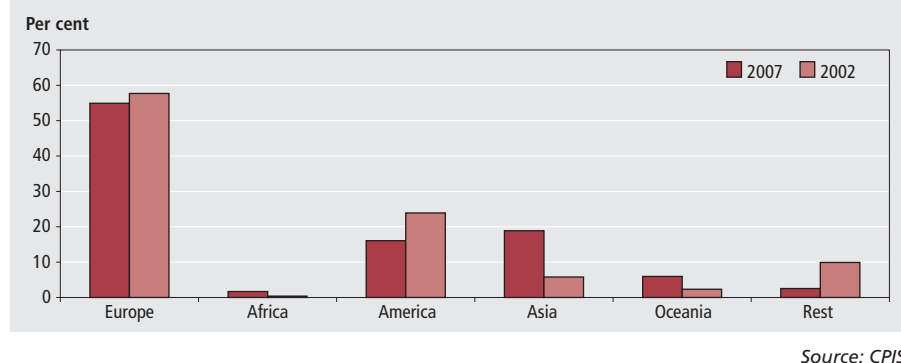
Australia was the primary destination for equity investment at 2.5 per cent.

The strong growth in UK portfolio investment abroad illustrated by the data coincided with growth in company valuations, perhaps reflecting increasing confidence and opportunities available from more liberalised market economies. The rapid growth in some of the developing countries beyond that seen in some of the established markets, coupled with a potential lack of internal finance, was integral to the expansion of UK portfolio holdings in these areas.

Long-term debt securities

As shown in **Figure 4** the largest target area for investment in long-term debt securities

was Europe at 45.0 per cent which was a decrease of 4.1 per cent since 2002. Within Europe, the three largest recipients of UK funding were Ireland at 6.4 per cent, Netherlands at 6.3 per cent and Germany at 5.3 per cent. By contrast, the proportion of investment in America increased from 32.3 per cent in 2002 to 37.7 per cent in 2007. The three main sources for issuance of long-term debt securities within America were the United States at 27.7 per cent, the Cayman Islands at 7.3 per cent and Canada at 1.3 per cent. The world share of holdings in Asia fell, from 6.0 per cent in 2002 to 4.9 per cent in 2007. Japan held 2.1 per cent of market share while the Republic of Korea held 0.6 per cent and India held 0.4 per cent.

Short-term debt securities

Short-term debt securities located within Europe fell from 57.7 per cent in 2002 to 54.9 per cent in 2007 (**Figure 5**). In Europe there were three main recipients of UK funds; France, at 12.1 per cent, had the largest proportion followed by Ireland at 10.5 per cent and Germany at 8.6 per cent. In America, the United States held the largest proportion at 14.2 per cent. Within the Americas, holdings in Canada, Cayman Islands and Chile were estimated at 0.6 per cent, 0.4 per cent and 0.3 per cent respectively.

Offshore financial centres and emerging economies

The issuance of capital to foreign-based investors is an important source of finance for the private sector in economies with a limited internal credit market and a restricted ability to generate private investment funds from households. Equally, this has operated as an important policy instrument for government within developing economies where a greater yield than government bonds in developed economies was achieved and, as such, potentially induces foreign investment.

Inspection of the survey results of UK resident holdings of issues by offshore financial centres between 2002 and 2007 indicated more rapid growth in equities and long-term debt securities, but it must be emphasised this originated from a lower base than historically traditional areas of investment for UK residents, such as America (particularly the United States), Asia (primarily Japan) and Europe (in general, the EU12 countries). Nonetheless, growth was extremely strong in the Russian Federation, the People's Republic of China and the Near and Middle Eastern countries and there was significant growth of holdings within the continent of Africa.

Given the lower starting level and relative immaturity of financial market liberalisation in some developing economies and the likely expansion of these sectors in the future, it is possible that the shifting trend in growth away from developed economies will continue. The key driver in these developments might be explained by patterns in returns in developing economies, and by the faster rate of GDP growth.

Figure 6 presents annual GDP estimates from the Organisation of Economic Cooperation and Development (OECD) which have been converted to constant price purchasing power parity adjusted dollars and indicates that average growth in the US over this period was 2.6 per cent. This is greater

Figure 6
Average GDP growth, 2002–2007
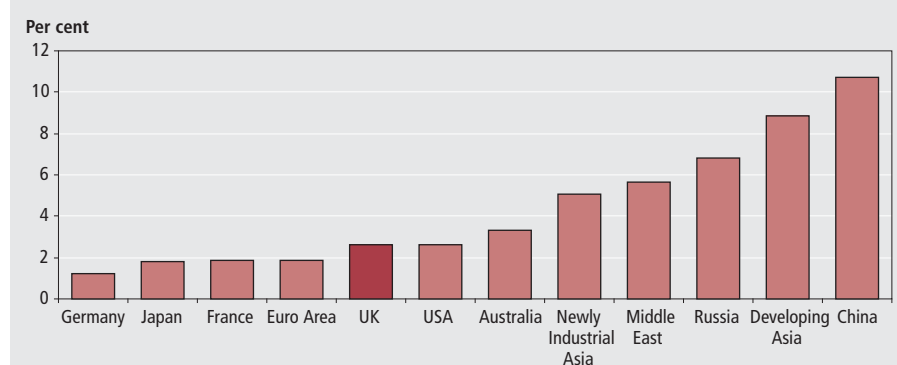
Per cent

Source: OECD and IMF

Note:
1   Data for OECD countries taken from OECD statistics database in constant price PPP terms, data for the broad regions and China taken from the IMF in constant price non-PPP terms.

than the euro area average of 1.9 per cent. The rates for France and Germany (two of the bigger shares of portfolio investment) were below the euro area average (1.8 per cent and 1.2 per cent respectively). Growth in Australia had been 3.3 per cent, outperforming the UK which had averaged 2.6 per cent growth. The OECD figure for Russia showed an average growth of 6.8 per cent, higher than most other European countries following a previous period of severe retrenchment.

In Asia, the OECD reports that in Japan, growth averaged 1.8 per cent, compared to 5.1 per cent in the newly industrialised economies of Hong Kong, South Korea, Singapore and Taiwan. Growth in China and other developing Asian economies was not available on the OECD statistics database but IMF data indicates an average annual growth of 10.7 per cent over the period (at constant prices but not purchasing power parity adjusted). The IMF also provides data for the Middle East and developing Asian economies, two of the areas of strong growth in portfolio investment. Average growth in the Middle East was 5.7 per cent and in developing Asia, there was an average increase of 8.9 per cent.

Average GDP growth, 2002–2007

Real growth (Figure 6) in the developing economies in Asia and in Russia exceeded that in the rest of the world and growth in the Middle East and newly industrialised

Asia has exceeded that in the developed world. So the prospects of relatively stronger growth in these areas over this period would have been relatively appealing for foreign investors. The data for non-OECD countries is in non-purchasing power parity adjusted terms; this is likely to make some difference to the figures but is unlikely to be enough to change the relative positions of the economies over this period.

Considering returns in more detail, it is not simply the case that GDP growth was quicker which drove returns. There was an element of higher returns in these economies due to a higher risk premium associated with them. At this point in time, there was a greater willingness to take on a share of riskier assets offering a higher return and this will have contributed to the diversification in UK portfolio investment as indicated by the data. This is still consistent with an increasing share of investment in the USA as there will always be a need to offset investment considered more risky with a portfolio of assets considered to be safe. UK holdings in US assets have increased in the safer category of assets (debt securities) to a greater extent than the less secure assets (equities) as US Treasury bills are considered to be one of the safest investments available.

Overall the movement in UK portfolio holdings reflects an increase in the importance of high quality US assets and an increased willingness to invest in developing countries at the expense of European-based

assets. Whether this picture will continue past 2007 will reflect investors' expectations about the future prospects of different regions and economies. There is likely to be a diminished supply of funds for foreign portfolio investment if we take into account recent output and labour market developments alone. Moreover, in respect of restrictions operating at present in money markets, it seems possible that growth in portfolio investment may weaken significantly by the time of the next data release.

It is possible a 'flight to quality' in the wake of recent economic issues may occur, but where the market might predict 'quality' investments is not something that can be determined at present. Given that the current crisis was lead by US financial institutions and it is the developing economies which appear to be growing, it is possible that there may be a movement away from US assets by UK investors. Observing more recent developments in equity markets shows there was a marked deterioration worldwide (with falls of between 5 per cent in Egypt and 40 per cent in China over 2008 as a whole); indeed, no single market escaped the impact of the shock to the global financial system.

Conclusion

The results suggest UK portfolio investment abroad has remained concentrated around three regions – Europe, America and Asia. Growth in these regions has to an extent disguised rapid change in certain offshore financial centres and newly emergent economies. It should be remembered that the faster pace of growth in these has arisen from much smaller bases than traditional regions and countries. It is therefore likely that portfolio investment will continue to be attracted to traditional locations and countries such as western Europe and the United States. The relative movements in GDP and confidence going forward will continue to influence the direction of flows of money, as the world economy still faces unprecedented uncertainty in financial markets.

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ANNEX

The table below shows the holdings of UK portfolio investment by financial instrument for the period 2007 for individual countries. Further details of portfolio coverage can be found on the IMF website: www.imf.org/external/sta/pi/datarsl.htm.

Table A1
Holdings of UK portfolio investment by financial instrument for individual countries, 2007

£ million

Country of non–resident issuer	Equities	Total debt	Long-term debt securities	Short-term debt securities	Total
Afghanistan, Islamic State of	0	0	0	0	0
Albania	3	11	11	0	14
Algeria	1	−1	−1	0	−1
American Samoa	0	0	0	0	0
Andorra	0	−18	−18	0	−18
Angola	0	84	84	0	84
Anguilla	22	309	299	10	331
Antigua and Barbuda	0	0	0	0	0
Argentina	561	2,052	2,097	−45	2,612
Armenia	0	0	0	0	0
Aruba	0	78	78	0	78
Australia	18,939	24,215	20,883	3,332	43,155
Austria	2,707	6,165	5,506	658	8,872
Azerbaijan	0	69	13	56	69
Bahamas, The	89	108	108	0	197
Bahrain	31	411	347	63	442
Bangladesh	17	18	0	18	35
Barbados	8	46	46	0	54
Belarus	0	11	10	1	11
Belgium	3,963	6,069	5,737	332	10,032
Belize	0	0	0	0	0
Benin	0	0	0	0	0
Bermuda	5,800	1,334	1,326	8	7,134
Bhutan	0	0	0	0	0
Bolivia	5	0	0	0	5
Bosnia and Herzegovina	0	36	36	0	36
Botswana	0	0	0	0	0
Brazil	9,395	4,560	4,434	126	13,955
British Indian Ocean Territory	0	0	0	0	0
Brunei Darussalam	−4	0	0	0	−4
Bulgaria	41	59	43	16	100
Burkina Faso	0	0	0	0	0
Burundi	0	0	0	0	0
Cambodia	0	0	0	0	0
Cameroon	0	3	3	0	3
Canada	62	12,050	11,588	462	12,112
Cape Verde	0	0	0	0	0
Cayman Islands	17,051	63,306	62,994	312	80,358
Central African Republic	0	0	0	0	0
Chad	0	0	0	0	0
Chile	427	470	253	217	897
China, P.R.	18,746	637	557	80	19,382
Christmas Island	0	0	0	0	0
Cocos (Keeling) Islands	0	0	0	0	0
Colombia	72	337	336	1	409
Comoros	0	0	0	0	0
Congo, Dem. Rep. of	0	0	0	0	0
Congo, Rep. of	0	8	8	0	8
Cook Islands	0	0	0	0	0
Costa Rica	0	85	84	1	85
Côte d'Ivoire	1	75	75	0	76
Croatia	18	344	300	44	362
Cuba	1	53	50	3	53
Cyprus	394	346	339	7	740
Czech Republic	477	588	587	1	1,065
Denmark	3,430	7,430	7,373	57	10,859
Djibouti	0	0	0	0	0
Dominica	0	0	0	0	0

Table A1 continued

Country of non–resident issuer	Equities	Total debt	Long-term debt securities	Short-term debt securities	Total
Dominican Republic	0	449	429	19	449
Ecuador	0	70	65	5	70
Egypt	508	1,554	841	712	2,062
El Salvador	0	12	12	0	11
Equatorial Guinea	0	0	0	0	0
Eritrea	0	0	0	0	0
Estonia	9	9	9	0	18
Ethiopia	1	0	0	0	1
Falkland Islands (Malvinas)	0	0	0	0	0
Faroe Islands	0	0	0	0	0
Fiji	0	7	7	0	7
Finland	10,885	3,456	3,020	436	14,341
France	36,482	51,371	42,528	8,843	87,853
French Guiana	0	0	0	0	0
French Polynesia	0	0	0	0	0
French Southern Territories	0	0	0	0	0
Gabon	0	9	9	0	10
Gambia, The	0	4	0	4	4
Georgia	0	19	19	0	19
Germany	47,598	52,014	45,709	6,306	99,613
Ghana	−4	193	168	26	189
Gibraltar	1,180	−405	−405	0	775
Greece	5,157	4,650	4,542	108	9,807
Greenland	0	0	0	0	0
Grenada	0	1	1	0	1
Guadeloupe	−2	0	0	0	−2
Guam	−2	0	0	0	−2
Guatemala	0	12	12	0	12
Guernsey	2,189	981	972	9	3,170
Guinea	0	0	0	0	0
Guinea-Bissau	0	0	0	0	0
Guyana	22	14	14	0	36
Haiti	0	0	0	0	0
Honduras	0	2	2	0	2
Hong Kong SAR of China	20,223	1,617	1,389	228	21,840
Hungary	748	1,335	1,315	20	2,083
Iceland	70	3,089	3,089	0	3,159
India	16,577	4,371	3,667	704	20,948
Indonesia	2,277	1,137	1,098	40	3,414
Iran, Islamic Republic of	0	584	177	407	584
Iraq	0	9	9	0	9
Ireland	40,371	63,594	55,934	7,659	103,965
Isle of Man	985	380	373	7	1,365
Israel	1,331	809	803	6	2,141
Italy	14,270	42,588	38,667	3,922	56,858
Jamaica	2	125	83	42	127
Japan	72,960	29,164	18,549	10,615	102,124
Jersey	4,137	21,834	17,644	4,190	25,971
Jordan	10	1	1	0	11
Kazakhstan	133	1,221	972	249	1,354
Kenya	0	2	0	2	2
Kiribati	0	0	0	0	0
Korea, Democratic People's Republic of	1,175	35	33	2	1,210
Korea, Republic of	14,215	5,590	5,422	168	19,805
Kuwait	135	551	290	262	687
Kyrgyz Republic	0	0	0	0	0
Lao People's Democratic Republic	12	0	0	0	12
Latvia	0	5	1	4	6
Lebanon	4	126	112	14	129
Lesotho	0	0	0	0	0
Liberia	−16	78	78	0	62
Libya	0	0	0	0	0
Liechtenstein	7	106	106	0	113

Table A1 continued

Country of non–resident issuer	Equities	Total debt	Long-term debt securities	Short-term debt securities	Total
Lithuania	1	37	37	0	39
Luxembourg	17,147	26,206	25,918	288	43,353
Macao SAR of China	0	1	0	1	1
Macedonia, FYR	0	0	0	0	0
Madagascar	0	0	0	0	0
Malawi	0	8	8	0	8
Malaysia	3,203	2,079	1,599	480	5,282
Maldives	0	1	0	1	1
Mali	1	3	3	0	4
Malta	34	0	0	0	34
Marshall Islands	2	6	6	0	8
Martinique	0	0	0	0	0
Mauritania	0	2	2	0	2
Mauritius	348	118	114	4	466
Mayotte	0	0	0	0	0
Mexico	3,027	2,343	2,214	129	5,370
Micronesia, Federated States of	0	0	0	0	0
Moldova	0	0	0	0	0
Monaco	0	0	0	0	0
Mongolia	0	10	10	0	10
Montenegro, Republic of	0	0	0	0	0
Montserrat	0	0	0	0	0
Morocco	33	61	57	4	94
Mozambique	0	0	0	0	0
Myanmar	0	0	0	0	0
Namibia	0	1	1	0	1
Nauru	0	0	0	0	0
Nepal	0	0	0	0	0
Netherlands	20,267	57,954	54,763	3,192	78,221
Netherlands Antilles	594	745	745	0	1,339
New Caledonia	0	0	0	0	0
New Zealand	318	2,363	1,333	1,030	2,681
Nicaragua	0	0	0	0	0
Niger	0	1	1	0	1
Nigeria	20	1,353	916	437	1,373
Niue	0	0	0	0	0
Norfolk Island	0	0	0	0	0
Norway	7,391	6,778	6,317	461	14,170
Oman	19	27	15	12	46
Pakistan	265	53	41	12	318
Palau	0	0	0	0	0
Panama	720	122	109	12	842
Papua New Guinea	78	0	0	0	78
Paraguay	0	0	0	0	0
Peru	207	221	185	36	428
Philippines	1,000	647	638	9	1,647
Pitcairn	0	0	0	0	0
Poland	948	2,182	2,015	167	3,130
Portugal	2,535	4,603	4,233	370	7,138
Puerto Rico	2	0	0	0	2
Qatar	405	284	231	53	689
Réunion	0	0	0	0	0
Romania	109	173	145	28	282
Russian Federation	9,126	6,877	6,408	470	16,004
Rwanda	0	0	0	0	0
St. Helena	0	0	0	0	0
St. Kitts and Nevis	0	0	0	0	0
St. Lucia	0	0	0	0	0
St. Pierre and Miquelon	0	0	0	0	0
St. Vincent and the Grenadines	0	0	0	0	0
Samoa	0	0	0	0	0
San Marino	0	5	5	0	5
São Tomé and Príncipe	0	3	3	0	3
Saudi Arabia	211	344	210	134	555

Table A1 continued

Country of non–resident issuer	Equities	Total debt	Long-term debt securities	Short-term debt securities	Total
Senegal	0	6	0	6	6
Serbia, Republic of	0	8	8	0	8
Seychelles	0	15	15	0	15
Sierra Leone	0	0	0	0	0
Singapore	8,640	1,831	1,806	25	10,471
Slovak Republic	0	551	545	7	551
Slovenia	41	190	168	22	231
Solomon Islands	0	0	0	0	0
Somalia	0	0	0	0	0
South Africa	3,136	1,961	1,940	21	5,097
Spain	14,443	35,574	35,217	357	50,017
Sri Lanka	98	29	19	10	127
Sudan	0	4	4	0	4
Suriname	0	0	0	0	0
Swaziland	0	0	0	0	0
Sweden	9,057	9,470	8,448	1,022	18,527
Switzerland	34,269	7,126	6,680	446	41,395
Syrian Arab Republic	0	0	0	0	0
Taiwan Province of China	11,170	550	527	23	11,720
Tajikistan	0	0	0	0	0
Tanzania	0	5	4	1	5
Thailand	3,082	210	198	12	3,291
Timor-Leste	0	0	0	0	0
Togo	0	0	0	0	0
Tokelau	0	0	0	0	0
Tonga	−10	0	0	0	−10
Trinidad and Tobago	0	56	56	0	56
Tunisia	1	107	103	4	108
Turkey	2,751	5,191	4,786	405	7,942
Turkmenistan	0	0	0	0	0
Turks and Caicos Islands	0	0	0	0	0
Tuvalu	0	0	0	0	0
Uganda	0	32	30	2	32
Ukraine	45	1,647	1,315	332	1,692
United Arab Emirates	1,174	2,100	1,909	191	3,274
United Kingdom	0	0	0	0	0
United States	180,414	250,670	240,246	10,424	431,083
United States Minor Outlying Islands	0	0	0	0	0
Uruguay	5	102	100	2	107
Uzbekistan	0	0	0	0	0
Vanuatu	0	0	0	0	0
Vatican City State	0	0	0	0	0
Venezuela, República Bolivariana de	0	453	447	6	454
Vietnam	795	39	39	0	835
Virgin Islands, British	2,534	733	733	0	3,268
Virgin Islands, U.S.	126	8	8	0	133
Wallis and Futuna Islands	0	0	0	0	0
West Bank and Gaza Strip	0	0	0	0	0
Western Sahara	0	0	0	0	0
Yemen, Republic of	0	5	5	0	5
Zambia	1	17	17	0	18
Zimbabwe	1	0	0	0	1
Other countries (confidential data)	961	14,413	13,597	817	15,375
Other countries (unallocated)	34,983	36,051	35,963	88	71,035
International organisations	1,438	31,862	30,911	950	33,300
Total value of investment	753,075	940,751	867,474	73,277	1,693,826

Source: CPIS

Households and the labour market for local areas

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SUMMARY

The latest annual Statistical Bulletin on 'Work and worklessness among households' was published by the Office for National Statistics on 26 August 2009. It gives information about working-age households, and about the adults and children living in them, by household economic activity status. It includes estimates of workless working-age households, and the adults and children living in them, by household type, region, and ethnicity. This article, using the Annual Population Survey, considers more detailed geographical breakdowns of the same information. Detailed tables reporting the sub-regional data can be found in an online version of this article which is available at: www.statistics.gov.uk/articles/nojournal/households-labourmarket-local-areas.pdf.

Introduction

The Office for National Statistics (ONS) publishes an annual Statistical Bulletin on 'Work and worklessness among households'. The latest edition was published on 26 August 2009 at: www.statistics.gov.uk/pdfdir/work0809.pdf. It gives information about working-age households, and about the adults and children living in them, by household economic activity status. It includes estimates of workless working-age households, and the adults and children living in them, by household type, region, and ethnicity. This article considers more detailed geographical breakdowns of the same information. An online version of this article was published on the ONS website on 28 October 2009 which can be found at: www.statistics.gov.uk/articles/nojournal/households-labourmarket-local-areas.pdf . The annexes in this version present detailed tables on the sub-regional data discussed in this article.

Data sources

Labour Force Survey

The Statistical Bulletin on 'Work and worklessness among households' is produced using data from the Labour Force Survey (LFS). The LFS is a quarterly survey of households living at private addresses in the UK. Individuals are in the survey for five consecutive quarters. As the survey collects information about each member of participating households, the LFS also provides family and household-level statistics that describe the combined economic status of family and household members.

The LFS household datasets are available, on a consistent calendar quarter basis, for the April to June quarters from 1997, and October to December quarters from 2004. It has a sample size of around 53,000 households each quarter and collects a wide range of information. For some households, one or more members have unknown economic status because they refuse to take part, or no proxy response is given. These members are given the same weight as other members in the household so they retain their correct place within the household structure. This means there will be some 'unknown' households in any weighted analysis of the combined economic status in LFS household datasets.

Annual Population Survey

Accompanying the LFS is the Annual Population Survey (APS), which is created by combining individuals in waves 1 and 5 from four consecutive LFS quarters with boosts from the English, Welsh and Scottish Local Labour Force Surveys. In autumn 2008, ONS launched APS household datasets, to complement LFS household datasets. As the APS contains results from four different sources, the APS household sample is three times the size of the LFS sample. It contains information collected from around 160,000 households. They are available for the calendar period January to December for individual years from 2004. Although there will be individuals with missing economic status within

Box 1

Key definitions

- A **household** is defined as a single person or a group of people living at the same address that have the address as their only or main residence, and either share one main meal a day or share the living accommodation or both.
- A **working household** is one that includes at least one person of working age and all individuals aged 16 and over are in employment.
- A **mixed household** is one that includes at least two people of working age and at least one person aged 16 and over is in employment, with at least one other being unemployed or inactive.
- A **workless household** is one that includes at least one person of working age and no one aged 16 and over is in employment.
- A **relative standard error** (RSE) is the standard error as a percentage of the estimate of that standard error.

some households, as in the LFS household datasets, a form of 'nearest neighbour' imputation is used in the APS. This means that analysis of the combined economic status do not contain any 'unknown' households.

LFS versus APS

The main advantage of the APS over the LFS, for the analysis in this article, is that it is the recommended source for local area data because of the greater sample size. The smaller sample size of the LFS results in estimates with wider margins of uncertainty (see Johnson 2009). By covering a whole year, the APS household data also gives an annual estimate in comparison to a quarterly estimate from the LFS. However, they are less timely than the quarterly LFS data sets as they are published around six months after the end of the period.

Reliability measures

The APS household datasets are created from a sample, and as with all sample surveys, is subject to sampling variability. Selecting a different sample of households may produce different estimates. The difference between an estimate and its true value is the standard error, and one way to express the standard error is as a percentage of the estimate itself. This is called the relative standard error (RSE). For example, estimates with a RSE of greater than 20 per cent are not considered reliable for practical purposes. A ready reckoner is provided in Johnson (2009) showing the reliability of key household indicators at various geographical levels. This is useful to determine whether the reliability of an estimate at a particular geographical level is fit for its purpose, or whether a larger geographical area should be used.

