

Economic & Labour Market Review

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In brief

Social Trends: motoring costs rise by 77 per cent between 1987 and 2009

This year's Social Trends transport chapter reports that motoring costs in the UK, as measured by the 'All motoring expenditure' component of the retail prices index (RPI), rose by 77 per cent between January 1987 and January 2009. The increase was less than the rise in the 'All items' RPI measure of general inflation of 110 per cent.

Between January 1987 and January 2009 maintenance costs rose by 236 per cent, whereas the purchase cost of motor vehicles fell by 14 per cent over the same period. However, the cost of purchasing a vehicle rose at a rate similar to the 'All items' measure of the RPI between 1987 and 1998, and since then has fallen by 39 per cent.

The price of petrol and oil more than doubled between 1987 and 2000, and then rose to a peak in January 2008 of 205 per cent above its 1987 level. However, petrol and oil prices fell in January 2009 compared with the 12 months previously.

Between January 2008 and January 2009 motoring costs contributed to an overall fall in the annual RPI rate. Contributing factors were petrol and oil prices falling by 15 per cent, a fall in the cost of the purchase of motor vehicles and the price of maintenance of motor vehicles rising by less than in January 2008.

The chapter also examines trends in household expenditure on transport, reporting that in 2008 transport and travel costs accounted for 16 per cent of all household expenditure in the UK. The largest percentage increase in motoring expenditure between 1998/99 and 2008 was on petrol, diesel and other oils, at 24 per cent (a rise of £4.00 per week), followed by vehicle insurance and taxation which increased by 18 per cent (£1.60 per week).

Household expenditure on bus and coach fares decreased by 17 per cent between 1998/99 and 2008, though they increased by 6 per cent between 2007 and 2008. Although expenditure on rail and tube fares was unchanged between 1998/99 and 2008, expenditure on these fares fell by 6 per cent between 2007 and 2008. There was a 20 per cent increase in expenditure on taxis, air and other travel costs between 1998/99 and

2008, but only a 1 per cent increase from 2007.

This chapter was published On 16 February 2010, alongside the Lifestyles and social participation chapter. These two chapters are the second wave of online releases that will build up to Social Trends 40. A further two chapters of Social Trends will be published online only on 8 April 2010. On 23 June 2010 the remaining five chapters, together with the initial eight chapters will be published directly on the ONS website to form the 40th edition of Social Trends. This edition will also be available as a printed publication from Palgrave Macmillan, and will be the final printed edition of Social Trends. The theme for this edition of Social Trends is 'Forty years of social trends in the UK'.

Further information

Social Trends
www.statistics.gov.uk/socialtrends/
www.statistics.gov.uk/notices/ST40-4-dec-09.asp

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ONS Vacancies Survey changes to SIC 2007

In the December 2009 edition of ELMR, the Office for National Statistics published an update to its plans for moving to the Standard Industrial Classification 2007 (SIC 2007). This included the intention to move the Vacancies Survey to SIC 2007 from February 2010. The first SIC 2007 estimates will be published in the Labour Market Statistical Bulletin on 17 February for the three months November 2009 to January 2010. The historical series has been reworked on a SIC 2007 basis back to the start of the survey in 2001 to give a longer run of data for comparison and seasonal adjustment purposes. The seasonal adjustment process will result in some revisions to estimates of total vacancies back to the start of the series in 2001. The SIC 2007 series will replace the SIC 2003 series which will no longer be produced.

The introduction of SIC 2007 has required some changes to the tables

published in the Statistical Bulletin to reflect the new industry breakdown. At the same time as these enforced changes, ONS has taken the opportunity to implement other changes to the published outputs based on the recommendations of the 2009 Vacancies Triennial Review and a review of all Labour Market Outputs. These changes will see the removal of the single month series in favour of the rolling three month average, the introduction of a ratio of unemployment per vacancy, and the introduction of a new table to the Statistical Bulletin on vacancies by size of business.

Further information on these developments will be published in the March 2010 ELMR.

Further information

The Report on the Triennial Review of the Vacancy Survey was published in December 2009 and can be found on the website at:
www.statistics.gov.uk/downloads/theme_other/VacancyTriennialReviewReport2009a.pdf

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Research concludes that the Climate Change Levy has significantly reduced greenhouse gas emissions

UK companies covered by the Climate Change Levy (CCL) have an increased incentive to reduce energy consumption and innovate. These were the main findings in a paper presented by Ralph Martin from the London School of Economics at the latest ONS Virtual Micro-data Laboratory quarterly workshop. The research found that firms covered by the CCL reduced energy consumption by significantly more, patented more, and suffered no adverse consequences in employment or productivity. Therefore, the CCL has made an important contribution in cutting greenhouse gases towards the target of an 80 per cent reduction by 2050.

The theme of the workshop was climate change: policy, evidence and evaluation, and was held at University College London on 15 January. Other presented papers included: Measuring the low carbon

economy; the UK Climate Change Levy and coal prices; Management practises, organisational structure and climate policy; and Analysing the market for and impacts of car clubs.

Further information

www.ons.gov.uk/about/who-we-are/our-services/vml/about-the-vml/index.html

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Household spending on clothing at record low

UK households spent less on average per week on clothing and footwear in 2008 than at any time since 2001-02. *Family Spending*, the annual report from ONS on household expenditure in the UK, found that spending on clothing and footwear was £21.60, compared to a high of £23.90 in 2004/05.

However, a majority of the other categories of expenditure rose in 2008. Spending on food and non-alcoholic drink went up to £50.70 per week on average compared to £48.10 in 2007. Spending on electricity, gas and other fuels increased to £18.90 from £17.20. And average household weekly expenditure was £471.00, up from £459.20 in 2007.

Transport remains the largest single expenditure category for households in the UK, with average weekly spend going up from £61.70 in 2007 to £63.40 in 2008. However, expenditure on purchasing vehicles decreased from £22.80 per week in 2007 to £21.10 in 2008 – while weekly expenditure on operation of personal transport went up, from £28.80 to £31.80. This is mainly due to an increase in spending on petrol, diesel and other motor oils from £18.30 to £21.00.

In 2008 the average spend of households in rural areas was £505.40 per week compared to £446.70 in towns and cities. The main areas of difference is spending on transport, recreation and culture.

Further information

www.statistics.gov.uk/StatBase/Product.asp?vlnk=361

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Real time GDP database now available

In the December 2009 edition of ELMR, the article on Understanding the quality of early estimates of GDP made use of a database that included monthly snapshots of Gross Domestic Product (GDP) data back to 1961. The article used the database to analyse the size and effects of revisions to GDP over a long period of time, finding that revisions performance has generally improved in the last decade, and that data revisions very rarely lead a different conclusion about the state of the UK economy to be drawn. The article was also presented at an ONS seminar on Financial crisis and recession: addressing the analytical and statistical challenges at the Whitechapel Gallery in London on 1 Feb 2010.

The GDP real time database is now available on-line. It consists of time series of the expenditure-based measure of GDP, as published in successive monthly editions of *Economic Trends* and *Economic and Labour Market Review* since October 1961. This allows the user to observe the latest available GDP data at any specific point of time. Real time data is not just used to analyse revisions behaviour over time, but has driven a large economic literature on how revisions may affect policy making and economic models. Some of these issues will be discussed in a *Methods Explained* feature in the next edition of ELMR.

Further information

www.statistics.gov.uk/cci/article.asp?ID=2340

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Two million pensioners in poverty in 2007/08

In 2007/08, an estimated 2 million pensioners in the UK were living in poverty according to the most commonly used official measure, says a new chapter of *Pension Trends* published on the 27 January by the Office for National Statistics. The number of pensioners in poverty has declined over the last decade, from 2.9 million in 1998/99.

The chapter, which looks at inequalities

and poverty in retirement, also reports that in 2007 over 30 per cent of households of single people aged 60 or over in England (1.0 million) were in fuel poverty. Households are considered to be in fuel poverty if they have to spend more than 10 per cent of their income on fuel to maintain a satisfactory level of heating in the main living area and other occupied rooms.

ONS analysis shows that income distribution is less unequal for retired households than for non-retired households. However, the distribution of income for both retired and non-retired households has become more unequal over the last three decades, particularly between 1977 and 1990.

In 2007/08, pensioners with private pensions were more likely to be in the higher income quintile groups for the whole population, while those without private pensions were more likely to be in the bottom income quintile groups. Quintiles divide the population, sorted in ascending order from low to high incomes, into five equal groups, each with 20 per cent of the income distribution.

The main sources of income for retired households have changed substantially over the last three decades:

- in 1977, income from occupational pensions and annuities accounted for just 18 per cent of the average gross income of retired households, compared with 53 per cent from the state retirement pension
- in 2007/08, income from occupational pensions and annuities accounted for a similar proportion of the average gross income of retired households as the state retirement pension (36 per cent and 37 per cent respectively)

Further information

www.statistics.gov.uk/pensiontrends/

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UPDATES	
Updates to statistics on www.statistics.gov.uk	
6 January	
Corporate profitability	
<i>11.5% in Q3 2009</i>	
www.statistics.gov.uk/cci/nugget.asp?id=196	
8 January	
Producer prices	
<i>Factory gate inflation rises 3.5%</i>	
www.statistics.gov.uk/cci/nugget.asp?id=248	
12 January	
UK Trade	
<i>Deficit narrowed to £2.9 billion in November 2009</i>	
www.statistics.gov.uk/cci/nugget.asp?id=199	
13 January	
Index of production	
<i>November shows 6.0% annual fall</i>	
www.statistics.gov.uk/cci/nugget.asp?id=198	
14 January	
Travel and tourism	
<i>No recovery in visits to or from the UK</i>	
www.statistics.gov.uk/cci/nugget.asp?id=352	
Family spending 2009	
<i>Households spend £471 a week</i>	
www.statistics.gov.uk/cci/nugget.asp?id=284	
19 January	
Inflation	
<i>CPI inflation 2.9%, RPI inflation 2.4%</i>	
www.statistics.gov.uk/cci/nugget.asp?id=19	
20 January	
Average earnings	
<i>Regular pay growth slows</i>	
www.statistics.gov.uk/cci/nugget.asp?id=10	

Employment	
<i>Employment rate falls to 72.4%</i>	
www.statistics.gov.uk/cci/nugget.asp?id=12	
21 January	
Public sector finances	
<i>December: £11.5 billion current budget deficit</i>	
www.statistics.gov.uk/cci/nugget.asp?id=206	
22 January	
Retail sales	
<i>Modest underlying growth</i>	
www.statistics.gov.uk/cci/nugget.asp?id=256	
26 January	
GDP growth	
<i>UK output increases by 0.1%</i>	
www.statistics.gov.uk/cci/nugget.asp?id=192	
Index of services	
<i>2.3% annual fall into November</i>	
www.statistics.gov.uk/cci/nugget.asp?id=558	
29 January	
Local inactivity	
<i>Local inactivity rates vary between 8.5% and 34.7%</i>	
www.statistics.gov.uk/cci/nugget.asp?id=1013	
FORTHCOMING RELEASES	
Future statistical releases on www.statistics.gov.uk	
5 February	
Producer price index – January 2010	
Environmental accounts – February 2010 update	
9 February	
UK Trade – December 2009	
Aerospace and electronic cost indices – November 2009	

10 February	
Index of production – December 2009	
11 February	
New orders in the construction industry – December 2009	
12 February	
Financial Statistics – February 2010	
16 February	
Consumer price indices – January 2010	
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Average weekly earnings – December 2009	
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24 February	
Services producer price index – Q4 2009	
25 February	
Business investment – Q4 2009 provisional results	
26 February	
UK output, income and expenditure – Q4 2009	
Index of services – December 2009	
Distributive and services trade – December 2009	
Patterns of pay: 1997–2009 ASHE results	

Economic review

February 2010

Graeme Chamberlin

Office for National Statistics

SUMMARY

The preliminary estimate of Gross Domestic Product reports the UK economy grew by 0.1 per cent in 2009 Q4, the first quarter of positive growth since 2008 Q1. The total fall in output between 2008 Q1 and 2009 Q3 was 6.0 per cent, similar to the contraction of the early 1980s. In the latest quarter, no particular industry made a large contribution to growth in either direction. Unemployment fell for the first time since Spring 2008 as the number of redundancies continued its recent fall, but the vacancy rate remains depressed. Compared to previous recessions, the fall in the number of jobs, given the contraction in output, has been relatively mild. Job numbers may have been supported by shorter working weeks, lower pay settlements and some labour hoarding. Inflation in the Consumer Prices Index rose to 2.9 per cent in December, mainly due to the timing of the VAT cut last year and a continuing rise in motor fuel prices.

UK economy returns to growth in the final quarter of 2009

After contracting for six successive quarters, the preliminary estimate of Gross Domestic Product (GDP) reported that the UK economy grew by 0.1 per cent in the final quarter of 2009 (Figure 1). Between 2008 Q1 and 2009 Q3, the peak to trough fall in output was measured at 6.0 per cent, on a par with the

drop in output experienced in the recession of the early 1980s, when between 1979 Q2 and 1981 Q1, GDP also contracted by a total 6.0 per cent. In comparison, the recession of the early 1990s was less severe. From 1990 Q2 to 1991 Q3 the UK economy shrunk by a total 2.5 per cent.

The latest GDP release also provides the first estimate of GDP for 2009 as a whole. This was reported to be 4.8 per cent lower than in 2008, the biggest year on year contraction since records began

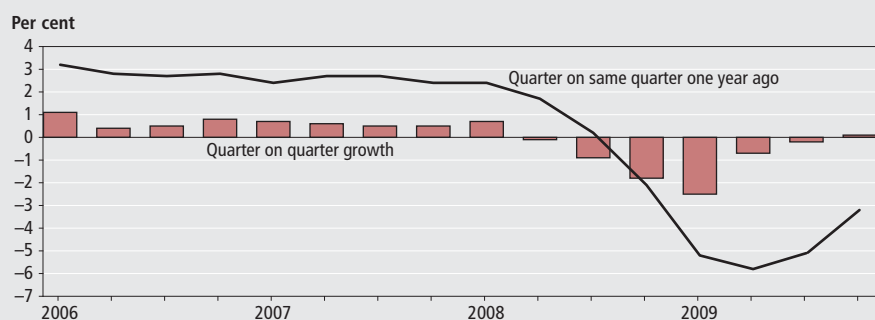
in 1948. Between 1993 and 2007, the UK experienced average annual growth of around 3 per cent, before decelerating to 0.5 per cent in 2008 as the economy entered recession in the second half of that year.

A sectoral breakdown of the contributions to growth shows a fairly uniform pattern (see Figure 2). For the majority of industries, output in the fourth quarter was either broadly flat or showed a slight improvement on the preceding quarter. No particular industry was found to have a significant impact on GDP growth in either direction.

The largest positive contribution to growth came from the distribution, hotels and restaurants sector, which expanded by 0.4 per cent. This sector includes the motor trades industry, where recent evidence is that activity at the end of 2009 has been supported by the vehicle scrappage scheme and the lower rate of VAT before it reverts from 15 per cent to 17.5 per cent in January. Government and other services grew by 0.2 per cent and manufacturing output recovered by 0.4 per cent, the first quarter of positive growth since 2008 Q1. Preliminary estimates show that business and financial services output was flat, as was construction. Electricity, water and gas, however, contracted by 3.3 per cent in 2009 Q4. But as this sector only accounts for 1.5 per cent of Gross Value Added (that is the output measure of GDP), the negative contribution to growth was small.

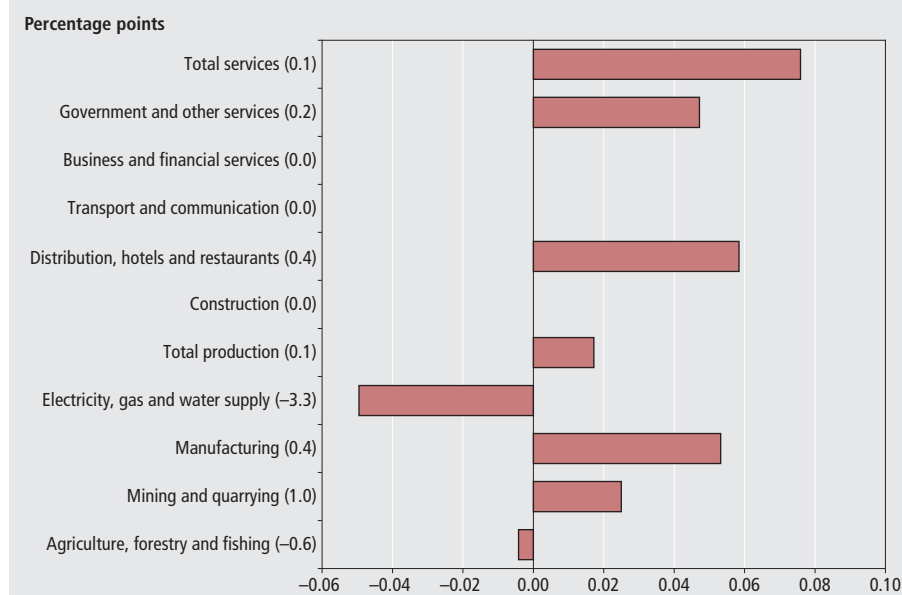
The preliminary estimate is the first published estimate of GDP reported by the ONS for each quarter. Given the timeliness of the estimate, usually within 25 days of the end of the reference quarter, missing data is replaced by nowcasts so that a full set of accounts can be presented. Therefore, as new information becomes available, not just relating to output-based measures of GDP but also on expenditures and incomes, the estimate will be updated and revised if necessary. Analysis of revisions has shown that between the GDP preliminary estimate and the Quarterly National Accounts, which are published two months later, revisions tend to be no greater than 0.1 per cent or 0.2 per cent in either direction.

Figure 1
GDP growth



Source: GDP preliminary estimate

Figure 2

Contributions to growth by industry, 2009 Q4¹**Note:**

1 Actual quarterly growth rates of each industry are in brackets.

Source: GDP preliminary estimate

Mixed news from business survey data

The British Chambers of Commerce (BCC) *Quarterly Economic Survey* is based on a relatively large sample size compared to other business surveys. The main conclusion from the latest survey is that 'the 2009 Q4 results support the view that the economy is on the brink of leaving recession, but they do not provide conclusive evidence of recovery'.

The reserved outlook primarily reflects the weakness of domestic sales and orders, particularly in the services sector. Manufacturing domestic sales returned to positive territory for the first time since the first quarter of 2008, but as domestic orders continued to fall it raises concerns over the persistence of this improvement. For the services sector, although home sales and orders both improved, the balances remained negative, meaning that more firms were reporting a fall rather than a rise in the fourth quarter.

The export position though has improved considerably. Orders and sales have both moved into strong positive balances, especially for manufacturing. This is evidence that the pick up in world trade as the global economy emerges from recession, combined with the beneficial competitive effects of sterling depreciation, may be supportive of UK output in the latest quarter and coming year.

Results of the *Quarterly Industrial Trends Survey*, conducted in January 2010

by the Confederation of British Industry (CBI), showed manufacturing output rose for the first time since January 2008. As business confidence improves the rate at which businesses have been running down inventories has slowed. Export orders have also picked up as growth returns in the rest of the world and the competitive benefits of sterling depreciation are felt. As a result, there was a noticeable reduction in the number of firms working below full capacity, but there were large divergences by sector. The results showed that 100 per cent of motor producers were working below capacity, but utilisation rates tightened for producers of chemicals and food and drink products.

The outlook for the next three months though is for marginal growth. Domestic orders have continued to fall, with a balance statistic of 85 per cent reporting orders or sales as the factor most likely to limit output, and a balance of 96 per cent reporting sufficient capacity to meet expected demand. The survey also found that access to finance remains a constraint to production in some areas.

In recent months, the *UK Manufacturing Purchasing Managers' Index* (PMI) has been relatively buoyant compared to the BCC and CBI surveys. According to the January survey, the UK manufacturing sector ended 2009 on a positive footing, as output increased for the seventh month in a row and at the fastest pace since November 2007. Consumer and intermediate goods producers led the way, but output in the investment goods

category fell, in line with the slow recovery in global investment spending.

Output has rebounded as improving market conditions and stock rebuilding have fed into new orders, which grew at the fastest rate for 29 months in December. Firms were reported to have run down inventories for the 25th successive month, as part of cost control and efficiency programmes aimed at improving cash flow, but now at a much slower rate than before. Export orders have grown for six successive months, but here the rate of growth remains low.

The *UK Construction PMI* was more downbeat. Results from the latest survey pointed to output falling in December for the 22nd successive month. Subdued demand was identified as the main factor, as panellists reported that clients had cut budgets substantially for construction work in the last year. Commercial and civil engineering works have been the most affected. Residential construction, by contrast, has seen a recent improvement. Output has now grown for four months in a row, perhaps due to the improvement in the housing market since Spring 2009.

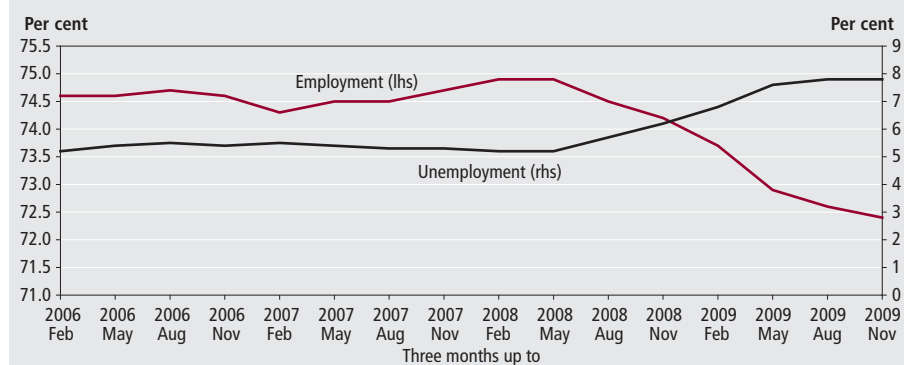
According to PMI data, the UK service sector has been in good health throughout the second half of 2009 and general business confidence has shown a sustained improvement. Activity and new business balances have grown for respectively eight and six months in a row, due in most part to the release of previously delayed business spending.