Geography

The 'Work and worklessness' Statistical Bulletin shows figures at national and regional level using the LFS. The APS household datasets allow production of similar figures at local area level. The

geographical areas considered in this article include Countries of the UK, Government Office Region (GOR) in England, Local Authorities (LA) and Nomenclature of Units for Territorial Statistics (NUTS). The latter is maintained by Eurostat, the statistical office of the European Communities, as a 3-tier hierarchy used for statistical production across the European Union. The top level is equivalent to GOR plus Scotland, Wales and Northern Ireland, level 2 (NUTS 2) consists of groups of counties, with 37 in the UK, and level 3 (NUTS 3) consists of groups of local authorities, with 133 in the UK. There are a total of 408 local authorities in the UK, each of which is allocated to a group in NUTS 3. The hierarchy used in the tables of this article is summarised in the following way:

Country → GOR → NUTS 2 → NUTS 3 → LA

NUTS areas provide a useful intermediate level in terms of sample size between GOR and LA, when the LA sample sizes are too small for reliable estimates. The analysis in this article will generally be based on NUTS 3 areas, when describing the smaller geographies.

Results

The following section is based on the January to December 2008 APS household dataset and gives similar information to the 'Work and worklessness' Statistical Bulletin at the various geographical levels mentioned above. The estimates will not directly match the 2009 Statistical Bulletin which uses LFS data, as imputation for unknown economic status is performed on the APS household data, and different time periods are used in each dataset.

Households

Table 1 shows the number of working-age households in the UK for the period January to December 2008 was 19.5 million. Of these, 3.1 million (16.0 per cent) were workless households, where no-one of

working age was in employment. For the countries of the UK, Wales had the highest workless household rate at 18.8 per cent, and England had the lowest at 15.6 per cent. The percentage of workless households in Scotland and Northern Ireland was 17.3 per cent and 18.5 per cent respectively.

Of the Government Office Regions (GORs) within England, Inner London had the highest workless household rate at 21.4 per cent, and the South East had the lowest workless household rate at 11.3 per cent.

The percentage of workless households for each NUTS 3 area within Great Britain for January to December 2008 is shown in **Map 1**. There are wide variations throughout the country, but Scotland contains NUTS 3 areas with some of the highest and lowest rates of workless households. The map also shows Wales had some high percentages of workless households. Each region will be discussed in more detail below. The percentage of workless households for the areas within each region can be found in **Annex A** which is available at: www.statistics. gov.uk/downloads/theme_labour/ WorklessHouseholds08.xls.

North East

The North East was the region within England with the fewest working-age households for the period January to December 2008. One in five (20.0 per cent) of the 822,000 working age households were workless households. South Teesside and Tyneside were the areas with the highest workless household rates, at 23.6 per cent and 21.7 per cent respectively. Northumberland had the lowest workless household rate at 14.9 per cent, followed by Darlington at 16.6 per cent.

North West

In the year to December 2008 there were 2.2 million working-age households in the North West, and 19.2 per cent were workless households. The area with the highest workless household rate was Liverpool at 29.3 per cent, which was also

Table 1

Working-age households by region and combined economic status of household, January to December 2008

	Working Households	Mixed Households	Workless Households	All Working-age Households
Per cent				
England	57.3	27.1	15.6	100.0
North East	52.7	27.3	20.0	100.0
North West	54.2	26.7	19.2	100.0
Yorkshire and The Humber	57.2	26.3	16.4	100.0
East Midlands	59.6	26.3	14.1	100.0
West Midlands	54.1	28.7	17.2	100.0
East of England	59.8	27.7	12.6	100.0
London	53.3	28.6	18.1	100.0
Inner London	54.3	24.2	21.4	100.0
Outer London	52.6	32.0	15.4	100.0
South East	61.9	26.8	11.3	100.0
South West	61.4	25.1	13.5	100.0
Wales	51.8	29.4	18.8	100.0
Scotland	58.5	24.2	17.3	100.0
Northern Ireland	48.8	32.7	18.5	100.0
Great Britain	57.1	27.0	15.9	100.0
United Kingdom	56.9	27.1	16.0	100.0
Thousands				
England	9,354	4,431	2,546	16,331
North East	433	224	164	822
North West	1,188	585	420	2,194
Yorkshire and The Humber	955	439	274	1,669
East Midlands	842	371	199	1,412
West Midlands	904	480	288	1,671
East of England	1,060	491	223	1,774
London	1,386	744	469	2,599
Inner London	616	275	243	1,133
Outer London	770	469	226	1,465
South East	1,609	697	293	2,600
South West	976	400	215	1,591
Wales	475	269	172	917
Scotland	996	413	295	1,704
Northern Ireland	265	178	100	544
Great Britain	10,825	5,113	3,013	18,951
United Kingdom	11,090	5,291	3,113	19,495

Source: Annual Population Survey

the highest in the UK. East Merseyside also had a high workless household rate at 25.0 per cent. Cheshire County Council (CC) and East Cumbria had the lowest workless household rates at 13.0 per cent and 13.3 per cent respectively.

Yorkshire and The Humber
Of the 1.7 million working-age households in Yorkshire and The Humber in 2008, 16.4 per cent were workless. Within the region, Kingston-upon-Hull was the area with the highest workless household rate at 25.8 per cent. The areas within North Yorkshire have the lowest percentage of workless households in the region, York at 12.4 per cent and North Yorkshire CC at 10.2 per cent.

East Midlands
There were 1.4 million working-age households in the East Midlands, of which 14.1 per cent were workless. More than one in five households in the Nottingham and

Leicester areas were workless, with rates of 22.4 per cent and 21.8 per cent respectively. In contrast, the areas with the lowest percentage of workless households were Leicester CC and Rutland (10.8 per cent) and Northamptonshire (10.2 per cent).

West Midlands
Of the 1.7 million working-age households in the West Midlands, 17.2 per cent were workless households. The workless household rate varied considerably for areas within the West Midlands. One in four households in Birmingham (24.9 per cent) were workless, and the rates were also high in Stoke-on-Trent and Walsall and Wolverhampton (21.6 per cent and 21.8 per cent). However, less than one in ten households (9.8 per cent) in Warwickshire were workless.

East of England
The East of England had 1.8 million

working-age households in 2008, of which 12.6 per cent were workless. Of the areas within the East of England, Bedfordshire CC had a workless household rate of 8.7 per cent and Hertfordshire had 9.7 per cent. Luton had the highest workless household rate in the region at 18.5 per cent, with Norfolk next at 16.7 per cent.

London
Almost one in five of the 2.6 million working-age households in London were workless in 2008. Inner London had a higher workless household rate than Outer London at 21.4 per cent and 15.4 per cent respectively. Inner London can be split into east and west and the east had the highest percentage of workless households at 23.0 per cent. The rate in the south part of Outer London was almost half this at 12.3 per cent.

South East
The South East had the same number of working-age households as London in 2008 at 2.6 million. It is the region with the lowest workless household rate in England at 11.3 per cent. Surrey (8.4 per cent), Berkshire (8.7 per cent), Hampshire CC (8.8 per cent) and Oxfordshire (8.9 per cent) all had low workless household rates. Despite the Isle of Wight being in the same NUTS 2 area as Hampshire CC, it was the area with the highest workless household rate in the South East at 18.9 per cent. Brighton and Hove had a similar level at 18.4 per cent.

South West
In 2008 there were 1.6 million working-age households in the South West and 13.5 per cent were workless households. Plymouth and City of Bristol had the highest workless household rates at 19.4 per cent and 19.2 per cent respectively. Wiltshire CC had the lowest workless household rate at 10.1 per cent, followed by Gloucestershire at 10.3 per cent.

Wales
In 2008 18.8 per cent of the 917,000 working-age households in Wales were workless. Almost one in four households in Swansea (23.9 per cent) and Gwent Valleys (23.2 per cent) were workless households. The rate was also high in Bridgend and Neath Port Talbot (22.0 per cent) and Central Valleys (21.9 per cent). The area within Wales with the lowest workless household rate was Flintshire and Wrexham at 12.3 per cent. This was followed by Powys at 14.8 per cent and Cardiff and Vale of Glamorgan at 15.1 per cent.

Map 1
Percentage of workless households[1] in Great Britain by NUTS 3 area, 2008

Orkney Islands

Shetland Islands

Percentages

	20.0 to 29.3
	16.0 to 19.9
	13.5 to 15.9
	11.0 to 13.4
	0.0 to 10.9
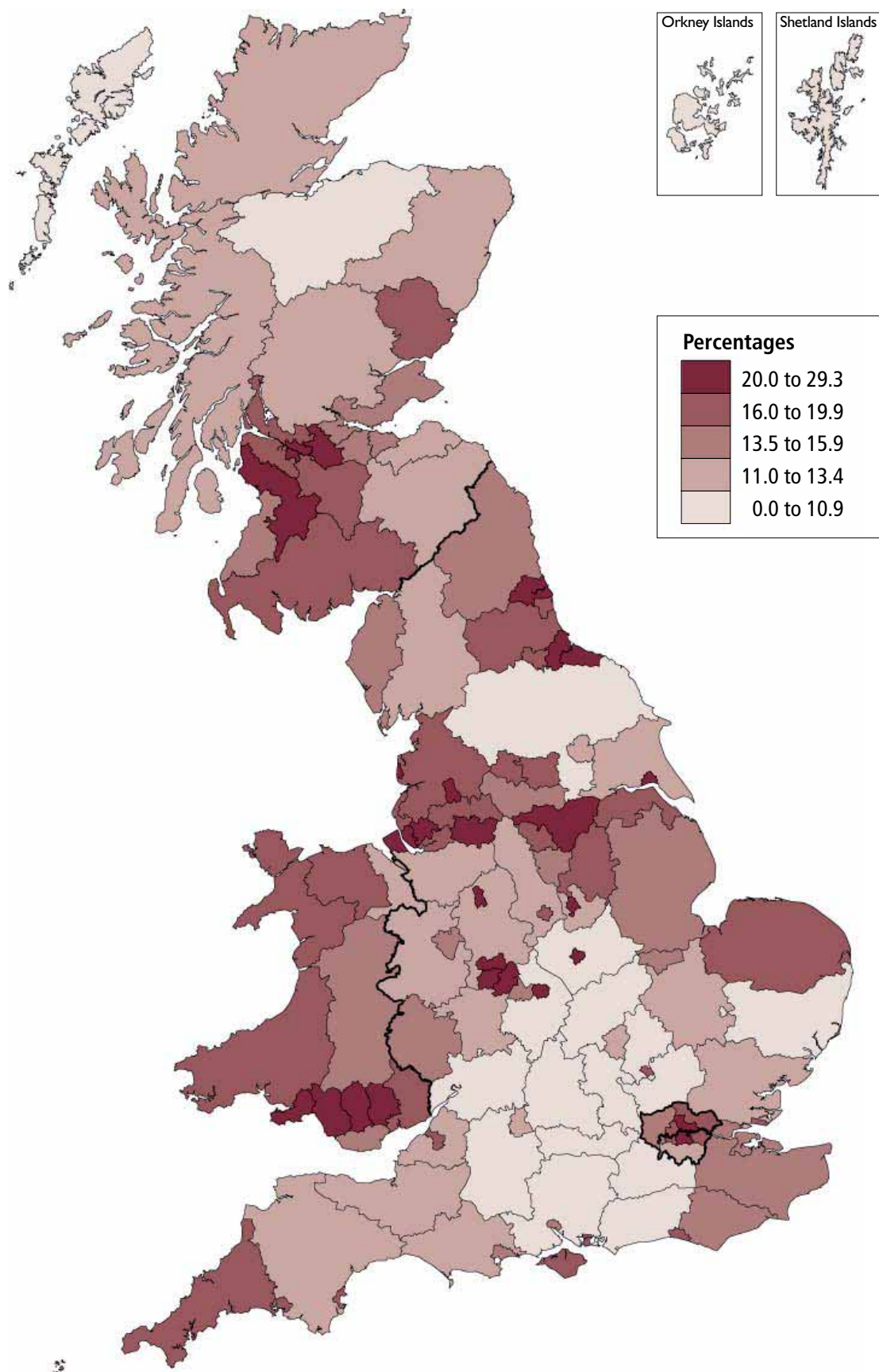
Note:

1   A workless household is a working-age household where no one aged 16 or over is in employment.

Source: Annual Population Survey

Scotland

There were 1.7 million working-age households in Scotland in 2008, of which 17.3 per cent were workless households. Glasgow City had a very high workless household rate at 28.9 per cent, the second highest in the UK. North Lanarkshire followed at 23.5 per cent. The Orkney Islands was the area with the lowest workless household rate in UK at 6.7 per cent. The Shetland Islands also had a low rate at 8.3 per cent. However, because of the small sample sizes in these two areas the estimates have a relative standard error of greater than 20 per cent, and are subject to a high degree of variation.

People in households

There were 37.8 million working-age people in the UK in the 12 months to December 2008. Of these, 4.3 million (11.5 per cent) were living in workless households. **Table 2** shows the number and percentage of people living in each region and country of the UK. Wales was the country with the highest percentage of people living in workless households at 13.8 per cent and England had the lowest at 11.2 per cent. 12.3 per cent of people in Northern Ireland lived in workless households and in Scotland it was 12.1 per cent.

Within England, Inner London had the highest percentage of working-age people living in workless households at 16.7 per cent. The lowest percentage was in the South East at 7.8 per cent, less than half that of Inner London.

The tables in **Annex B** give the percentage of people in workless households for the areas within each region. This is available at: www.statistics.gov.uk/downloads/theme_labour/WorklessPeople08.xls

North East

The number of working-age people living in the North East in 2008 was 1.6 million, and of these, 14.9 per cent lived in workless households. South Teesside had the highest percentage of people living in workless households at 17.5 per cent, followed by Tyneside at 16.9 per cent. Less than one in ten working-age people (9.9 per cent) in Northumberland lived in workless households, and the workless household rate in Darlington was 12.0 per cent.

North West

Of the 4.2 million working-age people in the North West, 14.0 per cent lived in workless households in the year to December 2008. Within the UK, Liverpool had the highest percentage of people living

in workless households. Almost one in four (24.2 per cent) of people in this area were in workless households. In comparison, Cheshire CC and East Cumbria had the lowest rates of people in workless households at 8.8 per cent and 8.9 per cent respectively.

Yorkshire and The Humber

In the year to December 2008, there were 3.2 million working-age people living in Yorkshire and The Humber, and 12.3 per cent of these were in workless households. Kingston-upon-Hull had 21.3 per cent of working-age people living in workless households, the highest within the region. However, this area falls in the same NUTS 2 area as East Riding of Yorkshire which had 8.9 per cent of people in workless households. The areas within North Yorkshire had the lowest rates of people in workless households, North Yorkshire CC at 6.8 per cent and York at 7.7 per cent.

East Midlands

One in ten of the 2.7 million working-age people in the East Midlands in 2008 lived in workless households. Nottingham was the area in this region with the highest percentage of people living in workless households at 17.7 per cent. This was closely followed by Leicester at 17.4 per cent. The area with the lowest percentage of working-age people in workless households was Northamptonshire at 7.0 per cent, and Leicester and Rutland CC had 7.2 per cent.

West Midlands

Of the 3.2 million working-age people in the West Midlands, 12.8 per cent lived in workless households in 2008. Almost one in five working-age people in Birmingham (19.6 per cent) lived in workless households. Stoke-on-Trent and Walsall and Wolverhampton had rates of 16.4 per cent and 16.3 per cent respectively. Warwickshire had the lowest percentage of

Table 2

Working-age people by region and combined economic status of household, January to December 2008

	Working Households	Mixed Households	Workless Households	All Working-age Households
Per cent				
England	54.4	34.3	11.2	100.0
North East	50.6	34.5	14.9	100.0
North West	51.9	34.1	14.0	100.0
Yorkshire and The Humber	54.1	33.6	12.3	100.0
East Midlands	57.2	32.8	10.0	100.0
West Midlands	51.2	36.1	12.8	100.0
East of England	57.4	33.9	8.7	100.0
London	48.4	38.2	13.4	100.0
Inner London	49.6	33.6	16.7	100.0
Outer London	47.6	41.5	10.9	100.0
South East	59.2	33.0	7.8	100.0
South West	59.6	31.2	9.3	100.0
Wales	49.3	36.8	13.8	100.0
Scotland	57.4	30.5	12.1	100.0
Northern Ireland	44.6	43.1	12.3	100.0
Great Britain	54.4	34.1	11.4	100.0
United Kingdom	54.2	34.4	11.5	100.0
Thousands				
England	17,260	10,884	3,566	31,711
North East	799	544	234	1,578
North West	2,182	1,433	589	4,205
Yorkshire and The Humber	1,747	1,083	397	3,227
East Midlands	1,570	900	273	2,743
West Midlands	1,653	1,166	412	3,232
East of England	1,987	1,175	300	3,462
London	2,445	1,928	674	5,047
Inner London	1,042	707	352	2,101
Outer London	1,402	1,221	322	2,945
South East	3,039	1,693	400	5,132
South West	1,839	961	286	3,086
Wales	874	652	245	1,771
Scotland	1,833	976	386	3,195
Northern Ireland	490	474	135	1,099
Great Britain	19,968	12,512	4,197	36,677
United Kingdom	20,457	12,986	4,332	37,776

Source: Annual Population Survey

people in workless households with 7.3 per cent, followed by Worcestershire with 7.6 per cent.

East of England
There were 3.5 million working-age people in the East of England in 2008. Of these, 8.7 per cent were living in workless households. Only the South East had a lower percentage of people in workless households. 12.6 per cent of people in Luton lived in workless households, with 11.4 per cent and 11.3 per cent in Norfolk and Southend-on-Sea respectively. Bedfordshire CC was the area with the lowest rate of people in workless households at 5.8 per cent, followed by Hertfordshire at 6.7 per cent.

London
Of the 5.0 million working-age people living in London in 2008, 13.4 per cent were in workless households. Inner London had the highest percentage of people in workless households at 16.7 per cent, compared to 10.9 per cent for Outer London. Within Inner London, the east had the highest percentage of people in workless households at 17.7 per cent. In comparison, the south part of Outer London had approximately half this rate with 8.6 per cent of people living in workless households.

South East
The South East was the region with the most working-age people in 2008 with 5.1 million. It was also the region with the lowest percentage of people living in workless households at 7.8 per cent. Brighton and Hove had 14.8 per cent of people living in workless households, while Portsmouth and the Isle of Wight both had 12.8 per cent, and Southampton had 12.6 per cent. Surrey had the lowest percentage of people living in workless households at 5.7 per cent, closely followed by Berkshire, West Sussex and Hampshire CC, all at 5.9 per cent.

South West
Almost one in ten (9.3 per cent) of the 3.0 million working-age people living in the South West in 2008 were in workless households. The area with the highest percentage of people living in workless households was Plymouth at 15.8 per cent. Devon CC falls within the same NUTS 2 area, but has around half the rate of people in workless households at 7.6 per cent. The areas with the lowest percentage of people in workless households in the region were Gloucestershire and Wiltshire CC, both at 6.7 per cent.

Wales
The number of working-age people in Wales in 2008 was 1.8 million, and 13.8 per cent were living in workless households. Swansea and the Gwent Valleys had the highest percentage of people in workless households with 17.8 per cent and 17.5 per cent respectively. East Wales tends to contain the areas with the lowest rates of people living in workless households. Flintshire and Wrexham had 8.4 per cent and Powys had 10.2 per cent.

Scotland
Scotland had 3.2 million working-age people in 2008, with 12.1 per cent living in workless households. Glasgow City had a much higher percentage of people living in workless households (22.4 per cent) than any other area in Scotland. North Lanarkshire was the second highest area with 15.6 per cent of people living in workless households. In contrast, Scotland had the two areas with the lowest percentage of people in workless households. These were the Orkney Islands at 4.6 per cent and the Shetland Islands at 5.0 per cent. However, because of the small sample sizes in these two areas the estimates have a relative standard error of greater than 20 per cent, and are subject to a high degree of variation.

Children in households
The number of children living in working-age households in the UK in 2008 was 11.5 million, and 16.1 per cent of these lived in workless households. This is shown in **Table 3**. Wales was the country within the UK with the highest percentage at 18.0 per cent, whereas Scotland was the lowest at 13.7 per cent. Within England, 16.3 per cent of children lived in workless households, and for Northern Ireland it was 14.0 per cent.

Almost one-third (30.8 per cent) of

Table 3

Children in working-age households by region and combined economic status of household, January to December 2008

	Working Households	Mixed Households	Workless Households	All Working-age Households
Per cent				
England	51.5	32.1	16.3	100.0
North East	52.8	27.9	19.3	100.0
North West	50.5	30.4	19.1	100.0
Yorkshire and The Humber	52.9	31.1	16.0	100.0
East Midlands	56.7	29.9	13.4	100.0
West Midlands	47.0	33.7	19.3	100.0
East of England	54.6	33.1	12.3	100.0
London	38.6	37.6	23.7	100.0
Inner London	31.8	37.3	30.8	100.0
Outer London	42.9	37.8	19.3	100.0
South East	56.9	31.8	11.3	100.0
South West	60.2	28.2	11.6	100.0
Wales	52.5	29.5	18.0	100.0
Scotland	58.9	27.4	13.7	100.0
Northern Ireland	53.0	33.1	14.0	100.0
Great Britain	52.2	31.6	16.2	100.0
United Kingdom	52.2	31.7	16.1	100.0
Thousands				
England	4,991	3,111	1,580	9,682
North East	242	128	88	458
North West	659	396	249	1,303
Yorkshire and The Humber	513	302	155	970
East Midlands	463	244	109	816
West Midlands	497	356	204	1,057
East of England	585	355	132	1,073
London	583	568	357	1,508
Inner London	184	215	178	577
Outer London	399	352	179	931
South East	905	506	180	1,591
South West	545	255	105	905
Wales	290	163	99	552
Scotland	519	241	121	881
Northern Ireland	187	117	49	352
Great Britain	5,800	3,515	1,800	11,115
United Kingdom	5,986	3,631	1,850	11,467

Source: Annual Population Survey

children living in working-age households in Inner London were in workless households, the highest percentage of all the regions in England. The South East was the region with the lowest percentage of children in workless households at 11.3 per cent.

The tables in **Annex C**, available at: www.statistics.gov.uk/downloads/theme_labour/WorklessChildren08.xls give the percentage of children living in workless households for the areas within each region. Due to the smaller sample sizes for the percentages of children living in workless households, the estimates of the percentage of children living in workless households in many regions have a relative standard error greater than 20 per cent and subject to a high degree of variation. These are illustrated by grey shading in Annex C.

North East
There were 458,000 children living in working-age households in the North East in the year to December 2008. Of these, almost one in five (19.3 per cent) were living in workless households. The area with the highest percentage of children in workless households was South Teesside at 23.3 per cent, followed by Tyneside at 22.2 per cent and Sunderland at 22.0 per cent. Northumberland had the lowest percentage of children living in workless households at 13.5 per cent, and Durham CC had 15.7 per cent.

North West
Of the 1.3 million children living in working-age households in the North West in 2008, almost one in five (19.1 per cent) lived in workless households. Almost one in three (31.8 per cent) children living in Liverpool were in workless households, the second highest total in the UK. There were 28.6 per cent of children in Blackpool and 25.2 per cent in East Merseyside living in workless households. In contrast, only 6.2 per cent of children in East Cumbria lived in workless households, one of the lowest areas in the UK. West Cumbria had the second lowest percentage of children in workless households in the North West at 12.1 per cent.

Yorkshire and The Humber
There were 970,000 children living in working-age households in 2008 and 16.0 per cent were in workless households. Kingston-upon-Hull had the highest percentage of children living in workless households in the region at 29.0 per cent, one of the highest proportions in the UK.

Bradford and Barnsley then Doncaster and Rotherham had 19.9 per cent and 19.4 per cent respectively. The area with the lowest percentage of children in workless households was York at 6.8 per cent, followed by North Yorkshire CC and East Riding of Yorkshire at 8.6 and 8.7 per cent.

East Midlands
In 2008 there were 816,000 children living in working-age households in the East Midlands, of which 13.4 per cent were living in workless households. In Leicester almost one in three (31.6 per cent) children lived in workless households. This was the third highest total in the UK. Nottingham had 21.9 per cent of children living in workless households. Lincolnshire had the lowest percentage of children living in workless households at 8.1 per cent, followed by Leicestershire CC and Rutland at 8.6 per cent.

West Midlands
Of the one million children living in the West Midlands in 2008, almost one in five (19.3 per cent) lived in workless households. More than one in four children in Birmingham (28.8 per cent) and Walsall and Wolverhampton (27.4 per cent) lived in workless households. In contrast, less than one in ten children in Shropshire CC (8.7 per cent), Worcestershire (9.1 per cent) and Warwickshire (9.7 per cent) lived in workless households.

East of England
There were 1.1 million children living in working-age households in 2008 in the East of England, of which 12.3 per cent were in workless households. Luton was the area with the highest percentage of children living in workless households at 20.8 per cent. This was followed by Peterborough with 15.5 per cent of children living in workless households. In Bedfordshire CC 7.2 per cent of children lived in workless households, the lowest area in the region. This was followed by Hertfordshire where 9.5 per cent of children lived in workless households.

London
In 2008 there were 1.5 million children living in working-age households in London. Of these, almost one in four (23.7 per cent) were living in workless households. Inner London had 30.8 per cent of children living in workless households, compared to 19.3 per cent in Outer London. Within Inner London, the east had the highest total with around one

in three (33.8 per cent) children living in workless households. This was also the highest total within the UK. The south part of Outer London had the lowest percentage of children living in workless households at 15.5 per cent.