Unemployment falls for the first time since Spring 2008

According to the Labour Force Survey (LFS), unemployment in the three months September to November 2009 was 2.46 million. This represents a small fall of 7,000 from the previous three months period, and is the first time unemployment has fallen since Spring 2008. The unemployment rate, which is reported to one decimal place, remained unchanged at 7.8 per cent (**Figure 3**). In the same three months period, employment fell slightly by 14,000, lowering the employment rate by 0.1 percentage point to 72.4 per cent. However, total employment remains above the trough reached in the three months May to July 2009.

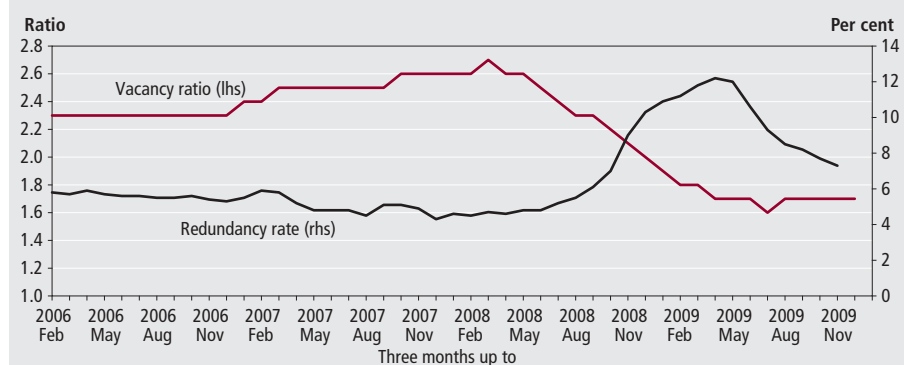
The latest data supports the view that the UK labour market, after rapidly deteriorating between Spring 2008 and

Figure 3
Employment and unemployment rates



Source: Labour market statistics

Figure 4
Vacancies and redundancies



Source: Labour market statistics

Summer 2009, is stabilising. Between the three months periods March to May 2008 and August to October 2009, unemployment rose sharply by 877,000. As a result the unemployment rate increased from 5.2 per cent to 7.9 per cent. The employment rate reached a peak of 74.9 per cent during the period March to May 2008. But as the contraction in output passed through to the labour market, total employment fell by 689,000 up until the three months May to July 2009, and the employment rate fell to 72.5 per cent. Since then, the unemployment and employment rates have been relatively stable.

As **Figure 4** shows, the stabilisation in unemployment has coincided with a sharp fall in the redundancy rate, which is defined as the number of redundancies is the given quarter per 1000 employees in the previous quarter. The most recently published data show there were 182,000 redundancies in the three months September to November 2009, corresponding to a redundancy rate of 7.3. This is a marked fall from the rate of 12.2 recorded in the period February to April 2009, when there were 310,000 redundancies.

The redundancy rate is now at its lowest since August to October 2008, suggesting

that employers have reduced the rate at which they have been shedding jobs. However, latest data show that despite an increase of 16,000 on the quarter, the number of vacancies are low relative to the pre-recession level, an indicator that firms remain cautious about hiring new workers.

The vacancy ratio is the number of vacancies per 100 employee jobs. The vacancy ratio peaked at 2.7 in the three months January to March 2009, when there were 693,000 vacancies. This fell quickly as the labour market weakened to 1.6 in the three months May to July 2009, corresponding to 429,000 vacancies. The biggest falls in vacancies were in the distribution, hotels and restaurants and business and financial services sectors. Since then the level of vacancies and the vacancy ratio have been broadly flat, showing only a slight increase. In the three months October to December 2009 there were 448,000 vacancies, corresponding to a vacancy ratio of 1.7.

Similar findings to these broad movements in the labour market have been reported in business surveys. Although the majority of surveys reported a further reduction in employment, the rate at which jobs are being shed has slowed markedly in recent months.

In the January *Quarterly Industrial Trends Survey*, the CBI reported that the rate of job shedding in the manufacturing sector had eased considerably in the final three months of 2009. Results from the Manufacturing PMI in January concurred. Despite falling for a 20th successive month, as firms continued to use redundancies and natural wastage as part of cost saving programmes, the rate of job reductions in UK manufacturing was the slowest since May 2008. Better news was reported in the BCC *Quarterly Economic Survey*, which showed that the employment balances for manufacturing had returned, albeit slightly, to positive territory in 2009 Q4.

PMIs for the UK construction and services sectors also reported a continued slowdown in the rate at which businesses were cutting back on employment. In the construction sector though, the easing in the rate of job shedding has been less pronounced. This is in line with the activity balances reported for the sector, which remain firmly in negative territory. It was reported that staff cuts and declining sub-contractor usage have continued as construction companies restructure their activities in line with lower workloads.

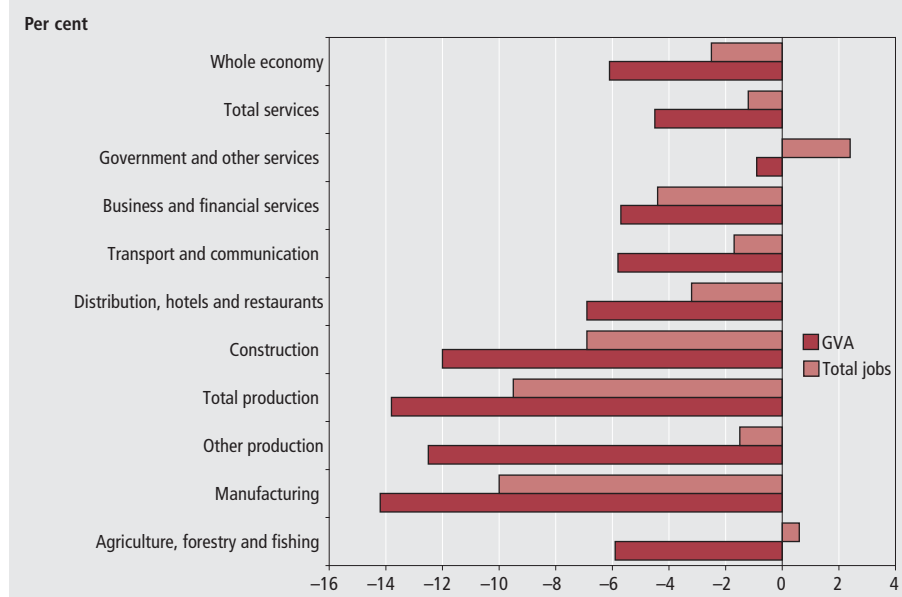
Payrolls have been cut for 20 consecutive months in the services sector as a result of company restructuring and the non-replacement of leavers, but the rate of job shedding is now at its lowest since August 2008. The BCC *Quarterly Economic Survey* also reported a further slowdown in the rate at which service sector businesses were cutting employment.

Employment and jobs fall at slower rate than output

According to the Labour Force Survey (LFS), total employment fell by 1.9 per cent between 2008 Q1 and 2009 Q3, and the total peak to trough fall in employment, between March to May 2008 and April to June 2009 was 2.2 per cent. The fall in total employment has therefore been proportionately less than the 6.0 per cent peak to trough fall in GDP.

Workforce Jobs, a measure of total jobs derived from a number of sources that are primarily but not exclusively employer surveys, show that total jobs fell by 2.5 per cent between 2008 Q1 and 2009 Q3. This is in line with recent trends in employment. As **Figure 5** shows, the industry pattern of jobs has generally moved in line with the path of output during the course of the recession (2008 Q1 to 2009 Q3).

Figure 5

Growth in GVA and Workforce Jobs by industry, 2008 Q1 to 2009 Q3

Source: GDP preliminary estimate and Labour market statistics

Manufacturing output fell by 14.2 per cent, while jobs fell by 10 per cent. Construction output fell by 12 per cent, and jobs by 6.9 per cent. In the services sector, total output fell by 4.5 per cent but jobs by a comparatively modest 1.2 per cent. Government and other services jobs actually increased by 2.4 per cent, but there were relatively larger falls of 4.4 per cent in business and finance jobs and a 3.2 per cent fall in distribution, hotels and restaurants jobs.

As businesses generally face costs in changing the size of their workforces, typically referred to as 'hiring and firing' costs, it is normal for movements in employment to be less volatile and lag output. As cyclical downturns are expected to be temporary, businesses may just prefer to absorb the costs of lower capacity utilisation. However, when compared to previous recessions, the fall in the number of jobs experienced so far is relatively mild, especially given the sharp decline in output. Furthermore, in the recessions of the early 1980s and 1990s jobs continued to fall even after output had started to recover, whereas in the latest downturn, the rate of decline in the labour market appears to have slowed sooner. For example, between 1979 Q4 and 1983 Q1 total jobs declined by 7.3 per cent, and between 1990 Q2 and 1992 Q4, total jobs fell by 6.7 per cent. In both cases, the peak to trough fall in jobs eventually exceeded the peak to trough fall in output. This was particularly the case for the previous UK recession in the early 1990s.

The downturn in the labour market has

not been as severe as many analysts had feared. Explanations for this may include an adjustment in hours as workers accept a shorter working week to remain in employment, lower pay settlements and pay freezes so as to reduce wage costs, and/or labour hoarding by firms in order to retain key workers and skills.

Total and average hours fall

In Europe the use of short-time working, sometimes subsidised by the state as in France, has been used to prevent a surge in unemployment as businesses look to cut staffing levels in line with recession hit demand and workloads. It is estimated that almost 2 million Europeans, mainly in manufacturing industries, are working shorter hours as a result of the collapse in global trade. In the UK there has been no formal, state sponsored short-time

working scheme, but looking at hours worked data, there is evidence that some of the adjustment in the labour market has come through cuts in hours rather than cuts in employment.

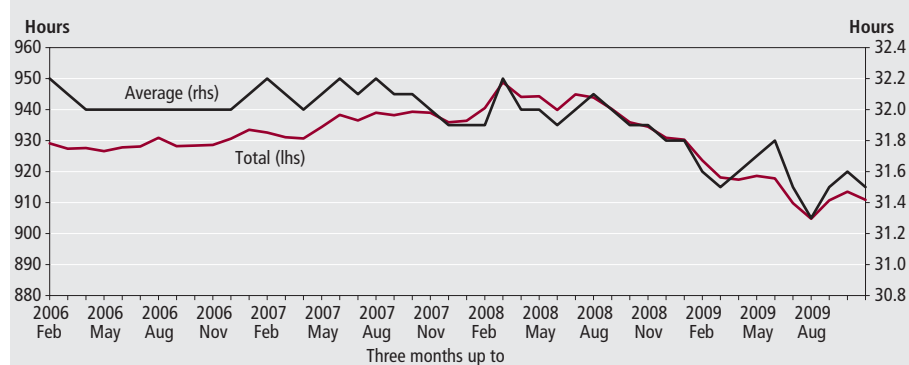
Figure 6 plots total weekly hours worked, along with average weekly hours worked. Prior to 2008, average hours worked each week were fairly stable, while total weekly hours rose in line with rising employment. However, since the labour market went into reverse in the Spring of 2008, total weekly hours fell by 4 per cent between January to March 2008 and September to November 2009. This is a larger fall than the 2.2 per cent peak to trough fall in (LFS) employment.

During this period, the average working week has fallen by 0.7 hours from 32.2 hours to 31.5 hours. Given that there were 28.92 million in employment in the three months September to November 2009, this would amount to a total loss of about 20.25 million hours. This, in turn, is roughly equivalent to about 630,000 people working at the prior average 32.2 hours per week. Given that the peak to trough fall in (LFS) employment was 642,000, it might have been the case that the rise in unemployment would have been more severe had it not been for some of the adjustment coming through average working hours.

Falling hours may have preserved employment levels, but as the lead article in this edition of Economic and Labour Market Review testifies, it may have come at the cost of rising underemployment. Workers therefore face a different type of labour market constraint, in that they cannot work the number of hours at their current wage which they would otherwise prefer to.

Although the average working week has fallen, a closer inspection of the data suggests that only a small part of this fall

Figure 6

Total and average weekly hours worked

Source: Labour market statistics

has resulted from a cut in the average hours worked by full time and part time jobs. At the start of 2009, there was a significant cut in the average hours of full time workers, coinciding with extended winter shutdowns and enforced shorter working weeks in the manufacturing industry. This was especially evident in motor vehicle production. Since the Spring of 2009 though, average working hours of full time workers have recovered, and are now only marginally down on the pre-recession level.

Instead, most of the adjustment in hours appears to have come from second jobs, where the fall in hours has been proportionately larger and more sustained, and also by a drift from full time to part time workers. While total employment has fallen in the downturn and job creation has been muted, part time employment has actually increased. Furthermore, an increasing proportion of part time workers cite the unavailability of full time work for their decision to work part time. So, the recent fall in average hours worked appears to be driven by reduced opportunities for secondary work and more workers constrained to part time work. Both these factors are consistent with growing levels of underemployment in the UK working population.

Average pay growth subdued in the private sector

Average pay growth has fallen sharply since the recession began. Whole economy regular earnings growth, in the three months to November, rose by 1.1 per cent compared to the same period a year before. This compares to average growth of 3.5 per cent in the same period in 2008, which in itself represented a slowdown from the 4.2 per cent annual increase in the same period in 2007 (see Figure 7). Therefore pay growth, which was already at subdued rates, has decelerated even further in the downturn.

One factor pushing down on recent pay settlements has been inflation. The rate of Consumer Price Index (CPI) inflation fell from a peak of 5.2 per cent in September 2008 to 1.1 per cent in September 2009, as the sharp rise in energy prices in the first half of 2008 fell out of the calculation, and low demand in the recession pushed down on margins. Inflation in the Retail Price Index (RPI) fell even further, as the large fall in base rates fed through to mortgage interest payments, and falling house prices fed through into lower

housing depreciation. RPI inflation, often used as the basis for pay settlements, reached a low of -1.6 per cent in June 2009. Lower inflation means that firms can cut the growth of nominal wages while maintaining the real wage.

Another factor is pay restraint, as workers accept reduced settlements, or even pay freezes with the aim of constraining wage costs, supporting company cash levels and maintaining overall employment levels. Analysis by the Bank of England shows that while only about 1 per cent of private sector workers actually faced pay cuts, around 35 per cent were subject to pay freezes in the last year.

As Figure 7 also shows, there has been a marked difference between the pay settlements in the public and private sectors. Excluding financial services, average regular pay growth in the public sector has been fairly robust throughout the downturn. Here, in the three months to November 2009, annual regular pay growth was measured at 2.9 per cent. By contrast, regular pay growth in the private sector was just 0.2 per cent. The contrast between public and private sectors is even greater once bonus pay is taken into account, which is a more significant feature of private sector

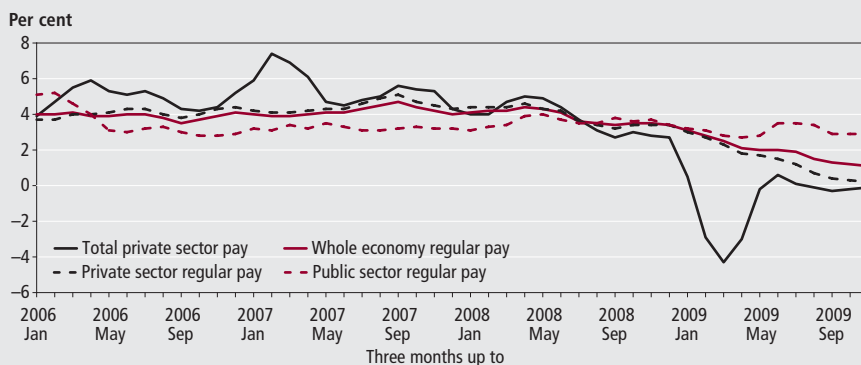
than public sector pay. According to the latest published data, total private sector pay actual fell by 0.1 per cent in the three months to November 2009 relative to the same three months in 2008.

An important consideration is that regular pay growth of average weekly earnings in the private and public sectors can be affected by shifts in the composition of the workforce. In particular, in July 2009, large banks in receipt of public support were reclassified from the private to the public sector, with the effect of moving relatively highly-paid workers out of the private sector. This effect is estimated to have reduced private sector regular pay growth by around 1 per cent each month. Even without this effect, there has been a shift in the composition of the private sector towards lower paid industries, which has been taking place since early 2008.

Labour productivity falls in 2009 Q3

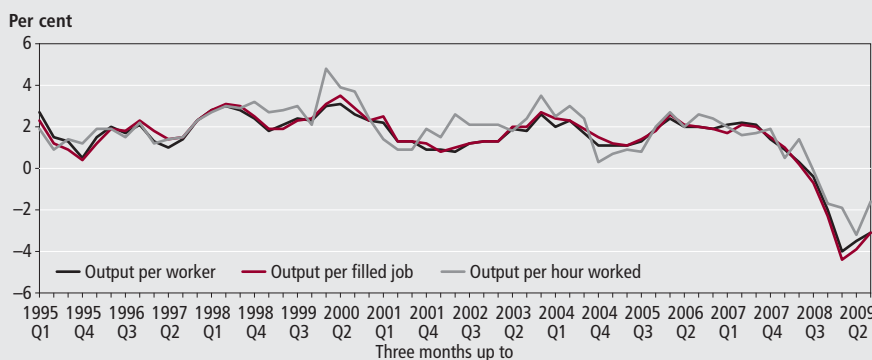
Productivity measures in the short run tend to exhibit cyclical patterns. Because there are costs and frictions in changing labour inputs, output responds

Figure 7
Annual pay growth



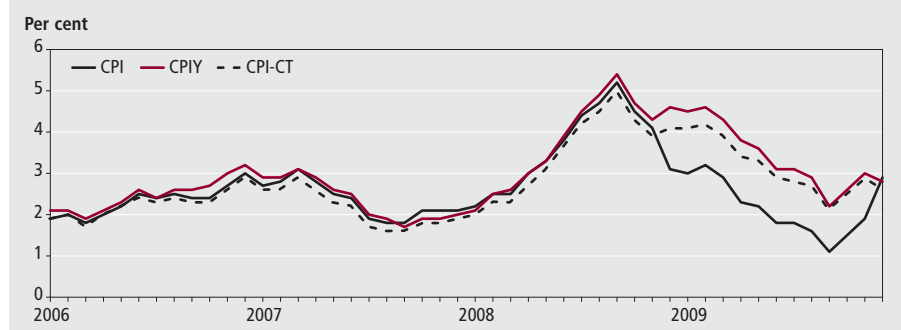
Source: Labour market statistics

Figure 8
Annual labour productivity growth



Source: Labour market statistics

Figure 9
CPI inflation



Source: Consumer prices

faster to changes in demand. Productivity measures, especially in the short term, reflect the intensity at which factors of production are used in different stages of the economic cycle. This accounts for the close short term relationship between measures of productivity and capacity utilisation.

As seen in Figure 5, output has fallen to a greater extent than employment in the recent recession, and as a result, productivity has deteriorated.

Figure 8 shows that productivity, measured in terms of output per worker and output per filled job, has fallen since the start of the recession. Both measures recorded a 3.1 per cent drop in 2009 Q3 compared to a year earlier. Productivity measured in terms of output per hours worked also fell over the year, but not to the same extent as the other two measures of labour productivity. In 2009 Q3 output per hour worked declined by a more modest 1.6 per cent relative to the same period a year earlier, reflecting the larger fall in hours worked than jobs or workers.

Falling labour productivity is a generally

accepted cyclical phenomenon. Businesses, recognising that cyclical downturns are temporary, may be prepared to absorb the cost of underutilised labour in order to save hiring and firing costs. This is commonly referred to as labour hoarding, and is especially likely if firms wish to retain skilled workers that might otherwise be hard to recruit once the economy begins a sustained recovery.

As yet, no analysis has been undertaken to investigate the recent extent of labour hoarding, and how it compares to previous recessions when the falls in employment and jobs were greater. However, it has been suggested that structural changes in the UK economy towards more specialised manufacturing industries and business and financial services may have increased the importance of skilled-labour inputs. As a consequence, businesses may see it in their longer term strategic advantage to absorb periods of slack, reducing the pass through from demand to employment. This may have been facilitated by sharp reductions in interest rates, making it cheaper for firms to service their debts. The support

to company cash flows this provides may then reduce the necessity to cut the labour force.

CPI inflation rate up to 2.9 per cent in December

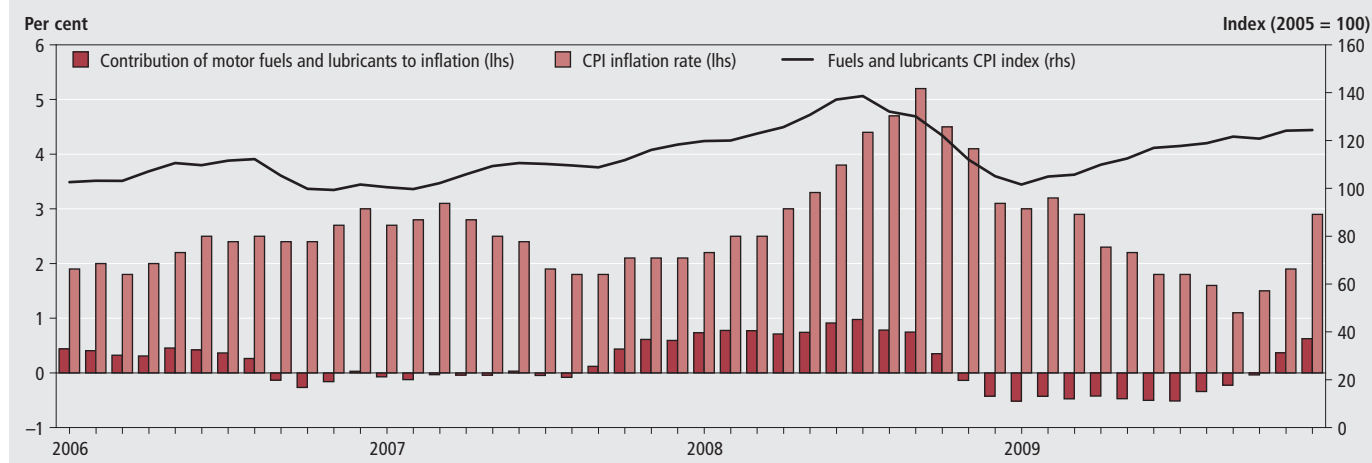
The annual rate of inflation in the all-items CPI was 2.9 per cent in December, marking a strong increase from the 1.9 per cent recorded in November. Inflation has now risen significantly in recent months from the trough of 1.1 per cent in September 2009 (see **Figure 9**).

Because annual inflation rates reflect the change in a price index over the course of the year, the calculation can be affected just as much by what happened in the base month as by developments in recent months. And this appears to be partly the case in explaining the latest increase in CPI inflation.

In December 2008, as part of the fiscal stimulus package announced in the Pre-Budget Report, the government cut the rate of VAT from 17.5 per cent to 15 per cent until January 2010. To the extent that this was passed on to consumer prices, it would lower the CPI in December 2008 relative to November 2008. Therefore, holding all other things equal, the annual CPI inflation rate would be expected to jump between November 2009 and December 2009 due to this fall in the base index.

ONS publishes two measures of the CPI that remove the effects of changes in indirect taxes. CPIY excludes a number of indirect taxes from the index altogether, whereas CPI-CT includes them but at fixed or constant values. Because this

Figure 10
Motor fuels and CPI inflation



Source: Consumer prices

creates differences in weights, it is not expected that both measures would report the same level of inflation, but as seen in Figure 9, the two measures are usually quite consistent. Clearly, these measures show that without the VAT cut last year, CPI inflation would have been higher throughout the course of 2009 by approximately 1 per cent. It can also be seen that the CPI, CPIY and CPI-CT annual inflation rates converged in December as last year's VAT reduction falls out of the calculation. The reversion to the higher rate of VAT in January would be expected to see CPI inflation rise above CPIY and CPI-CT inflation rates in 2010.

However, the exact effect will depend on the extent to which the VAT increase is passed on to consumer prices and changes to other indirect taxes such as excise duties on cigarettes, alcohol and motor fuels.

Other factors also acted to increase the annual CPI inflation rate between November 2009 and December 2009. There is evidence, that last year in order to support sales in the midst of the recession, retailers brought forward the usual January sales to before Christmas. This too would lower the CPI in December 2008, impacting on present inflation through base effects in a similar way as last year's VAT cut.

Oil prices have also had an important effect on inflation through their direct effect on the price of motor fuels. Motor fuel prices have been rising throughout 2009, but because of the large fall in prices in the second half of 2008, the contribution to the all items CPI inflation rate has been negative (see **Figure 10**). The persistent rise in motor fuel prices though is now making a positive contribution to the inflation rate. In December 2009, motor fuel prices were 18.4 per cent higher than a year before, making a 0.6 percentage points contribution to the 2.9 per cent rise in the CPI.

Independent forecasts

January 2009

UK forecasts

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

2009

	Average	Lowest	Highest
GDP growth (per cent)	-4.7	-4.8	-4.2
Inflation rate (Q4, per cent)			
CPI	1.9	1.2	2.3
RPI	0.1	-2.1	0.6
Claimant count (Q4, million)	1.64	1.60	1.70
Current account (£ billion)	-21.7	-38.0	-12.5
Public Sector Net Borrowing (2009–10, £ billion)	176.4	133.7	200.0

2010

	Average	Lowest	Highest
GDP growth (per cent)	1.4	0.7	2.2
Inflation rate (Q4, per cent)			
CPI	1.9	1.1	3.8
RPI	3.0	2.0	4.8
Claimant count (Q4, million)	1.76	1.40	2.20
Current account (£ billion)	-22.1	-41.9	-8.5
Public Sector Net Borrowing (2010–11, £ billion)	175.9	71.6	200.0

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

2010

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

2011

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

Notes

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

Key indicators

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

Seasonally adjusted unless otherwise stated									
	Source CDID	2008	2009	2009 Q2	2009 Q3	2009 Q4	2009 Oct	2009 Nov	2009 Dec
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	0.5	–4.8	–0.7	–0.2	0.1	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	0.4	–4.6	–0.6	–0.2	0.1	..	..	..
Industrial production	CKYW	–3.1	–10.4	–0.6	–0.9	0.1	0.0	0.3	..
Manufacturing	CKYY	–2.9	–10.8	–0.2	–0.2	0.3	0.0	–0.1	..
Construction	GDQB	–0.8	–10.5	0.5	1.9	0.0	..	..	..
Services	GDQS	1.4	–3.7	–0.8	–0.2	0.1	..	..	..
Oil and gas extraction	CKZO	–4.8	..	–1.0	–6.2	..	1.2	7.1	..
Electricity, gas and water supply	CKYZ	0.2	–8.3	–2.9	0.2	–3.3	–1.6	–3.5	..
Business services and finance	GDQN	2.4	–4.8	–1.2	–0.8	0.0	..	..	..
Household demand									
Retail sales volume growth	EAPS	2.6	1.7	0.8	1.1	0.7	0.5	–0.3	0.4
Household final consumption expenditure growth (CVM)	ABJR	0.9	..	–0.7	0.1	..	..	..	..
GB new registrations of cars (thousands) ¹	BCGT	..	..	..	..	..	..	..	..
Labour market^{2,3}									
Employment: 16 and over (thousands)	MGRZ	29,443	..	28,921	28,927	..	28,921	..	..
Employment rate: working age (%)	MGSU	74.5	..	72.7	72.5	..	72.4	..	..
Workforce jobs (thousands)	DYDC	31,661	30,987	30,987	30,861	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	940.7	..	917.8	910.7	..	910.9	..	..
Unemployment: 16 and over (thousands)	MGSC	1,776	..	2,432	2,461	..	2,458	..	..
Unemployment rate: 16 and over (%)	MGSX	5.7	..	7.8	7.8	..	7.8	..	..
Claimant count (thousands)	BCJD	905.1	1,531.3	1,533.2	1,605.2	1,620.2	1,632.5	1,621.7	1,606.5
Economically active: 16 and over (thousands)	MGSF	31,220	..	31,353	31,389	..	31,379	..	..
Economic activity rate: working age (%)	MGSO	79.1	..	79.0	78.9	..	78.8	..	..
Economically inactive: working age (thousands)	YBSN	7,872	..	7,956	7,997	..	8,046	..	..
Economic inactivity rate: working age (%)	YBTL	20.9	..	21.0	21.1	..	21.2	..	..
Vacancies (thousands)	AP2Y	618	445	434	432	448	430	436	448
Redundancies (thousands)	BEAO	163	..	267	205	..	182	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses) ³	LNNC	..	..	2.5	1.4	..	1.5	1.6	..
GB average earnings (excluding bonuses) ³	JQDY	..	..	2.4	1.7	..	1.7	1.6	..
Whole economy productivity (output per worker)	A4YN	..	..	–3.5	–3.1	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	–0.9	0.7	..
Unit wage costs: whole economy	LOJE	..	..	5.1	4.1	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	3.0	1.8	..
Business demand									
Business investment growth (CVM)	NPEL	1.1	..	–10.3	–0.6	..	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	2.6	..	0.7	0.3	..	..	..	..
Prices (12-monthly percentage change – except oil prices)¹									
Consumer prices index	D7G7	3.6	2.2	2.1	1.5	2.1	1.5	1.9	2.9
Retail prices index	CZBH	4.0	–0.5	–1.3	–1.4	0.6	–0.8	0.3	2.4
Retail prices index (excluding mortgage interest payments)	CDKQ	4.3	2.0	1.4	1.3	2.8	1.9	2.7	3.8
Producer output prices (excluding FBTP) ^{4,5}	PLLV	4.7	2.0	1.3	0.7	2.3	2.2	2.0	2.6
Producer input prices ⁵	RNNK	21.6	–3.6	–8.9	–8.7	3.6	0.4	4.0	6.9
Oil price: sterling (£ per barrel)	ETXR	52.10	39.34	38.44	42.05	45.53	43.45	46.74	46.41
Oil price: dollars (\$ per barrel)	ETXQ	98.37	62.05	59.82	69.02	74.40	70.35	77.58	75.28

Seasonally adjusted unless otherwise stated									
	Source CDID	2008	2009	2009 Q2	2009 Q3	2009 Q4	2009 Oct	2009 Nov	2009 Dec
Financial markets¹									
Sterling ERI (January 2005=100)	BK67	90.8	80.2	80.8	82.5	80.0	79.1	80.7	80.1
Average exchange rate /US\$	AUSS	1.8528	1.5665	1.5533	1.6406	1.6343	1.6199	1.6597	1.6239
Average exchange rate /Euro	THAP	1.2588	1.1233	1.1389	1.1475	1.1058	1.0928	1.1126	1.1127
3-month inter-bank rate	HSAJ	2.75	0.55	1.15	0.55	0.55	0.50	0.50	0.55
Selected retail banks: base rate	ZCMG						0.50	..	..
3-month interest rate on US Treasury bills	LUST	0.11	0.05	0.20	0.14	0.05	0.07	0.06	0.05
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	-93,381	..	-19,742	-19,679	..	-7,016	-6,784	..
Exports of services (£m)	IKBB	170,758	..	39,184	38,634	..	12,916	13,104	..
Non-EU balance on trade in goods (£m)	LGDT	-53,913	..	-10,766	-10,732	..	-3,473	-3,032	..
Non-EU exports of goods (excl oil & erratics) ⁶	SHDJ	105.8	..	92.9	96.5	..	101.7	101.8	..
Non-EU imports of goods (excl oil & erratics) ⁶	SHED	113.5	..	96.2	95.8	..	101.3	95.3	..
Non-EU import and price index (excl oil) ⁶	LKWQ	115.3	..	126.2	122.8	..	124.9	123.3	..
Non-EU export and price index (excl oil) ⁶	LKVX	109.8	..	118.4	116.7	..	118.3	117.3	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth) ⁷	VQUU	7.3	..	8.7	8.7	..	7.7	6.9	..
M4 (year on year percentage growth)	VQJW	13.2	..	13.6	11.6	..	10.8	9.3	..
Public sector net borrowing (£m)	-ANNX	61,632	142,600	41,108	34,726	44,066	9,647	18,700	15,719
Net lending to consumers (£m)	RLMH	11,156	..	411	-1,011	..	-579	-376	..

External indicators – non-ONS statistics

		2009 Jun	2009 Jul	2009 Aug	2009 Sep	2009 Oct	2009 Nov	2009 Dec	2010 Jan
Activity and expectations									
CBI output expectations balance ¹	ETCU	-17	-14	-5	-2	4	4	-7	4
CBI optimism balance ¹	ETBV		-16			10			12
CBI price expectations balance	ETDQ	-8	-13	5	-6	-4	-4	-2	5

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.

ARTICLE

Annette Walling and Gareth Clancy
Office for National Statistics

Underemployment in the UK labour market

SUMMARY

This article considers the extent of underemployment in the UK labour market. It begins by considering published unemployment and part-time work estimates, showing potential labour supply in the UK economy. Analysis is then presented which develops a measure of time-related underemployment using the Labour Force Survey (LFS) which looks at the additional hours that people in employment want to work. Further analysis describes recent trends in underemployment levels and rates, noting the changes that occurred as the UK economy contracted. The article also presents estimates of the volume of underemployment, in terms of the number of extra hours that underemployed people want to work, a useful indicator of potential capacity in the economy.

Between Q2 2008 and Q3 2009 the economic output of the UK economy, as measured by gross domestic product (GDP) fell by 6.0 percentage points. Reductions in economic output tend to mean that demand for labour input falls as well. As in previous recessions, labour supply was greater than labour demand and this meant unemployment increased. This excess labour supply is one measure of underused capacity within the labour market, and is shown in **Figure 1**.

Unemployment levels and rates identify those people who are not in employment, who want and are seeking work. The potential labour supply covered by unemployed people is important because from the unemployed person's point of view no employment income is earned. From an employer and government perspective, it indicates the extent of slack in the labour market. However, the economy has extra capacity, as people already in employment may prefer to work additional hours. This is known as time-related underemployment and is a useful indicator of potential capacity in the economy.

Underemployment in economic literature is used to describe three alternative scenarios. It explains situations where the skills of a highly qualified person are underused. It also can be used as an alternative description for overstaffing, where employees are not fully used in terms of their productive capacity. In the context of this article the term is used to describe

a third scenario: where a person wants to work more hours than is usual or stated under their current employment contract (see Bollinger et al 2003).

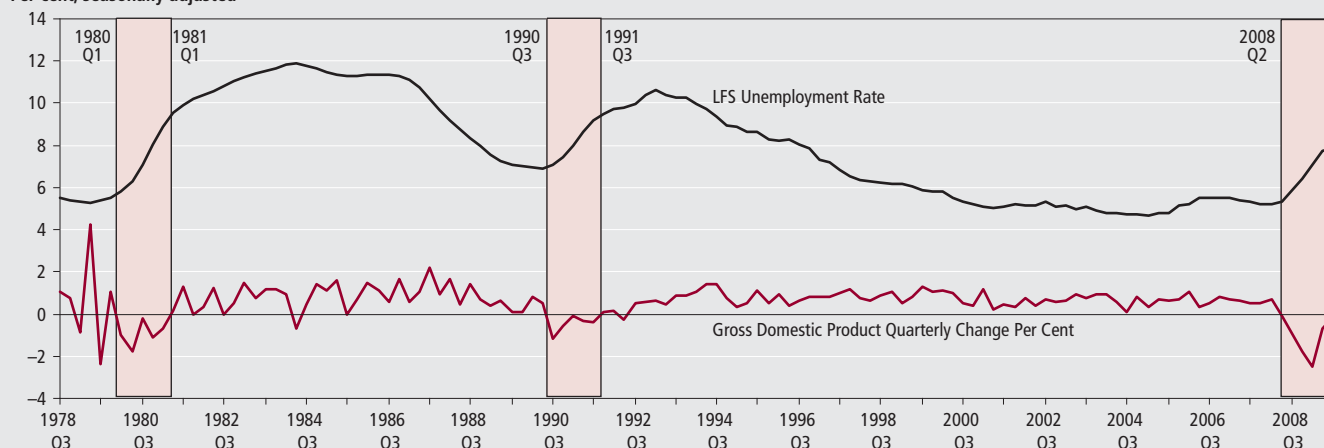
One way of looking at this disequilibrium is through involuntary part-time work. The US Bureau of Labor Statistics defines involuntary part-time workers as individuals who wanted full-time jobs, but worked less than 35 hours during the survey reference week because of economic reasons. The primary economic reasons include, a reduction in hours following unfavourable business conditions or the inability to find full-time work. The Bureau of Labor Statistics published a short note in 2008 (see Issues in Labor Statistics 2008) showing how levels of this indicator began to increase before the official onset of the US recession (as defined by the National Bureau of Economic Research).

In the UK, the numbers of part-time workers who could not find a full-time job are published as part of the Labour Market monthly statistical bulletin. But these estimates do not necessarily include people who experienced a reduction in hours because of unfavourable economic circumstances (as in the US definition). These estimates are shown in **Figure 2**. The increase in the levels of part-time workers who could not find a full-time job in the UK followed a similar pattern to that found in the US, with the increase beginning in Q1 2005, over three years before the first economic contraction. However, even this separation of full and

Figure 1
Unemployment rate and GDP¹

United Kingdom

Per cent, seasonally adjusted



Note:

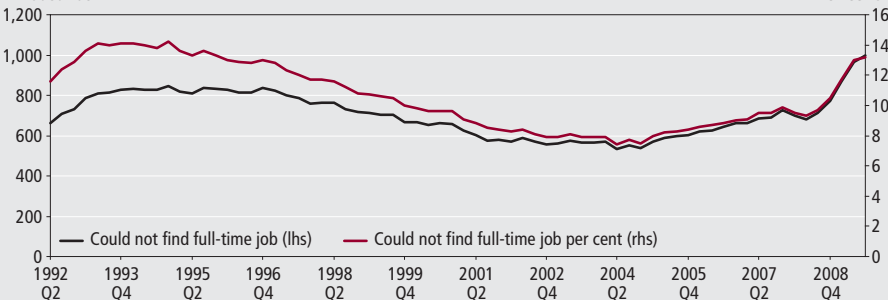
1 Shaded areas of the chart correspond to periods of negative GDP growth.

Source: Labour Force Survey and National Accounts

Figure 2
Part-time workers who could not find a full-time job^{1,2}

United Kingdom

Thousands



Note:

1 Seasonally adjusted data.

2 Could not find a full-time job as a percentage of all part-time workers

Source: Labour Force Survey

part-time work neglects potential capacity within the labour market.

Underemployment levels and rates are generally higher than the number and proportion of involuntary part-time workers. This is because a person may be willing and available to work longer hours whatever their reason for taking a part-time job, and even if their job is full-time. In addition, there is no internationally agreed definition of part-time work and the LFS full-time/part-time split is therefore based on respondent self-classification. The LFS full-time and part-time categories each cover a wide range of working patterns. For example, in Q3 2009, the usual weekly hours of work for people who classified their main job as part-time ranged from 1 to 40 hours. While the usual weekly hours of work for people who classified their main job as full-time ranged from 16 to 97 hours. Since it is possible for someone with a full-time job to be underemployed,

if they are willing and available to work longer hours and provided that their hours of work do not exceed a defined threshold for underemployment (see **Box 1** for International Labour Organisation (ILO) definition) more sophisticated estimates are needed than a simple full or part-time categorisation.

Furthermore, estimates of underemployment based on part-time workers who could not find a full-time job do not quantify the extent to which full or part-time workers are underemployed. In order to analyse the extent of time-related underemployment any analysis needs to consider the labour supply decision of all employees in terms of additional hours.

The labour supply decision under the neo-classical model of labour-leisure choice assumes that a person can choose the hours they work from a continuous distribution (see Borjas 1996), that is if they have a preference for working 31.5

hours, then they will be able to find work that meets that preference. In the real world hours are not this flexible. As explained in Simic (2002) the employer, institutions like trade unions, economic conditions and the degree of labour mobility, all determine the actual hours offered to workers. This means that the preferences of workers in terms of hours and the hours they are offered, will inevitably not equal each other in some cases.

Measuring underemployment using the LFS

To be classified as underemployed, a person must satisfy all three of the underemployment criteria set out in Box 1 (willing to work more hours, available to do so and worked less than the specified hours of work threshold). This section describes how underemployment can be measured using information from the UK Labour Force Survey (LFS).

Wanting and available to work longer hours

The LFS collects information on the numbers of employed people who:

- were looking for an additional job in the reference week, or
- were looking for a new job with longer hours to replace their current (main) job in the reference week, or
- wanted to work longer hours in their current job (at their basic rate of pay)

These three categories can be combined to give the total number of people wanting to work more hours. It should be noted however, that the first two categories

Box 1**International Labour Organisation (ILO) concepts and definitions**

Time-related underemployment, as defined by the ILO, exists when the hours of work of an employed person are insufficient in relation to an alternative employment situation in which the person is willing and able to engage.

Underemployed people are those who, during the reference period that is used to define employment:

- were willing to work additional hours: meaning that they wanted another job in addition to their current job(s); wanted another job with more hours instead of their current job(s); or wanted to increase the total number of hours worked in their current job(s)
- were available to work additional hours within a period corresponding to the usual term of notice, given opportunities for additional work; and
- worked less than a specified number of hours during the reference period

The underemployment rate is the number of underemployed

people as a percentage of the total in employment.

Underemployment can also be expressed as a percentage of the economically active population.

The volume of underemployment is the aggregate number of extra hours that underemployed people want to work.

The ILO recommends that, in addition to measuring underemployment as defined above, countries should measure the total number of workers who were willing and available to work additional hours, regardless of the number of hours they actually worked (that is, without applying an hours of work threshold). The definition of underemployment does not require people to have actively sought additional hours of work. However, the ILO recommends that countries should distinguish between underemployed people who actively sought to work additional hours and those who did not. This is in order to assess, for analytical purposes, how willingness to work additional hours is expressed in terms of actions (see ILO underemployment resolution adopted in 1998 and Hussmans 2007).

include only people who were *seeking* extra hours in the reference week, which is a narrower concept than *wanting* to work extra hours. In that respect, the information collected in the UK LFS is slightly different to the ILO definition of underemployment.

The questions about seeking an additional job or a replacement job with longer hours (LFS variables ADDJOB, LOOKM and PREFHR) were introduced into the LFS in 1992. A question asking people whether they want to work longer hours in their current job (UNDEMP) was added in 1996, but the question was changed in 1999 to include only those who want to work longer hours *at their basic rate of pay*. This change, which excludes workers wanting additional hours of work at enhanced pay rates, causes a discontinuity in the series for people wanting to work longer hours in their current job.

The LFS measures availability to work longer hours by asking people who want to work longer hours whether they could start working longer hours within two weeks. The availability question (UNDST) was introduced in 1997 for people seeking an additional job or replacement job and the coverage was extended in 1999 to include people wanting to work longer hours in their current job. This, together with the discontinuity in the UNDEMP question, means that it is only possible to estimate the total number of people wanting and available to work longer hours on a consistent basis back to 1999.

People who wanted to work more hours in 2009

According to LFS estimates for Q3 2009, around 325,000 employed people were looking for an additional job, 459,000 were looking for a replacement job with longer hours and 2.7 million wanted to work longer hours in their current job. This gives a total of 3.5 million workers (12.1 per cent of the total in employment) who wanted to work longer hours, but does not take account of their availability to work these hours. Of these, 3.0 million (10.8 per cent of the total in employment) were available to start working longer hours within two weeks.

Almost 370,000 people wanted to work longer hours, but were not available to do so within two weeks. Overall, the most frequently cited reason for not being available was 'looking after family/home' (33.0 per cent), but women gave this reason more often than men (43.3 per cent and 11.9 per cent respectively). The next most common specific reason was being unable to leave their current job within two weeks. A quarter of people who wanted to but were unavailable to start working longer hours, gave this as their reason (29.4 per cent of men and 22.5 per cent of women). This suggests that the two weeks notice period assumed in the LFS question might not be appropriate for all jobs. A further 9.7 per cent were unavailable because they had to complete their education, and 7.5 per cent were unavailable because of health problems.