South East
Of the 1.6 million children living in working-age households in the South East in 2008, 11.3 per cent were in workless households. This region had the lowest rate of children in workless households in the UK. Brighton and Hove was the area with the highest percentage of children living in workless households, with one in five (20.4 per cent) falling in this group. This was followed by Southampton at 19.7 per cent. Hampshire CC had 7.7 per cent of children living in workless households, and Oxfordshire had 8.8 per cent.

South West
There were 900,000 children living in the South West in 2008, with 11.6 per cent living in workless households. The area with the highest percentage of children living in workless households was City of Bristol where one in five (21.4 per cent) children were in workless households. This was followed by Cornwall and Isles of Scilly where 16.6 per cent of children lived in workless households. In contrast, Gloucestershire had 6.6 per cent of children living in workless households, followed by Devon CC at 7.6 per cent and Somerset at 7.7 per cent.

Wales
Of the 552,000 children living in Wales in 2008, 18.0 per cent were living in workless households. Almost one in four children in Swansea (24.8 per cent) were living in workless households, followed by 23.0 per cent in the Central Valleys. The areas with the lowest percentage of children living in workless households were Powys at 10.4 per cent and Flintshire and Wrexham at 11.3 per cent.

Scotland
In 2008, there were 881,000 children living in working-age households in Scotland, with 13.7 per cent living in workless households. Almost one in four children in Glasgow City (24.4 per cent) were living in workless households, followed by East Ayrshire and North Ayrshire mainland at 17.2 per cent. The areas with the lowest percentage of children in workless households were in the Highlands and Islands. Only 1.9 per cent of children in

Inverness and Nairn and Moray, Badenoch and Strathspey were living in workless households and 4.7 per cent of children in the Orkney Islands were in workless households. These are the lowest areas within the UK.

Conclusion

There are great variations across the country, and within regions, in the percentage of workless households, and the people and children living in them. Map 1 shows where the highest percentages of workless households are concentrated. Although the percentage is low in more northern and rural parts of Scotland, the rates are higher in the South West of Scotland. It also shows a higher percentage in the Welsh valleys, the North West of England and the West Midlands. There were 3.1 million workless households in the UK in 2008.

The five areas with the highest percentage of workless households are Liverpool, Glasgow City, Kingston-upon-Hull, East Merseyside and Birmingham, two of which

are in the North West. These five areas account for 232,000 workless households, 7.5 per cent of the UK total. Conversely, Scotland and the South East region both contain two areas in the five areas with the lowest percentages of workless households. The areas with the lowest percentage of workless households were the Orkney Islands, Shetland Islands, Surrey, Berkshire and Bedfordshire CC. The pattern is similar for the percentage of people living in workless households.

There were 1.8 million children living in working-age workless households in 2008. 14.0 per cent of these (260,000) live in the five areas with the highest percentage of children in workless households. These areas are Inner London – East, Liverpool, Leicester, Kingston-upon-Hull and Birmingham. Some areas of the country have a higher ratio of children to working-age adults than others, which explains why there are different areas in the five highest percentages of workless households, and five highest percentages of children in workless households. The five areas with the

lowest percentages of children in workless households were Inverness and Nairn and Moray, Badenoch and Strathspey, Orkney Islands, East Cumbria, Shetland Islands and Gloucestershire.

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ARTICLE

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Flash estimates of European labour costs

SUMMARY

Flash estimates are early or advance estimates of statistics, usually based exclusively or partly on forecasts. They are demanded by policy-makers and analysts who have to make decisions in real time and before enough information is collected to publish the data conventionally. As such there is a trade-off between timeliness and accuracy. This article outlines the approach taken by the Office for National Statistics (ONS) to produce flash estimates of European labour costs, as part of a wider Eurostat-led project on flash estimates in Europe. A general-to-specific methodology is used to select the best combination of indicators to use in a forecast model. Flash estimates are presented for the groups of Euro-Zone 15 and European Union 27 countries.

Introduction

Flash estimates are early or advance estimates of statistics. As they are usually produced before a full set of information is available they require, to some extent, forecasts or imputations. This reflects the timeliness versus accuracy trade-off that exists in the production of most economic data. For this reason there is often little difference between a forecast of a particular estimate and a flash estimate – all that is important is that they are produced more quickly than the data would otherwise be available.

Demand for flash estimates comes from policy-makers and analysts who have to make quick decisions in real-time. For example, conventional wisdom is that it takes two years for an interest rate change to fully feed through the economy, in which case policy has to be set pre-emptively. If economic data were only available with a significant lag then policy-makers would be faced with making these decisions in the dark. For them it is better to have some data in a timely fashion, even if it is based on more limited information, than none at all.

This article describes investigative work undertaken by the Office for National Statistics (ONS), as part of a wider project based at Eurostat, to look at producing flash estimates of European labour costs. At present these are available 85 days after the end of the reference quarter. The aim is to produce an estimate within 40 days using available information. To achieve this, a general-to-specific (GETS) methodology is applied to model the European Labour Cost Index (LCI). Flash estimates of this variable are then formed from the one-step-ahead forecasts of these models. So for example, to obtain a flash estimate for 2008Q2 would see the LCI modelled up to 2008Q1, and then a one period ahead forecast produced using this model.

In estimating the European LCI a large number of potentially relevant indicators are available. The general problem is therefore one of model selection. Given that a small number of variables can generate a large number of different models, the researcher faces high search costs in trying to identify the optimal one from among all the possibilities. Various techniques are available to make this problem more tractable. Cluster analysis, principal components and dynamic factor models all work on the basic principle that the information in a large number of indicators can be adequately represented by a subset of those variables or a smaller number of factors. If there is strong correlation between the competing variables, these techniques can be very effective in reducing the set of possible indicators to a more manageable size without losing too much information.

The GETS modelling approach essentially works the other way around. Instead of trying to limit the number of explanatory variables, the starting point is a very general and over-fitted dynamic statistical model. Standard testing procedures are then used to reduce its complexity by eliminating statistically insignificant variables and hone in on the true underlying data generating process. Proponents of GETS would argue

that by commencing with an over-specified model they are less likely to discard potentially useful information.

However, the order in which the variables are deleted generally matters, so the final model is dependent on the path taken to get there, and a multitude of terminal models can result from the same starting point. Traditional argument against GETS modelling therefore focus on the high 'search costs' involved in finding the optimal model. Fortunately recent advances in econometrics software have reduced search costs by automating the GETS procedure enabling multiple deletion paths to be explored simultaneously and using encompassing tests to select between different terminal models. One such example, and used in this article, is the PcGets software by Hendry and Krolzig (2001). Without doubt the automation of GETS modelling has significantly reduced search costs, but one of the key conclusions of this study is that its effectiveness is still limited by a number of factors.

For the purposes of flash estimation the most important feature of models is their out-of-sample performance. In general, it is relatively easy to fit a model to past data that achieves a satisfactory goodness of fit if appropriate indicators are available. However the past does not necessarily predict the future and it is easy to over-fit a model. A particular indicator may achieve significance by accounting for an idiosyncratic feature of past data, but if that feature is not repeated in the future then that variable will become redundant and compromise the model's forecast accuracy. So deriving a model that is good for forecasting requires a subtle balance between explaining the past data well, but not so well that it is an over-specification of the true data generating process.

Flash estimates of the LCI presented in this article for the Euro-Zone 15[1] (EZ-15) and European Union 27[2] (EU-27) are the one-step-ahead forecasts of the models estimated by the GETS procedures. Timeliness of data is therefore an important issue. Flash estimates can only be formed using the indicators that are available at the time of the forecast which often means lagged and not contemporaneous data are considered. For each model, out-of-sample performance and hence the accuracy of the flash estimate can be assessed in the conventional way by comparing the one-step-ahead forecasts with the actual data outturn.

Here there is a slight problem with a small sample. LCI data is available for the period 1996Q2–2008Q2, but considering

that a four quarter lag of the data could be a plausible indicator reduces the effective sample to 1997Q2–2008Q2. With only 44 data points it is harder to use an adequate number of observations to fit a good model and have sufficient left-over for the purpose of testing its forecast potential. This problem is particularly acute with GETS procedures because the starting point is a deliberately over-specified model which further tightens the available degrees of freedom. Despite this issue, one-step-ahead forecasts/flash estimates are presented for the period 2003Q2–2008Q2.

The rest of the article proceeds as follows. The next section outlines the GETS methodology and describes how PcGets resolves some of the historical problems affecting its use. The third section, taking an economics perspective, identifies a set of indicators that might be potentially important determinants of European labour costs. These include both 'hard' or official data sources, and 'soft' data which consists of non-official consumer and business surveys. The main results are presented in the fourth section consisting of flash estimates of the LCI for both the EZ-15 and EU-27 country groups from various different data sources. Finally, some concluding comments are offered.

PcGets: Improving the efficiency of GETS modelling

The standard GETS procedure is to delete the variable with the lowest t-ratio at each stage until a model is arrived at where all the remaining variables have achieved a given level of significance. However, this is not the only possible selection path. GETS procedures typically suffer from path dependence which is where the results obtained depend on the simplification sequence adopted.

The costs of search are the additional mistakes introduced by commencing from an initial model that is larger than the data generating process. They comprise any retained irrelevant variables which are significant by chance, as well as omitting relevant variables.

High search costs can easily be understood from the theory of repeated testing. Conducting 20 independent tests at a 5 per cent significance level should on average lead to one significant rejection by chance (a type 1 error). As the model selection process often requires many tests it may seem that spurious results will be obtained with high probability. In fact the probability that none of the tests rejects at 5 per cent is $(1-0.05)^{20} = 0.36$. A type 1 error

is the probability of rejecting a hypothesis that is true. In this case it is the probability of accepting variables that are insignificant, that is maintaining irrelevant variables in the regression. Viewed as a type 1 error $1-0.36=0.64$ is quite large.

Failing to reject irrelevant variables means that they may stay in the regression and act as proxies for variables that do matter, which are subsequently omitted. A possible solution to combating the accumulation of type 1 errors is to raise the size of the test by using larger critical values. For example, for 40 tests the probability that no test rejects by chance at the 5 per cent level is P(0.05)=0.13, but using a 0.5 per cent significance level raises this to P(0.005) = 0.89. Here the consequence of increasing the size of the test is to lower the probability of type 1 errors from 0.87 to 0.11.

Unfortunately more stringent criteria for avoiding rejections when the null is true (a variable is insignificant) lowers the power of rejection when it is false (a variable is significant). That is, in attempting to lower the probability of maintaining irrelevant variables by raising critical values we increase the chance probability of rejecting relevant ones (a type 2 error). The size versus power trade-off is a well-known phenomenon in econometric modelling.

Therefore, under repeated testing the probability of retaining variables that should not enter a relationship would be high because a multitude of tests on irrelevant variables must deliver some significant outcomes by chance. This indicates how the results obtained from a particular starting model need not be independent of the modelling procedure. Due to path dependence a multitude of terminal models can result from the same starting point.

The main advancement in automated GETS procedures such as PcGets is to reduce the search costs associated with exploring multiple deletion paths from a general model and choosing between alternative terminal models. Starting from the general unrestricted model (GUM) the PcGets algorithm then works like a series of sieves, searching multiple deletion paths, checking that congruence is maintained at each stage and then using encompassing tests to select between terminal models.

Searching many reduction paths is designed to mitigate the problem of path dependence, leading to misspecification as important variables are deleted and irrelevant variables are retained as proxies. Exploring several paths gives the opportunity for error correction in the

light of wrong decisions by increasing the probability that some models will retain the variables that matter while eliminating those that do not. Congruence is maintained as the algorithm only undertakes reductions which do not lead to failures in diagnostic tests.

Each search path is terminated where there are no further possible reductions or when deletion induces a diagnostic test failure. Encompassing is the notion of being able to account for the results obtained by rival models given one's own findings. Therefore, if model A encompasses model B then model A accounts for all of the variance in the dependent variable explained by model B. In this sense encompassing implies variance-dominance, so a badly-fitting model cannot account for the variance of a well-fitting model.

In the encompassing stage of the PcGets algorithm all distinct non-nested models are collected and encompassing is used to eliminate those which are dominated. If a unique choice does not result it implies that the remaining models are incomplete, so that each explains some variance in the dependent variable not accounted for by other models, but no model is dominant. The PcGets algorithm then forms the union of resulting models which becomes the new starting point for path searches. The algorithm repeats until the union is unchanged between successive rounds. The final model, if it is not already unique is then selected by information criterion.

Simply choosing the best-fitting terminal model based on adjusted R^2 or other information criterion offers no protection against picking a spurious relationship. When a given path eliminates a variable that matters, other variables proxy such an effect leading to spuriously large and misspecified models. However, some other paths will retain that variable and in the encompassing tests the proxies will be frequently revealed as conditionally redundant inducing a smaller final model focussed on the genuine causal factors. This is potentially very important as over-specified models may be more prone to forecast failure.

An innovation in PcGets is the use of sub-sample information to check constancy of parameters and model specification. In this case it provides further information on overall significance. Since a central t-test wanders around the origin, the probability is low that an effect which is significant by chance in the full sample will be significant in two sub-samples. This information can be used to refine the detection of spurious

regressors without losing too much power. Again, models that consist of indicators that are stable in their significance are more likely to have better out-of-sample forecasting performance.

Although PcGets is an automatic procedure there is still a vital role to be played by the practitioner. First in choosing the significance levels of the variable deletion and diagnostic tests, which acts as constraints on the paths the algorithm explores and therefore has an important bearing on the terminal models produced. If faced with a relatively large number of indicators and the aim is to produce models based on a small number of variables, as in this case, paths can be set up to minimize non-deletion. Second, the researcher is responsible for selecting the initial set of indicators and transformations that form the GUM which is the starting point of all path searches. Here economic theory may guide on the selection of relevant variables. The next section identifies possible determinants of labour costs from an economic theory standpoint.

At this point it is worth noting that although PcGets dramatically lowers the search costs that have historically hampered the use of GETS modelling it is not a complete solution. Two problems remain which have compromised its operational effectiveness in this work. First, all models start from a GUM which must have sufficient degrees of freedom to be estimated. When the set of indicators, including lags, approaches the number of observations the GUM cannot be estimated. Castle and Hendry (2006) suggest dividing the indicator set into smaller groups and collecting the surviving indicators as the basis for a new GUM can, according to their Monte Carlo analysis, get close to recreating the true data generating process when there are more indicators than observations. This approach is adopted here. Second, multicolinearity in the GUM seems to reduce the efficiency of the PcGets algorithm, leading to over-specified terminal models. This problem is most pertinent in the consumer and business surveys where many variables are highly correlated. Therefore, the allocation of indicators to each subgroup should be motivated by the aim of reducing multicolinearity in the GUM.

Possible indicators: the economic determinants of labour costs

The empirical success of PcGets depends crucially on the creativity of the researcher

in specifying the general model and the feasibility of estimating it from the available data. Economic theory could guide on the inclusion of relevant variables and the exclusion of irrelevant effects. Also data transformations are up to the researcher so that appropriate specifications are inputted into the model.

For each country the labour cost index (LCI) consists of a wage (W) and non-wage (NW) components. Non-wage costs mainly refer to social security contributions but also include the differences between taxes and subsidies employers receive from employing labour.

$$LCI_t = W_t^{\alpha} NW_t^{1-\alpha}$$

Wages and salaries typically account for over three-quarters of the index. As seen in **Figures 1** and **2** for the EZ-15 and EU-27 country groups, the quarterly growth rate of labour costs (seasonally adjusted) closely follows the trend in the wages and salaries component. In previous work it was discovered that no significant improvement in fit could be achieved by modelling the two components separately. This is a convenient finding, because while there are a broad number of available indicators on wage costs and its determinants, non-wage costs tend to be more 'institutionally' determined and harder to effectively model.

In selecting variables timeliness is an important issue. All potential indicators are required comfortably before the T+40 target. Most of the data from official sources do not meet this requirement so can only be used as lagged variables. Business and consumer surveys though are more timely, and these can enter the regression models as contemporaneous relationships.

The use of official and non-official data, or 'hard' and 'soft' data is also an important consideration. Official or hard data is provided to Eurostat by national statistics institutions, and as such should be reliable in terms of its publication frequency and the methods used to construct it. Non-official or soft data refer to the consumer and business surveys published by trade groups and other various associations. This data tends to be timely, and many surveys are well-established, but it is also based on smaller samples and tends to be qualitative. The use of business and consumer survey data in official statistics, even for the purposes of forecasting, is not an unanimously accepted convention. For this reasoning, this study has a preference for

Figure 1
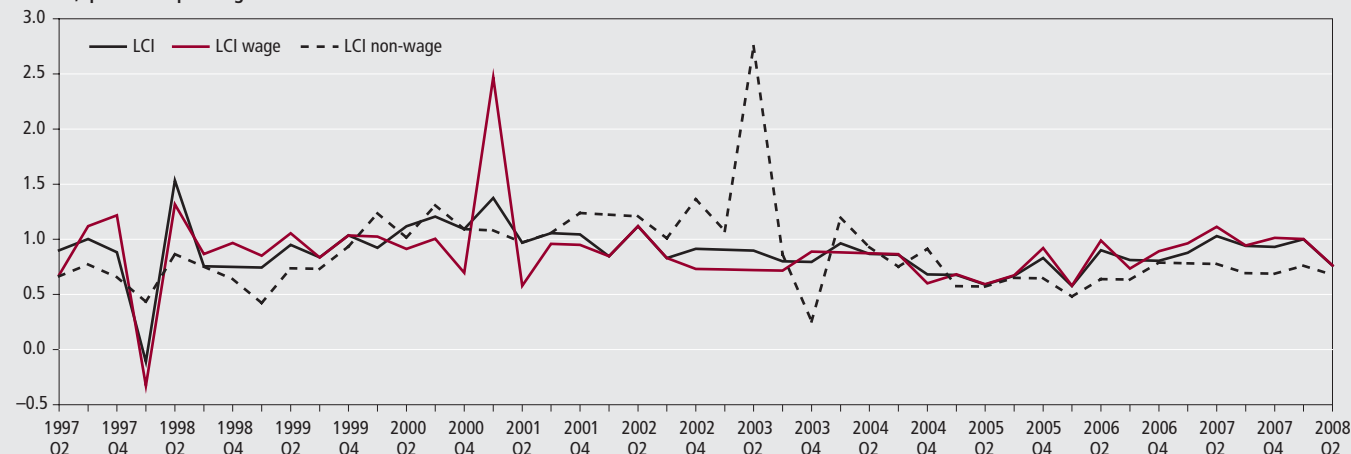### Wage and non-wage components of the EZ-15 LCI

Per cent, quarter on quarter growth

Source: Eurostat PEEI

Figure 2
Wage and non-wage components of the EU-27 LCI

Per cent, quarter on quarter growth

Source: Eurostat PEEI

using hard data, but also looks at whether or not soft data improves the outcome.

Direct data on labour costs

Apart form the Labour Cost Index itself, many countries publish official data on total wages and salaries and on the compensation of employees (CoE). These are standard Principal European Economic Indicators (PEEIs) from the national accounts and labour market and published on the Eurostat website at a main industry disaggregation. Using corresponding data on employees these can be transformed into average wages or compensation figures. Data on hourly earnings are also available from the OECD's Monthly Economic Indicators (MEI) database, usually for the manufacturing and private sectors of the economy. These data are available for both European aggregates and the major individual European countries.

Indirect data on the determinants of wages

Factors that determine wages could be, albeit indirectly, significant indicators of movements in labour costs. Standard economic theory argues that wages are the outcome of a bargain between employers and workers (who may bargain collectively as unions).

Workers are expected to bargain in terms of their expected real wage (W_t/P_t^e) where W_t are nominal wages and P_t^e the expected price level.

$$\frac{W_t}{P_t^e} = A_t - bu_t$$

These are assumed to be a positive function of a set of autonomous factors (A_t) such as the level of unemployment benefits, trade union power, wage and employment legislation and so on, and negatively related to unemployment (u_t).

Workers are assumed to respond to expected higher prices by asking for compensating wage increases to maintain the real value of earnings. As price expectations are often governed by current prices, official data on consumer prices such as the GDP deflator, consumption deflator, import deflator and the harmonised index of consumer prices (HICP) are possible indicators. These prices data are all official PEEIs. There is also a multitude of information from consumer and business surveys on price expectations.

The tightness of the labour market is also a factor, with workers likely to exert greater bargaining power when available labour is scarce. The opposite would be true in times of higher unemployment, when workers might moderate demands in order to protect jobs. Therefore official data on unemployment is widely considered to be a sensible indicator. This could be

supplemented with unofficial data from business surveys on capacity utilisation, productive capacity, labour shortages and employment intentions.

It is difficult to find many timely and readily available indicators for the more 'structural' factors, especially pertaining to legislation and trade union power. However, one set of useful information might come from business survey data on the competitiveness situation facing firms (published as stemming from domestic, EU and outside of the EU sources). Those facing less competitive pressure may have greater scope to concede to wage demands and pass the costs onto consumers.

In bargaining models firms are typically assumed to set prices as a mark-up over labour costs.

$$P_t = (1+\mu)\frac{W_t}{MPL_t}$$

where μ is a mark-up and MPL_t is the marginal productivity of labour. This means firms can pay higher wages without changing prices if labour becomes more productive. An implicit wage equation can be found by re-arranging so that:

$$\frac{W_t}{P_t} = \frac{MPL_t}{(1+\mu)}$$

So the real wages that firms are prepared to pay respond positively to labour productivity. An estimate of labour productivity can be proxied using data on (real) output per head (or real Gross Value Added (GVA) per head). GVA and employment are also official PEEIs.

The complete set of indicators used to model European labour costs, divided into hard and soft categories, are listed in **Table 1**. Lags of the dependent and independent variables can pick up valuable information of incomplete adjustments, inertia, transitional effects, adaptive expectations formations, wage and price rigidities and so on, and are also considered in the modelling process. One of the advantages of using PcGets is the determination of suitable lags in the simplification of dynamic regression models as economic theory often poses little evidence for specifying lag lengths in statistical models.

Results: flash estimates of the European LCI

As a first step, using the full sample 1997Q2–2008Q2, three models are estimated with PcGets for the LCIs of the EZ-15 and EU-27 country groups. The baseline model is a simple autoregressive

model, using only lags of the LCI along with appropriate dummy variables to correct for outliers. The hard data model is based on the set of official data in Table 1. Finally the soft data model uses the unofficial survey data also listed in Table 1.