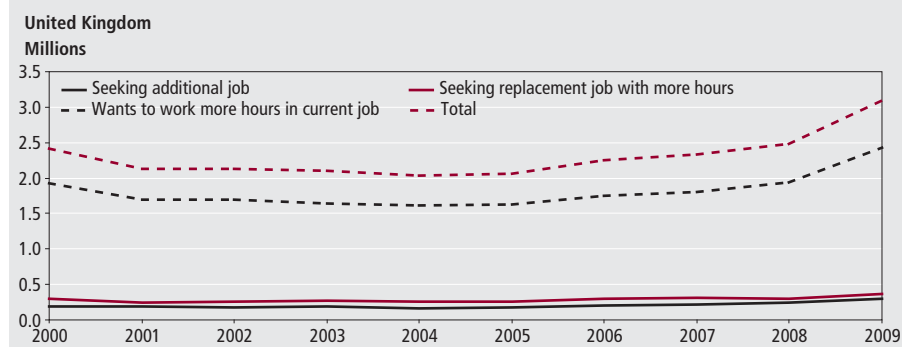
The remaining 25.1 per cent were unavailable for other reasons.

The number and proportion of people wanting and available to work longer hours have been following an upward trend since 2005. There was a relatively sharp increase over the year to Q3 2009. The level increased by 605,000 (24.4 per cent) and the proportion increased by 2.3 percentage points. This was mainly driven by an increase in the number of workers who wanted to work longer hours in their current job. The numbers seeking an additional job or a replacement job with longer hours also increased by over 20 per cent, but the lower numbers in these groups meant their contribution to the total change was minimised (see **Figure 3**).

Applying an hours of work threshold

The ILO recommends that an hours of work threshold should be applied, above which people who want and are available to work longer hours should not be classified as underemployed. It also recommends that the threshold should be based on total actual weekly hours worked and that the cut-off point should be chosen according to national circumstances. An actual hours threshold is specified because underemployment statistics, like employment and unemployment statistics, should give a snapshot of the situation for a given point in time. Actual hours are specified in order to capture people who worked less than their usual hours due to economic circumstances (such as variable

Figure 3

Number of employed people wanting and available to work longer hours: by whether in current or a different job, 2000 to 2009¹**Note:**

1 July to September each year, not seasonally adjusted.

Source: Labour Force Survey

work hours, labour disputes, short-time working or interrupted seasonal work).

A disadvantage of applying a threshold based on actual hours worked is that most people who work less than their usual weekly hours in the reference week do so for non-economic reasons (such as holidays or sick leave). In Q3 2009, 35.1 per cent of the workforce worked less than their usual weekly hours and 60.1 per cent of these (21.1 per cent of the total workforce) did so for non-economic reasons. An alternative approach is to apply a threshold based on a constructed hours measure, where constructed hours are defined as being equal to actual weekly hours worked, unless the person worked less hours than usual for non-economic reasons, in which case their constructed hours equals their usual weekly hours. This approach prevents people from being classified as underemployed if they usually

work more than the threshold number of hours, but did not do so during the reference week for non-economic reasons.

Whichever hours of work variable the threshold is based on, it is necessary to establish an appropriate cut-off point. **Figure 4** illustrates the impact on estimates of the underemployment level for Q3 2009 when various hours of work thresholds are applied. When a threshold of 40 hours per week is applied the underemployment level is similar, regardless of the hours of work variable used. When thresholds below 40 hours are applied, the underemployment level becomes much lower. In addition, results for the three hours of work variables diverge, with actual hours producing the highest underemployment level. When thresholds higher than 40 hours are applied, the underemployment level increases gradually and the results for the three hours of work variables are similar.

In the preparation of this article thresholds based on actual, usual and constructed hours were all explored. Cut-offs were also considered, based on mean and median values, as well as working-time legislation. The analysis showed that whichever hours of work variable the threshold is based on, and whichever type of cut-off point is used, each method produces a similar trend in underemployment levels and rates. The method used in this article is to apply a threshold based on a constructed hours measure, with a cut-off based on the EU Working Time Regulations. These Regulations, which were implemented in the UK in 1998, stipulate that workers aged under 18 cannot work more than 40 hours a week and that those aged 18 and over cannot be forced to work more than 48 hours per week on average, although some occupations can opt out (see Working Time Regulations reference).

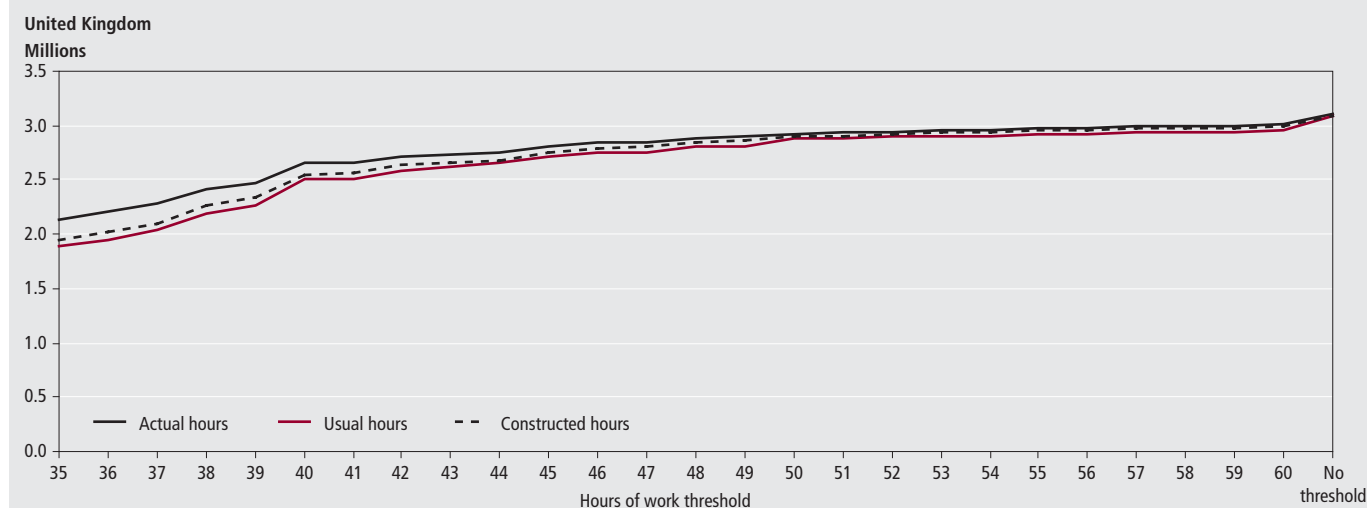
Applying a constructed hours of work threshold of 40 hours (for people aged under 18) or 48 hours (for people aged 18 and over) produces an underemployment level for Q3 2009 that is 243,000 (7.9 per cent) lower than it would be if the threshold had not been applied, and an underemployment rate that is 0.8 percentage points lower than it would be if the threshold had not been applied.

LFS underemployment

In the remainder of this article, underemployed people are defined as employed people:

- who were looking for an additional job or a replacement job with longer

Figure 4

Impact on estimates of underemployment levels when various hours of work thresholds are applied, 2009**Note:**

1 July to September 2009, not seasonally adjusted.

Source: Labour Force Survey

- hours, or who wanted to work longer hours in their current job, and
- were available to start working longer hours within two weeks, and
- whose constructed weekly hours were 40 or less (for people aged under 18) or 48 or less (for people aged 18 and over)

These criteria are similar to those used by Simic (2002). The only difference being the thresholds applied in this article are 40 and 48 hours according to age, rather than the average sex-specific constructed hours.

Constructed hours are defined as being equal to actual weekly hours worked, except for people who worked less than their usual weekly hours in the reference week for non-economic reasons, in which case, their constructed weekly hours equals their usual weekly hours of work. Non-economic reasons include: holidays, sick leave, maternity/paternity and parental leave, other leave, training courses, changed jobs, and other personal reasons. Economic reasons include: hours of work/overtime varies; laid off/short-time working for economic reasons, due to industrial disputes, or work interrupted by bad weather; or job ended and did not start a new one.

Recent trends in underemployment

Unemployment statistics are an important indicator of excess labour supply in the economy. They measure the number or proportion of economically active people who were without a job in the reference week, and were seeking and available for work. Underemployment statistics can be regarded as an additional indicator of potential labour supply, the difference being they measure unused labour resource among people already in employment. So while unemployment statistics measure situations of total lack of work, underemployment statistics measure situations of partial lack of work.

This section compares recent trends in underemployment with trends in unemployment. It also compares underemployment figures with statistics on part-time workers who could not find a full-time job (first looked at in Figure 2).

Underemployment and unemployment

Figure 5 shows estimates of underemployment and unemployment levels over the same period. The trend in underemployment is similar, though not identical, to the trend in unemployment

over this period. In general, a decrease in underemployment corresponded with a decrease in unemployment, and an increase in underemployment corresponded with an increase in unemployment. Given that unemployment measures situations of complete lack of work and underemployment measures situations of insufficient hours of work, it follows that employers will vary full and partial employment offers in a similar way according to prevailing economic circumstances.

According to LFS estimates for Q3 2009, there were 2.6 million unemployed people in the UK and 2.8 million underemployed people. While 9.0 per cent of the economically active population were underemployed, in comparison with 8.1 per cent who were unemployed. The underemployment rate (underemployed as a proportion of the total in employment) was 9.9 per cent.

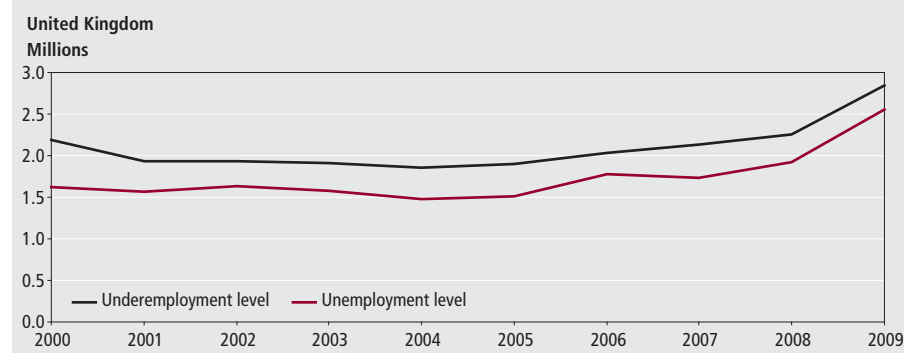
Between 2000 and the end of 2007 the UK economy recorded positive growth, as

measured by gross domestic product (GDP), in every quarter. Figure 5 and Figure 6 show that the underemployment level and rate fell between Q3 2000 and Q3 2001, after which these measurements of underemployment were relatively stable for the four years to Q3 2005. Underemployment levels were close to 1.9 million over this period, while the underemployment rate remained below 7.0 per cent.

In Q2 2008, the UK economy contracted, and labour market statistics since this point have indicated a weaker demand for labour. There was a relatively sharp rise in both unemployment and underemployment during the 2008 to 2009 recession. The unemployment level increased by 632,000 (32.9 per cent) over the year to Q3 2009 to reach 2.6 million (not seasonally adjusted). The underemployment level increased by 594,000 (26.4 per cent) over the year to Q3 2009 to stand at 2.8 million. The unemployment rate increased by 2.0 percentage points, but the

Figure 5

Underemployment levels and unemployment levels, 2000 to 2009¹



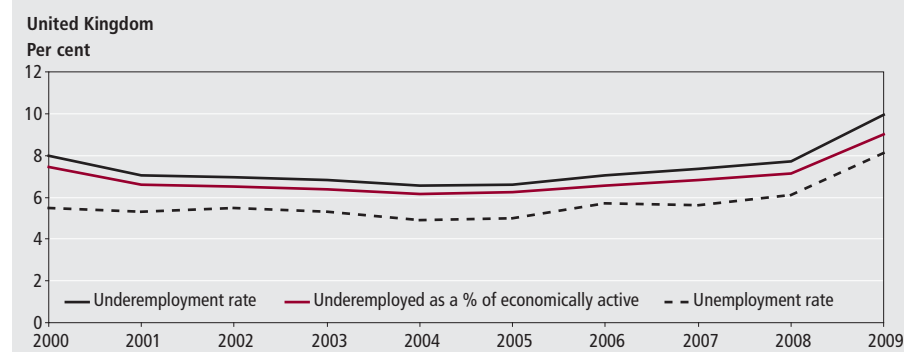
Note:

1 July to September of each year, not seasonally adjusted.

Source: Labour Force Survey

Figure 6

Underemployment rates¹ and unemployment rates,² 2000 to 2009³



Notes:

- The underemployment rate is the number of underemployed people as a percentage of the total in employment. Base for percentages excludes people who did not answer the underemployment questions.
- The unemployment rate is the number of unemployed people as a percentage of the economically active population.
- July to September of each year, not seasonally adjusted.

Source: Labour Force Survey

underemployment rate increased by 2.2 percentage points over the same period.

The sharp rise in underemployment over the year to Q3 2009 was mainly driven by an increase in the subgroup of underemployed workers who wanted to work longer hours in their current job. Of the 2.8 million people who were underemployed in Q3 2009, 2.2 million wanted to work longer hours in their current job. This figure is 474,000 higher than the previous year. A further 349,000 were seeking a replacement job with longer hours (up 57,000 on the year) and 279,000 were seeking an additional job (up 63,000 on the year).

Employees composed a large component (2.5 million) of the underemployed total in Q3 2009, as opposed to self-employed. The LFS asks employees who want to work longer hours whether they have approached their employer about working more hours, and if so whether their employer is able to increase their hours. In Q3 2009, 49.6 per cent of underemployed employees had approached their employer about working more hours, of which 16.3 per cent said that their employer was able to increase their hours. This figure is 3.1 percentage points lower than the previous year. It is difficult to assess whether this reflects a reduced demand for labour during the recession, because the LFS does not ask people how long it is since they approached their employer about working longer hours, nor does the survey ask people why their employer was unable to increase their hours.

Part-time workers who could not find a full-time job and underemployment

The proportion of the people in employment who worked part-time remained fairly stable over the ten years to Q2 2009, at around 26 per cent. The proportion of men in part-time employment increased by 2.9 percentage points over the same period, to 11.9 per cent. At the same time the proportion of women in part-time employment decreased by 1.7 percentage points to 42.7 per cent.

Most part-time workers had taken a part-time job for personal reasons (because they did not want a full-time job, or they were students, or they had health problems); while others had done so because they could not find a full-time job. The latter group are sometimes called involuntary part-time workers. However, it should be noted that the UK and US definitions of involuntary workers differ

because the US definition also includes people with a full-time job who worked part-time in the reference week for economic reasons, as well as people who took a part-time job because they could not find a full-time job.

The underemployment level for Q3 2009 includes 1.6 million people who classified their main job as part-time and 1.3 million people who classified their job as full-time. The number of involuntary part-time workers for the same period was 1.0 million. About a fifth of part-time workers were underemployed (21.1 per cent), whereas only 13.4 per cent had taken a part-time job because they could not find a full-time job.

Of the 1.6 million part-time workers who were underemployed, only 38.2 per cent had taken a part-time job because they could not find a full-time job. Although most involuntary part-time workers were classified as underemployed, over a third of them were not (39.1 per cent). This was because either they did not want to work longer hours, or because they were not available to do so within two weeks. A breakdown by length of service with current employer indicates that most of the involuntary part-time workers who were not underemployed had been in their current job for over a year (73.6 per cent). It is possible that they took a part-time job because they were unable to find a full-time job at the time, but their circumstances may have changed in the meantime, and this could explain why they were unwilling and/or unavailable to work longer hours at the time of their LFS interview.

Figure 7 shows underemployment rates

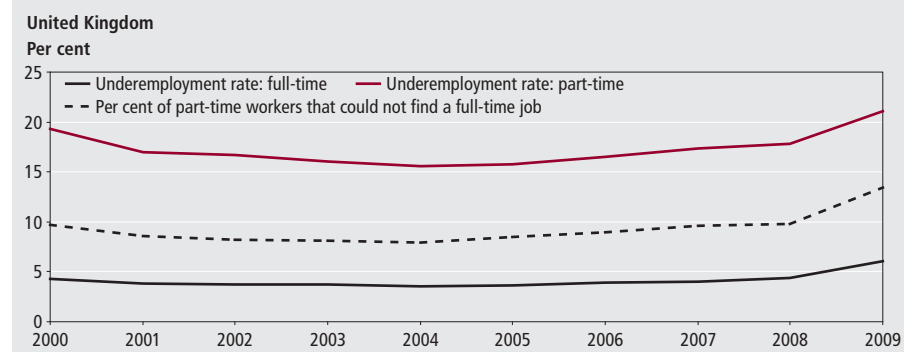
for full-time and part-time workers, and the proportion of part-time workers who took a part-time job because they could not find a full-time job, for each of the past ten years. The magnitude of changes in the underemployment rate for part-time workers over twelve months tend to be larger than for full-time workers between 2001 and 2009. This fits with the relative size of the levels of the two groups. Figure 7 also shows that during the period 2001 to 2007, full-time underemployment remained relatively stable at just below 4.0 per cent. Part-time underemployment remained over 16.0 per cent over the ten-year period, except for lows of 15.5 per cent and 15.8 per cent in 2004 and 2005. The low in 2004 occurred at the same time as the low of 7.9 per cent in the proportion of part-time workers unable to find a full-time job.

There was a relatively sharp rise in underemployment over the year to Q3 2009, particularly among people who classified their job as part-time. The underemployment rate for part-time workers increased by 3.3 percentage points, to 21.1 per cent, while underemployment rate for full-time workers increased by 1.7 percentage points, to 6.0 per cent. The proportion of part-time workers who took a part-time job because they could not find a full-time job increased by 3.6 percentage points over the same period, to 13.4 per cent.

Extra hours wanted

The LFS asks people who want and are available to work longer hours, how many extra hours they would like to work each week, in addition to their

Figure 7
Underemployment rates¹ for full-time and part-time² workers, and proportion of part-time workers who could not find a full-time job, 2000 to 2009³



Notes:

- 1 Underemployed people as a percentage of the total in employment. Base for percentages excludes people who did not answer the underemployment questions.
- 2 The LFS full-time/part-time split is based on respondent self-classification.
- 3 July to September of each year, not seasonally adjusted.

Source: Labour Force Survey

usual weekly hours of work. The results from this question (UNDHRS) can be used to calculate the average extra hours wanted by underemployed people, and to calculate their preferred weekly hours of work. Estimates for Q3 2009 indicate that underemployed people who classified their job as full-time wanted to work an extra 9 hours per week, on average. While underemployed people who classified their job as part-time wanted to work an extra 14 hours per week, on average. For underemployed people as a whole, the average number of extra hours wanted was 12 hours per week.

The preferred weekly hours of work for each underemployed person can be calculated as the sum of the extra hours they wanted and their usual weekly hours of work. However, around 20 per cent of underemployed people worked less than their usual weekly hours during the reference week for economic reasons, and it is possible that the figure they gave in answer to the UNDHRS question reflects a shortfall in their actual weekly hours, rather than a shortfall in their usual weekly hours. If so, then adding their extra hours wanted to their usual weekly hours will overstate their preferred hours of work. An alternative method is to calculate preferred weekly hours as the sum of extra hours wanted and constructed hours. This approach means that preferred hours are calculated as the sum of extra hours wanted and usual hours unless the person worked less hours than usual in the reference week for economic reasons, in which case, preferred hours equals extra hours wanted plus actual weekly hours. The figures given below have been produced on this basis.

According to LFS estimates for Q3 2009, underemployed people with a full-time job wanted to work 45 hours per week, on average. This is slightly higher than the average constructed weekly hours for fully-employed full-time workers (43 hours per week). Underemployed people with a part-time job wanted to work 31 hours per week, on average, which is 12 hours more than the average constructed hours for fully-employed part-time workers. The average preferred hours for underemployed people as a whole was 38 hours per week and this is the same as the average constructed weekly hours for people employed full-time.

Volume of underemployment

The volume of employment can be expressed either in terms of the number

of people in employment, or in terms of the aggregate number of hours worked. Similarly, the amount of unused labour resource available in the economy can be expressed in terms of the number of people willing and available to work longer hours, or in terms of the aggregate number of hours they are willing and available to work. As mentioned in the previous section, the LFS asks people who want to work longer hours, how many extra hours they would like to work each week. The results from this question can be used to calculate the aggregate number of additional hours that underemployed people would like to work. This information, described by the ILO as the volume of underemployment, provides a measure of underused labour resource among those already in employment and complements information about underemployment levels and rates.

A total of 3.5 million workers wanted to work longer hours in Q3 2009, of which 3.0 million were available to start working longer hours within two weeks and 2.8 million of those were classified as underemployed. **Figure 8** shows the total number of extra hours wanted for each of these groups and illustrates how the volume of underemployment is reduced when the availability criterion and the hours of work threshold are applied.

According to LFS estimates for Q3 2009, a total of 38.7 million extra hours were wanted by people who wanted to work longer hours. When people who were unavailable to start working extra hours within two weeks are excluded, along with people whose hours of work exceeded the threshold for underemployment, the

volume of underemployment for Q3 2009 is 31.6 million hours.

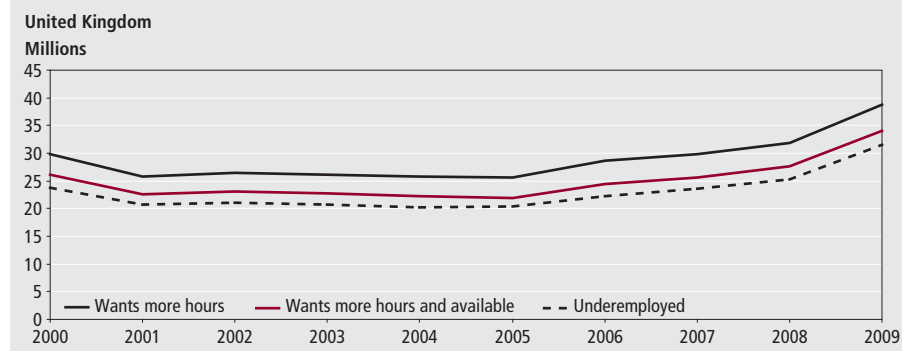
The trend in the volume of underemployment over the past ten years is similar to the trend in underemployment levels and rates. There was a relatively sharp rise over the year to Q3 2009: the volume of underemployment increased by 6.2 million hours (24.6 per cent). This is mainly due to an increase of 594,000 in the number of people who were underemployed. The average number of extra hours wanted by underemployed workers remained at 12 hours per week between Q3 2008 and Q3 2009.

These changes fit in with the path of the economy from 2008 onwards. As labour demand, in terms of employment and hours weakened, people (the supply of labour) were not able to find the amount of work wanted. One reason for this is because people have financial commitments to meet, which require a certain level of income. Also, people may not revise their preferred work hours downwards because of lower wages unless they are aware of average wages weakening across the economy. It is also the case that some wages take time to adjust downwards, so people continue to seek a volume of work that matches previous wage offers.

The volume of underemployment can be broken down in terms of the three types of underemployed worker: people who were seeking an additional job (4 million hours); people who were seeking a replacement job with longer hours (6.1 million hours) and people who wanted to work longer hours in their current job (21.5 million hours).

Figure 8

Volume of extra hours wanted,¹ by availability² and whether underemployed,³ 2000 to 2009⁴



Notes:

- 1 Total extra hours wanted by all workers who wanted to work extra hours.
- 2 Total extra hours wanted by workers who wanted and were available to start working extra hours within two weeks.
- 3 Total extra hours wanted by underemployed workers.
- 4 July to September of each year, not seasonally adjusted.

Source: Labour Force Survey

Table 1

Volume and rate of unutilised labour resource due to underemployment, 2000 to 2009⁶

	Underemployment level (millions)	Underemployment rate (per cent) ¹	Actual hours worked (millions) ²	Volume of underemployment (millions of hours) ³	Total potential volume of hours (millions of hours) ⁴	Rate of unutilised hours due to underemployment (per cent) ⁵
2000	2.2	8.0	883.7	23.8	907.5	2.6
2001	1.9	7.0	892.0	20.7	912.7	2.3
2002	1.9	7.0	890.0	21.0	911.0	2.3
2003	1.9	6.8	893.9	20.8	914.7	2.3
2004	1.9	6.6	896.0	20.3	916.3	2.2
2005	1.9	6.6	912.5	20.4	932.9	2.2
2006	2.0	7.0	914.3	22.2	936.5	2.4
2007	2.1	7.3	924.9	23.6	948.5	2.5
2008	2.3	7.7	927.2	25.3	952.5	2.7
2009	2.8	9.9	897.0	31.6	928.6	3.4

Notes:

- 1 Underemployed people as a percentage of the total in employment. Base for percentages excludes people who did not answer the unemployment questions.
- 2 Total actual weekly hours worked in main and second jobs, including paid and unpaid overtime.
- 3 Total extra hours wanted by people who were underemployed.
- 4 The sum of total hours worked and the volume of underemployment.
- 5 Volume of underemployment as a percentage of the total potential volume of hours.
- 6 July to September of each year, not seasonally adjusted.

Source: Labour Force Survey

Potential volume of hours worked

The ILO defines the potential volume of hours worked, for people already in employment, as the sum of hours actually worked and the volume of underemployment. The rate of the volume of underemployment is calculated as the ratio between the volume of underemployment and the potential volume of hours worked, for people in employment. This gives a measure of the extent to which labour resources are underutilised as a result of underemployment.

For Q3 2009, the total number of hours actually worked was 897.0 million (not seasonally adjusted). This was lower than the actual hours worked in Q3 between 2005 and 2009. Over the same four year period the volume of underemployment increased from 20.4 million hours to reach 31.6 million hours in Q3 2009. The total potential volume of hours for people in employment was 928.6 million hours and the rate of unutilised hours due to underemployment was 3.4 per cent in Q2 2009. In other words, 3.4 per cent of the potential hours of work for people already in employment were unutilised due to underemployment (see **Table 1**).

However, it is worth bearing in mind that 19.1 per cent of underemployed workers worked less than their usual hours of work in the reference week for non-economic reasons (such as holiday or sick leave). Therefore, they may not have been available to work all of the extra hours that they wanted to in that particular week. This means that the volume of underemployment, as defined by the

ILO, may tend to over-state the amount of unutilised labour resource that was actually available in the reference week. Having said this, some non-economic reasons are likely to be relatively consistent over time.

Conclusions

Underemployment statistics complement employment and unemployment statistics by measuring situations of partial lack of work. They provide an additional insight into the extent to which labour resources are available and used within the economy. Underemployment figures are more comprehensive than statistics on part-time workers who could not find a full-time job, because a person can be willing and available to work longer hours whatever their reasons for taking a part-time job, and even if they classify their job as full-time. Also, people who took a part-time job because they could not find a full-time job at the time are not necessarily willing and available to work longer hours at present.

This article has demonstrated how the LFS can be used to produce estimates of underemployment using ILO recommendations. It suggests that using constructed hours as the standard methodology for calculating underemployment is preferable to solely using actual or usual hours worked. This is because actual hours worked can vary because of non-economic reasons, and constructed hours takes account of this fact.

According to estimates from the LFS, there were 2.8 million underemployed people in the UK in Q3 2009 (9.9 per cent of the total workforce, or 9.0 per cent

of the economically active population). There has been a relatively sharp rise in underemployment during the current recession, alongside an increase in unemployment. The underemployment level for Q3 2009 was 594,000 (26.4 per cent) higher than the previous year and the underemployment rate was 2.2 percentage points higher than the previous year. The volume of underemployment, in terms of extra hours wanted, was 31.6 million hours for Q3 2009. This figure is 6.2 million hours (24.6 per cent) higher than the previous year. Approximately 3.4 per cent of the potential hours of work for people already in employment were unutilised due to underemployment.

These LFS estimates measuring underemployment can be explained in the context of a weakened economic outlook. As labour demand weakens, unless people revise downwards the amount of work they want, underemployment and unemployment will both increase. In the pre-recession period presented, all of the measures of underemployment and unemployment were relatively stable. This suggested some spare capacity in the economy in terms of labour input, but this is to be expected because employers cannot be perfectly flexible in terms of the number of hours they offer. When quarterly estimates of GDP contracted in 2008 this meant that new job offers (both full and part-time) were scarce, and existing jobs were cut back. This will have forced some people to take work that did not meet their needs in terms of hours worked and earnings, and hence increased underemployment levels and rates as shown.

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REFERENCES

Anker R et al, 'Measuring decent work with statistical indicators', ILO, 2002 at: www.ilo.org/integration/resources/papers/lang--en/docName--WCMS_079089/index.htm

Bollinger C, Coomes P, Berger M, 'Measuring Underemployment at the County Level' Discussion Paper Series University of Kentucky Centre for Poverty Research (2003) at: www.ukcpr.org/Publications/Bollinger_DP2003-08.pdf

Borjas G (1996) 'Labor Economics' McGraw-Hill

Hussmans, R, 'Measurement of employment, unemployment and underemployment – current international standards and issues in their application (ILO Bureau of Statistics, 2007) at:

www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/---stat/documents/publication/wcms_088394.pdf

International Labour Organisation (ILO): 'Key Indicators of the Labour Market (KILM) 12: Time-related underemployment' at: www.ilo.org/public/english/employment/strat/kilm/download/kilm12.pdf

International Labour Organisation (ILO), 'Resolution concerning the measurement of underemployment and inadequate employment situations, adopted by the 16th ICLS (October 1998) at: www.ilo.org/wcmsp5/groups/public/---dgreports/---integration/---stat/documents/normativeinstrument/wcms_087487.pdf

Issues in Labor Statistics (2008), 'Involuntary Part-time work on the rise', United States Bureau of Labor Statistics, Summary 08-08 at: www.bls.gov/opub/ils/pdf/opbils71.pdf

Simic M (2002), 'Underemployment and overemployment in the UK', Labour Market Trends Vol 110 (8) pp 399-414

For further information about the Working Time Regulations, see: www.berr.gov.uk/whatwedo/employment/working-time-regs/index.html

TECHNICAL NOTE

The estimates included in this article are for the July to September quarter each year, ending in 2009. The employment, unemployment and hours of work figures presented are not seasonally adjusted (unless stated otherwise). Therefore, they do not match equivalent figures published in the monthly Labour Market statistical bulletin¹, which are seasonally adjusted. This is to ensure consistency with the estimates of underemployment, which have been produced from the LFS microdata.

The International Labour Organisation (ILO) definition of economic activity divides the labour force into two main groups: employed and unemployed. People are classified as being in employment if they worked for an hour or more during the reference week, or had a job that they were temporarily away from. People are classified as unemployed if they were without a job and were seeking and available for work. Employment and unemployment, as defined by the ILO, do not capture the diversity of circumstances that exist within the labour force. The ILO framework for measuring economic activity therefore incorporates the additional concept of time-related underemployment. Broadly speaking, underemployed people are people, already in employment, who want and are available to work longer hours than they currently do.

Statistics on time-related underemployment complement employment and unemployment statistics by measuring situations of partial lack of work. They provide an additional insight into the extent to which labour resources are available and used within the economy. Underemployment is also of interest from a social well-being perspective and is one of the core indicators within the ILO decent work framework (see ILO documents on 'Key Indicators of the Labour Market' and 'Measuring decent work').

Note

¹ For the latest Labour Market Statistical Bulletin, see: www.statistics.gov.uk/statbase/Product.asp?vlnk=1944

ARTICLE

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Labour market gross flows data from the Labour Force Survey

SUMMARY

The article investigates the use of longitudinal datasets from the Labour Force Survey (LFS) as a tool for assessing the UK labour market. The main points are:

- LFS respondents are interviewed for five consecutive quarters. Therefore longitudinal datasets can be produced which link respondents over two and five quarters
- these datasets can be used to analyse the movement, or flow, between employment, unemployment and inactivity
- the gross flows between each labour market status every quarter tend to be much larger than the quarterly changes in the headline labour market aggregates
- longitudinal datasets are known to be subject to a number of biases

Introduction

The Labour Force Survey (LFS) is a quarterly sample survey of around 52,000 households living at private addresses in the UK, representing about 0.2 per cent of the population. The survey gathers information on a wide range of labour market characteristics and related topics. The survey has a rotating sample design, with the same households interviewed for five consecutive quarters and the last interview being a year after the first. The rotating design means there is replacement of one-fifth of households each quarter.

The main use of the survey is to provide cross-sectional data, but with households sampled consecutively, it is possible to link responses to provide longitudinal data, which is useful in identifying how individuals' economic circumstances change over time. The Office for National Statistics (ONS) produce two types of longitudinal datasets, linking respectively two and five quarters of data. These datasets include all respondents of working age, that is men aged 16 to 64, and women aged 16 to 59.

One of the key uses of these datasets is to analyse the gross flows of people moving between different labour force categories, most notably the three economic activity groupings of employment, unemployment and inactivity. Gross flows are the total number of people moving, for example from employment (E) to unemployment (U), or inactivity (N), and the total

number of people who move in the opposite direction. In total there are nine different flow categories for the three economic activity groupings, with another two – those individuals entering or leaving working age. Looking at the gross flows from one group to another, for example from employment to unemployment (EU), and from unemployment to employment (UE), shows more information than the net flow. This is the difference between the total number of people employed and unemployed at two different times. Each month, ONS publish net changes in the stocks of people in each of the three economic activity categories, and while these changes may be small, the underlying gross flows are much larger.

This article uses the two-quarter longitudinal data back to 1997, which is the first point at which consistently weighted time series are available. Firstly, it briefly describes the method used to produce the datasets, describes their limits, and then shows various analyses possible using the datasets.

Producing datasets

For both the two and five quarter longitudinal datasets, matching takes place using a unique identification variable for each individual for each quarter, with the age and date of birth of the matched cases checked to ensure correct matches. All unmatched individuals, as well as those individuals who do not respond but their data is carried forward in the cross-sectional dataset, or those individuals

where no information is available on their economic activity in any of the quarters are then removed from the dataset.

Two methodological issues arise when linking data and producing results. First, there are biases that arise from non-response, as different groups of people have different likelihoods of dropping out of the survey between interviews, which means they are not available for linking. Second, there are biases arising from response errors in the data, which produce false flows between economic states.

Compensating for non-response bias

There are many reasons for losing sample members after the first interview, either because they have moved house, it is not possible to contact them, or they refuse to continue to take part. As these groups of people are not typical of the general population, losing them will introduce bias.

Non-response is higher for young adults, single people, those living in London, those living in privately rented accommodation, the unemployed, and those in temporary employment. A multiple stage weighting method that initially constrains the weights by housing tenure to the cross-sectional datasets, then constrains the weights to population totals, and finally calibrates the weights using age, sex, region and economic status, is used to minimise this bias.

Response error bias

All surveys are susceptible to response errors, which is where the information from the respondent is not accurate. This could be for many reasons, such as misunderstanding the question, mis-recording by the interviewer, lack of knowledge, or through knowingly giving false information. Additionally, if a respondent is going through a transition at the time of the survey, they may give a false state by answering about the wrong reference week.

International research suggests that for the questions on economic activity status, the errors are not systematic and so when looking at the cross-sectional datasets, they cancel out. However, when linking individuals, such errors will lead to a change of economic activity status which is false, and therefore exaggerate and bias upwards the gross flows between each of the states. It is almost impossible to identify respondent errors directly, unless carrying out the interview again, but then that would raise doubt to the

correct answer. Investigations from other countries using re-interview surveys show that bias can vary considerably for each of the flows and to estimate the bias in the longitudinal datasets would need a UK re-interview survey.

There are many issues when trying to design a re-interview survey to measure the bias with a high-level of reliability. Linking the LFS to the 2001 Census suggests the development of such a survey would need a sample of over 10,000. Interviewing more individuals will increase respondent burden, and having a further interview may also increase attrition for the main survey.

Also the Census is only available at one particular time point (April), and given the seasonality of the flows between economic activity states, it is possible there may be seasonal variation in the misclassification. Overcoming seasonality is possible by using a four-quarter moving average, but these estimates will still be prone to response errors. However, assuming the response errors remain consistent over time, it is still possible to draw valid conclusions from the time series of changes between economic activity states. More information on estimating these response errors can be found in Brook and Barham (2006).

Analysis of the datasets

For analysis of the longitudinal datasets, the stock of the employed, unemployed and inactive at each quarter need to be obtained by summing the three corresponding flow categories. Therefore for the last quarter in the dataset, the stock of those who are:

- **employed** – is given by summing those employed at both quarters

(EE), those who move from unemployment to employment (UE) and those moving from inactivity to employment (NE)

- **unemployed** – is given by summing those moving from employment to unemployment (EU), those remaining unemployed (UU) and those moving from inactivity to unemployment (NU), and
- **inactive** – is given by summing those moving from employment to inactivity (EN), those moving from unemployment to inactivity (UN) and those remaining inactive (NN)

The stocks derived from the longitudinal datasets differ slightly to those obtained from a quarterly cross-sectional dataset due to attrition and also because those who are entering or leaving working age are excluded.

The unemployment rate derived from the flow variable, which is expressed as a percentage of working age, will also be lower and is not consistent with the unemployment rate given in ONS's Labour Market statistical bulletin. This is defined, according to International Labour Organisation definitions, in terms of all adults aged 16 and over as a percentage of the economically active (employed and unemployed) population.

Table 1 shows the weighted gross flow for each category and the associated sample size. Looking at the proportions of people who have remained in the same economic activity status between the two LFS interview periods, it is clear that the vast majority of people do not change their status between waves, that is they remain in employment, unemployment or inactivity over both quarters. In 2005 the proportion was 92 per cent and in

Table 1
Categories of flows, Q2 2009 to Q3 2009

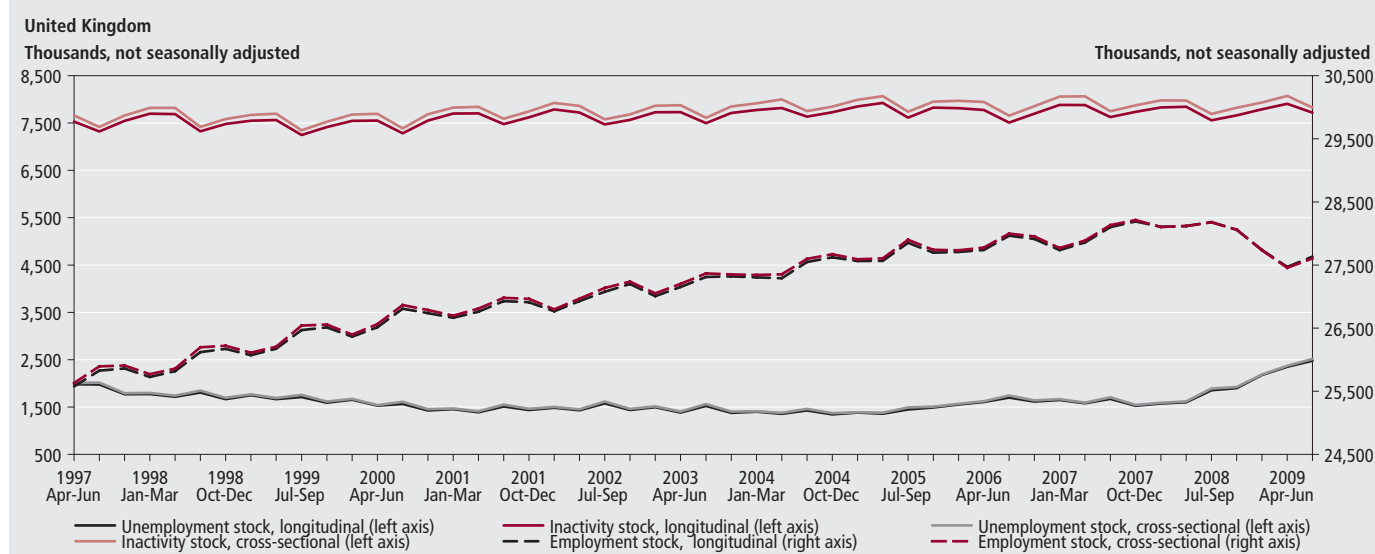
United Kingdom

Status in first quarter	Status in second quarter	Sample Size	Weighted gross flow (thousands)	Gross flow (per cent)
Aged 15	Working age	206	202	0.5
Employed	Employed	24,342	26,561	69.6
Employed	Unemployed	332	413	1.1
Employed	Inactive	384	453	1.2
Unemployed	Employed	438	555	1.5
Unemployed	Unemployed	1,164	1,432	3.8
Unemployed	Inactive	312	386	1.0
Inactive	Employed	430	518	1.4
Inactive	Unemployed	511	632	1.7
Inactive	Inactive	6,416	6,878	18.0
Working age	Above working age	189	152	0.4
Total		34,724	38,182	100.0

Source: Labour Force Survey

Figure 1

Comparison of labour market stocks from cross-sectional and longitudinal datasets



Source: Labour Force Survey

2009 it was 91 per cent. Despite this, one of the strengths of the longitudinal datasets is their ability to look at some of the transitions between different states, as these can give some insights into the flows which contribute to the overall numbers in each state.

Time-series comparison

Figure 1 shows a comparison over time of the stock of employed, unemployed and inactive people of working age estimated from the LFS cross-sectional datasets and from the two-quarter longitudinal datasets. It can be seen that the estimates for employment and unemployment from both datasets are broadly in agreement. The wider difference between the measures of inactivity is due to the absence of those entering working age in the latter quarter, as this cohort is more likely to be inactive than those leaving working age. This is noticeably wider during the seasonal peaks.

The seasonal effects apparent in the LFS cross-sectional datasets equally apply to the longitudinal datasets. Typically, there is a significant shift of people from economic inactivity to activity during the third quarter of each year, partly due to those leaving full-time education, with the reverse happening in the first quarter of each year.

These seasonal effects can make measuring the individual gross flows from one quarter to the next difficult. Therefore, it is recommended that users present time series data using a four-quarter moving average. This has been adopted for the charts present in this article.

Gross flows

Figure 2 shows the estimated gross flows, that is the total inflow or outflow for working age employment, unemployment and inactivity from one calendar quarter to the next. The period covers April–June (Q2) 2009 and July–September (Q3) 2009. The stocks for each status represent the latter period and are the non-seasonally adjusted aggregates for the working age population, as published in the Labour Market statistical bulletin.

Comparing these gross flows to the published quarterly changes in the headline LFS aggregates reveal how

substantial the underlying movements hidden behind these values are.

Hazard rate

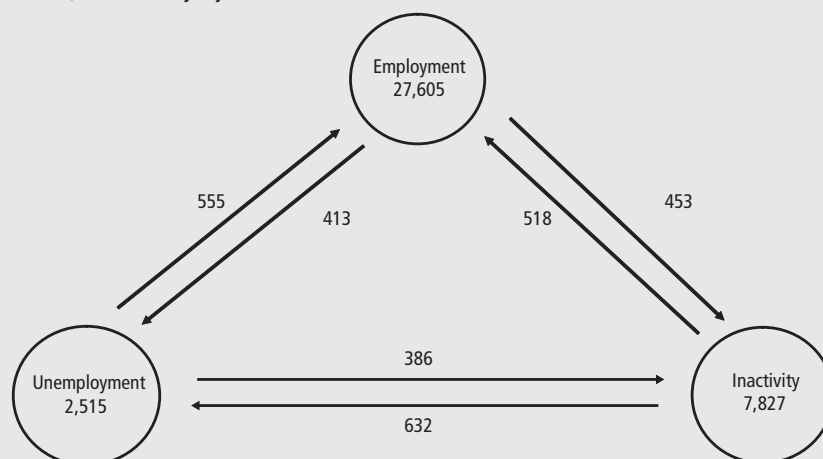
The hazard rate is a measure of the probability that an individual will change status over the quarter. This is calculated by taking the gross flow from the second quarter as a percentage of the total stock from the previous status in the first quarter.

Table 2 shows that between 2000 and 2007, on average, 30 per cent of those who were in unemployment in the first quarter had moved into employment by the next quarter. By 2009 it was 23.4 per cent.

Figure 2

Quarterly working age¹ population flows, Q2 2009 to Q3 2009²

United Kingdom
Thousands, not seasonally adjusted



Notes:

- 1 Men aged 16–64 and women aged 16–59.
- 2 The stocks included in the diagram are the published non-seasonally adjusted estimates: www.statistics.gov.uk/statbase/product.asp?vlnk=8292. These are the preferred source and differ from the stock estimates derived from the longitudinal dataset.