Table 2 reports the final models produced by PcGets. Apart from the business and consumer survey data which are presented as balance statistics and the unemployment rate, all data used is seasonally adjusted and expressed in terms of quarterly growth rates. **Figures 3** and **4** plot the corresponding

Table 1
Indicators of European Labour Costs

Hard data

Eurostat Principal European Economic Indicators (consumer prices, labour market and national accounts)
– Labour Cost Index (C–K– production and non–government services)
– Gross Value Added (C–K): proxy for labour productivity (real GVA / total employment)
– Compensation of Employees (C–K): Average compensation per employee (total CoE / total employees)
– Wages and Salaries (C–K): Average wages per employee (total W&S / total employees)
– Unemployment
– GDP deflator
– Consumption deflator
– Import deflator
– Consumer prices (HICP)

Earnings data from OECD Monthly Economic Indicators (MEI) database
– EU manufacturing
– Euro–zone manufacturing
– France private sector
– Germany private sector
– UK private sector
– Euro–zone private sector

Soft data

Eurostat Principal European Economic Indicators (business and consumer surveys)
– Industry employment expectations – months ahead
– Industry production expectations – months ahead
– Industry selling prices expectations – months ahead
– Industry productive capacity
– Industry capacity utilisation
– Industry domestic competition
– Industry EU competition
– Industry external (outside EU) competition
– Industry labour shortage limiting production
– Construction employment expectations – months ahead
– Construction price expectations – months ahead
– Construction labour shortage limiting production
– Retail employment
– Consumer price trends – last 12 months
– Consumer price trends – next 12 months
– Consumer unemployment expectations – next 12 months
– Services employment – recent months
– Services employment – next months

Sources: Eurostat, OECD

Table 2
Fitted models of the European LCI using PcGets, 1997 Q2 – 2008 Q2

Model	EZ-15	EU-27
Baseline	Constant	Labour Cost Index (–2), (–3), (–4)
	Labour Cost Index (–1)	Dummy 1998Q1
Hard	Labour Cost Index (–1)	Labour Cost Index (–2)
	GDP deflator (–2)	Manufacturing earnings- EU (–3)
		Dummy 1998Q1
Soft	Labour Cost Index (–3)	Constant
	Industry Productive Capacity	Labour Cost Index (–1), (–3), (–4)
	Construction Employment - next months (–1)	Industry competition domestic
	Services Employment - next months (–1)	Industry prices- next months (–1)
		Industry labour shortage
		Dummy 1998Q1

Source: Author's estimations

Figure 3
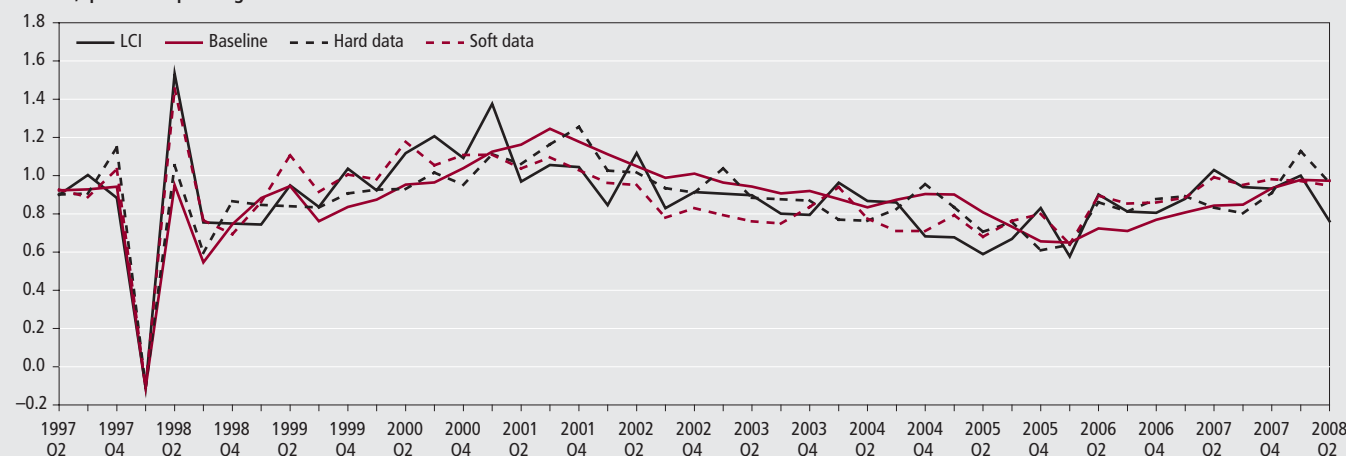**EZ-15 models of the Labour Cost Index**

Per cent, quarter on quarter growth
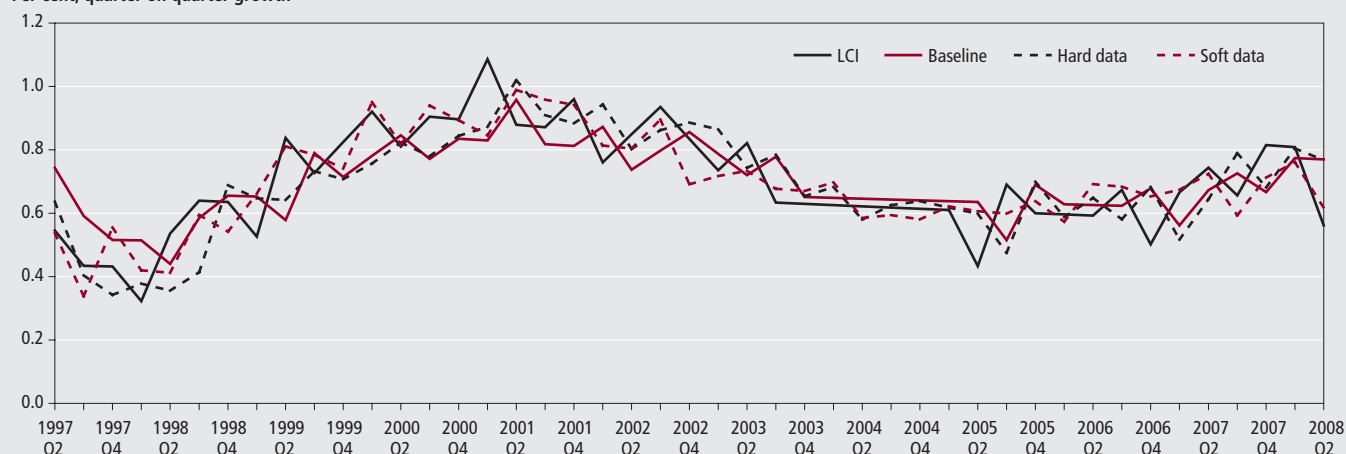
Source: Author's estimations

Figure 4
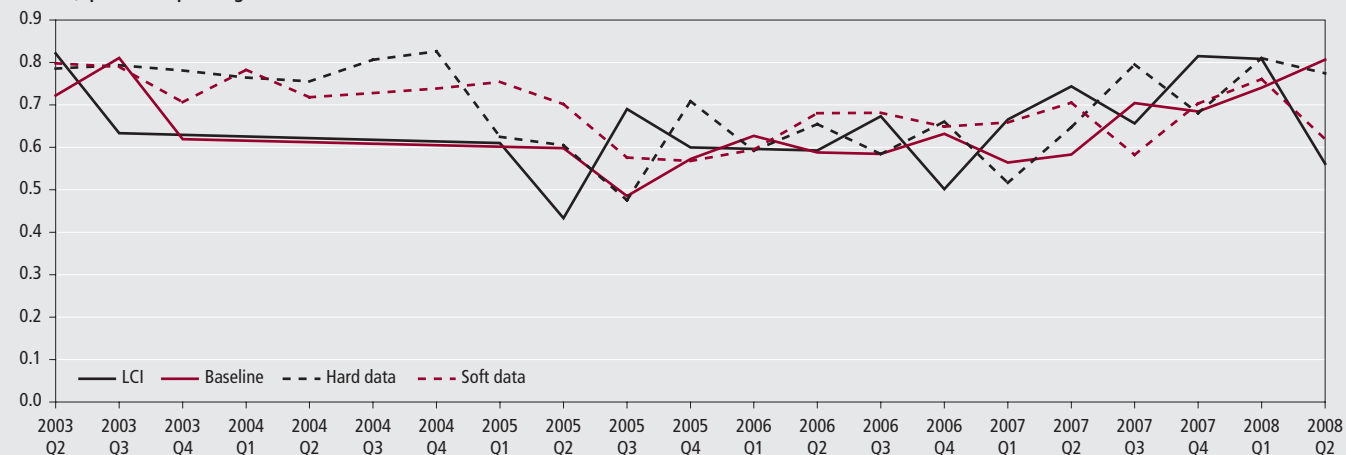**EU-27 models of the Labour Cost Index**

Per cent, quarter on quarter growth

Source: Author's estimations

Figure 5
EZ-15 one step a head forecasts (2003 Q2 – 2008 Q2)

Per cent, quarter on quarter growth

Source: Author's estimations

Figure 6
EU-27 one step a head forecasts (2003 Q2 – 2008 Q2)

Per cent, quarter on quarter growth

Source: Author's estimations

fitted values from each regression against the respective published LCI.

Mean squared errors (MSE), which are. the average squared difference between the fitted values of each model and the actual LCI data gives a rudimentary goodness of fit statistic. These are presented in **Table 3** below. Using hard data does not appear to significantly improve the model fit for either the EZ-15 or the EU-27 LCI. However, soft data models are more successful in this regard.

The main focus of interest though is how these model strategies perform out-of-sample as this is more representative of how the LCI flash estimate would be produced. A truer approach would be to use 'real-time' data which is the unrevised data that the researcher would see at the time of the forecast. Unfortunately a complete real-time database for the PEEIs was unavailable, so one-step-ahead forecasting was the closest this study could come to replicating real-time conditions.

Flash estimates are formed by re-estimating the model each quarter and then generating a one-step-ahead forecast. For both the EZ-15 and EU-27 country groups, recursive estimation of the baseline, hard data and soft data models generated flash estimates of the LCI for the period 2003Q2–2008Q2. In the course of this strategy, PcGets would often update its best model. Table 4 shows the evolution of indicator selection across the different models over time. Each model represents the optimal indicator selection made by PcGets when the LCI was estimated on that particular sample (**Table 4**).

Plots of the out-of-sample forecasts/Flash estimates relative to the actual LCI data are presented in **Figure 5** for the EZ-15 and

Figure 6 for the EU-27. Corresponding measures of mean-squared (forecast) errors are displayed in **Table 5**. The results indicate that the hard data models don't offer any improvement over the baseline approach. Soft data again appears to improve the accuracy of the flash estimates, but the out-of-sample improvement is smaller than in-sample.

Concluding comments

This article has explored the effectiveness of PcGets in producing flash estimates of aggregate European Labour Cost Indices. The results tend to suggest simple baseline autoregressive models are the most effective for this purpose, although the conclusion may have been partly determined by some limitations within PcGets.

It is not a huge surprise that hard data models do not outperform the baseline. All the hard data suffers from the timeliness issue of not being fully and consistently available within the T+40 days threshold, hence only lags of the data can be used. There is no reason to expect lags of the factors that might determine labour costs to out-perform lags of the Labour Cost Index itself. Expressed in another way, lags of the Labour Cost Index seem to encapsulate the information held in the lags of the hard data indicators.

Soft data from unofficial consumer and business surveys is timely and can

be used contemporaneously. It is also qualitative enabling it to measure factors such as competitiveness effects, capacity and expectations of the future which are difficult for national statistics institutions to identify and record. Out-of-sample testing suggests that these variables do offer a slight improvement over the baseline. This is particularly so for the EU-27 country group where official data for some countries is more patchy/unreliable, increasing the usefulness of softer data.

Another factor explaining why autoregressive models may do so well is the sample period. Low inflation has generally prevailed in the European Union, meaning there has been an unprecedented era of nominal stability. Simple linear models like autoregressive models tend to perform well when the data they are trying to predict is fairly stable. If the data were less stable then other indicators may become more important, especially if there is a turning point or a change in regime in the data.

The use of soft data in official statistics, even for the purposes of forecasting, tends to create heated debate. It is mainly for this reason that the analysis in this article splits the use of hard and soft data in forming Flash estimates. Objections range from simple points of principle to concerns about the reliability and the quality of the data. Given that these arguments are

Table 3
MSE of different models of the LCI

Model	Baseline	Hard data	Soft data
EZ-15	0.0143	0.0139	0.0069
EU-27	0.0262	0.0231	0.0089

Source: Author's estimations

Table 4
Indicator selection for European LCI Flash estimates

Model	EZ-15	EU-27
Baseline	**1997Q2–2003Q4:** Labour Cost Index (–1) **1997Q2–2005Q2:** Labour Cost Index (–1), (–2)	**1997Q2–2003Q1:** Constant Labour Cost Index (––1) Dummy 1998Q1 **1997Q2–2005Q2:** Constant Dummy 1998Q1 **1997Q2– 2005Q4:** Labour Cost Index (–2), (–3) Dummy 1998Q1 **1997Q2–2007Q2:** Labour Cost Index (–2), (–3), (–4) Dummy 1998Q1
Hard	**1997Q1–2003Q1:** Constant Labour Cost Index (–4) Wages and salaries (–4) Unemployment (–1) **1997Q1– 2004Q4:** Labour Cost Index (–1) GDP deflator (–2)	**1997Q2–2003Q1:** Constant Labour Cost Index (–4) Wages and Salaries (–4) Manufacturing earnings - EU (–4) **1997Q2–2004Q4:** Gross Value Added (–1) Manufacturing earnings- EU (–3) Private sector earnings- EZ (–1)
Soft	**1997Q2–2003Q1:** Labour Cost Index (–3) Industry Capacity Utilisation (–1) Construction Employment - next months (–1) Construction Prices - next months (–1) **1997Q2–2003Q3:** Constant Labour Cost Index (–3) Construction Employment - next months (–1) **1997Q2–2005Q2:** Labour Cost Index (–2), (–3) Construction Employment - next months (–1) Services Employment - next months (–1) Industry Prices - next months (–1) Construction Prices - last months (–1) **1997Q2–2006Q2:** Labour Cost Index (–3) Industry Productive Capacity Construction Employment - next months (–1) Services Employment - next months (–1)	**1997Q2–2003Q1:** Constant Industry employment next (–1) Industry capacity utilisation (–1) **1997Q2–2003Q2:** Labour Cost Index (–1), (–2), (–3) Industry capacity utilisation (0), (–1) Construction employment next (0), (–1) **1997Q2–2004Q4:** Constant Labour Cost Index (–1), (–2) Industry competition ex-EU (–1) Industry capacity utilisation (–1) Industry production next (–1) Industry labour shortage (–1) Dummy 1998Q1 **1997Q2–2005Q3:** Constant Labour Cost Index (–1), (–3), (–4) Industry competition domestic Industry labour shortage Dummy 1998Q1 **1997Q2–2006Q4:** Labour Cost Index (–1), (–3), (–4) Industry competition domestic (0), (–1) Industry labour shortage Industry prices - next months (–1) Consumer prices - last months (–1) Consumer unemployment - next months (–1) Dummy 1998Q1 **1997Q2–2007Q4:** Constant Labour Cost Index (–1), (–3), (–4) Industry competition domestic Industry prices - next months (–1) Industry labour shortage Dummy 1998Q1

Source: Author's estimations

Table 5
Mean squared forecast errors of LCI Flash estimates

Model	Baseline	Hard data	Soft data
EZ-15	0.0127	0.0199	0.0117
EU-27	0.0332	0.0332	0.0269

Source: Author's estimations

unlikely to be resolved soon implies that, as the reported gains to using soft data are not clear-cut, it is unlikely they will be mutually accepted.

A further problem with the soft data models is evident from Table 5. It is clear that the variables making up the optimal model, as decided by PcGets, tend to be quite unstable. Legitimate concerns have recently been raised about the performance of business and consumer surveys in out-of-sample and real-time settings on these grounds; that they can tend to work well in some periods but not others.

Part of the instability in model selection though undoubtedly reflects the working of PcGets. The algorithm tends to really struggle if a number of highly correlated variables are presented in the starting GUM. The result is an over-specified terminal model where the parameters tend to be unstable over time. Again Table 5 would tend to confirm this as an issue. Soft data models, especially for the EU-27 model, are generally much larger in the number of right hand side variables, and more prone to being updated.

Notes

1. The group of EZ-15 countries includes: Austria, Belgium, Cyprus, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, Netherlands, Portugal, Slovenia and Spain. Slovakia joined in January 2009 after this work had be completed.

2. The group of EU-27 countries includes: EZ-15 group, Slovakia (EZ-16), Bulgaria, Czech Republic, Denmark, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Sweden and the UK.

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ARTICLE

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Regional economic indicators
with a focus on industries in the UK regions

SUMMARY

This quarter, the regional economic indicators article focuses on performance of industries in the UK regions, and examines the contributions of specific industries to aggregate productivity in each region. The regular part of the article then gives an overview of the economic activity of UK regions in terms of their Gross Value Added (GVA), GVA per head and labour productivity. This is followed by a presentation of headline indicators of regional welfare, other drivers of regional productivity and regional labour market statistics. 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 this article.

Focus on industries in the UK regions

Previous Regional Economic Indicators (REI) articles have shown significant and persistent differences in economic performance between and within the UK regions and identified some of the factors that might account for such differences. 2007 and 2008 REI articles, for example, focused on explaining the differences in sub-regional Gross Value Added (GVA) per head and the development of these differences in recent years by decomposing the differences into four explanatory factors: productivity, employment rate, commuting rate and activity rate.

Industry structure can also be significant for understanding regional comparisons of overall productivity. Some regions may have a greater specialisation in economic activities with relatively high levels of productivity while others may have an industry mix skewed toward low productivity activities. This can impact on the extent to which gaps in overall productivity between regions can be closed or reduced.

This article seeks to enhance the evidence base on the determinants of inter-regional productivity differences by examining the contributions of specific industries to aggregate productivity in each region. It covers 10 industry groups in NUTS1 regions, which are comprised of the nine Government Office Regions of England and Scotland, Wales and Northern Ireland. The analysis does not specifically cover the following sectors: education, health and

social work, public administration and defence, community, social and personal services and activities of private households as employers. However, the estimates of Gross Value Added (GVA) and hours worked for these sectors are included in the totals.
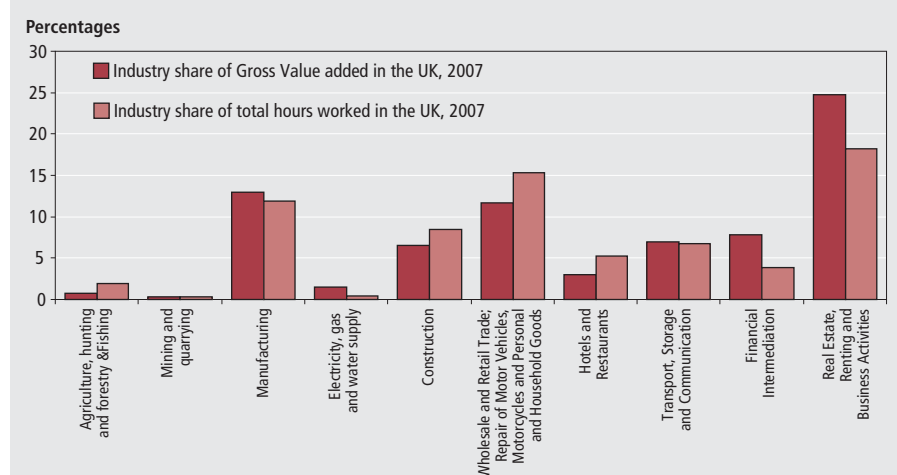
Industry structure in the regions

There are two widely accepted methods of defining industry structure. These are either using output such as shares of Gross Value Added or inputs such as the shares of total hours worked. The focus of this article is on industry productivity, particularly labour productivity in industry. Defining the industry structure in terms of the inputs, therefore, appears to be more appropriate than using the output definition. In the following analysis, labour input is measured by the number of hours worked. This is also ONS's preferred measure in productivity analysis.

Factors, such as geography, history, natural resources and policy settings can shape the industry structure of a region's economy and its productivity. Therefore, before looking at regional variations in industry level productivity, it is useful to look at the industry structure both in the UK and the regions. This will show the importance of different industries in the regional economy and allow comparisons to be made.

UK industry structure using both definitions is presented in **Figure 1**. It shows, for 10 industry groups, each industry's share of total hours worked and its share of workplace-based GVA for the UK as a whole in 2007. Industries whose share of

Figure 1
UK Industry structure, 2007

Percentages

Legend:
- Industry share of Gross Value added in the UK, 2007
- Industry share of total hours worked in the UK, 2007

X-axis categories: Agriculture, hunting and forestry &Fishing; Mining and quarrying; Manufacturing; Electricity, gas and water supply; Construction; Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods; Hotels and Restaurants; Transport, Storage and Communication; Financial Intermediation; Real Estate, Renting and Business Activities

Note:

1   UK less Extra-regio.

Source: Office for National Statistics

national hours worked is lower than their share of GVA can be considered to be more productive per hour compared with the industries where the share of GVA is similar or lower than hours worked.

The services sector made up just over three-quarters (77 per cent) of the total hours worked and generated over three-quarters (78 per cent) of the GVA in the UK (*less* extra-regio) in 2007. In terms of individual industry groups, 'real estate, renting and business activities' was the biggest contributor to UK GVA (25 per cent) and also had the largest share of hours worked (18 per cent). The second biggest contribution to the total GVA came from the manufacturing sector (13 per cent). However in terms of hours worked, 'wholesale and retail trade; repair of motor vehicles, motorcycles and personal and household goods' had the second highest share (15 per cent).

Figure 2 shows the distribution of industries in each region in terms of the hours worked in 2007, compared with the UK distribution. It shows that industry mix in the regions had a broadly similar pattern to the UK. A simple correlation analysis can be used to represent how closely the overall industry structure in a region is related to the national industry structure. A correlation coefficient close to 1 represents very strong similarity between the industry structure in the region and the UK.

Figure 3 shows the correlation coefficients of the industry structure (defined by hours worked) in all the regions compared to the UK, ranked in order from the least to most similar to the UK industry structure. It shows that in

2007 London had the least similar industry structure to the UK, followed by Northern Ireland and Wales. The similarity between the industry structure in other regions and the UK was fairly strong. Finally, **Figure 4** shows the changes in correlation of industry shares (in terms of hours worked) in the regions with those in the UK over the last decade.

Again, with the exception of London, Northern Ireland and Wales, industry structure in most of the regions was similar to the UK. The relationship between the industry shares in the regions with those in the UK also remained fairly stable over the decade except London and Northern Ireland. The figure reveals that London's and Northern Ireland's industry structures were even more different from the UK structure ten years earlier than they are now, and that they have moved towards the UK structure over this period. In particular, as the share of manufacturing industry continued to decline in every region relative to the services sectors, the difference in London's industrial structure compared to the national one has become smaller.

The extent to which differences in industry structure explain productivity differences between regions and the UK can be assessed by comparing the actual output in each region to a hypothetical case in which the regions have the same industry structure as the UK. This is done by keeping the regional productivity levels within each industry constant, but setting the allocation of inputs between industries in terms of hours worked to that of the UK shares. The ratio of actual GVA to hypothetical GVA measures the extent to which GVA would have been different in the region

had its economy had the same industry mix as the UK. If the ratio differs greatly from 1, industry structure is significant in explaining differences in aggregate productivity. If the ratio is below 1, then, with unchanged regional productivity levels, the regional productivity would be higher if it had UK industry shares. This implies that the UK has higher aggregate productivity than the region because it has a larger share of high productivity industries than in the region. The ratio above 1 suggests that with a UK structure the region would have had lower GVA and productivity. Finally, a ratio close to 1 suggests that industry structure has not made any difference to the region's aggregate GVA.

Table 1 suggests that the regional industry structure has made significant difference to GVA (and productivity) in Northern Ireland, Wales, Scotland, South West and London. If, for example, Northern Ireland had the UK industry structure in 2007, its total GVA would have been up to 11 per cent higher. On the other hand, with a UK industry mix, London GVA (and productivity) would have been 9 per cent lower. This analysis also suggests that industry composition does not appear to make a major difference to the productivity gap between the other regions and the UK. For example, GVA per hour worked in the North East was 9 per cent less than national average in 2007 (see Figure 6 in the regional overview section). However, applying UK industry structure to the region would have only increased GVA (and productivity) by 1 per cent. Therefore, it follows that regional productivity differences within industries must be playing a more prominent role in explaining overall regional productivity differences.

Industry productivity in the regions

This section will explore regional industry productivity levels (measured by GVA per hour worked) and growth rates relative to the aggregate regional productivity levels and growth rates to identify whether a specific industry has the same effect on aggregate productivity across all regions. It will then look at productivity differences, both in terms of levels and growth rates within industries to determine which regions were performing higher or lower than UK productivity levels, and catching up to UK productivity levels over the 1996–2007 period. It should be noted that the productivity definition used here relates to labour productivity which is a partial productivity measure. Productivity

Figure 2
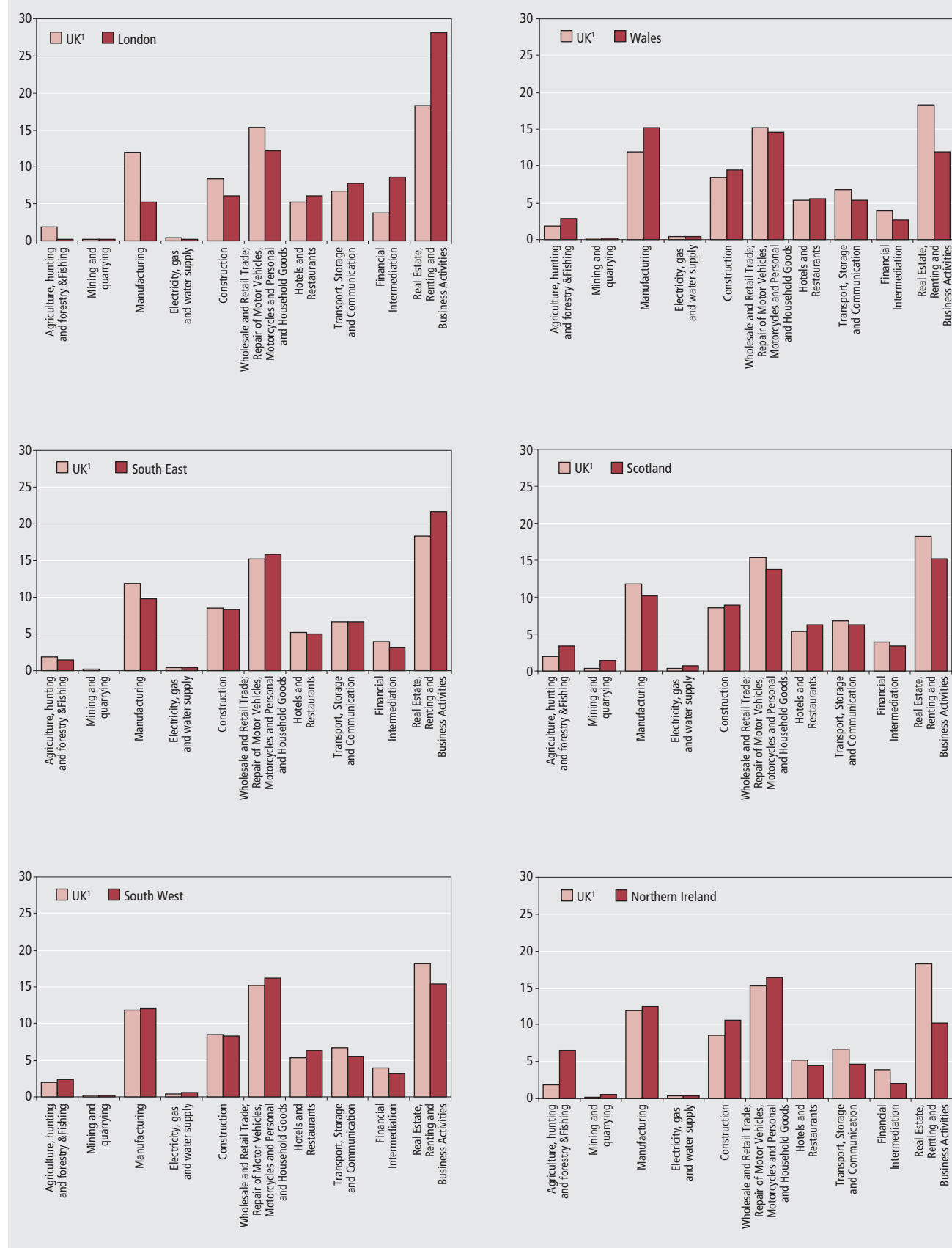## Industry shares of total hours worked in the regions, 2007
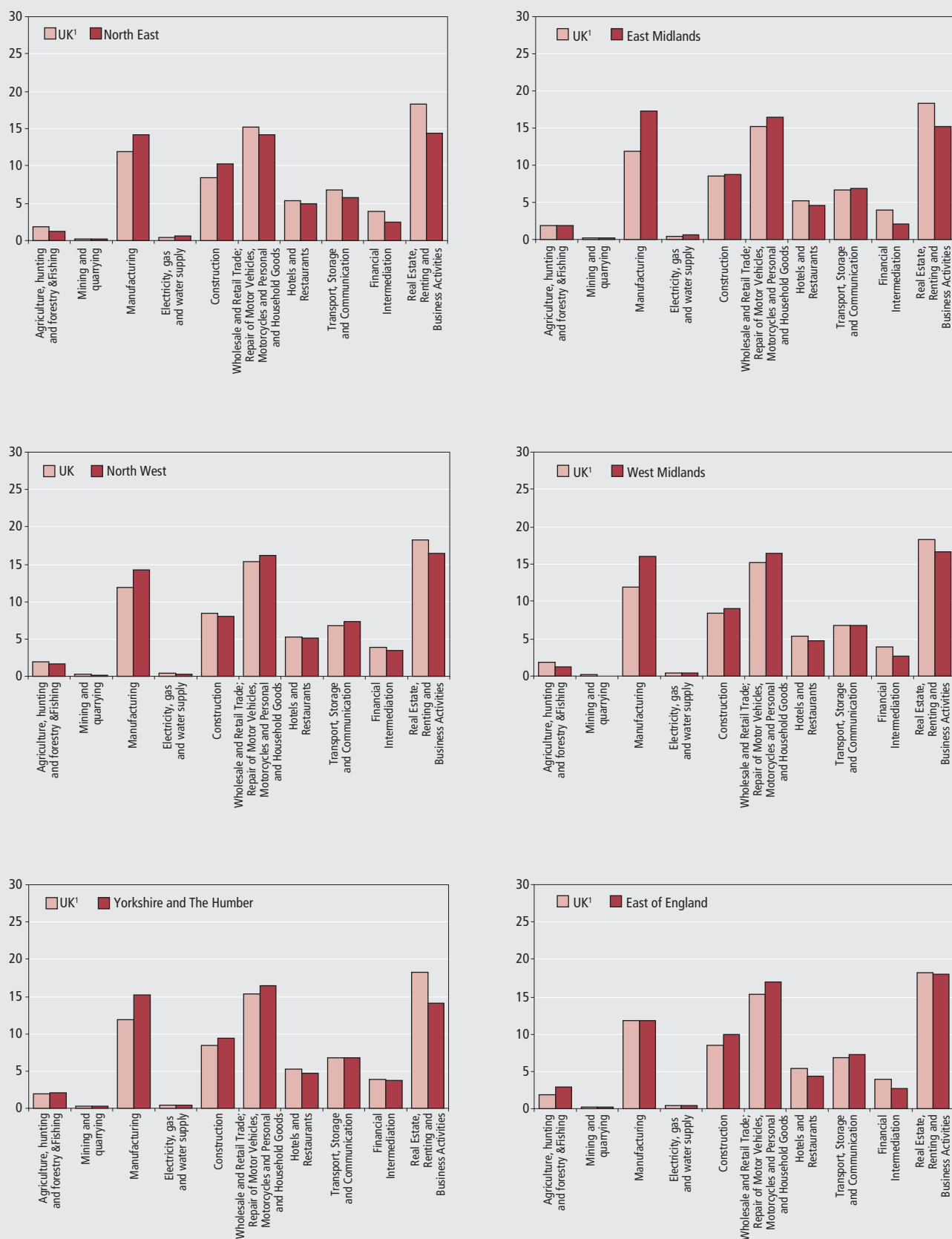
Percentages

Note:

1 UK less Extra-regio.

Figure 2 continued

Industry shares of total hours worked in the regions, 2007

Percentages

Note:

Source: Office for National Statistics

1 UK less Extra-regio.

Figure 3
Correlation of industry shares of total hours worked in the regions with those in the UK, 2007

Correlation: UK[1]=1

Note:

1 UK less Extra-regio.

Source: Office for National Statistics

Table 1
### Ratio of actual Gross Value Added to hypothetical Gross Value Added in the regions, 2007

	Ratio
North East	0.98
North West	0.99
Yorkshire and The Humber	0.98
East Midlands	0.99
West Midlands	0.99
East of England	0.98
London	1.09
South East	1.01
South West	0.97
Wales	0.95
Scotland	0.96
Northern Ireland	0.89
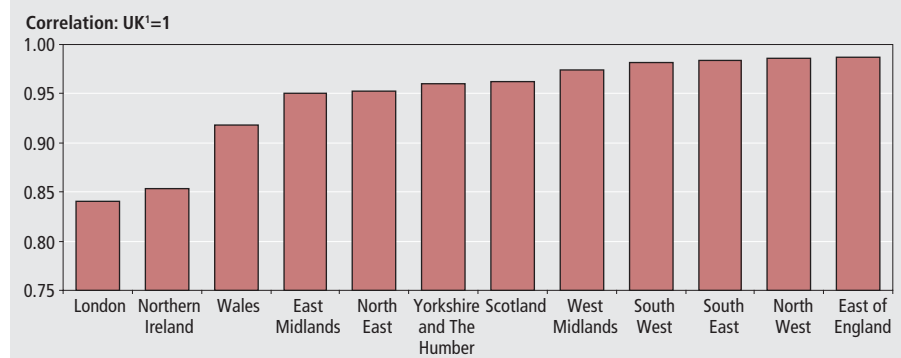
Source: Office for National Statistics

is also influenced by a number of other factors such as capital, skills, innovation and competition. The ratio between output and labour input depends to a large degree on the presence of these factors. It also needs to be noted that as regional price deflators are not available, GVA estimates used in productivity figures are nominal, not in real terms.

Table 2 shows the level and growth rates of productivity for individual industries in the regions, relative to the all-industry average within the particular region. The first column in the table represents GVA per hour worked in 10 industry groups indexed to the GVA per hour worked for all industries in the region in 2007. The second column represents the difference, in percentage points, between the average annual productivity growth rate (in nominal terms) of a given industry in the region and the all-industry average annual productivity growth in that region over 1996–2007.

It is evident that the effect on aggregate

productivity of a specific industry varied across regions. 'Financial intermediation', 'real estate, renting and business activities' and 'manufacturing' sectors were the main drivers of regional productivity across the regions as these sectors together accounted for around a third of the regional economies and had productivity levels higher than the all-industries average in every region. However, while the level of productivity in the 'financial intermediation' sector was 60 per cent or higher than the regional average productivity in every region, productivity levels in the 'real estate, renting and business activities' varied across regions. This ranged from 12 per cent above average in London to 75 per cent above average in Northern Ireland. Productivity growth in the 'financial intermediation' sector was also higher than the regional average productivity growth in every region, further widening the differential for this sector.

'Construction' and 'wholesale and retail trade; repair of motor vehicles, motorcycles

and personal and households goods' – both with relatively large shares in the economy – were the only sectors in which productivity grew faster than aggregate productivity growth rates in every region, closing the gap with regional average productivity levels.

As can be expected in industries with a high capital-labour ratio, the labour productivity levels were considerably higher than the all-industry productivity levels in 'electricity, gas and water supply' in every region. The 'Mining and quarrying' sector – another capital intensive industry – also had higher levels of productivity relative to the regional aggregate in every region except in Scotland and London. The sector with the lowest productivity in terms of GVA per hour worked in every region was 'agriculture, hunting and forestry and fishing', followed by 'hotels and restaurants'. Labour productivity growth in the 'agriculture, hunting and forestry and fishing' industry group was also significantly below the all-industry

Figure 4
Correlations of industry shares of total hours worked in the regions with those in the UK, 1996–2007

Correlation: UK[1]=1
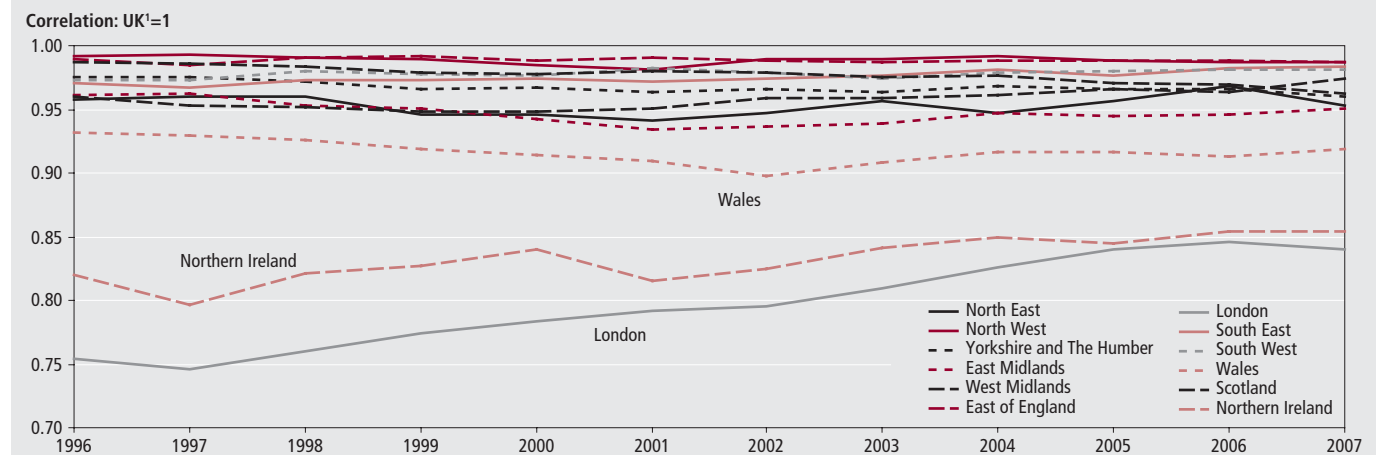
Note:

1 UK less Extra-regio.

Source: Office for National Statistics

Table 2
Regional Productivity by industry: levels and growth rates

Gross Value Added per hour worked (Regional all-industry Gross Value Added = 100)

a) Northern Way

	North East		North West		Yorkshire and The Humber	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	49	−3.0	32	−4.3	46	−5.2
Mining and quarrying	157	−0.3	182	1.8	117	−2.0
Manufacturing	123	0.5	124	−0.2	112	−0.6
Electricity, gas and water supply	329	−0.4	395	−0.1	435	0.9
Construction	80	0.5	82	1.9	76	0.8
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	77	1.2	75	0.3	77	0.9
Hotels and Restaurants	58	−0.1	57	0.3	57	0.6
Transport, Storage and Communication	111	−0.7	102	0.1	103	−0.9
Financial Intermediation	178	1.1	165	1.1	177	1.9
Real Estate, Renting and Business Activities	136	−0.6	135	0.0	141	−0.4
All industries	100	–	100	–	100	–

b) Midlands and South West

	East Midlands		West Midlands		South West	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	56	−5.8	75	0.2	58	−0.9
Mining and quarrying	199	3.8	195	1.9	211	1.1
Manufacturing	107	−0.6	104	−0.4	110	−0.6
Electricity, gas and water supply	385	0.5	398	0.1	412	−0.8
Construction	87	3.2	79	1.2	79	1.7
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	81	0.7	78	0.3	73	0.5
Hotels and Restaurants	56	0.1	74	2.6	58	1.9
Transport, Storage and Communication	100	−0.8	94	−1.8	105	−0.8
Financial Intermediation	184	1.4	174	1.2	187	1.5
Real Estate, Renting and Business Activities	138	0.4	133	−0.2	150	−0.6
All industries	100	–	100	–	100	–

c) Greater South East

	East of England		London		South East	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	35	−8.1	5	−16.6	33	−7.5
Mining and quarrying	173	−1.1	85	−4.4	208	0.4
Manufacturing	113	−0.1	101	−1.4	113	−0.6
Electricity, gas and water supply	234	−4.0	423	0.8	368	−0.6
Construction	78	0.5	66	0.9	77	1.6
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	79	1.4	75	0.1	83	0.6
Hotels and Restaurants	59	1.2	48	−2.0	58	0.8
Transport, Storage and Communication	111	0.1	101	−0.8	106	−0.5
Financial Intermediation	200	2.2	200	2.4	186	2.1
Real Estate, Renting and Business Activities	141	−0.6	112	−0.0	136	−0.8
All industries	100	–	100	–	100	–

d) Devolved Administrations

	Wales		Scotland		Northern Ireland	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	23	−4.8	44	−3.1	31	−7.2
Mining and quarrying	179	1.6	95	−6.0	109	−3.4
Manufacturing	116	−1.0	136	0.6	121	0.2
Electricity, gas and water supply	345	−0.2	309	−3.0	545	3.8
Construction	81	1.9	87	1.7	86	2.8
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	77	2.1	75	0.9	78	0.5
Hotels and Restaurants	59	−0.8	55	−0.7	63	0.3
Transport, Storage and Communication	90	−1.3	102	−0.4	103	−0.3
Financial Intermediation	160	0.4	200	2.1	190	2.2
Real Estate, Renting and Business Activities	162	−0.1	135	0.3	175	−0.9
All industries	100	–	100	–	100	–

Notes:

Source: Office for National Statistics

1   Represents the productivity of the given industry indexed such that aggregate productivity of the given region = 100.
2   Represents the difference, in percentage points, between the percentage growth of a given industry productivity in the region minus the average productivity growth in the region over the 1996-2007 period.

Table 3
Regional productivity by industry: levels and growth rates

Gross Value Added per hour worked (UK industry Gross Value Added per hour worked = 100)

a) Northern Way

	North East		North West		Yorkshire and The Humber	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	114	1.1	77	0.4	105	−0.9
Mining and quarrying	113	1.4	132	4.0	82	−0.1
Manufacturing	103	0.4	105	0.2	92	−0.5
Electricity, gas and water supply	85	−0.3	103	0.5	109	1.2
Construction	95	−1.5	98	0.4	88	−1.1
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	91	−0.0	90	−0.4	90	−0.1
Hotels and Restaurants	93	−1.0	92	−0.0	90	−0.1
Transport, Storage and Communication	97	−0.6	91	0.7	89	−0.6
Financial Intermediation	80	−1.6	75	−1.1	78	−0.6
Real Estate, Renting and Business Activities	91	−1.0	92	0.1	93	−0.7

b) Midlands and South West

	East Midlands		West Midlands		South West	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	134	−1.6	173	4.8	142	4.1
Mining and quarrying	144	5.6	137	4.1	157	3.6
Manufacturing	91	−0.6	85	−0.0	95	0.2
Electricity, gas and water supply	100	0.7	101	0.7	110	0.2
Construction	104	1.3	92	−0.3	96	0.6
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	98	−0.4	91	−0.4	90	0.2
Hotels and Restaurants	91	−0.7	116	2.3	96	1.9
Transport, Storage and Communication	89	−0.6	81	−1.2	96	0.2
Financial Intermediation	84	−1.2	77	−1.0	87	−0.2
Real Estate, Renting and Business Activities	93	0.1	87	−0.1	104	−0.2

c) Greater South East

	East of England		London		South East	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	91	−3.1	16	−11.6	88	−2.3
Mining and quarrying	137	1.5	87	−1.8	171	3.1
Manufacturing	104	0.7	120	−0.6	108	0.3
Electricity, gas and water supply	67	−3.0	155	1.9	109	0.5
Construction	102	−0.6	112	−0.2	105	0.6
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	104	1.0	127	−0.2	113	0.3
Hotels and Restaurants	105	1.2	110	−2.0	108	1.0
Transport, Storage and Communication	107	1.1	127	0.2	107	0.6
Financial Intermediation	99	0.4	128	0.7	96	0.4
Real Estate, Renting and Business Activities	105	−0.1	107	0.5	105	−0.2

d) Devolved Administrations

	Wales		Scotland		Northern Ireland	
	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007	Productivity level[1] in 2007	Productivity growth differential[2], 1996–2007
Agriculture, hunting and forestry & Fishing	51	−1.0	109	1.2	66	−2.7
Mining and quarrying	119	3.0	72	−4.1	72	−1.3
Manufacturing	90	−1.4	118	0.7	93	0.5
Electricity, gas and water supply	82	−0.4	83	−2.7	129	4.4
Construction	89	−0.5	107	−0.1	93	1.2
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	85	0.5	94	−0.2	85	−0.3
Hotels and Restaurants	88	−2.0	92	−1.4	93	−0.1
Transport, Storage and Communication	73	−1.5	94	−0.1	84	0.2
Financial Intermediation	67	−2.6	94	−0.3	79	−0.1
Real Estate, Renting and Business Activities	101	−0.9	95	0.1	108	−0.9

Notes:

Source: Office for National Statistics

1   Represents productivity of the given industry such that average productivity of the same industry in the UK = 100.
2   Represents the difference, in percentage points, between the percentage growth of a given industry productivity in the region minus the average productivity growth in the same industry in the UK over the 1996-2007 period.

productivity growth in all regions except the West Midlands, implying that the productivity gap between this industry and the others in the regions have widened over the last decade.

Productivity differences within industries

Table 3 shows productivity levels and growth rates for each industry within regions, relative to the levels and growth rates for the relevant industries in the UK as a whole. For each region, the first column in the table displays GVA per hour worked in each industry indexed to the UK level in that industry in 2007. The second column shows the productivity growth differential of each industry group relative to the average annual productivity growth in that industry in the UK over the period 1996–2007.

Productivity levels varied considerably within industries across the regions. In 2007, regions in the Greater South East were the only regions in the UK where the level of GVA per hour worked in most industries was above the national average in the respective industry. In particular, most industries in London performed significantly better than elsewhere in the UK. For example, in 2007 the level of GVA per hour worked in the 'electricity, gas and water supply' and the 'financial intermediation' sectors in London were 55 per cent and 28 per cent above the UK GVA per hour worked in these industries respectively. In London, labour productivity also grew faster than elsewhere in most of the industries over the last decade. The only underperforming sectors, both in terms of levels and growth rates, in London were in the primary sectors ('agriculture, hunting and forestry; fishing' and 'mining and quarrying'). Given that these sectors had a very small share in London's economy, it is clear that the high productivity performance in almost every sector underlies the high aggregate productivity in London. Similarly, above average productivity performance in the South East and East of England in 2007 was driven by both above average productivity level and growth of industries in these regions.

Elsewhere in the UK, below average productivity growth in many industries further widened the productivity gap between these regions and the UK. There were some exceptions to this relatively poor performance. In the northern regions productivity growth in the primary and manufacturing industries, and in the Midlands regions 'mining and quarrying',

outperformed the average productivity growth in their respective industries. Productivity in the primary sectors in the South West also grew faster than elsewhere during this period resulting in higher than average productivity levels in these industries in 2007. However, given the relatively small shares of these industries in the regions, their overall positive impact on regional productivity is not significant.

Looking at how the broad industry groups performed in the regions, Table 3 shows that productivity in the primary industries was higher than their respective UK averages in North East, East Midlands, West Midlands and the South West.

The manufacturing group had mixed outcomes. It had higher than UK average productivity in half of the regions, ranging from 20 per cent above average in London to 3 per cent above average in the North East in 2007. The lowest performance for this industry group was recorded in West Midlands. In 2007, the level of GVA per hour worked in the manufacturing sector in West Midlands was 85 per cent of that in the UK manufacturing sector. Growth in productivity, however, did not differ from the UK average. It should be noted that the average performance of the manufacturing sector as a whole may mask significant productivity differences within the sub-sectors of this group. Productivity growth rates in this industry also varied across the regions, widening or closing the gap in levels. Similarly, the productivity levels and growth rates in the 'electricity, gas and water' and 'construction' sectors varied across the regions of the UK.

Productivity in the services sectors was generally higher than the respective UK averages in the Greater South East regions, while it was below average in other regions. 'Real estate, renting and business activities' sector in Northern Ireland, however, performed better than its UK counterparts in 2007. The largest improvements in productivity in the UK occurred in 'financial intermediation' (up 6.6 per cent) over 1996–2007. The growth in 'financial intermediation' was mainly led by the regions in the Greater South East, particularly London, whereas the growth in construction varied across the regions of the UK.

Concluding remarks

The above analysis has shown that over the last decade, most regions had a very similar industry structure in terms of distribution of labour resources to the industry structure of the UK as a whole. The exception to this

was London, which had become closer to the UK structure over this period. The analysis has also shown that each industry had a different impact on the overall economic performance of a region.

Finally, levels of productivity differed considerably between and within different industries, however, industrial structure only accounted for a limited proportion of the productivity gap between the regions and the UK. It follows that regional differences in productivity within industries seem to be more significant in explaining the productivity gap, implying that labour productivity is influenced by the location of industry. Such differences may be due to variations in other factors affecting labour productivity such as investment, innovation, enterprise, competition and skills, as well as consumer tastes and preferences.

Regional overview

Key figures on a regional basis indicate that:

- in 2007 London was the region with the highest productivity, in terms of GVA per hour worked, at 30 percentage points above the UK average. Northern Ireland had the lowest productivity in 2007, at 16 percentage points below the UK average
- for the UK as a whole the statistical value of goods exports for the 12 months ending June 2009 was £232.4 million, a decrease of 1.4 per cent compared to the 12 months ending June 2008. The total value of goods exports, however, increased in 5 of the 12 regions with Wales and South East delivering the highest growth rate in this period, rising by 8 per cent and 7 per cent respectively. At the other end of the scale, West Midlands saw the largest percentage decline in the value of goods exports (down by 13 per cent)
- the South East had the highest employment rate in the second quarter of 2009, at 77.3 per cent; Northern Ireland had the lowest rate, at 65.6 per cent, compared with the UK employment rate of 72.7 per cent

Headline indicators

In order to gain an overview of the economic performance of UK regions, this article discusses a selection of economic indicators. Currently, the most widely used indicator of regional economic performance is Gross Value Added (GVA) per head. Policymakers frequently use GVA per head as a headline indicator of regional productivity and of regional incomes when

comparing and benchmarking regions that differ in geographical size, economic output and population. However, as Dunnell (2009) has explained, productivity and income are very different concepts.

GVA per head is calculated as the simple ratio of the economic activity in a region divided by the number of people living in a region, while productivity is defined as the ratio of GVA divided by the labour input (jobs or hours worked) used to create it. GVA per head does not take account of:

- people commuting in and out of regions to work
- regional differences in the percentages of residents who are not directly contributing to GVA, such as young people or pensioners, and
- different labour market structures across regions, such as full- and part-time working arrangements

Therefore, GVA per hour worked or GVA per filled job are more appropriate productivity indicators. It needs to be noted that these indicators also depend on pricing thus productivity can fall/rise with decreasing/increasing prices. As regional price deflators do not yet exist, GVA estimates used in productivity figures are in nominal, not real terms, therefore it is not possible to isolate volume changes from price changes.

Similarly, Gross Disposable Household Income (GDHI) per head is a better measure of regional incomes than GVA per head. For example, due to commuting, residents might derive their incomes from economic activity in another region, which is not captured by GVA per head of their region. They may also have sources of income which are unrelated to current work, such as pensions and investment incomes.

Regional performance

GVA is a good measure of the economic output of a region. In December 2008, ONS published GVA estimates for 2007 and revised estimates for previous years. **Table 4** shows the regional economic performance in terms of workplace-based GVA and GVA per head and their respective average annual growth over the period 2000 to 2007. Although GVA per head is not a good indicator of regional productivity or income, it does take account of variations in geographical size among UK regions and therefore allows better comparisons than using GVA in total.

The estimates show that London had the highest GVA (£250 billion) and GVA per head (£33,100) in 2007, followed by the South East (£175 billion and £21,100, respectively). The North West generated the third highest GVA (£121 billion), but was seventh in terms of its GVA per head (£17,600). Northern Ireland and the North East had the lowest GVA in 2007, while Wales and the North East had the lowest GVA per head.

In terms of average annual percentage growth of GVA between 2000 and 2007, the East Midlands, London, Northern Ireland and the East of England had the highest GVA growth, while the West Midlands and Wales had the lowest. Average annual percentage growth of GVA per head was highest in Scotland, London, Northern Ireland and the North East, while the West Midlands, Yorkshire and The Humber and Wales grew slowest.

Labour productivity

To compare regions in terms of productivity, GVA per hour worked is the preferred indicator. At lower levels of geography, 'hours worked' estimates are not yet available and GVA per filled job should be used. These two measures of productivity

divide GVA by the labour input, namely hours worked in all jobs or the number of jobs used to create it.