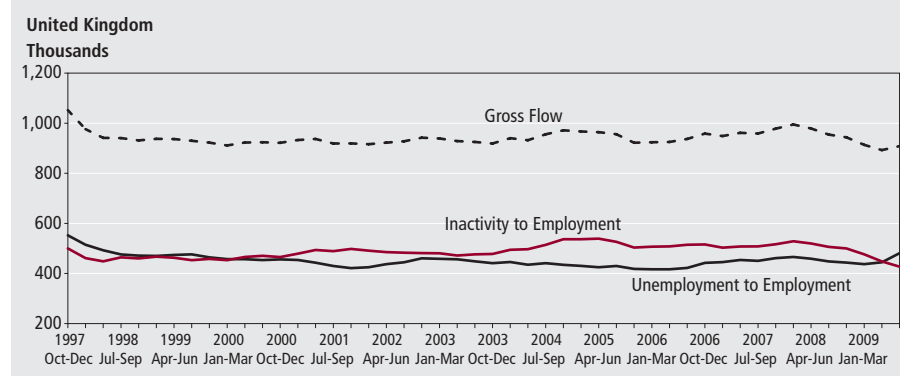
Source: Labour Force Survey

Table 2
Annual hazard rates, 1997 to 2009

United Kingdom	Per cent, Q3 each year								
	Remain in employment	Employment to Unemployment	Employment to Inactivity	Remain in unemployment	Unemployment to Employment	Unemployment to Inactivity	Remain in Inactivity	Inactivity to Employment	Inactivity to Unemployment
1997	96.5	1.5	1.8	57.0	26.3	16.5	85.2	7.5	6.0
1998	96.8	1.3	1.7	56.9	26.5	16.5	84.4	8.2	6.1
1999	96.9	1.3	1.6	55.7	27.9	16.3	85.1	7.8	5.7
2000	96.9	1.2	1.7	53.4	29.6	16.8	85.3	8.0	5.5
2001	96.7	1.3	1.8	53.3	28.6	18.0	86.0	7.6	5.4
2002	96.6	1.4	1.8	53.3	29.9	16.6	85.9	7.5	5.5
2003	96.7	1.3	1.8	53.1	28.6	18.2	85.7	7.7	5.5
2004	96.7	1.1	2.0	48.8	30.9	20.2	85.0	8.5	5.8
2005	97.0	1.1	1.6	47.9	32.3	19.7	85.4	7.8	5.9
2006	96.6	1.3	1.7	52.8	28.8	18.3	84.7	8.2	5.9
2007	96.8	1.1	1.8	52.9	28.5	18.4	84.9	8.1	6.3
2008	96.6	1.4	1.7	54.0	25.3	20.8	84.5	7.5	7.3
2009	96.7	1.5	1.7	60.3	23.4	16.3	85.3	6.4	7.8

Source: Labour Force Survey

Figure 3
Employment gross inflow, 1997 to 2009



Source: Labour Force Survey

similar level to the outflow to inactivity which has been broadly flat throughout the past 3 years.

Between 2002 and 2005 patterns of declining flows from unemployment to employment, and increasingly flows from inactivity to employment were developing. Although the likelihood of moving from unemployment to employment is higher than moving from inactivity to employment (see *hazard rates*), the stock of people who are inactive is much greater than the stock of those who are unemployed. Since 2007 the two lines have been converging, meaning that although the rates of flow are different, in reality there is only a relatively small difference in the numbers of people entering employment from both unemployment and inactivity.

Unemployment

Nearly one million people moved into unemployment between Q2 2009 and Q3 2009 (**Figure 5**). Between 2003 and 2008, inactivity was the main driver, growing steadily since 2004. This is an effect of an increased transition from a larger pool of inactive people.

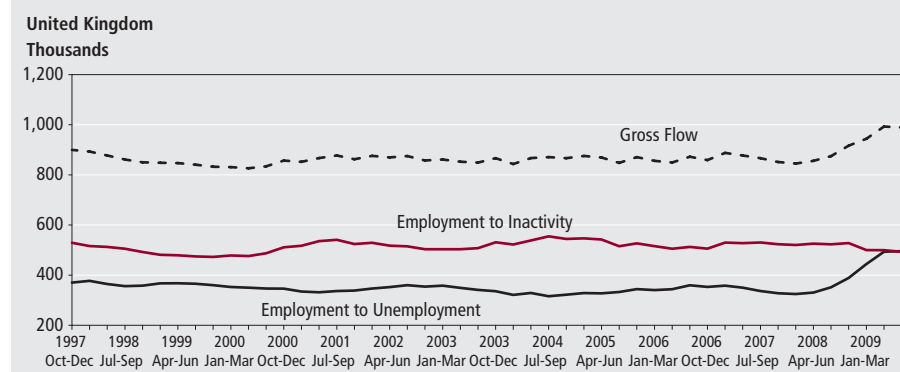
The flow from employment between 1997 and 2008 was consistently below 0.4 million and reached a low prior to the sharp increase in 2008.

Figure 6 shows an outflow from unemployment that has exceeded 0.8 million. This outflow is significantly higher than in the same period a year ago, and is mainly driven by the flow to employment. The flow to inactivity has been on an upward trend since 2006.

Inactivity

The gross inflow to inactivity was has remained over 0.8 million (**Figure 7**). This

Figure 4
Employment gross outflow, 1997 to 2009



Source: Labour Force Survey

The transitions need to be taken in context relative to the stocks for each series. For example, 1.5 per cent moved from employment to unemployment in Q3 2009 which corresponds to approximately 400,000 people. This number is similar in size to the 16.3 per cent of people moving from unemployment to inactivity.

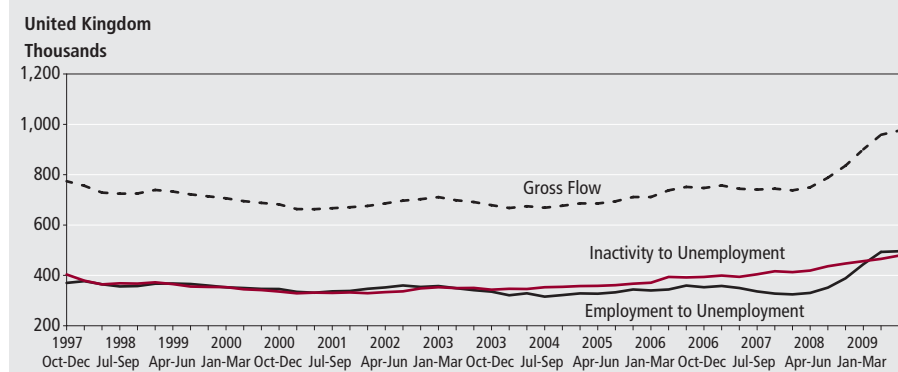
Employment

The gross inflow to employment (**Figure**

3) has been falling since the peak in Q1 2008. Gross inflows to employment from inactivity have been driving this primarily. The inflow from unemployment picked up sharply in the latest quarter, surpassing the inflow from inactivity for the first time since 1999.

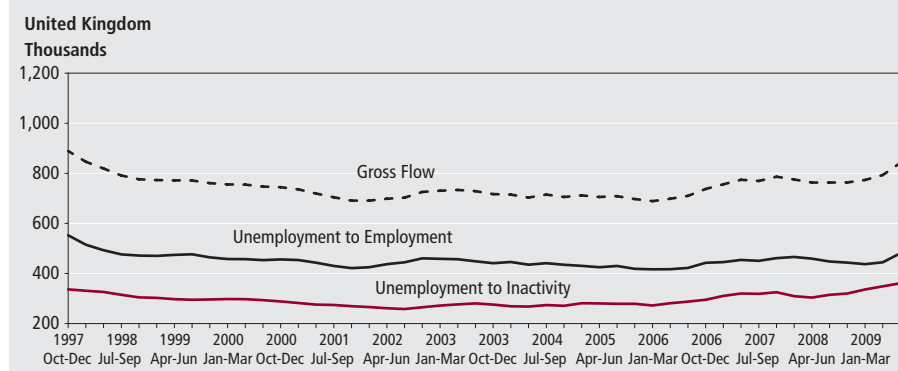
The gross outflows (**Figure 4**) to unemployment show a sharp increase from Q3 2008 that has levelled off in recent quarters. The series has reached a

Figure 5
Unemployment gross inflow, 1997 to 2009



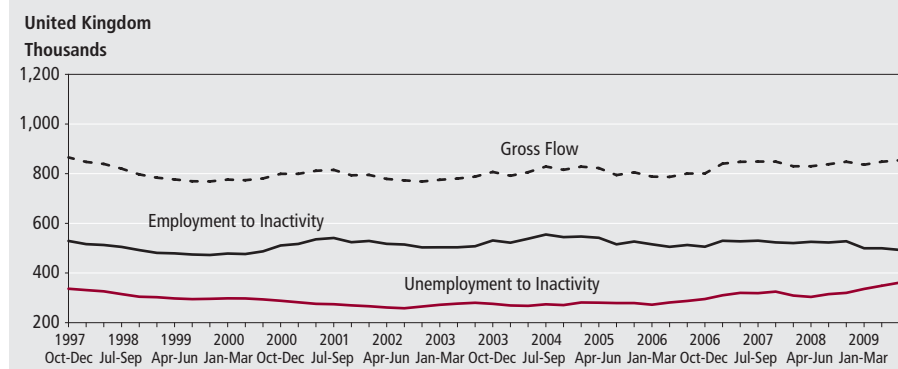
Source: Labour Force Survey

Figure 6
Unemployment gross outflow, 1997 to 2009



Source: Labour Force Survey

Figure 7
Inactivity gross inflow, 1997 to 2009



Source: Labour Force Survey

is broadly similar to the inflow for the same period a year ago; however the main driver has switched from employment to unemployment in the past year.

Gross outflows (**Figure 8**) from inactivity to employment have been lower than the same time a year ago. Outflows to unemployment are now driving the overall outflow, rather than the flow to employment, as in the past. Total outflows are lower than a year ago.

Students form the largest group moving out of inactivity and account for over half

of all those moving into employment. Students also contribute largely to the seasonal movement of the flow to unemployment. It is clear from comparing the two outflows that people transitioning into the labour market in the latest quarter are now more likely to be moving into unemployment.

Conclusion

Understanding the quarterly changes in the levels of employment, unemployment and economic inactivity is aided by an

analysis of changes in the labour market status of respondents to the LFS. For this reason, the two-quarter longitudinal datasets have been used. The sample is also more robust and less subject to sampling variation than the five-quarter counterparts. These datasets are weighted using the same population estimates as those used in the main quarterly LFS datasets, although the weighting methodology differs due to response bias. Consequently the estimates are broadly but not entirely consistent with the published aggregates. Also, the datasets are limited to working age people.

The aim of this article has been to give some background to how the longitudinal datasets are produced and to show some of their uses, looking at gross flows over time between the states of employment, unemployment and inactivity. The patterns shown here generally reflect the changes which have been seen in the recent cross-sectional figures produced from the LFS, in terms of an increase in unemployment and the decline in employment. In addition they give some insight into the size of the movements between categories, especially the continued increase in the transitions the economically inactive make into the labour market.

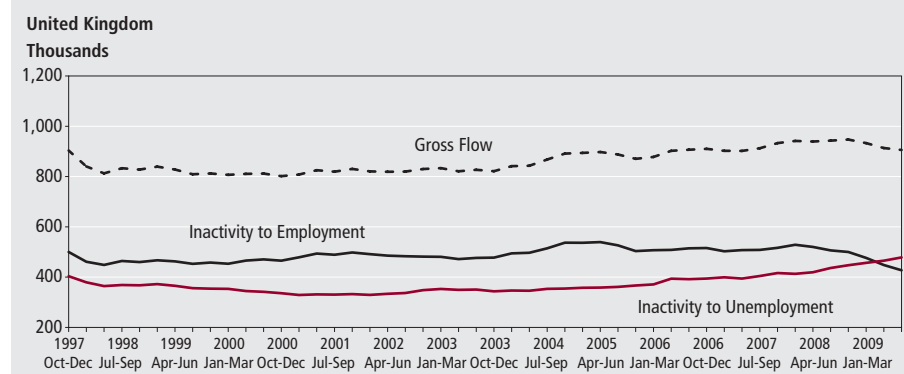
In response to user interest the quarterly results from the two-quarter longitudinal datasets are now included in Annex 4 of the *Labour Market Overview* (available at www.statistics.gov.uk/downloads/theme_labour/LMS_Q_andA.pdf). These are classed as experimental statistics, due to some methodological issues and as such, are not an accredited National Statistic. Further work by ONS will consider options to improve the method of producing the datasets, along with extending the coverage in response to the change in female state pension age (see Clegg, Leaker and Kent 2010). A further analytical article, which will utilise the dataset and look in more detail at the recession, will be produced later in the year.

Users considering independent analysis of the datasets need to consider the sample size and seasonality of the flow, especially when conducting micro-level analysis. It should be noted, however, that estimated changes over time in the gross flows should be largely free from any response bias.

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Figure 8
Inactivity gross outflow, 1997 to 2009



Source: Labour Force Survey

REFERENCES

- Brook K and Barham C (2006) 'Labour market gross flows data from the Labour Force Survey', *Labour Market Trends* July 2006. Available at www.statistics.gov.uk/articles/labour_market_trends/gross_flows.pdf
- Clegg R, Leaker D and Kent K (2010) 'Implications of the change in female state pension age for labour market statistics', *Economic and Labour Market Review* January 2010. Available at www.statistics.gov.uk/elmr/01_10/downloads/ELMR_Jan10_Kent.pdf

ARTICLE

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Regional economic indicators

with a focus on differences in sub-regional economic performances

SUMMARY

This quarter, the regional economic indicators article focuses on explaining the differences in sub-regional Gross Value Added (GVA) per head between 2002 and 2007. This time series analysis splits the differences into five explanatory factors: productivity (defined as GVA per hour worked), hours worked per job, employment rate, commuting rate and activity rate. The regular part of the article then gives an overview of the economic activity of UK regions in terms of their 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 the rest of this article.

Focus on differences in sub-regional economic performance

Regional economic indicators highlight the economic performance of the nine English regions and the three devolved administrations, collectively known as the NUTS 1 regions of the United Kingdom. This section of the article takes this analysis to a lower geographical level by examining performance within regions and comparing these with each other. It will evaluate the performance of the 37 NUTS 2 sub-regions and the 133 NUTS 3 areas within these regions in terms of their Gross Value Added (GVA) per head. Looking at the NUTS 3 level shows which areas and factors are contributing to the growth or decline of economic performance of the larger NUTS 2 sub-regions. The analysis is done by applying a methodology developed by the Organisation for Economic Co-operation and Development (OECD); (see Technical Note A). Using this methodology, workplace GVA per head can be split into four explanatory components:

- average labour productivity
- employment rate
- commuting rate
- activity rate

Average labour productivity is defined as either GVA per job or GVA per hour worked; employment rate is defined as workplace based employment as a proportion of workforce (a high

employment rate suggests relatively low unemployment); commuting rate is defined as the workplace based labour force as a proportion of residence based labour force; and activity rate is defined as the proportion of the population that is participating in the labour force.

This breakdown identifies key factors in the economy that explain regional differences in GVA per head from the UK average. Each component is influenced by regional factors that affect their contribution to the regional divergences from the UK average. These regional characteristics may be natural endowments (such as geographical location or natural resources that cannot be changed except in the long run) or untapped resources (such as skills or transport infrastructure). Using these definitions to identify reasons for differences in regional economic performance will highlight specific issues that should be addressed by policies in each region.

The May 2008 version of the Regional Economic Indicators article examined the four component breakdown at NUTS 2 and NUTS 3 level, where average labour productivity was defined as GVA per filled job, from 2001 to 2005. In this article average labour productivity (GVA per job) is further separated into two elements:

- GVA per hour worked
- hours worked per job

As a result, a five component breakdown of workplace GVA per head incorporates the

preferred productivity indicator of GVA per hour worked and the effect of 'hours worked per job'.

The underlying data comes from various sources. Residence-based employment and unemployment were retrieved from the Annual Population Survey (APS), while workplace-based employment data were taken from the Sub-regional Workforce Jobs series. The latter is compiled by combining several sources, including both household and business surveys. Work force jobs series are annually benchmarked to the Annual Business Inquiry (ABI). Sub-regional hours worked data were compiled by combining Labour Force Survey LFS), sub-regional workforce jobs and UK hours worked series. In order to ensure consistency, the data series have been constrained to their regional totals where necessary.

Explaining the differences in GVA per head from the UK average in NUTS 2 areas, 2002–2007

Figure 1 shows the five-component breakdown of GVA per head for all 37 NUTS 2 sub-regions from 2002 to 2007 (the top bars represent 2007 and the bottom bars represent 2002). Inner London is represented in a separate graph as its GVA per head exceeds the UK average by far more percentage points than other NUTS 2 sub-regions. The UK average GVA per head is represented by the vertical axis at zero. Those components that contribute negatively to the relative GVA per head of a sub-region are displayed to the left of the vertical axis while those factors that increase sub-regional economic performance are shown to its right. This analysis attempts to highlight the main trends in these components over the period, and the data have been smoothed using a five-period moving average (Technical Note B).

Figure 1 shows that the above-average increasing GVA per head of London as a whole was mainly driven by Inner London's economic performance between 2002 and 2007. This is largely explained by an increasing above average productivity (GVA per hour worked) performance and strong inward commuting rate. While productivity explains roughly a third of the area's high GVA per head performance compared with the UK average, the inward commuting rate explains half of its difference from the UK average over the period. In Outer London, however, higher than average productivity and

activity rates are partly offset by large outward commuting rates, leaving its relative standing in terms of GVA per head positive and stable throughout the period considered.

In the South East, higher than average GVA per head is mainly driven by the Berkshire, Buckinghamshire and Oxfordshire NUTS 2 sub-region; all five components had a positive impact on the economic performance between 2002 and 2007. In contrast, four of the five factors (excluding activity rate) impacted negatively on the economic performance of Kent, producing a below average GVA per head. In Surrey, East and West Sussex the negative impact of the commuting rate and hours per job components on GVA per head are more than offset by high productivity, activity and employment rates, resulting in above average GVA per head. In Hampshire and Isle of Wight higher than average employment and activity rates offset the negative impact of outward commuting and productivity over the period. This resulted in a GVA per head equal to the national average in 2006 and 2007 (a slight improvement from 2 percentage points below national average in the previous three years).

Apart from London and the South East, Scotland, South West, East of England and North West were the only regions which contained high performing NUTS 2 sub-regions in 2007. Within these high-performing sub-regions, above average GVA per head in Gloucestershire, Wiltshire and North Somerset, Bedfordshire and Hertfordshire, and Cheshire were mainly driven by high productivity (GVA per hour worked). However, in North Eastern and Eastern Scotland it was mainly due to the positive impact of high activity rates. Inward commuting also contributed significantly to the above average GVA per head in North Eastern Scotland.

Most NUTS 2 regions at the lower end of the GVA per head performance scale display a combination of low productivity and high outward commuting. This explains their relatively low GVA per head. Additionally, below average activity rates contributed significantly to the low performance of Northern Ireland, West Wales and the Valleys, Cornwall and Isles of Scilly, Merseyside and Tees Valley and Durham.

The combination of outward commuting and low productivity also impacts negatively on the GVA per head divergences in sub-regions where the

GVA per head is below the UK average but ranked in the middle or closer to the UK average. The negative impact of commuting on GVA per head explains a larger proportion of the divergence in regions such as Essex and Derbyshire and Nottinghamshire. In regions such as West Yorkshire and Herefordshire, Worcestershire and Warwickshire and East Anglia below average GVA per head is mainly driven by lower productivity performance.

Activity rate had a mixed impact on GVA per head divergences. In Leicestershire, Rutland and Northamptonshire for example, a higher than average activity rate almost offset the negative impact of a lower than average productivity and outward commuting rate on GVA per head over the period. In West Midlands, however, a lower than average activity rate worsened its GVA per head performance over the period. Additionally, from 2002 onwards, productivity had an increasingly negative contribution to the GVA per head in the West Midlands.

Explaining the differences in GVA per head from the UK average in selected NUTS 3 areas, 2002–2007

Specific NUTS 2 regions have now been selected to demonstrate that variations in GVA per head within NUTS 2 areas can be as large – if not greater – than the variations between them. **Figure 2** displays the economic performance of three NUTS 2 areas with a positive divergence from the UK average GVA per head from 2002 to 2007 (the top bars represent 2007 and the bottom bars represent 2002).