GVA per hour worked and GVA per filled job take account of commuting effects and different age profiles, and the former also accounts for variations in labour market structures, such as full- and part-time working arrangements and job share availability.

On 11 February 2009, productivity estimates for 2007 and revised estimates for previous years were published. These estimates make use of the GVA figures presented in Table 4, and updated 'filled jobs' and 'hours worked' estimates.

It should be noted that the productivity figures presented here use unsmoothed GVA as their output measure as opposed to headline GVA, which is calculated as a five-year moving average. The unsmoothed measure is used to ensure consistency with the labour input data (Dey-Chowdhury *et al* 2008), but raises some concerns about increased volatility of productivity estimates compared to those based on headline GVA. The question of whether to smooth productivity figures after dividing unsmoothed GVA by labour data, and presenting these as headline estimates, is one which will be addressed by ONS in the coming months.

Figure 5 shows that in 2007 GVA per filled job and GVA per hour worked exhibited smaller differences from the UK average than the catch-all indicator GVA per head. This is mainly due to commuting patterns. London, for example, has a very high GVA per head, mainly due to incoming workers generating a high GVA, which is then divided by a much lower resident population. Productivity indicators, on the other hand, divide regional GVA by the jobs or hours worked used to create it.

Table 4
Workplace-based gross value added and gross value added per head at current basic prices: by NUTS1 region

	UK[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 (£ million)													
2000	842,500	28,300	84,700	61,400	52,600	68,400	72,300	169,000	123,300	64,200	31,700	67,200	19,500
2007[2]	1,216,900	40,300	120,500	87,200	78,100	92,200	107,000	250,100	175,300	94,200	44,300	98,900	28,800
Average annual percentage growth 2000–2007[2]	5.4	5.2	5.2	5.1	5.8	4.4	5.8	5.8	5.2	5.6	4.9	5.7	5.7
GVA per head (£)													
2000	14,300	11,100	12,500	12,400	12,600	13,000	13,500	23,400	15,400	13,100	10,900	13,300	11,600
2007[2]	20,000	15,700	17,600	16,900	17,700	17,100	18,900	33,100	21,100	18,200	14,900	19,200	16,400
Average annual percentage growth 2000–2007[2]	4.9	5.1	5.0	4.5	5.0	4.0	4.9	5.1	4.6	4.8	4.6	5.4	5.1

Notes:
1 UK less Extra-regio and statistical discrepancy.
2 Provisional.

Source: Regional Accounts, Office for National Statistics

Figure 6 shows the regional GVA per hour worked productivity index on a time series basis from 2001 to 2007. In 2007, London, the South East and the East of England were the only three regions with a productivity performance above the UK average. The East of England saw the strongest improvement in its relative performance from 2001 to 2007 from below the UK average to above average in 2007. London also improved its relative performance, therefore diverging further from the UK average. Relative productivity in the South East remained roughly constant. Northern Ireland and Wales had the lowest relative productivity in 2007. The strongest divergence from the UK average productivity between 2001 and 2007 was experienced in the North East, Wales and Yorkshire and The Humber. This implies that these regions' productivity grew by less than the UK average, therefore widening the productivity gap between regions.

Income of residents

The previous section discussed the economic activity and productivity in the regions. This section discusses regional incomes, which gives an indication of the welfare of residents living in a region.

Gross disposable household income (GDHI) represents the amount of money available to households after taxes, National Insurance and pension contributions, property costs and other interest payments have been deducted. The estimates of GDHI, however, are at current basic prices and so do not take inflation effects or regional price differences into account.

In order to make reliable comparisons of regional income levels, the analysis needs to take account of relative sizes of regions. Therefore, GDHI per head, which is a residence-based measure, is used as an indicator of the welfare of people living in the region.

The May 2009 edition of this article discussed the latest data on GDHI in detail, therefore this section presents a brief overview of those analysis. **Figure 7** presents indices of GDHI per head for 2001, 2003, 2005 and 2007, showing movements in regional household income relative to the UK average over time. It is evident that the GDHI per head is above the UK average only in the regions of the 'Greater South East'. Of these regions, London has consistently had the highest GDHI per head since 2001 and is diverging from the national average. The South East and East of England, on the other hand, are getting closer to the national average as they

Figure 5
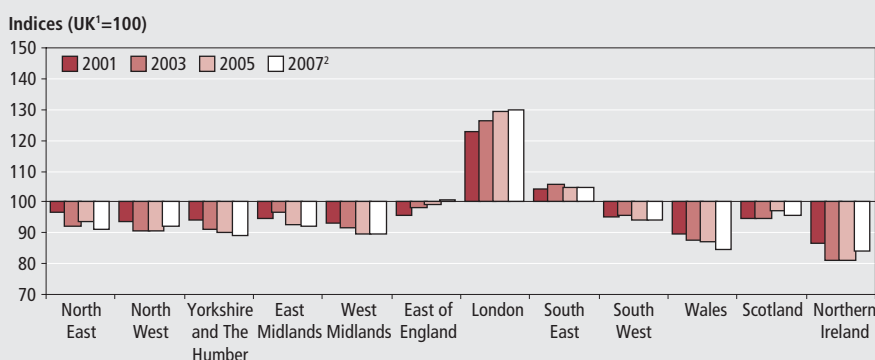**Comparison of regional economic indicators: by NUTS1 region, 2007[1]**
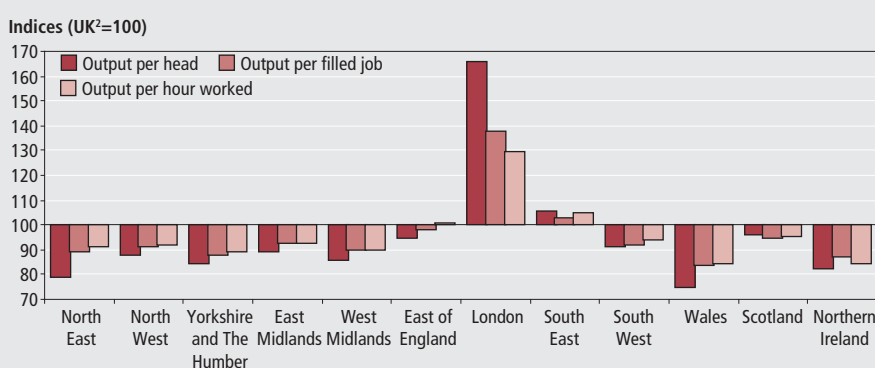
Indices (UK[2]=100)

Note: *Source: Office for National Statistics*
1 Provisional.
2 UK less Extra-regio statistical discrepancy.

Figure 6
GVA per hour worked: by NUTS1 region

Indices (UK[1]=100)

Note: *Source: Office for National Statistics*
1 UK less Extra-regio statistical discrepancy.
2 Provisional.

Figure 7
Headline gross disposable household income per head: by NUTS1 region

Indices (UK[1]=100)

Notes: *Source: Office for National Statistics*
1 UK less Extra-regio.
2 Provisional.

experienced the lowest growth in household income compared to other regions between 2001 and 2007. Similarly, improvements against the national average are evident in most regions with lower household income, particularly the North East and the devolved administrations. This implies greater parity across regions in terms of household income.

Comparing these outcomes with the regional productivity performance shown in Figure 6 shows that, unlike income per head, productivity has been diverging from the UK average in most regions. Moreover, some regions have been performing close to the average in terms of productivity, while their income per head shows stronger

divergences from average. The North East, for example, has had a close to average but declining productivity performance since 2001 and at the same time the lowest, but improving, income per head. One reason for this might be the region's low employment and high unemployment rates (see labour market section).

Gross median weekly earnings represent another indicator of regional welfare. **Figure 8** shows the gross median weekly pay for all full-time employees, split into female and male full-time employees, in each region in April 2008.

As in previous years, London was the region with the highest gross median weekly pay, at £612.70, followed by the South East, at £499.80. These were the only regions above the UK average of £478.60. Northern Ireland (£417.60), the North East (£420.60) and Wales (£421.00) recorded the lowest earnings in April 2008.

Females across the UK regions received lower pay than males. In Northern Ireland, the discrepancy was smallest, while it was largest in London and the South East. The weekly pay for male full-time employees was above the UK average for all full-time employees in nine of the 12 NUTS1 regions, while the weekly pay of female full-time employees was only above the UK average in London. However, in terms of annual average percentage growth between 2004 and 2008, pay for females outperformed that for males. The only regions where pay for females did not grow more than male pay over this period were Yorkshire and The Humber, South East and Scotland. The difference in growth rates, however, was marginal. The first two regions had only a 0.1 percentage point difference in growth rates between male and female pay and Scotland had a 0.2 percentage point difference. It is interesting to note that Scotland had the highest annual average growth rate, both for males and females, among the regions over the period considered above.

Drivers of productivity

HM Treasury and Department for Business, Innovation and Skills (BIS) formerly known as Department for Business Enterprise and Regulatory Reform (BERR) have identified five key drivers of productivity – investment, innovation, enterprise, competition and skills – that can help explain differences in productivity across regions.

Alongside these five key drivers, other factors, such as connectivity, industrial structure and region-specific assets can have

Figure 8

Gross median weekly pay of all full-time employees: by NUTS1 region, April 2008

Indices (UK[1]=100)
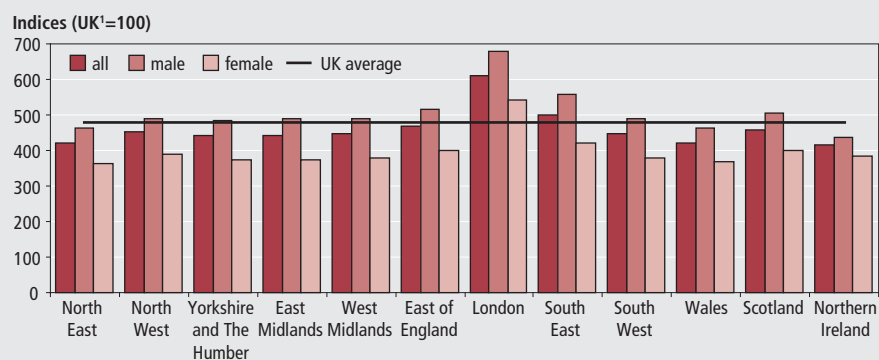
Source: Annual Survey of Hours and Earnings, Office for National Statistics

a strong influence on regional productivity performance.

This article uses expenditure on Research and Development (R&D) by businesses as a measure of innovation; the numbers of business births and deaths and survival rates as an indicator for enterprise; UK regional trade in goods serves as a measure of competition; and the qualifications of the current working-age population and those of young people, who represent the future workforce, to provide an indicator for the skills driver.

Investment

Investment in physical capital, such as machinery, equipment and buildings, enables workers to produce more and higher quality output. Therefore, investment can have a significant positive impact on productivity. Due to quality concerns regarding the regional allocations of investment, which is recorded at the level of the enterprise and not at the local level, this article does not currently include data on investment.

Nevertheless, as Dunnell (2009) has pointed out, inflows of foreign direct investment (FDI) projects and estimated numbers of associated jobs by region can serve as a narrow indicator of investment. However, FDI does not cover all investment in a region and there is no requirement to notify UK Trade & Investment when undertaking FDI.

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 others, 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 represents one of the determinants to the innovation process and is defined by the Organisation for Economic Co-operation and Development (OECD) in its Frascati Manual, which proposes a standard practice for surveys on R&D, 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 this stock of knowledge to create new applications'. The OECD definition of R&D covers the following:

- **basic research:** experimental and theoretical work to obtain new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view
- a**pplied research:** work undertaken to acquire new knowledge, which is directed primarily towards a specific practical aim, and
- **experimental development:** systematic work, drawing on existing knowledge, which is directed at producing new materials, products or devices, installing new processes, systems and services, or at improving substantially those already produced or installed

The OECD definition excludes education, training and any other related scientific, technological, industrial, administrative or supporting activities. However, innovation depends on a wider set of inputs than R&D, including skills training, design, software and organisational investment by firms. HM Treasury *Economics Working Paper No. 1* quantifies these broader knowledge economy inputs at UK level; more work is needed before these factors can be measured effectively at regional level.

Figure 9 presents statistics on Business Expenditure on Research and Development (BERD), which are consistent with internationally agreed standards. Figures for 2007 published on 30 January 2009 show business expenditure on R&D as a percentage of workplace-based GVA in 2001, 2003, 2005 and 2007. This is a measure commonly used in regional comparisons as it takes account of the size of regional economies. The figure shows that, since 2001, the East of England has been the region with by far the highest percentage of R&D expenditure in terms of GVA, with 4.1 per cent in 2007. The South East had the second highest percentage (2.0 per cent), which has, however, been declining since 2001.

R&D expenditure as a share of regional GVA was 1.8 per cent in the North West and 1.3 per cent in the East Midlands and the South West. London, Yorkshire and The Humber and the three Devolved Administrations of Wales, Scotland and Northern Ireland had the lowest shares in 2007, at around 0.5 per cent each. London's very low share of expenditure on R&D does not necessarily suggest low levels of innovation but may be due to it having a large concentration of service industries, which may be less R&D intensive (within the OECD definition) if, for example, they rely heavily on human capital. It may also reflect the choice businesses make over locating their R&D.

Approximately three-quarters of the R&D expenditure in the UK was made in the manufacturing sector in 2007. **Figure 10** shows that in most regions except in the Greater South East and West Midlands the share of the R&D expenditure on manufacturing was over 80 per cent of their respective expenditure. East of England accounted for 27 per cent of the total R&D expenditure in the UK in 2007 and had the highest level of R&D expenditure on both the manufacturing and services. This may suggest that some London R&D is occurring in the surrounding regions.

Enterprise

Enterprise is another driver of productivity. It is defined as the seizing of new business opportunities by both start-ups and existing firms. New enterprises can bring innovative processes and technologies to the market, forcing existing ones to improve their productivity in order to remain competitive.

The February 2009 edition of this article focused on business demography in UK regions, using the newly published ONS series of enterprise births and deaths, which

includes enterprises registered for VAT and also those registered for pay-as-you-earn (PAYE). It needs to be noted that enterprise statistics relate to the place of registration of the enterprise, even though the enterprise

may consist of more than one local unit, possibly in different regions.

Figure 11 shows the number of births and deaths of enterprises as a proportion of the active enterprise stock in 2007. The

Figure 9
Business expenditure on R&D as a percentage of workplace-based GVA: by NUTS1 region
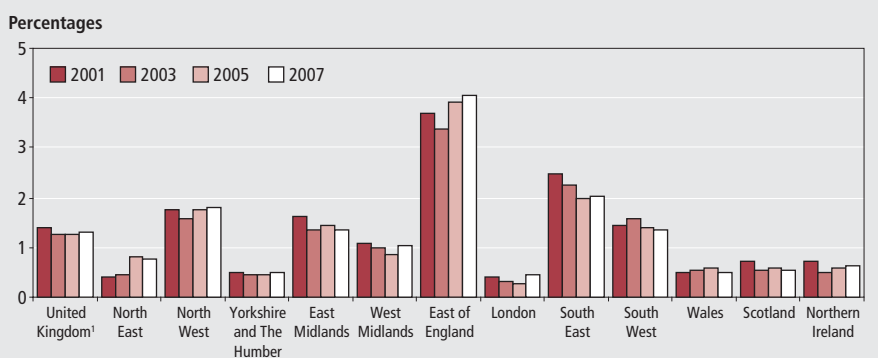
Notes:
1   UK less Extra-regio and statistical discrepancy.

Source: Regional Accounts and Business Expenditure on Research & Development, Office for National Statistics

Figure 10
Business expenditure on R&D by NUTS1 region: broad industry groups, 2007
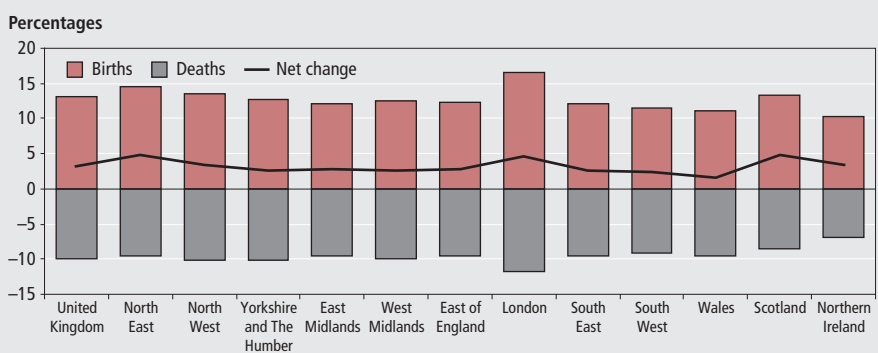

Note:
1   Other includes agriculture, hunting and forestry, fishing, extractive industries, electricity, gas and water supply and construction. The expenditure on other industries across the UK was less than 2 per cent of the total expenditure.

Source: Office for National Statistics

Figure 11
Enterprise births, deaths[1] and net change as a percentage of enterprise stock: by NUTS1 region, 2007

Note:
1   Provisional.

Source: Business Demography, Office for National Statistics

difference between the two represents the net change, which is calculated as a proportion of total stock. The figure shows that the North East and Scotland had the highest rate of net change, at 4.8 per cent, closely followed by London, at 4.7 per cent. Wales and the South West had the lowest rates, at 1.6 and 2.3 per cent, respectively. These rates were mainly driven by small enterprises with fewer than five employees which is approximately 80 per cent of the total enterprise stock. Among the 5 per cent of the enterprises that have more than 20 employees, however, the net change was negative in every region. In the category of enterprises with employment size 10–19 which comprises 6 per cent of the total stock, the net change was also negative in every region with the exception of Scotland.

In 2007, across regions, the relatively modest net changes were the result of much larger proportions of enterprises joining and leaving the stock. These proportions were largest in London, followed by the North East. A relatively large proportion of enterprises joining and leaving the stock can be seen as desirable, as new enterprises entering the market are considered to bring innovative processes and technologies that drive up productivity and force unproductive enterprises to leave the market.

As well as analysing births and deaths of enterprises, it is useful to look at how long these enterprises survive. The Business Demography series contains data showing the number of years survived by enterprises born in the years 2002 to 2006.

Figure 12 shows the proportion of enterprises born in 2002, 2003 and 2004 that survived for at least three years each. It shows that, overall in the UK, survival rates increased over the period, rising from 63 per cent of enterprises born in 2002 to 65 per cent of those born in 2004.

Patterns were similar across regions, with all but Northern Ireland having higher survival rates for enterprises born in 2004 than in 2002. Northern Ireland saw a fall from 69 to 67 per cent; however this was still higher than the UK average of 65 per cent. Among enterprises born in 2004, those in the South West had the highest three year survival rate, at 69 per cent.

London stands out as the region with the lowest rate, at 60 per cent. Figure 11 has shown that London had the highest percentage of births and deaths of enterprises; therefore it is not surprising that survival rates were relatively low. They could be an indication of London's ability to exploit short-term business opportunities. At the same time, it may suggest that many of the new enterprises born will not provide long-term growth and employment.

Competition

Vigorous competition enhances productivity by creating incentives to innovate and ensure that resources are allocated to the most efficient firms. It also forces existing firms to organise work more effectively through imitations of organisational structures and technology. One indicator of competition is the volume of exports. Even though exports do not represent competition within a region, they still provide an indication of how international regions are in their outlook, and how able they are to face global competition.

HM Revenue & Customs (HMRC) publishes statistics on regional trade in goods to the EU and non-EU destinations by statistical value. Trade in goods by definition excludes trade in intangibles and services. The statistical value of export trade is calculated as the value of the goods plus the cost of movement to the country's border.

Table 5 presents the latest quarterly estimates up to June or Quarter 2 2009. The total value of UK goods exports to all destinations decreased by approximately 1.4 per cent between June 2008 and June 2009, but there were significant differences among regions. The total value of goods exports increased in 5 of the 12 regions with Wales and South East delivering the highest growth rate in this period, rising by 8 per cent and 7 per cent respectively. At the other end of the scale, West Midlands saw the largest percentage decline in the value of goods exports (down by 13 per cent).

As the European Union (EU) is the main export destination for UK goods, the table separates exports to EU and non-EU destinations. From the UK as a whole, the value of exports to the EU dropped by 7 per cent between June 2008 and June 2009. With the exception of London and South East (both up by 0.4 per cent), all the regions recorded decreases in the value of goods exports to the EU. West Midlands reported the highest drop, by 16 per cent.

The total value of UK exports to the rest of the world grew by 4 per cent form June 2008 to June 2009, with Wales leading the way, up 33 per cent in value. The rise in exports to non-EU countries, however, masks wide regional variation. Almost half of the regions had a fall in the value of goods exports to non-EU countries. The largest fall was recorded in the Yorkshire and The Humber region (down by 12 per cent) during this period.

The figures also show a continuing downward trend in the value of total goods exports beginning in the third quarter of 2008. This may partly reflect the inherent volatility of quarterly trade data, although such declines appear to be consistent with intensifying global financial and economic crises in the second half of 2008. This downward trend is also evident for both the EU and non-EU exports for all the regions. Again, falling export values are most likely to be the product of the ongoing recession. The number of exporters in the UK for June 2009 quarter compared with the same quarter last year, decreased by 1.9 per cent to 50,538. Wales had the largest percentage increase in the number of exporters of 3.3 per cent to 1,389. London had the largest decrease of 6.0 per cent to 8,454[1].

Figure 13 shows the value of exports of goods as a percentage of workplace-based regional GVA in 2000 and 2007, which takes account of the differing sizes of regional economies. In 2007, exports from the North East accounted for the

Figure 12

Percentage of units surviving three years: by year of birth and NUTS1 region

Source: Business Demography, Office for National Statistics

Table 5
UK regional trade in goods – statistical value of exports:[1] by NUTS1 region

£ million

Exports	United Kingdom	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 Exports													
2007 Q3	30,663	1,331	2,773	1,649	2,038	2,033	2,914	2,183	4,490	1,633	1,313	1,378	830
2007 Q4	32,952	1,557	2,854	1,725	2,058	2,314	3,196	2,152	4,891	1,725	1,331	1,527	855
2008 Q1	34,980	1,634	3,182	1,744	2,196	2,405	3,314	2,304	4,937	1,817	1,485	1,493	880
2008 Q2	35,742	1,619	3,283	1,913	2,013	2,137	3,222	2,850	5,096	1,707	1,647	1,536	874
Total to June 2008	134,337	6,140	12,092	7,032	8,305	8,889	12,646	9,489	19,414	6,882	5,775	5,934	3,439
2008 Q3	32,677	1,442	2,859	1,826	1,904	1,993	2,895	2,377	5,156	1,562	1,329	1,519	840
2008 Q4	32,677	1,442	2,859	1,826	1,904	1,993	2,895	2,377	5,156	1,562	1,329	1,519	840
2009 Q1[2]	30,971	1,334	3,091	1,608	1,839	1,788	2,815	2,411	4,890	1,651	1,187	1,331	789
2009 Q2[2]	28,841	1,308	2,925	1,453	1,746	1,678	2,875	2,365	4,295	1,537	1,171	1,207	752
Total to June 2009	125,167	5,527	11,734	6,713	7,394	7,453	11,480	9,530	19,497	6,311	5,015	5,575	3,220
													-
Non-EU exports													-
2007 Q3	23,008	1,021	2,417	1,402	1,685	1,595	1,843	3,402	3,667	1,100	851	2,012	520
2007 Q4	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	23,867	1,164	2,452	1,641	1,743	1,767	2,167	3,195	3,892	1,053	869	1,833	555
2008 Q2	27,803	1,335	2,862	1,712	1,941	1,989	2,509	3,660	4,993	1,178	1,074	2,066	639
Total to June 2008	99,816	4,782	10,193	6,516	7,152	7,152	8,519	13,851	16,677	4,485	3,707	7,806	2,291
													-
2008 Q3	28,265	1,357	2,936	1,707	1,914	2,142	2,267	3,577	5,173	1,373	1,312	2,103	623
2008 Q4	28,181	1,112	2,807	1,522	2,089	1,900	2,252	3,749	5,430	1,306	1,298	2,224	806
2009 Q1[2]	22,913	977	2,766	1,260	1,958	1,209	1,893	2,711	4,093	1,149	1,074	1,978	510
2009 Q2[2]	24,827	921	2,540	1,263	1,995	1,504	2,001	2,932	4,724	1,164	1,241	2,336	606
Total to June 2009	104,186	4,367	11,048	5,752	7,955	6,755	8,414	12,969	19,420	4,993	4,925	8,641	2,545
Total Exports													
2007 Q3	53,671	2,351	5,190	3,051	3,723	3,628	4,757	5,585	8,157	2,734	2,164	3,391	1,350
2007 Q4	58,090	2,819	5,316	3,488	3,842	4,114	5,197	5,747	9,015	2,879	2,242	3,421	1,433
2009 Q1[2]	58,847	2,798	5,634	3,385	3,939	4,171	5,480	5,499	8,829	2,869	2,354	3,327	1,435
2009 Q2[2]	65,054	2,964	6,227	3,596	4,060	4,495	6,104	6,098	10,347	3,114	2,705	3,558	1,609
Total to June 2008	235,662	10,933	22,367	13,520	15,564	16,409	21,538	22,928	36,348	11,597	9,466	13,696	5,826
2008 Q3	64,008	2,976	6,219	3,620	3,927	4,279	5,490	6,426	10,269	3,080	2,959	3,639	1,498
2008 Q4	60,858	2,555	5,666	3,349	3,993	3,893	5,147	6,126	10,586	2,868	2,627	3,742	1,645
2009 Q1[2]	53,884	2,311	5,857	2,867	3,797	2,998	4,708	5,122	8,983	2,800	2,261	3,309	1,299
2009 Q2[2]	53,669	2,229	5,465	2,716	3,741	3,182	4,876	5,297	9,019	2,701	2,412	3,543	1,357
Total to June 2009	232,418	10,070	23,206	12,553	15,458	14,352	20,221	22,972	38,857	11,449	10,258	14,233	5,800

Notes:

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

1 Components may not sum to totals as Regional Trade Statistics includes estimates made for EU trade below the Intrastat threshold which are included in the 'unknown' region and not displayed in this table.

2 Provisional

Figure 13
Value of total export goods as a percentage of workplace-based GVA: by NUTS1 region

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

Notes:

1 Provisional.

2 UK less Extra-regio and statistical discrepancy.

highest percentage of GVA (24 per cent), 6 percentage points above the UK average. The region where exports of goods accounted for the smallest percentage of GVA in 2007 was London, at 9 per cent. It needs to be noted that these figures show exports of goods as a percentage of headline GVA which also includes services and therefore is likely to underestimate the performance of those regions which have relatively large shares of services industries such as London.

In terms of this indicator's change over time, in all regions, except Yorkshire and The Humber, exports accounted for a smaller percentage of GVA in 2007 than in 2000. Scotland experienced the most significant drop from 2000 to 2007, with exports in 2007 accounting for 16

percentage points less in terms of GVA than in 2000. Most other regions also experienced a decline from 2000 to 2004, with some recovery in 2005 and 2006. In 2007, most regions saw their exports as a percentage of GVA fall.

Skills

The skills of workers influence productivity as they define the capabilities that the labour force can contribute to the production process. The concept of skills includes attributes of the workforce, such as 'softer' or interpersonal skills, which are difficult to measure or to compare in different situations or over time. Therefore, qualifications are often used as proxy indicators. By examining the qualifications, such as degree or equivalent, of the current workforce as well as those of young people, who represent the future capabilities of the labour market, a view of how skills are changing over time and their potential impact on productivity can be analysed. However, as characteristics of local economies dictate which labour skills are required, comparability between regions might be difficult. An alternative approach is to compare the percentage of the working-age population that has no recognised qualifications.

Figure 14 shows the proportion of the working-age population that has no qualifications in each region, alongside the UK average, for 2008 Q4. Northern Ireland had the highest proportion of the population with no qualifications (10.4 percentage points above the UK average), whereas the South East and the South West had the lowest proportions, 3.4 and 3.2 percentage points below the UK average, respectively.

Above average proportions of working-age people without a qualification do not necessarily mean that regions have the most unqualified workforce. Due to differing regional skill requirements, people with recognised qualifications might migrate into other regions, where demand for their qualifications is high, while those without any recognised qualifications might migrate out of these other regions. Also, if employers have a strong demand for lower skills and a good supply of appropriate workers, a low skill equilibrium is created in a region.

Regional Skills Partnerships (RSPs) are groups brought together by Regional Development Agencies in each region of England in response to the National Skills Strategy. RSPs aim to strengthen regional structures to make skills provision more relevant to the needs of employers and

individuals, covering private, public and voluntary sectors of the economy. They also aim to give regions the flexibility to tackle their own individual challenges and priorities.

Table 6 presents the RSP core indicators, which help to monitor the health of regional and local labour markets and progress towards national skills targets such as those documented in the Leitch Report. These core indicators will be supported by local, more specific, indicators identified by individual RSPs. The choice of '19 to state pension age' for some of the indicators in Table 6 has been influenced by: the increased emphasis on education and training after the age of 16; the plan to raise the standard school leaving age to 18; and alignment with indicators specified in the Local Area Agreements.

In order to assess the future capabilities

of the labour force, the percentage of pupils achieving five or more grades A* to C at GCSE level or equivalent in each English region can be used as an indicator[2]. Recent focus on literacy and numeracy has led to a new measure being published, of five or more GCSEs grade A* to C in subjects including English and Mathematics. **Figure 15** shows the percentage of pupils achieving at least five grades A* to C at GCSE level or equivalent in any subjects, and in subjects including English and Mathematics. In 2008/09, the England average for pupils in all schools achieving five or more grades A* to C in any subjects was 69.7 per cent, while it was down to 49.7 per cent if the subjects included English and Mathematics. These were increases of 4.4 and 2.1 percentage points from 2007/08, respectively. Across all English regions, the percentage of pupils achieving at least five

Figure 14
### Working-age population with no qualifications:[1] by NUTS1 region, 2008 Q4
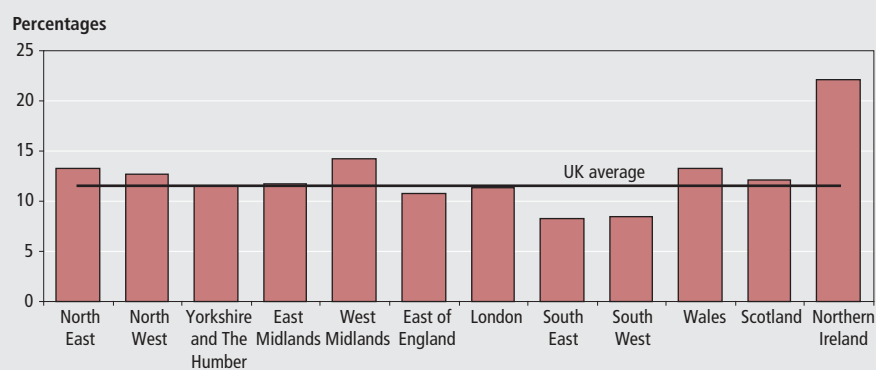
Note:

Source: Labour Force Survey, Office for National Statistics

1   For summary of qualifications and equivalents see www.statistics.gov.uk/statbase/Product.asp?vlnk=836.

Figure 15
Pupils achieving five or more grades A* to C at GCSE level or equivalent in (i) all subjects and (ii) subjects including English and Mathematics: by NUTS1 region, 2008/09[1]
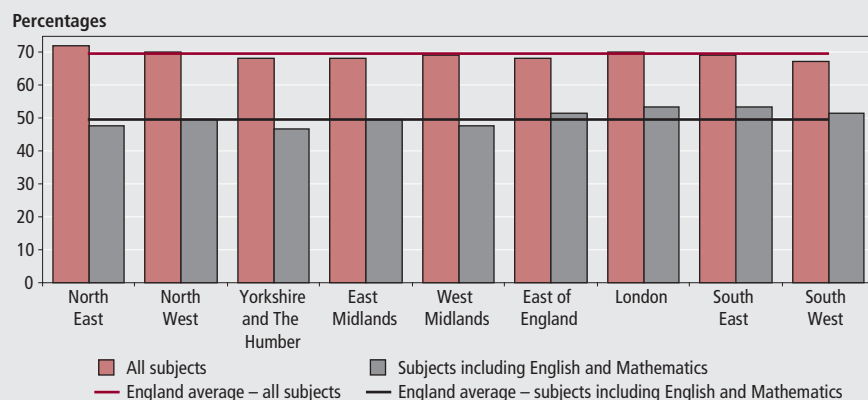
Notes:

Source: Department for Children, Schools and Families

1   Provisional data, includes attempts and achievements by these pupils in previous academic years.
2   The England average includes all schools, not only local authority maintained schools.

Table 6
Regional Skills Partnerships core indicators: by NUTS1 region

Percentages

Skills outcome indicators	Time period	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England
Percentage of employers with business or training plan, or budget for training	2007	70.6	69.2	69.6	67.9	67.5	67.3	70.0	70.6	68.4	69.1
Percentage of staff with skill gaps	2007	6.3	5.3	4.8	6.8	5.4	7.8	6.7	5.8	6.2	6.1
Skill shortage vacancies (SSVI) as percentage of all vacancies	2007	18.8	17.6	20.1	20.2	15.5	19.6	26.1	22.5	20.9	20.9
Percentage of KS4 pupils achieving 5+ A* to C GCSE (inc Maths and English)	2007/08	44.9	47.4	44.4	47.0	46.1	50.3	50.6	51.7	49.2	47.6
Percentage of 19 year olds qualified to Level 2 or above1	2008	75.9	74.3	73.2	73.1	74.9	77.0	77.0	79.6	77.0	76.7
Percentage of 19 year olds qualified to Level 3 or above1	2008	43.7	46.1	44.4	46.0	46.9	52.4	51.9	56.9	51.0	49.8
Percentage of 19 to state pension age with Level 2+	2008	69.3	68.1	67.6	67.0	65.8	67.6	71.0	73.1	72.2	69.4
Percentage of 19 to state pension age with Level 3+	2008	46.9	47.1	47.1	46.3	45.2	46.5	55.0	53.7	51.7	49.5
Percentage of 19 to state pension age with Level 4+	2008	25.4	27.4	26.6	27.0	26.2	27.8	40.6	33.6	30.2	25.4
Percentage of 19 to state pension age with no qualifications	2008	13.2	14.4	12.9	12.8	15.6	11.5	11.6	8.5	8.4	11.9
Percentage of working-age population who undertook job-related training in last 13 weeks	2008	20.9	18.9	19.4	20.2	19.4	18.7	18.2	22.2	23.1	20.0
Percentage of 17 year olds in education or work-based learning	end-2007	78.0	77.0	74.0	74.0	78.0	77.0	86.0	77.0	77.0	78.0

Note:

1   Provisional data from DCSF matched datasets.

Source: Office for National Statistics; Labour Force Survey; Department of Business Enterprise and Regulatory Reform; Department for Children, Schools and Families; Department for Innovation Universities and Skills; National Employers Skills Survey 2007

Table 7
Employment[1] rates for persons of working age: by NUTS1 region

Per cent, 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
2006	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	74.6	71.0	73.6	73.5	77.0	73.9	77.2	69.8	78.8	77.9	74.8	72.0	75.5	69.3
	Oct-Dec	74.5	70.9	72.8	73.7	76.5	73.0	77.0	70.0	78.7	78.2	74.6	71.8	76.2	69.9
2007	Jan-Mar	74.3	71.0	72.5	72.8	75.9	72.5	77.3	70.1	78.2	78.0	74.4	71.7	76.6	70.6
	Apr-Jun	74.5	71.4	72.6	73.3	76.0	72.7	77.4	69.7	78.5	78.1	74.5	72.1	77.0	70.6
	Jul-Sep	74.6	72.1	72.4	73.4	75.7	73.0	77.2	70.7	78.8	78.6	74.7	71.3	76.6	70.1
	Oct-Dec	74.8	71.6	72.8	73.7	75.8	73.3	78.1	70.4	78.9	79.3	75.0	71.6	76.6	69.9
2008	Jan-Mar	74.8	70.2	72.4	74.0	76.2	73.2	77.7	71.1	79.5	79.0	75.0	72.0	76.5	69.7
	Apr-Jun	74.7	70.2	72.2	73.4	75.7	72.5	77.7	71.5	79.4	78.8	74.8	72.6	76.5	70.1
	Jul-Sep	74.4	70.4	71.6	73.2	76.1	71.8	77.4	71.0	79.0	78.7	74.5	70.6	76.3	70.1
	Oct-Dec	74.1	70.1	71.0	72.3	76.2	71.8	77.5	71.6	78.7	78.1	74.3	70.7	75.4	68.8
2009	Jan-Mar	73.6	69.8	71.5	71.7	75.5	70.3	77.7	70.4	78.2	78	73.8	70.4	74.9	66.9
	Apr-Jun	72.7	67.3	71.1	71.2	75.2	70.3	76.9	68.9	77.3	76.7	73.0	69.7	74.0	65.6

Note:

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

Source: Labour Force Survey, Office for National Statistics

grades A* to C in subjects including English and Mathematics was substantially lower compared with achieving the same in any subjects. Also, regional differences were more pronounced when subjects included English and Mathematics. In the North East the percentage of pupils achieving five or more grades A* to C in any subjects was 2.6 percentage points above the England average, but the percentage dropped 1.9 points below the average when the subjects

included English and Mathematics. The opposite held for the South West, South East, and the East of England, where the proportion of pupils achieving at least five grades A* to C increased above the England average if the subjects included English and Mathematics while it dropped below national average for achieving five or more grades A* to C in any subject. London was the only region which performed above the national average on both measures.

The labour market

Table 7 shows the seasonally adjusted employment rate, the number of people of working age in employment, expressed as a proportion of the population, from the Labour Force Survey (LFS).

In quarter two (April to June) of 2009, the UK employment rate was 72.7 per cent, down 2.0 percentage points from a year ago and down 0.9 percentage points from quarter one (January to March) of 2009.

Table 8
Unemployment rates for persons aged 16 and over: by NUTS1 region

Per cent, 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
2006	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	5.5	4.3
	Jul-Sep	5.5	6.7	5.5	6.0	5.3	6.1	4.8	7.8	4.5	3.8	5.6	5.4	5.0	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	5.3	5.2	4.2
2007	Jan-Mar	5.5	6.8	5.8	6.3	5.5	6.5	4.8	7.1	4.7	4.0	5.6	5.6	4.9	4.1
	Apr-Jun	5.4	6.3	5.8	5.5	5.0	6.7	4.6	7.4	4.3	4.0	5.5	5.5	4.7	3.8
	Jul-Sep	5.3	6.1	6.0	5.4	5.7	6.4	5.1	6.1	4.5	4.0	5.4	5.3	4.8	3.8
	Oct-Dec	5.2	5.8	5.9	5.3	5.2	5.8	4.4	6.6	4.5	3.7	5.2	5.1	4.9	4.2
2008	Jan-Mar	5.2	6.5	6.0	5.0	5.5	6.2	4.5	6.9	3.9	3.7	5.3	5.4	4.6	4.6
	Apr-Jun	5.4	7.5	6.3	6.1	5.7	6.3	4.6	6.9	4.2	3.8	5.6	4.9	4.2	4.2
	Jul-Sep	5.8	8.0	6.8	6.8	5.9	6.5	4.8	7.4	4.6	4.2	6.0	6.7	4.7	4.1
	Oct-Dec	6.3	8.4	7.8	6.6	6.1	7.7	5.5	7.2	4.9	4.7	6.4	7.0	5.1	5.1
2009	Jan-Mar	7.1	8.3	7.9	8	7.1	9.3	5.9	8.2	5.3	5.7	7.2	7.7	5.9	6.1
	Apr-Jun	7.8	9.8	8.5	8.8	7.3	10.6	6.5	8.9	5.9	6.4	7.9	7.6	7.0	6.7

Source: Labour Force Survey

Table 9
Economic inactivity rates for persons of working age: by NUTS1 region

Per cent, 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
2006	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	20.9	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	20.5	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	24.0	19.6	27.0
2007	Jan-Mar	21.2	23.7	22.9	22.2	19.6	22.3	18.6	24.4	17.9	18.6	21.1	23.9	19.4	26.3
	Apr-Jun	21.2	23.8	22.7	22.3	20.0	21.8	18.8	24.6	17.8	18.5	21.1	23.5	19.1	26.6
	Jul-Sep	21.1	23.1	22.9	22.4	19.6	21.8	18.5	24.6	17.4	18.0	20.9	24.5	19.4	27.0
	Oct-Dec	21.0	23.9	22.5	22.0	19.9	22.1	18.2	24.4	17.2	17.6	20.8	24.5	19.4	27.0
2008	Jan-Mar	20.9	24.8	22.8	22.0	19.2	21.7	18.5	23.5	17.1	17.9	20.7	23.8	19.6	26.9
	Apr-Jun	20.9	24.0	22.7	21.7	19.5	22.4	18.5	23.1	17.1	18.0	20.6	23.5	20.0	26.8
	Jul-Sep	20.9	23.3	23.0	21.2	19.0	23.0	18.6	23.2	17.2	17.7	20.6	24.2	19.8	26.9
	Oct-Dec	20.8	23.3	22.8	22.5	18.7	22.1	17.8	22.7	17.1	17.9	20.4	23.8	20.3	27.4
2009	Jan-Mar	20.7	23.7	22.2	21.9	18.5	22.3	17.3	23.2	17.2	17.2	20.3	23.5	20.2	28.6
	Apr-Jun	21.0	25.1	22.2	21.6	18.7	21.2	17.6	24.2	17.6	17.9	20.5	24.4	20.3	29.5

Source: Labour Force Survey

Table 10
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
Jun-05	26,667	1,037	2,995	2,221	1,815	2,326	2,301	3,972	3,667	2,190	22,455	1,157	2,359	696
Jun 06	26,816	1,049	2,975	2,213	1,837	2,338	2,346	3,993	3,675	2,222	22,554	1,178	2,378	706
Jun 07	26,903	1,037	3,007	2,241	1,867	2,332	2,349	4,046	3,680	2,182	22,617	1,186	2,385	715
Jun 08	27,134	1,029	2,999	2,220	1,894	2,346	2,381	4,095	3,743	2,227	22,848	1,156	2,396	734
Sep 08	27,140	1,030	2,996	2,208	1,883	2,326	2,387	4,074	3,732	2,237	22,873	1,152	2,387	728
Dec-08	27,018	1,036	2,987	2,187	1,876	2,319	2,378	4,063	3,712	2,209	22,767	1,145	2,385	721
Mar 09	26,570	1,018	2,951	2,154	1,830	2,258	2,333	4,013	3,648	2,188	22,385	1,116	2,354	715
Jun 09	26,492	1,011	2,942	2,146	1,824	2,245	2,325	3,988	3,651	2,190	22,322	1,122	2,339	709

Source: Employer surveys

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.

Regional rates varied from 77.3 per cent in the South East to 65.6 per cent in Northern Ireland.

All UK regions experienced annual falls in the employment rate. The largest fall was in Northern Ireland at 4.5 percentage points while the smallest decrease was in the East Midlands at 0.5 percentage points.

Table 8 shows the unemployment rate (according to the internationally-consistent International Labour Organisation definition) for persons aged 16 and over from the LFS. The UK rate in the second quarter of 2009 was 7.8 per cent, up 2.4 percentage points from a year ago and up 0.7 percentage points on the last quarter. Regionally, the rates ranged from 10.6 per cent in the West Midlands to 5.9 per cent in the South East.

Over the year the unemployment rate rose in all regions. The West Midlands had an increase of 4.3 percentage points while the smallest increase was in the East Midlands at 1.6 percentage points.

Table 9 shows economic inactivity rates for persons of working age from the LFS. The UK rate in the second quarter of 2009 was 21.0 per cent, up 0.3 percentage points from the previous quarter and up 0.1 percentage point on a year earlier. Across the regions, rates varied from 17.6 per cent in both the South East and East of England to 29.5 per cent in Northern Ireland.

Compared with a year earlier, six

regions had a decrease in the inactivity rate, and thus a corresponding increase in the working-age activity rate. The West Midlands had the largest annual fall of 1.2 percentage points. Six regions had an increase in the economic inactivity rate over the year. The largest annual rise was in Northern Ireland with 2.7 percentage points.

Table 10 shows the number of employee jobs, not seasonally adjusted, from the Employers Surveys. The number of UK employee jobs was 26,492,000, a decrease of 642,000 over the year since June 2008. In percentage terms, this was a 2.4 per cent decrease.

There were annual decreases in all twelve regions. The largest percentage decrease was in the West Midlands (down by 4.3 per cent).

Table 11 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 5.0 per cent in September 2009, up 0.1 percentage point from August 2009, and up 2.1 percentage points on a year earlier. This national rate masks large variations between regions and component countries of the UK. For September 2009, the North East had the highest claimant count rate in the UK at 7.3 per cent. The North East was followed by the West Midlands (6.7 per cent), and Northern Ireland (6.2 per cent). The lowest

claimant count was measured in the South East and South West (both 3.5 per cent). The claimant count rate was 4.7 per cent in Scotland, 5.0 per cent in England and 5.8 per cent in Wales.

All regions had an increase in the claimant count rate compared with a year ago. The largest increases were in Northern Ireland (2.8 percentage points) and the West Midlands (2.7 percentage points).

Notes

1. UK Regional Trade in Goods Statistics, Quarter 2 2009, HM Revenue and Customs at www.uktradeinfo.com/index. cfm?task=td_regstats_press

2. For a summary of all different levels of qualifications, see 'Notes and definitions' at www.statistics.gov.uk/statbase/product. asp?vlnk=836

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Table 11
Claimant count rates:[1] by NUTS1 region

Per cent, 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
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	3.5	1.8	1.8	2.9	3.1	3.2	3.2
2007		2.7	4.0	3.1	3.0	2.6	3.7	2.1	3.0	1.6	1.6	2.7	2.8	2.8	2.8
2008		2.8	4.5	3.4	3.3	2.8	3.8	2.2	2.8	1.7	1.7	2.8	3.2	2.8	3.2
2008	Sep	2.9	4.7	3.6	3.6	2.9	4.0	2.4	2.9	1.8	1.9	2.9	3.4	3.0	3.4
	Oct	3.1	5.0	3.8	3.8	3.1	4.2	2.5	3.0	1.9	2.0	3.1	3.6	3.1	3.6
	Nov	3.4	5.3	4.1	4.1	3.4	4.5	2.7	3.2	2.2	2.3	3.3	4.0	3.3	4.0
	Dec	3.6	5.7	4.3	4.4	3.7	4.9	3.0	3.3	2.4	2.5	3.6	4.3	3.6	4.2
	Jan	3.9	6.0	4.6	4.7	4.0	5.2	3.2	3.5	2.6	2.7	3.8	4.7	3.7	4.5
	Feb	4.3	6.5	5.0	5.2	4.5	5.8	3.7	3.8	3.0	3.1	4.2	5.1	4.1	4.8
	Mar	4.5	6.7	5.2	5.4	4.7	6.0	3.9	4.1	3.1	3.3	4.5	5.3	4.2	5.1
2009	Apr	4.6	6.9	5.4	5.6	4.8	6.2	4.0	4.2	3.3	3.4	4.6	5.5	4.4	5.3
	May	4.7	7.0	5.5	5.7	4.9	6.3	4.1	4.3	3.3	3.4	4.7	5.5	4.5	5.5
	Jun	4.8	7.1	5.6	5.8	5.0	6.4	4.1	4.4	3.4	3.5	4.8	5.6	4.6	5.7
	Jul	4.9	7.2	5.6	5.9	5.0	6.5	4.2	4.5	3.4	3.5	4.8	5.6	4.7	5.9
	Aug	4.9	7.2	5.7	6.0	5.1	6.6	4.2	4.6	3.5	3.5	4.9	5.7	4.7	6.1
	Sep	5.0	7.3	5.8	6.0	5.1	6.7	4.3	4.7	3.5	3.5	5.0	5.8	4.7	6.2

Note: *Source: Jobcentre Plus administrative system*

1   Count of claimants of Jobseeker's Allowance expressed as a percentage of the total workforce - i.e. workforce jobs plus claimants.