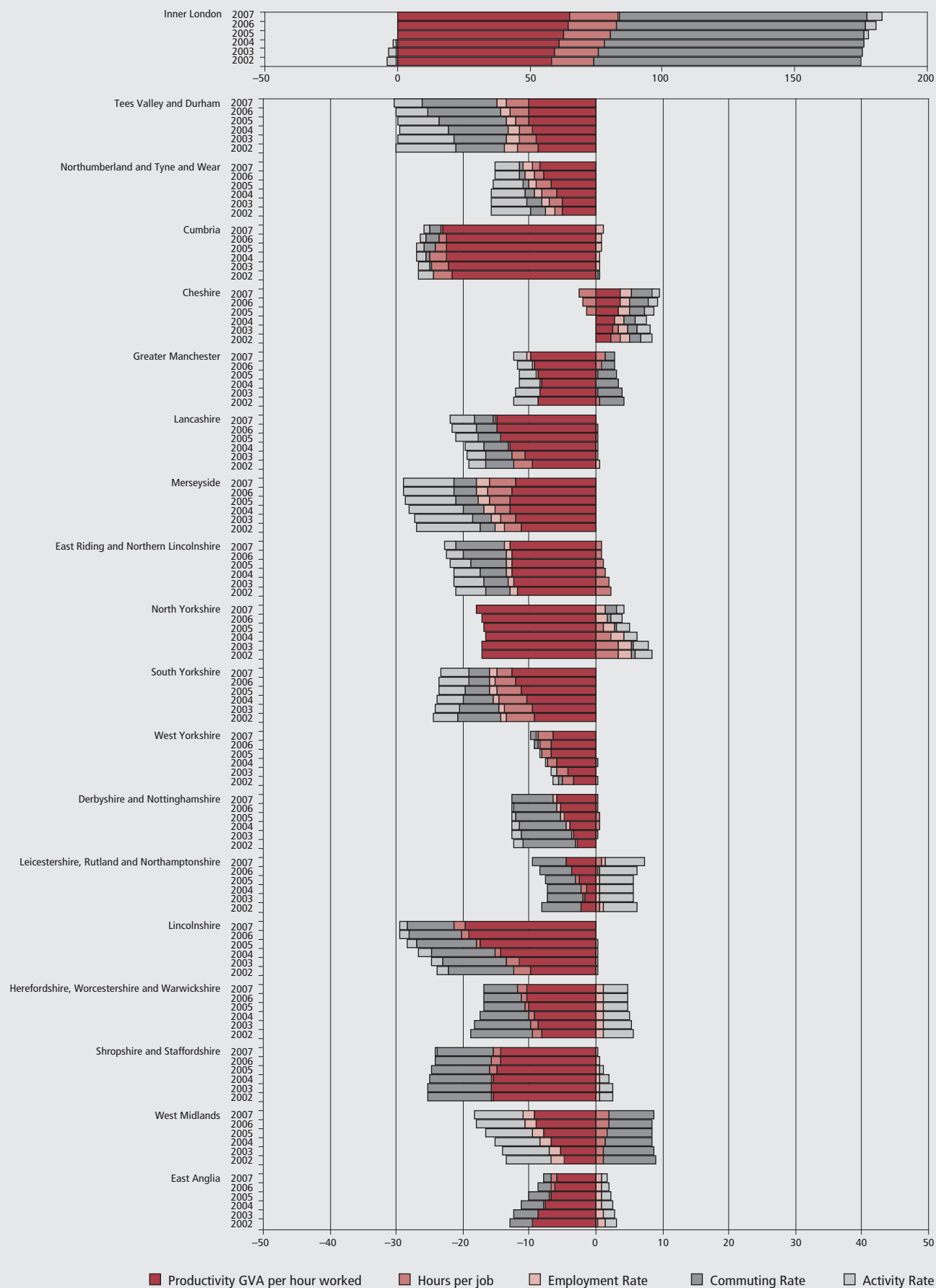
Figure 2 displays the economic performance of the NUTS 2 sub-region of Surrey, East and West Sussex, and the contrasts between the four NUTS 3 areas within this sub-region. The strong negative influence of East Sussex CC on the GVA per head of this sub-region is clearly outweighed by the positive influence of the other three NUTS 3 areas, in particular, by higher than national average productivity in Surrey and West Sussex and high activity rates in Brighton and Hove and Surrey. While productivity and activity rates worsened in West Sussex and Brighton and Hove areas over the period, inward commuting made a positive contribution to the GVA per head in Brighton and Hove since 2004.

The above average GVA per head performance of Gloucestershire, Wiltshire and North Somerset NUTS 2 region

Figure 1

Explaining the differences in GVA per head from the UK average in all NUTS 2 regions, 2002–2007

Percentage difference from UK average

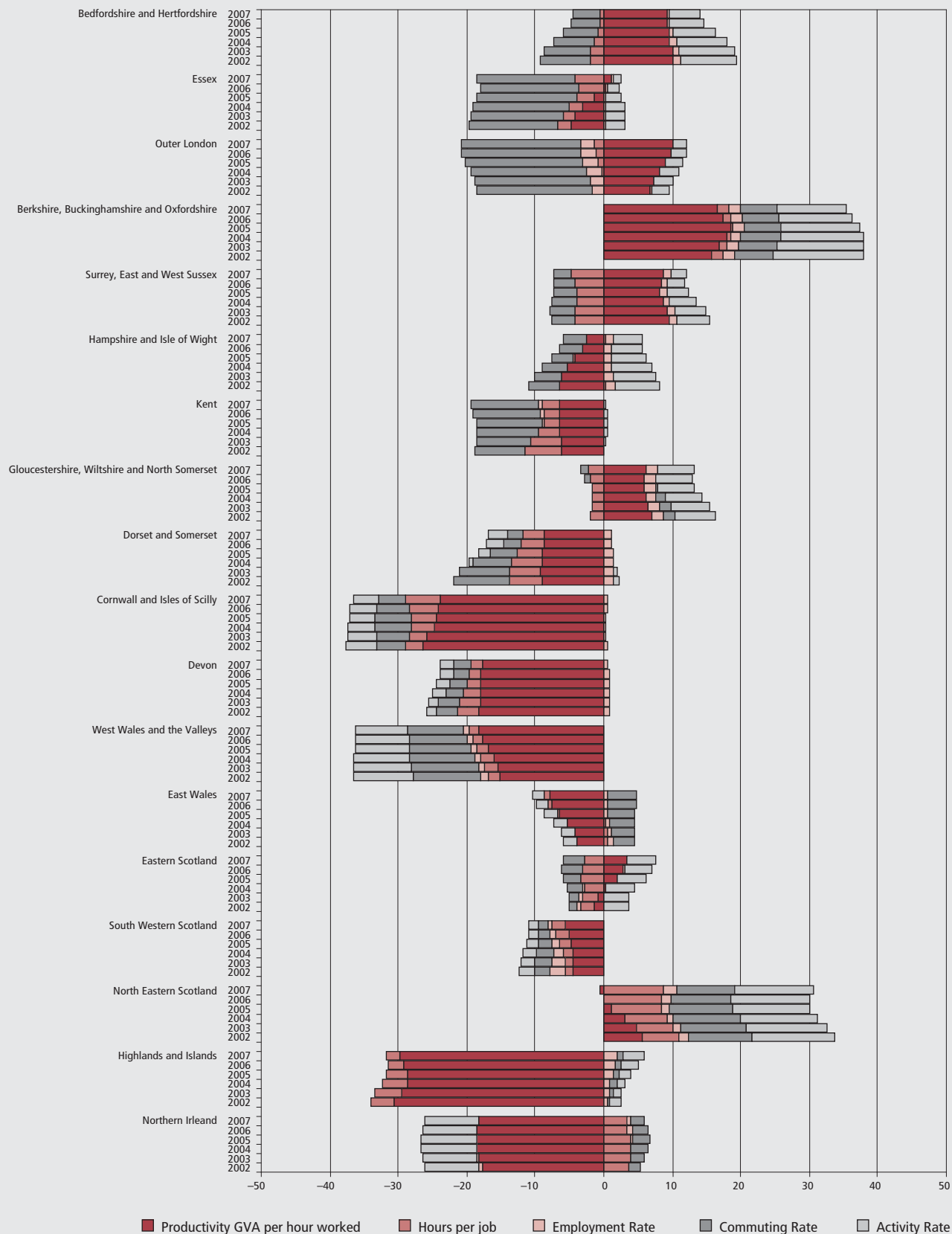


Source: Office for National Statistics

Figure 1 continued

Explaining the differences in GVA per head from the UK average in all NUTS 2 regions, 2002–2007

Percentage difference from UK average

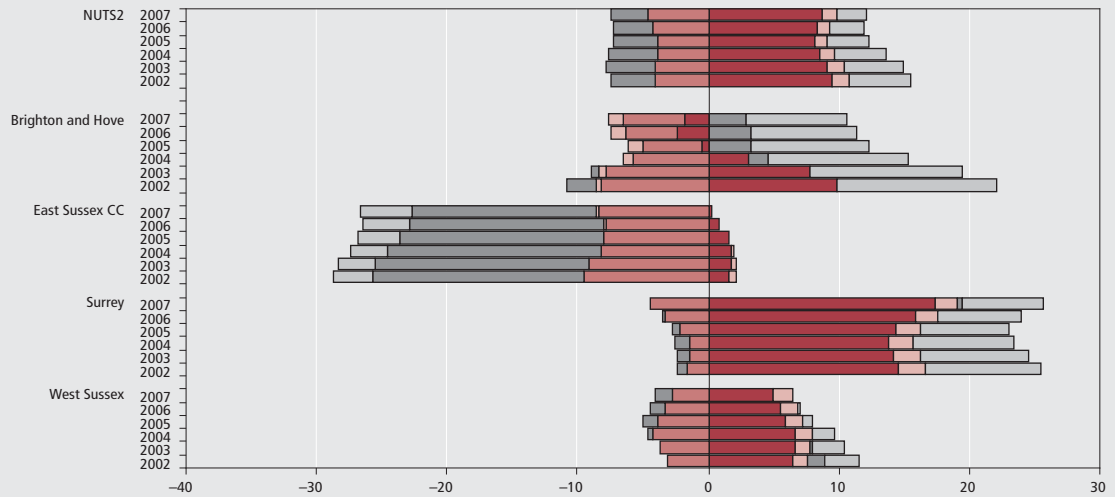
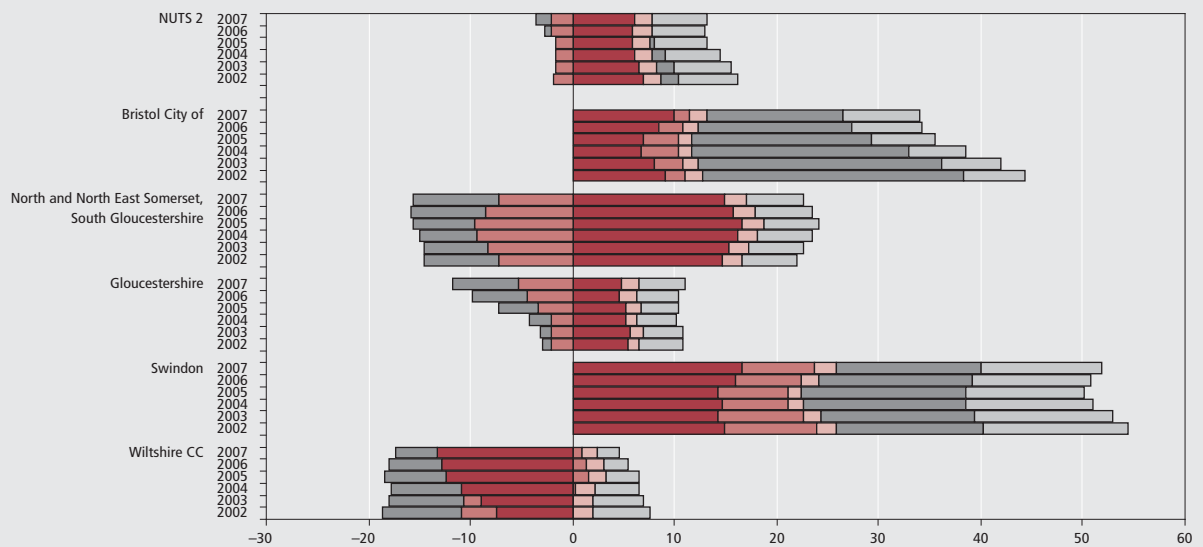
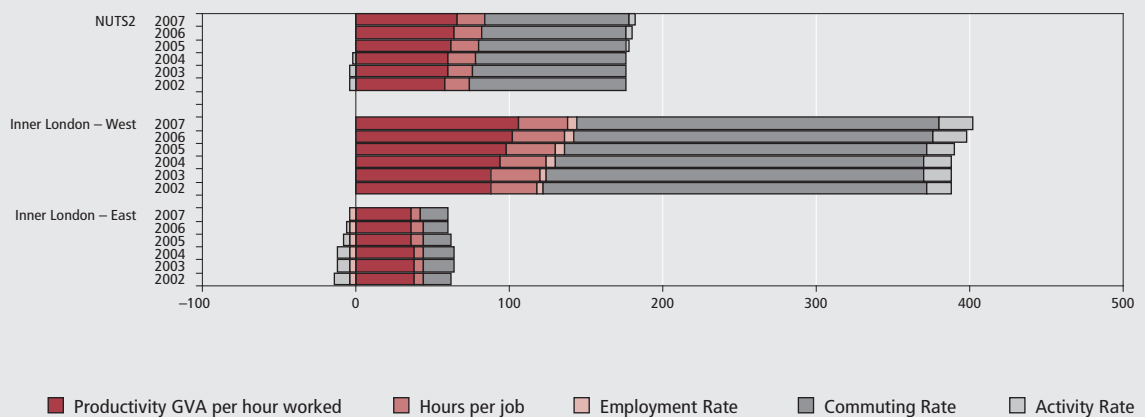


Source: Office for National Statistics

Figure 2

Explaining the differences in GVA per head from the UK average within selected NUTS 2 sub-regions, 2002–2007

Percentage difference from UK average

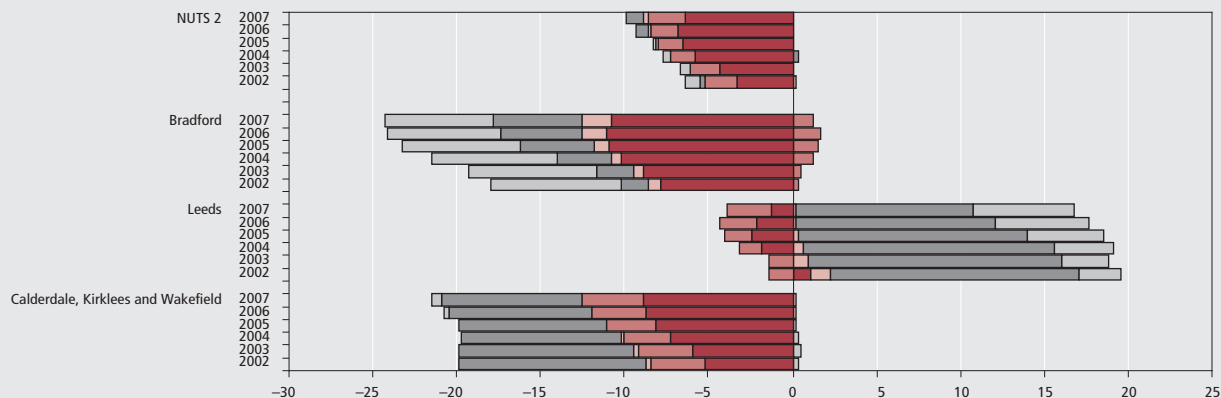
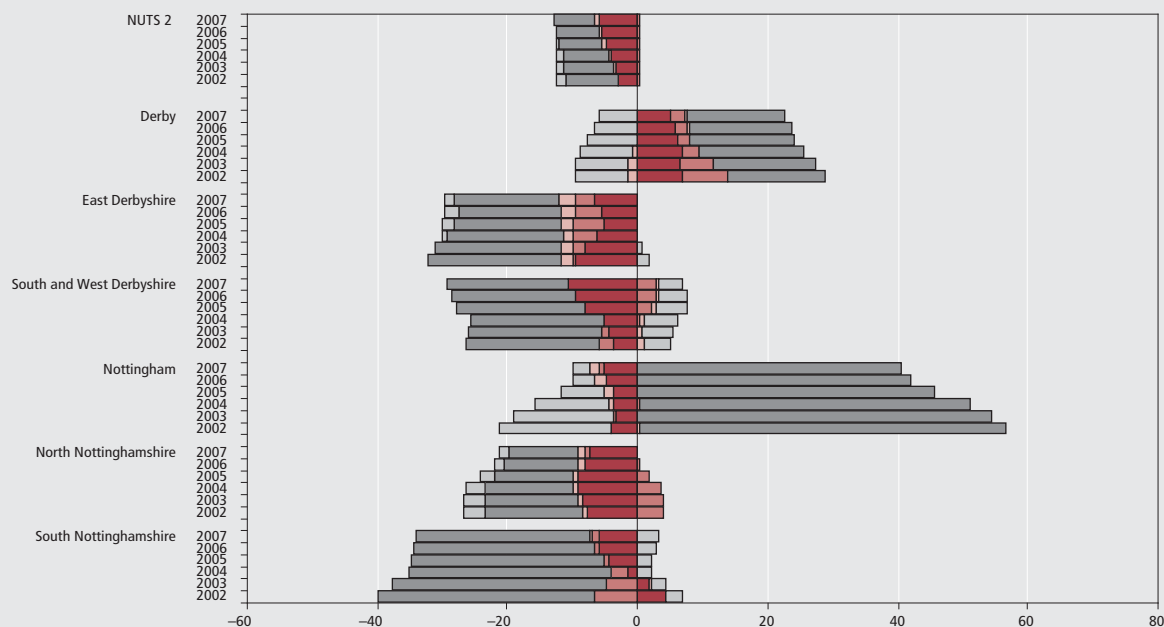
(a) Surrey, East and West Sussex**(b) Gloucestershire, Wiltshire and North Somerset****(c) Inner London**

Source: Office for National Statistics

Figure 3

Explaining the differences in GVA per head from the UK average within selected NUTS 2 sub-regions, 2002–2007

Percentage difference from UK average

(a) West Yorkshire**(b) Derbyshire and Nottinghamshire****(c) West Midlands**

Source: Office for National Statistics

(Figure 2 b) is largely driven by the economic performance of Swindon and City of Bristol where all the components are above national average over the 2002 and 2007 period. Despite increasing outward commuting from Gloucestershire and North and North East Somerset, South Gloucestershire, their productivity, employment and activity rates remained above the national average throughout the period considered. Activity and employment rates were above average in Wiltshire, however, lower than average productivity, and outward commuting causes this sub-region to have a lower than average GVA per head.

Inner London, which has by far the highest GVA per head in the UK, also shows a divide at the NUTS 3 level between Inner London East and Inner London West (Figure 2 c). Inner London West, which includes the City of London, contributed most to the high performance of Inner London throughout 2002 and 2007. The very high GVA per head in Inner London West can be explained largely by the area's strong inward commuting effect and higher productivity. Since 2002, inward commuting has been decreasing while productivity has been increasing continuously. GVA per head in Inner London East has also been above the UK average over this period but at a much lower level compared to Inner London West. Its inward commuting is relatively low, and its above average GVA is largely explained by its productivity rather than inward commuting.

Figure 3 displays the economic performance of three NUTS 2 areas with a negative divergence from the UK average GVA per head from 2002 to 2007 (the top bars represent 2007 and the bottom bars represent 2002).

Figure 3 a shows the decomposed GVA per head of West Yorkshire and its three NUTS 3 areas. The relatively low GVA per head of this region is driven by Bradford and Calderdale, Kirklees and Wakefield. While the GVA per head continued to decrease from 2002 to 2007 due to increasing outward commuting and declining productivity and employment rates in the former, the relative ranking of the latter has not changed significantly despite its worsening productivity because outward commuting has declined. From 2004, productivity was below the national average in Leeds. However, significant inward commuting and above average activity rates kept the GVA per head in Leeds above the UK average.

Figure 3 b shows the NUTS 2 region of Derbyshire and Nottinghamshire and its six NUTS 3 areas. All sub-regions except Derby and Nottingham show significant outward commuting, however, commuting into Nottingham has been declining over the period. Activity rates in Nottingham meanwhile have been negative but improving, reducing their negative impact on GVA per head over the period. Productivity in all the sub-regions except Derby was relatively low and in a number of cases worsened through the time considered.

In West Midlands, significant inward commuting into Birmingham and Solihull impacted positively on the region's GVA per head (Figure 3 c). Higher than average (but declining) productivity in Solihull, however, has been offset by lower than average productivity in Birmingham and Coventry. This resulted in the West Midlands NUTS 2 region having a below average productivity between 2002 and 2007. The slightly declining GVA per head ranking of the NUTS 2 region was mainly due to a decline in the GVA per head in Solihull due to a combination of worsening productivity, inward commuting and activity rates between 2002 and 2007.

As in previous articles, the analysis in this section has shown the importance of identifying differences in economic performance at a sub-regional level. By splitting GVA per head into five explanatory factors – productivity (GVA per hour worked), hours per job, employment rate, commuting rate and activity rate – this analysis has examined the economic performance of NUTS 2 regions and explained the roles of specific factors influencing economic performance. It has shown the performance of NUTS 3 areas within selected NUTS 2 regions. The results have shown that larger geographical areas can hide considerable differences at lower scales due to specific characteristics of the respective areas.

Regional overview

Key figures on a regional basis indicate that:

- in 2008 London was the region with the highest productivity, in terms of GVA per hour worked, at 33 percentage points above the UK average and diverged further from it while Northern Ireland had the lowest productivity, at 19 percentage points below the UK average.
- South East and East of England

were the only other regions with a productivity performance above the UK average (4 and 0.7 percentage points respectively) in 2008.

- the total value of goods exports decreased in all the regions except in Scotland (up by 3 per cent), but there were significant differences among regions. West Midlands had the largest percentage decline in the value of goods exports (down by 22 per cent). The smallest decline occurred in the North West (down by 0.4 per cent).
- the East of England had the highest employment rate in the third quarter of 2009, at 77.2 per cent; Northern Ireland had the lowest rate, at 66.1 per cent, compared with the UK employment rate of 72.5 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. GDHI, therefore, is one of the determinants of the welfare of the people in the region.

Regional performance

GVA is a good measure of the economic output of a region. In December 2009, ONS published GVA estimates for 2008 and revised estimates for previous years. **Table 1** shows the regional economic performance in terms of workplace-based GVA and GVA per head and their respective average annual growth over the period 1998 to 2008. 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 (£266.8 billion) and GVA per head (£35,000) in 2008, followed by the South East (£182.1 billion and £21,700, respectively). London's GVA per head was 71 per cent above the average for the UK, while that of South East was 6 per cent above the average. The North West generated the third highest GVA (£119 billion), but was eighth in terms of its GVA per head (£17,300). Northern Ireland had

the lowest GVA in 2008, while Wales had lowest GVA per head (26 per cent below the UK average).

In terms of average annual percentage growth of nominal GVA between 1998 and 2008, London, East of England, South West, South East and Northern Ireland had the highest GVA growth. Average annual percentage growth of GVA in these regions was equal to or above the UK growth. The lowest growth occurred in West Midlands and North West. Average annual percentage growth of GVA per head between 1998 and 2008 was higher than the UK average in London, Scotland, South East, South West and Northern Ireland, while West Midlands and Yorkshire and The Humber grew slowest over the same period.

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.

In February 2010, productivity estimates for 2008 and revised estimates for previous years are being 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 4 shows that in 2008 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.