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Key time series

1 National accounts aggregates

Last updated: 23/10/09

Seasonally adjusted

	£ million		Value indices at current prices		Chained volume indices			Implied deflators[3]	
	At current prices								
	Gross domestic product (GDP) at market prices	Gross value added (GVA) at basic prices	GDP at market prices[1]	GVA at basic prices	Gross national disposable income at market prices[2]	GDP at market prices	GVA at basic prices	GDP at market prices	GVA at basic prices
	YBHA	ABML	YBEU	YBEX	YBFP	YBEZ	CGCE	YBGB	CGBV
2004	1,202,956	1,070,951	95.9	95.9	98.4	97.9	97.7	98.0	98.2
2005	1,254,058	1,116,648	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2006	1,325,795	1,181,141	105.7	105.8	101.7	102.9	103.0	102.8	102.7
2007	1,398,882	1,245,735	111.5	111.6	105.4	105.5	105.7	105.7	105.6
2008	1,448,054	1,298,497	115.5	116.3	106.7	106.1	106.3	108.9	109.4
2004 Q1	294,112	261,280	93.8	93.6	97.9	97.2	96.9	96.5	96.5
2004 Q2	299,142	265,977	95.4	95.3	98.0	97.8	97.6	97.6	97.6
2004 Q3	302,115	269,503	96.4	96.5	97.8	97.9	97.7	98.5	98.8
2004 Q4	307,587	274,191	98.1	98.2	100.0	98.7	98.5	99.5	99.7
2005 Q1	308,723	274,756	98.5	98.4	99.6	99.0	99.0	99.5	99.4
2005 Q2	313,479	279,258	100.0	100.0	101.1	99.7	99.7	100.3	100.3
2005 Q3	313,378	278,669	100.0	99.8	99.2	100.3	100.3	99.6	99.6
2005 Q4	318,478	283,965	101.6	101.7	100.0	101.0	101.0	100.6	100.7
2006 Q1	326,085	291,002	104.0	104.2	101.2	102.1	102.2	101.9	102.0
2006 Q2	327,836	291,886	104.6	104.6	101.5	102.5	102.6	102.0	101.9
2006 Q3	333,542	297,046	106.4	106.4	101.8	103.0	103.1	103.3	103.2
2006 Q4	338,332	301,207	107.9	107.9	102.3	103.8	104.0	103.9	103.8
2007 Q1	344,238	306,154	109.8	109.7	103.6	104.6	104.7	105.0	104.7
2007 Q2	348,010	309,585	111.0	110.9	104.7	105.2	105.4	105.5	105.2
2007 Q3	351,635	313,159	112.2	112.2	105.1	105.8	106.0	106.0	105.8
2007 Q4	354,999	316,837	113.2	113.5	108.0	106.3	106.6	106.5	106.5
2008 Q1	363,091	324,131	115.8	116.1	109.0	107.0	107.4	108.3	108.1
2008 Q2	363,228	323,898	115.9	116.0	107.9	106.9	107.3	108.4	108.1
2008 Q3	362,061	325,405	115.5	116.6	106.4	106.1	106.3	108.8	109.7
2008 Q4	359,674	325,063	114.7	116.4	103.7	104.2	104.3	110.1	111.6
2009 Q1	348,971	316,345	111.3	113.3	102.1	101.6	101.7	109.5	111.4
2009 Q2	346,951	314,330	110.7	112.6	99.2	101.0	101.1	109.5	111.4
2009 Q3						100.6	100.7		

Percentage change, quarter on corresponding quarter of previous year

			IHYO	ABML[4]	YBGO[4]	IHYR	ABMM[4]	IHYU	ABML/ABMM[4]
2004 Q1	5.7	5.4	5.7	5.4	3.0	3.6	3.4	2.0	1.9
2004 Q2	5.6	5.3	5.6	5.3	3.4	3.2	3.2	2.3	2.1
2004 Q3	5.2	5.4	5.2	5.4	2.5	2.6	2.6	2.6	2.8
2004 Q4	5.7	5.9	5.7	5.9	3.0	2.4	2.4	3.1	3.4
2005 Q1	5.0	5.2	5.0	5.2	1.8	1.8	2.1	3.1	3.0
2005 Q2	4.8	5.0	4.8	5.0	3.2	2.0	2.2	2.8	2.7
2005 Q3	3.7	3.4	3.7	3.4	1.4	2.5	2.6	1.2	0.7
2005 Q4	3.5	3.6	3.5	3.6	0.0	2.4	2.6	1.1	1.0
2006 Q1	5.6	5.9	5.6	5.9	1.6	3.2	3.2	2.4	2.6
2006 Q2	4.6	4.5	4.6	4.5	0.4	2.8	2.9	1.7	1.5
2006 Q3	6.4	6.6	6.4	6.6	2.6	2.7	2.9	3.7	3.6
2006 Q4	6.2	6.1	6.2	6.1	2.3	2.8	2.9	3.3	3.1
2007 Q1	5.6	5.2	5.6	5.2	2.3	2.4	2.5	3.1	2.7
2007 Q2	6.2	6.1	6.2	6.1	3.1	2.7	2.7	3.4	3.3
2007 Q3	5.4	5.4	5.4	5.4	3.3	2.7	2.8	2.6	2.5
2007 Q4	4.9	5.2	4.9	5.2	5.6	2.4	2.6	2.5	2.6
2008 Q1	5.5	5.9	5.4	5.9	5.3	2.2	2.6	3.1	3.2
2008 Q2	4.4	4.6	4.3	4.6	3.0	1.5	1.8	2.8	2.8
2008 Q3	3.0	3.9	3.0	3.9	1.2	0.3	0.3	2.6	3.6
2008 Q4	1.3	2.6	1.4	2.6	−4.0	−1.9	−2.2	3.4	4.9
2009 Q1	−3.9	−2.4	−3.9	−2.4	−6.3	−5.0	−5.3	1.2	3.0
2009 Q2	−4.5	−3.0	−4.5	−3.0	−8.1	−5.5	−5.8	1.1	3.0
2009 Q3						−5.2	−5.3		

Notes:

Source: Office for National Statistics

1 "Money GDP".
2 This series is only updated once a quarter, in line with the full quarterly national accounts data set.
3 Based on chained volume measures and current price estimates of expenditure components of GDP.
4 Derived from these identification (CDID) codes.

2 Gross domestic product: by category of expenditure

Last updated: 23/10/09

£ million, chained volume measures, reference year 2005, seasonally adjusted

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								
	Households	Non-profit institutions[1]	General government	Gross fixed capital formation	Changes in inventories[2]	Acquisitions less disposals of valuables	Total	Exports of goods and services	Gross final expenditure	*less* imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic at product market prices
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2004	766,856	30,827	262,917	204,756	4,371	−39	1,270,173	306,582	1,576,497	348,894	0	1,227,387
2005	784,140	30,824	268,088	209,758	4,814	−377	1,296,905	330,794	1,627,699	373,641	0	1,254,058
2006	795,595	31,868	272,271	223,305	4,575	304	1,328,132	368,076	1,696,207	406,374	0	1,289,833
2007	815,157	30,040	275,488	240,613	6,561	562	1,368,506	357,677	1,726,183	403,341	0	1,322,842
2008	822,335	30,941	282,333	232,660	1,812	1,295	1,370,430	361,149	1,731,578	400,033	−1,428	1,330,118
2004 Q1	189,235	7,875	65,615	50,706	515	−113	314,855	74,389	389,121	84,284	0	304,784
2004 Q2	191,672	7,737	65,323	51,680	294	65	316,727	76,058	392,705	86,139	0	306,510
2004 Q3	192,642	7,664	65,746	51,351	953	8	317,863	76,895	394,700	87,840	0	306,806
2004 Q4	193,307	7,551	66,233	51,019	3,081	1	320,728	79,240	399,971	90,631	0	309,287
2005 Q1	194,294	7,745	66,418	51,092	2,978	−45	322,029	77,762	399,757	89,398	0	310,313
2005 Q2	195,610	7,676	66,986	51,273	2,025	90	323,588	80,830	404,405	91,846	0	312,550
2005 Q3	196,450	7,687	67,265	53,964	−251	−292	325,046	84,250	409,304	94,834	0	314,490
2005 Q4	197,786	7,716	67,419	53,429	−280	−130	326,242	87,952	414,233	97,563	0	316,705
2006 Q1	197,278	7,941	67,862	53,372	2,346	106	328,906	95,835	424,741	104,616	0	320,125
2006 Q2	199,392	8,025	67,692	54,499	63	241	329,912	97,932	427,844	106,555	0	321,289
2006 Q3	198,692	8,012	68,232	56,780	1,679	−30	333,365	86,854	420,220	97,364	0	322,855
2006 Q4	200,233	7,890	68,485	58,654	701	−13	335,949	87,455	423,402	97,839	0	325,564
2007 Q1	202,299	7,447	68,394	59,659	928	76	338,804	88,279	427,083	99,211	0	327,872
2007 Q2	203,492	7,413	68,650	59,620	−12	348	339,510	88,650	428,160	98,193	0	329,967
2007 Q3	204,321	7,471	69,165	59,777	3,130	45	343,909	90,348	434,256	102,647	0	331,609
2007 Q4	205,045	7,709	69,279	61,557	2,600	93	346,283	90,400	436,684	103,290	0	333,394
2008 Q1	206,760	7,721	69,838	59,347	3,390	212	347,268	91,126	438,394	102,734	−247	335,412
2008 Q2	206,485	7,815	70,365	59,635	725	436	345,462	91,839	437,302	101,811	−328	335,163
2008 Q3	205,766	7,752	70,714	57,462	640	366	342,701	90,933	433,635	100,503	−398	332,733
2008 Q4	203,324	7,653	71,416	56,216	−3,889	281	334,999	87,251	422,247	94,985	−455	326,810
2009 Q1	200,326	7,411	71,470	52,105	−5,171	279	326,421	81,065	407,485	88,320	−507	318,659
2009 Q2	199,128	7,223	71,896	49,378	−4,110	280	323,796	79,935	403,731	86,398	−543	316,790
2009 Q3												315,523

Percentage change, quarter on corresponding quarter of previous year

												IHYR
2004 Q1	3.4	1.6	4.7	3.8			4.4	0.2	3.5	3.3		3.6
2004 Q2	3.3	0.7	3.2	7.4			3.9	5.3	4.2	7.6		3.2
2004 Q3	3.2	−0.6	2.6	7.1			3.1	6.8	3.8	8.5		2.6
2004 Q4	3.0	−2.1	1.7	2.3			2.7	7.9	3.7	8.4		2.4
2005 Q1	2.7	−1.7	1.2	0.8			2.3	4.5	2.7	6.1		1.8
2005 Q2	2.1	−0.8	2.5	−0.8			2.2	6.3	3.0	6.6		2.0
2005 Q3	2.0	0.3	2.3	5.1			2.3	9.6	3.7	8.0		2.5
2005 Q4	2.3	2.2	1.8	4.7			1.7	11.0	3.6	7.6		2.4
2006 Q1	1.5	2.5	2.2	4.5			2.1	23.2	6.2	17.0		3.2
2006 Q2	1.9	4.5	1.1	6.3			2.0	21.2	5.8	16.0		2.8
2006 Q3	1.1	4.2	1.4	5.2			2.6	3.1	2.7	2.7		2.7
2006 Q4	1.2	2.3	1.6	9.8			3.0	−0.6	2.2	0.3		2.8
2007 Q1	2.5	−6.2	0.8	11.8			3.0	−7.9	0.6	−5.2		2.4
2007 Q2	2.1	−7.6	1.4	9.4			2.9	−9.5	0.1	−7.8		2.7
2007 Q3	2.8	−6.8	1.4	5.3			3.2	4.0	3.3	5.4		2.7
2007 Q4	2.4	−2.3	1.2	4.9			3.1	3.4	3.1	5.6		2.4
2008 Q1	2.2	3.7	2.1	−0.5			2.5	3.2	2.6	3.6		2.3
2008 Q2	1.5	5.4	2.5	0.0			1.8	3.6	2.1	3.7		1.6
2008 Q3	0.7	3.8	2.2	−3.9			−0.4	0.6	−0.1	−2.1		0.3
2008 Q4	−0.8	−0.7	3.1	−8.7			−3.3	−3.5	−3.3	−8.0		−2.0
2009 Q1	−3.1	−4.0	2.3	−12.2			−6.0	−11.0	−7.1	−14.0		−5.0
2009 Q2	−3.6	−7.6	2.2	−17.2			−6.3	−13.0	−7.7	−15.1		−5.5
2009 Q3												−5.2

Notes:

Source: Office for National Statistics

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

3 Labour market summary

United Kingdom (thousands), seasonally adjusted

All aged 16 and over

	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	1	2	3	4	5	6	7	8	9
All persons	MGSL	MGSF	MGRZ	MGSC	MGSI	MGWG	MGSR	MGSX	YBTC
Jun–Aug 2007	48,686	30,866	29,220	1,646	17,820	63.4	60.0	5.3	36.6
Jun–Aug 2008	49,073	31,211	29,419	1,792	17,862	63.6	60.0	5.7	36.4
Sep–Nov 2008	49,176	31,316	29,393	1,923	17,860	63.7	59.8	6.1	36.3
Dec–Feb 2009	49,278	31,367	29,267	2,100	17,911	63.7	59.4	6.7	36.3
Mar–May 2009	49,381	31,379	28,998	2,381	18,002	63.5	58.7	7.6	36.5
Jun–Aug 2009	49,483	31,422	28,952	2,469	18,062	63.5	58.5	7.9	36.5
Male	MGSM	MGSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Jun–Aug 2007	23,678	16,759	15,817	943	6,919	70.8	66.8	5.6	29.2
Jun–Aug 2008	23,900	16,927	15,867	1,060	6,972	70.8	66.4	6.3	29.2
Sep–Nov 2008	23,957	16,986	15,839	1,147	6,971	70.9	66.1	6.8	29.1
Dec–Feb 2009	24,014	17,006	15,746	1,261	7,008	70.8	65.6	7.4	29.2
Mar–May 2009	24,071	17,012	15,554	1,458	7,059	70.7	64.6	8.6	29.3
Jun–Aug 2009	24,129	17,001	15,467	1,534	7,128	70.5	64.1	9.0	29.5
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Jun–Aug 2007	25,008	14,107	13,403	703	10,901	56.4	53.6	5.0	43.6
Jun–Aug 2008	25,173	14,284	13,552	732	10,889	56.7	53.8	5.1	43.3
Sep–Nov 2008	25,219	14,329	13,554	775	10,889	56.8	53.7	5.4	43.2
Dec–Feb 2009	25,264	14,360	13,522	839	10,904	56.8	53.5	5.8	43.2
Mar–May 2009	25,309	14,367	13,443	923	10,943	56.8	53.1	6.4	43.2
Jun–Aug 2009	25,355	14,421	13,486	935	10,934	56.9	53.2	6.5	43.1

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
Jun–Aug 2007	37,574	29,614	27,993	1,622	7,960	78.8	74.5	5.5	21.2
Jun–Aug 2008	37,748	29,862	28,094	1,768	7,886	79.1	74.4	5.9	20.9
Sep–Nov 2008	37,799	29,943	28,051	1,892	7,856	79.2	74.2	6.3	20.8
Dec–Feb 2009	37,850	29,999	27,933	2,066	7,851	79.3	73.8	6.9	20.7
Mar–May 2009	37,901	29,986	27,638	2,348	7,915	79.1	72.9	7.8	20.9
Jun–Aug 2009	37,953	29,987	27,551	2,437	7,965	79.0	72.6	8.1	21.0
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Jun–Aug 2007	19,558	16,333	15,401	933	3,225	83.5	78.7	5.7	16.5
Jun–Aug 2008	19,694	16,475	15,426	1,048	3,220	83.7	78.3	6.4	16.3
Sep–Nov 2008	19,727	16,525	15,391	1,133	3,202	83.8	78.0	6.9	16.2
Dec–Feb 2009	19,759	16,557	15,309	1,248	3,202	83.8	77.5	7.5	16.2
Mar–May 2009	19,791	16,561	15,115	1,446	3,231	83.7	76.4	8.7	16.3
Jun–Aug 2009	19,824	16,535	15,015	1,519	3,289	83.4	75.7	9.2	16.6
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Jun–Aug 2007	18,016	13,281	12,592	689	4,735	73.7	69.9	5.2	26.3
Jun–Aug 2008	18,053	13,387	12,668	719	4,666	74.2	70.2	5.4	25.8
Sep–Nov 2008	18,072	13,418	12,660	759	4,654	74.2	70.1	5.7	25.8
Dec–Feb 2009	18,091	13,442	12,624	818	4,649	74.3	69.8	6.1	25.7
Mar–May 2009	18,110	13,425	12,523	902	4,685	74.1	69.1	6.7	25.9
Jun–Aug 2009	18,129	13,453	12,535	918	4,676	74.2	69.1	6.8	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

Percentage change over 12 months

Not seasonally adjusted

| | Consumer prices | | | | | | Producer prices | | | |
| | Consumer prices index (CPI) | | | Retail prices index (RPI) | | | Output prices | | Input prices | |
	All items	CPI excluding indirect taxes (CPIY)[1]	CPI at constant tax rates (CPI-CT)	All items	All items excluding mortgage interest payments (RPIX)	All items excluding mortgage interest payments and indirect taxes (RPIY)[2]	All manufactured products	Excluding food, beverages, tobacco and petroleum products	Materials and fuels purchased by manufacturing industry	Excluding food, beverages, tobacco and petroleum products
	D7G7	EL2S	EAD6	CZBH	CDKQ	CBZX	PLLU[3]	PLLV[3,4]	RNNK[3,4]	RNNQ[3,4]
2006 Jan	1.9	2.1	1.9	2.4	2.3	2.3	2.5	1.4	15.8	10.1
2006 Feb	2.0	2.1	2.0	2.4	2.3	2.3	2.3	1.4	15.2	10.1
2006 Mar	1.8	1.9	1.7	2.4	2.1	2.2	2.2	1.5	13.1	9.2
2006 Apr	2.0	2.1	2.0	2.6	2.4	2.3	2.3	1.9	15.6	9.8
2006 May	2.2	2.3	2.2	3.0	2.9	2.8	2.9	2.0	13.7	8.4
2006 Jun	2.5	2.6	2.4	3.3	3.1	3.2	3.1	2.5	11.3	8.1
2006 Jul	2.4	2.4	2.3	3.3	3.1	3.2	2.6	2.1	10.6	7.7
2006 Aug	2.5	2.6	2.4	3.4	3.3	3.4	2.3	1.7	8.4	6.7
2006 Sep	2.4	2.6	2.3	3.6	3.2	3.3	1.6	1.7	5.4	5.5
2006 Oct	2.4	2.7	2.3	3.7	3.2	3.3	1.3	2.0	3.9	4.5
2006 Nov	2.7	3.0	2.6	3.9	3.4	3.6	1.4	1.9	2.3	2.8
2006 Dec	3.0	3.2	2.9	4.4	3.8	3.9	1.7	1.6	1.7	1.5
2007 Jan	2.7	2.9	2.6	4.2	3.5	3.7	1.5	1.6	−3.4	−0.5
2007 Feb	2.8	2.9	2.6	4.6	3.7	3.9	1.9	2.0	−2.1	−0.2
2007 Mar	3.1	3.1	2.9	4.8	3.9	4.0	2.2	2.2	−0.3	1.0
2007 Apr	2.8	2.9	2.6	4.5	3.6	3.7	1.8	1.8	−1.5	0.0
2007 May	2.5	2.6	2.3	4.3	3.3	3.4	1.9	1.9	0.6	1.9
2007 Jun	2.4	2.5	2.2	4.4	3.3	3.3	1.9	1.7	1.7	2.2
2007 Jul	1.9	2.0	1.7	3.8	2.7	2.6	2.0	1.8	0.3	0.6
2007 Aug	1.8	1.9	1.6	4.1	2.7	2.6	2.1	2.0	−0.2	1.0
2007 Sep	1.8	1.7	1.6	3.9	2.8	2.8	2.6	1.9	6.0	3.6
2007 Oct	2.1	1.9	1.8	4.2	3.1	3.0	3.6	1.8	9.4	4.6
2007 Nov	2.1	1.9	1.8	4.3	3.2	3.0	4.5	1.9	12.1	5.6
2007 Dec	2.1	2.0	1.9	4.0	3.1	3.1	4.7	2.2	13.2	6.9
2008 Jan	2.2	2.1	2.0	4.1	3.4	3.3	5.7	3.0	20.4	11.0
2008 Feb	2.5	2.5	2.3	4.1	3.7	3.6	5.7	2.8	20.9	11.9
2008 Mar	2.5	2.6	2.3	3.8	3.5	3.6	6.2	2.9	20.8	12.7
2008 Apr	3.0	3.0	2.7	4.2	4.0	3.9	7.4	4.1	25.3	16.6
2008 May	3.3	3.3	3.1	4.3	4.4	4.4	9.1	5.6	30.2	18.9
2008 Jun	3.8	3.9	3.6	4.6	4.8	4.9	9.8	5.9	34.1	21.1
2008 Jul	4.4	4.5	4.2	5.0	5.3	5.4	10.0	6.3	31.3	21.3
2008 Aug	4.7	4.9	4.5	4.8	5.2	5.4	9.1	5.7	29.0	20.8
2008 Sep	5.2	5.4	5.0	5.0	5.5	5.6	8.5	5.6	24.1	19.5
2008 Oct	4.5	4.7	4.3	4.2	4.7	4.9	6.7	5.0	16.0	16.9
2008 Nov	4.1	4.3	3.9	3.0	3.9	3.9	5.0	5.0	8.1	14.1
2008 Dec	3.1	4.6	4.1	0.9	2.8	3.9	4.6	5.0	3.2	12.6
2009 Jan	3.0	4.5	4.1	0.1	2.4	3.4	3.5	4.0	1.7	10.8
2009 Feb	3.2	4.6	4.2	0.0	2.5	3.5	3.0	3.7	0.8	8.9
2009 Mar	2.9	4.3	3.9	−0.4	2.2	3.2	2.0	3.2	−0.4	7.5
2009 Apr	2.3	3.8	3.4	−1.2	1.7	2.7	1.3	2.5	−5.8	2.6
2009 May	2.2	3.6	3.3	−1.1	1.6	2.6	−0.3	1.2	−8.8	0.2
2009 Jun	1.8	3.1	2.9	−1.6	1.0	1.9	−1.0	0.3	−12.0	−2.9
2009 Jul	1.8	3.1	2.8	−1.4	1.2	2.1	−1.3	0.2	−12.2	−3.4
2009 Aug	1.6	2.9	2.7	−1.3	1.4	2.3	−0.3	0.8	−7.7	−2.1
2009 Sep	1.1	2.2	2.1	−1.4	1.3	2.0	0.4	1.4	−6.5	−1.7

Notes:

Source: Office for National Statistics

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

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, whether working or not working, who reported that they had been made redundant or taken voluntary redundancy in the month of the reference week or in the two calendar months prior to this.

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 Labour Market Statistics First Release tables are still available on this database via the 'Time Series Data' link on the National Statistics main web page. These data sets can also be accessed from links at the bottom of each section's table listings via the 'Data tables' link in the individual ELMR edition pages on the website. The old *Economic Trends* tables are no longer being updated with effect from January 2009.

Weblink: www.statistics.gov.uk/elmr/11_09/data_page.asp

Title	Frequency of update

UK economic accounts

1.01	National accounts aggregates	M
1.02	Gross domestic product and gross national income	M
1.03	Gross domestic product, by category of expenditure	M
1.04	Gross domestic product, by category of income	M
1.05	Gross domestic product and shares of income and expenditure	M
1.06	Income, product and spending per head	Q
1.07	Households' disposable income and consumption	M
1.08	Household final consumption expenditure	M
1.09	Gross fixed capital formation	M
1.10	Gross value added, by category of output	M
1.11	Gross value added, by category of output: service industries	M
1.12	Summary capital accounts and net lending/net borrowing	Q
1.13	Private non-financial corporations: allocation of primary income account[1]	Q
1.14	Private non-financial corporations: secondary distribution of income account and capital account[1]	Q
1.15	Balance of payments: current account	M
1.16	Trade in goods (on a balance of payments basis)	M
1.17	Measures of variability of selected economic series	Q
1.18	Index of services	M

Selected labour market statistics

2.01	Summary of Labour Force Survey data	M
2.02	Employment by age	M
2.03	Full-time, part-time and temporary workers	M
2.04	Public and private sector employment	Q
2.05	Workforce jobs	Q
2.06	Workforce jobs by industry	Q
2.07	Actual weekly hours of work	M
2.08	Usual weekly hours of work	M
2.09	Unemployment by age and duration	M
2.10	Claimant count levels and rates	M
2.11	Claimant count by age and duration	M
2.12	Economic activity by age	M
2.13	Economic inactivity by age	M
2.14	Economic inactivity: reasons	M
2.15	Educational status, economic activity and inactivity of young people	M
2.16	Average 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/11_09/data_page.asp

Prices

Selected output and demand indicators

Selected financial statistics

Further labour market statistics

Weblink: www.statistics.gov.uk/elmr/11_09/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:

1 These tables, though still accessible, are no longer being updated.
A Annually
Q Quarterly
M Monthly

More information

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

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@lsc.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

2009 edition. Palgrave Macmillan, ISBN 978-0-230-52583-2. Price £47.50.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=4861

Foreign Direct Investment (MA4)

2007 edition

www.statistics.gov.uk/StatBase/Product.asp?vlnk=9614

Input-Output analyses for the United Kingdom

2006 edition

www.statistics.gov.uk/StatBase/Product.asp?vlnk=7640

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/StatBase/Product.asp?vlnk=930

United Kingdom Balance of Payments (Pink Book)

2009 edition. Palgrave Macmillan, ISBN 978-0-230-57610-0. Price £52.00.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=1140

United Kingdom National Accounts (Blue Book)

2009 edition. Palgrave Macmillan, ISBN 978-0-230-57611-7. Price £52.00.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=1143

Statistical Bulletins

- 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

2009 quarter 2

www.statistics.gov.uk/StatBase/Product.asp?vlnk=242

United Kingdom Economic Accounts

2009 quarter 2. Palgrave Macmillan, ISBN 978-0-230-23488-8. Price £37.50.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=1904

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

2009 quarter 2

www.statistics.gov.uk/StatBase/Product.asp?vlnk=731

Statistical Bulletins

- 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

October 2009. Palgrave Macmillan, ISBN 978-0-230-23602-8. Price £50.00.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=376

Focus on Consumer Price Indices

September 2009

www.statistics.gov.uk/StatBase/Product.asp?vlnk=867

Monthly review of external trade statistics (MM24)

August 2009

www.statistics.gov.uk/StatBase/Product.asp?vlnk=613

Producer Price Indices (MM22)

September 2009

www.statistics.gov.uk/StatBase/Product.asp?vlnk=2208

Statistical Bulletins

- 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/StatBase/Product.asp?vlnk=14315

National Accounts Concepts, Sources and Methods

www.statistics.gov.uk/StatBase/Product.asp?vlnk=1144

Sector classification guide (MA23)

www.statistics.gov.uk/StatBase/Product.asp?vlnk=7163

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Services producer price index (experimental) – first quarter 2009
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List is provisional and subject to change.

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Methods Explained: the alignment adjustment