Figure 5 shows the regional GVA per hour worked productivity index on a time series basis from 2000 to 2008. In 2008, 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 below the UK average in 2000 to above average in 2008. London continued to improve its relative performance, therefore diverging further from the UK average. Relative productivity in the South East weakened

Table 1
Workplace-based gross value added and gross value added per head at current basic prices: by NUTS1 region

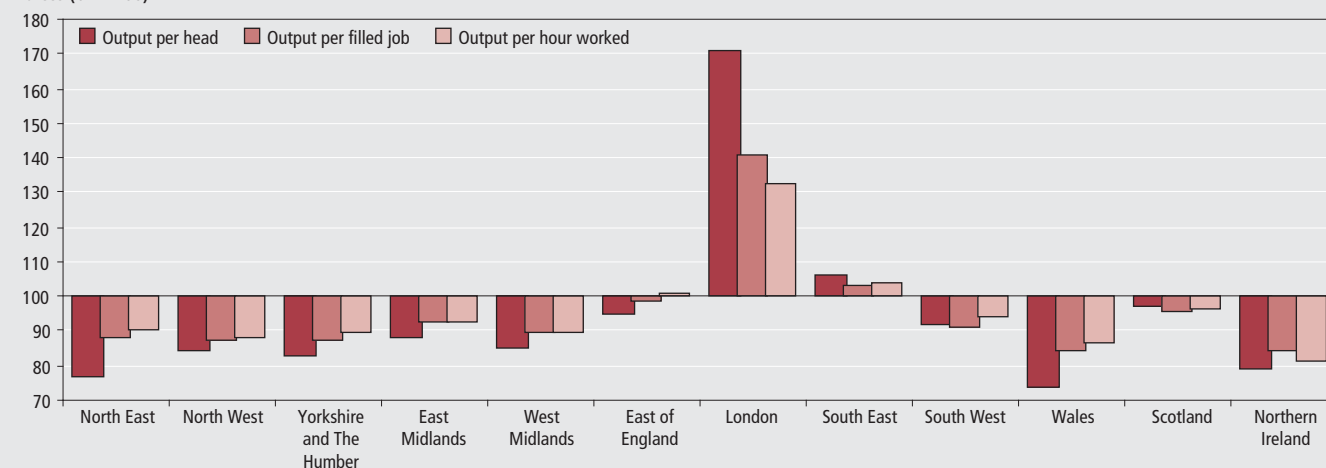
	UK ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
GVA (£ million)													
1998	769,500	26,600	78,500	58,000	49,900	63,200	66,700	146,800	109,200	58,900	29,700	64,600	17,400
2008 ²	1,259,600	40,700	119,000	88,500	80,100	94,700	111,700	266,800	182,100	98,500	45,400	103,400	28,700
Average annual percentage growth 1998–2008 ²	5.1	4.3	4.2	4.3	4.8	4.1	5.3	6.2	5.2	5.3	4.3	4.8	5.1
GVA per head (£)													
1998	13,200	10,400	11,600	11,700	12,100	12,000	12,600	20,800	13,800	12,100	10,200	12,700	10,400
2008 ²	20,500	15,800	17,300	17,000	18,100	17,500	19,500	35,000	21,700	18,900	15,200	20,000	16,200
Average annual percentage growth 1998–2008 ²	4.5	4.3	4.1	3.8	4.1	3.8	4.5	5.3	4.6	4.6	4.1	4.6	4.5

Notes:

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

Source: Regional Accounts, Office for National Statistics

Figure 4

Comparison of regional economic indicators: by NUTS1 region, 2008¹Indices (UK²=100)

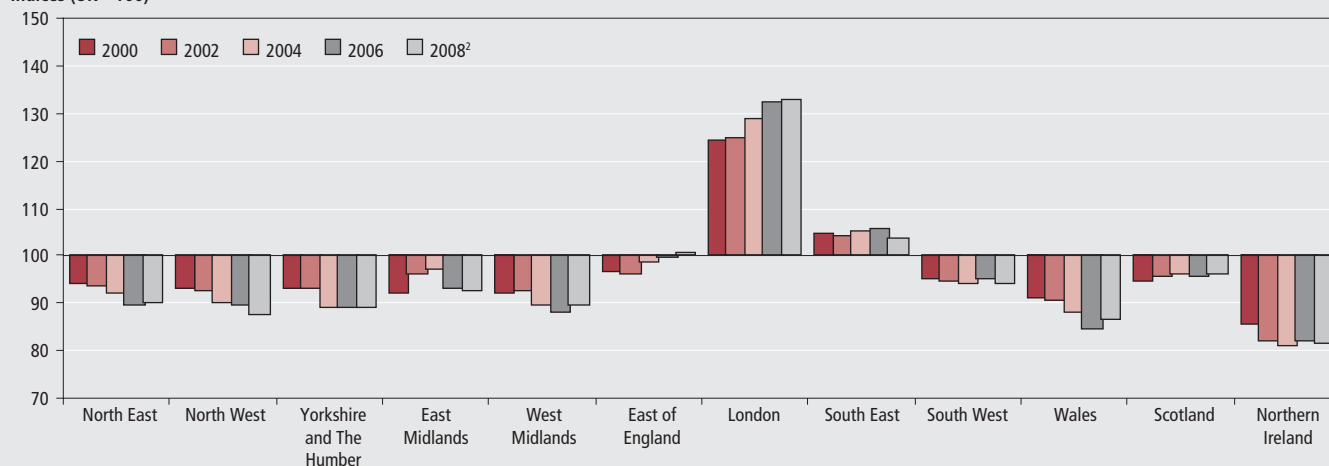
Notes:

- 1 Provisional.
- 2 UK less Extra-regio statistical discrepancy.

Source: Office for National Statistics

Figure 5

GVA per hour worked: by NUTS1 region

Indices (UK¹=100)

Notes:

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

Source: Office for National Statistics

slightly in 2008, but it remained above the UK average over the period. Northern Ireland and Wales had the lowest relative productivity compared to the UK average in 2008. Relative productivity in most regions diverged from the UK average between 2000 and 2008. The strongest divergence below the UK average productivity over this period was experienced in the North West, Wales and Northern Ireland. This indicates 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 give an indication of the welfare of residents living in the region.

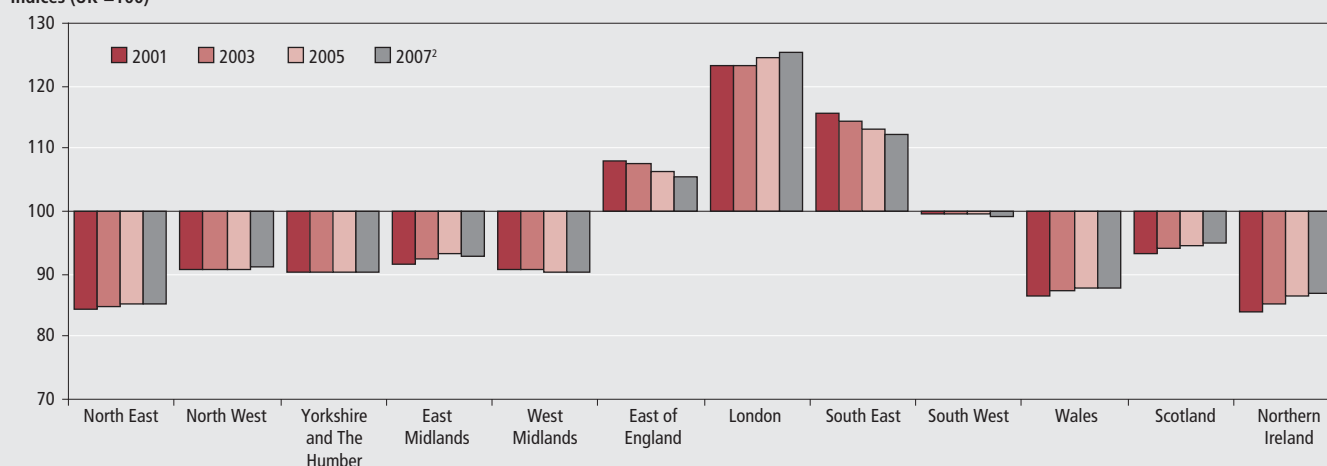
Gross disposable household income (GDHI) represents the amount of money available to households after taxes, National Insurance and pension contributions, property costs and other interest payments have been deducted. The estimates of GDHI, however, are at current basic prices and so do not take inflation 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 analyses. **Figure 6** 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

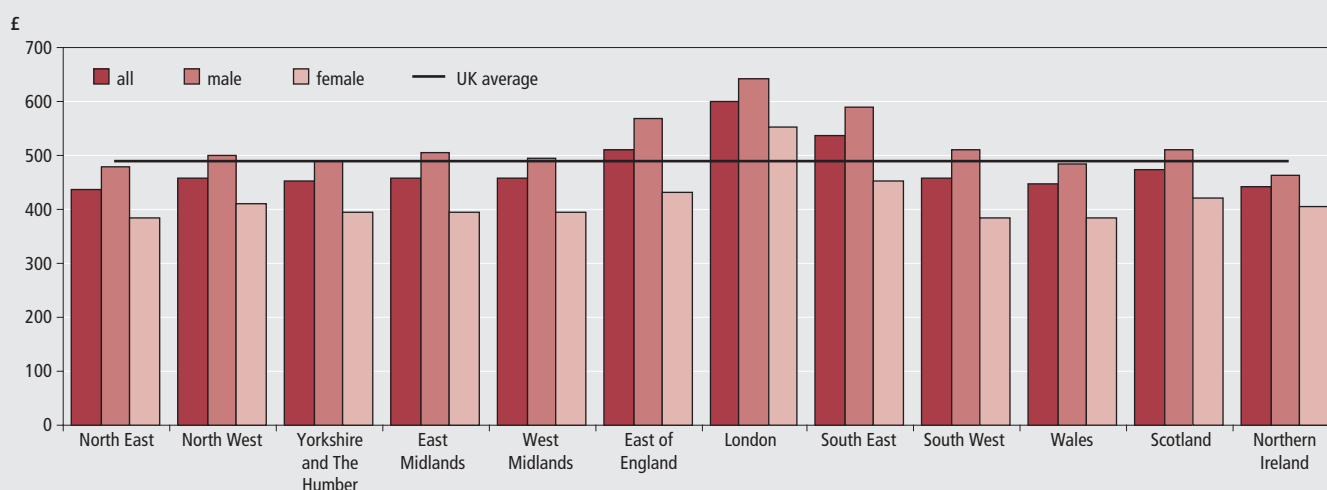
Figure 6

Headline gross disposable household income per head: by NUTS1 regionIndices (UK¹=100)**Notes:**

- 1 UK less Extra-regio.
2 Provisional.

Source: Office for National Statistics

Figure 7

Gross median weekly pay of all full-time employees:¹ by NUTS1 region, April 2009**Note:**

- 1 Residents of the respective region.

Source: Annual Survey of Hours and Earnings, Office for National Statistics

national average as they 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 indicates greater parity across regions in terms of household income.

Gross median weekly earnings represent another indicator of regional welfare.

Figure 7 shows the gross median weekly pay for all full-time employees, split into female and male full-time employees, living in each region in April 2009.

As in previous years, London was the region with the highest gross median weekly pay, at £598.60, followed by the

South East, at £536.60 and the East of England, at £509.40. These were the only regions above the UK average of £488.70. North East (£438.80), Northern Ireland (£440.80), and Wales (£449.90) recorded the lowest earnings in April 2009.

Females across the UK regions received lower pay than males. In Northern Ireland, the discrepancy was smallest, while it was largest in the South East and East of England. In terms of annual average percentage growth over the four years to 2009, pay for females outperformed that for males except in the South West. The highest annual average growth rate for female pay was observed in the North East while Scotland had the highest annual average growth rate for male pay between 2005 and 2009.

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 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.

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

- applied 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 8 presents statistics on Business Enterprise Research and Development (BERD), which are consistent with internationally agreed standards. Figures for 2008 published on 11 December 2009 show business expenditure on R&D as a percentage of workplace-based GVA in 2000, 2002, 2004, 2006 and 2008. This is a measure commonly used in regional comparisons as it takes account of the size of regional economies. The figure shows that, since 2000, the East of England has been the region with by far the highest percentage of R&D expenditure in terms of GVA, with 3.7 per cent in 2008. The North West and the South East regions had the

second highest percentage (1.9 per cent) which has, however, been declining in the South East since 2000. These three regions together also accounted for 62 per cent of the total expenditure on R&D in 2008.

London had the lowest R&D expenditure as a share of its regional GVA in 2008 (0.4 per cent). Yorkshire and the Humber, Wales and Scotland had the second lowest shares in the UK in 2008, at 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 activities.

Approximately three quarters of the R&D expenditure in the UK was made in the manufacturing sector in 2008. **Figure 9** shows that in all regions except London, Northern Ireland and East of England the share of the R&D expenditure on manufacturing was over 75 per cent of their respective expenditure. The figure also shows that East of England accounted for 26 per cent of the total R&D expenditure in the UK in 2008 and had the highest level of R&D expenditure on both manufacturing and services. This may suggest that some London R&D occurs in the surrounding regions such as Cambridge technology start-ups.

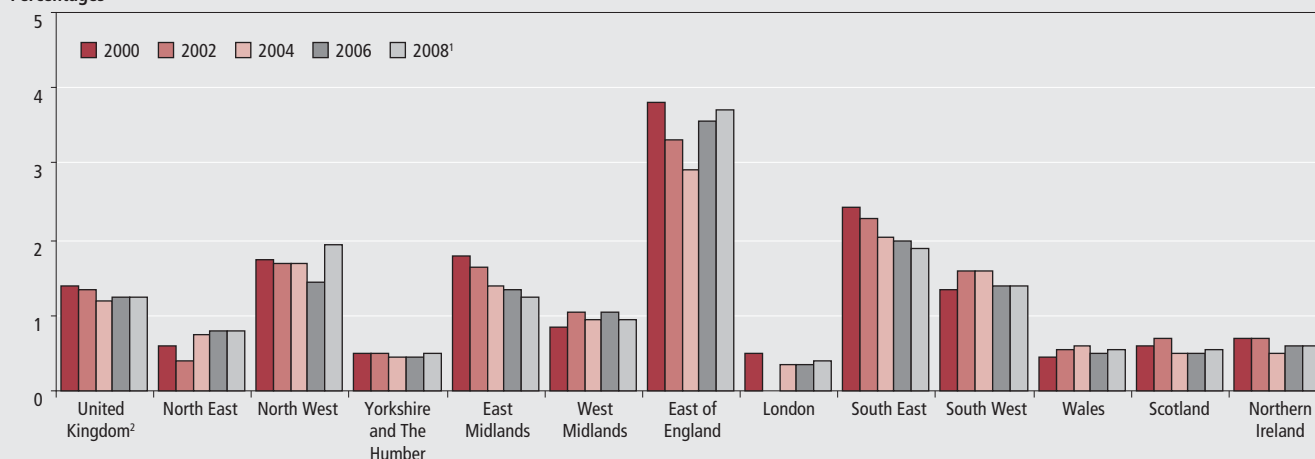
Enterprise

Enterprise is another driver of productivity. It is defined as the seizing

Figure 8

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

Percentages



Notes:

1 Provisional.

2 UK less Extra-regio and statistical discrepancy.

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

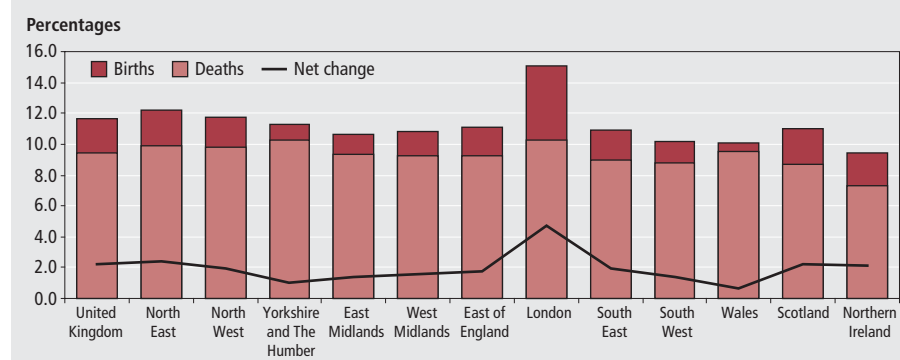
Figure 9

Business expenditure on R&D by NUTS1 region: broad industry groups, 2008

Note: Source: Business Enterprise Research & Development, Office for National Statistics

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.

Figure 10

Enterprise births, deaths¹ and net change as a percentage of enterprise stock: by NUTS1 region, 2008

Note: Source: Business Demography, Office for National Statistics

1 Provisional.

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. 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.

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 10 shows the number of births and deaths of enterprises as a proportion of the active enterprise stock in 2008. The difference between the two represents the net change, which is calculated as a proportion of total stock. In 2008, across all regions, the net changes were positive due to higher proportions of enterprises joining the stock than leaving it. These proportions were largest in London (4.7 per cent), followed by the North East (2.4 per cent). The lowest rate of net change was in Wales (0.6 per cent).

These rates were mainly driven by small enterprises with fewer than 5 employees which is approximately 80 per cent of the total enterprise stock

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 2003 to 2005.

Figure 11 shows the proportion of

enterprises born in 2003, 2004 and 2005 that survived for at least three years each. It shows that, overall in the UK, survival rates increased from 63.6 per cent of enterprises born in 2003 to 65.3 per cent of those born in 2004 and went back down slightly to 64.7 per cent of those born in 2005.

Patterns were similar across regions. In most regions enterprises born in 2004 had the highest three year survival rates compared to 2003 and 2005. Northern Ireland had the highest three year survival rates which were above the UK average for the enterprises born in all three years while London stands out as the region with the lowest rates. Figure 11 has shown that London had the highest percentage of births and deaths of enterprises and 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

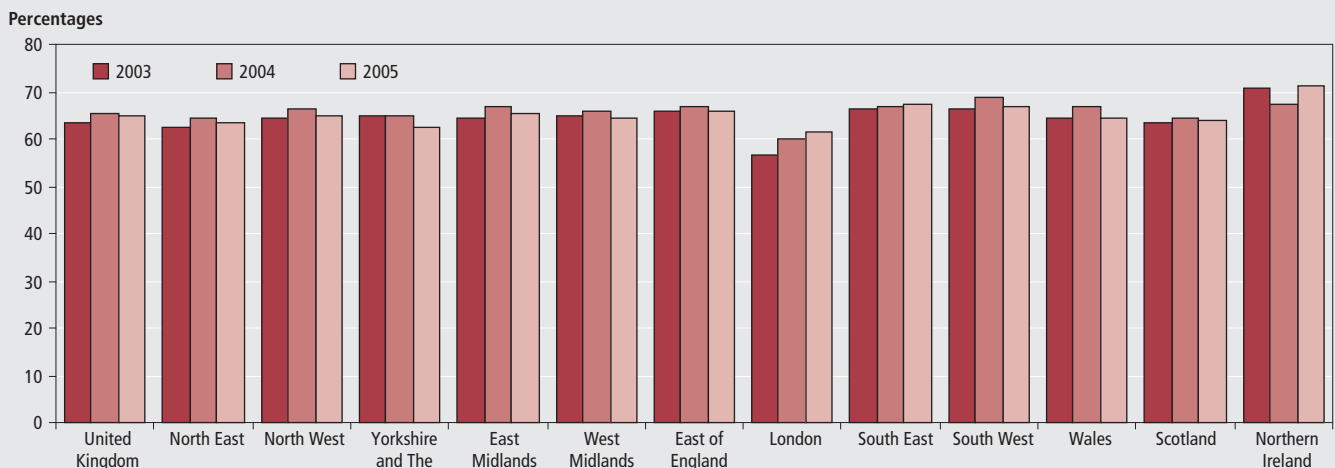
Vigorous competition enhances productivity by creating incentives to innovate and ensure that resources are allocated to the most efficient firms. It also forces existing firms to organise work more effectively through imitations of organisational structures and technology. One indicator of competition 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 2 presents the latest quarterly estimates up to September quarter 2009. The total value of UK goods exports to all destinations decreased by approximately 9.0 per cent between September 2008 and September 2009. The total value of goods exports also decreased in all the regions except in Scotland, but there were significant differences among regions. West Midlands had the largest percentage decline in the value of goods exports

Figure 11

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



Source: Business Demography, Office for National Statistics

Table 2

UK regional trade in goods – statistical value of exports:¹ by NUTS1 region

	£ million												
	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 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 ²	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 ²	37,251	1,629	3,365	1,885	2,119	2,506	3,595	2,438	5,354	1,937	1,631	1,492	971
2008 Q3 ²	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 September 2008	140,925	6,439	12,684	7,268	8,386	9,362	13,327	9,744	20,278	7,185	6,093	6,048	3,579
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	31,098	1,334	3,093	1,615	1,851	1,791	2,822	2,435	4,908	1,666	1,188	1,328	787
2009 Q2 ²	29,295	1,310	2,959	1,462	1,782	1,697	2,894	2,391	4,364	1,566	1,178	1,224	759
2009 Q3 ²	29,837	1,353	2,891	1,479	1,673	1,622	2,920	2,704	4,524	1,416	1,158	1,314	711
Total to September 2009	122,907	5,439	11,802	6,382	7,211	7,104	11,531	9,907	18,953	6,209	4,853	5,385	3,097
Non-EU exports													
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 ²	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 ²	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
2008 Q3 ²	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
Total to September 2008	105,073	5,118	10,712	6,822	7,381	7,699	8,943	14,026	18,183	4,758	4,167	7,896	2,394
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	22,910	977	2,766	1,260	1,958	1,209	1,893	2,711	4,090	1,149	1,074	1,978	510
2009 Q2 ²	24,811	881	2,540	1,263	1,995	1,504	2,001	2,933	4,722	1,164	1,241	2,336	606
2009 Q3 ²	24,993	1,014	3,383	1,365	1,751	1,588	1,955	2,883	4,654	1,078	932	2,502	454
Total to September 2009	100,894	3,984	11,495	5,410	7,792	6,201	8,101	12,276	18,896	4,698	4,545	9,040	2,376
Total Exports													
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
2008 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
2008 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
2008 Q3 ²	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
Total to September 2008	245,998	11,557	23,396	14,090	15,768	17,060	22,271	23,770	38,460	11,944	10,261	13,944	5,974
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	54,007	2,311	5,859	2,874	3,809	3,001	4,715	5,146	8,998	2,815	2,262	3,305	1,298
2009 Q2 ²	54,106	2,191	5,498	2,725	3,777	3,201	4,895	5,324	9,086	2,730	2,419	3,561	1,364
2009 Q3 ²	54,829	2,366	6,274	2,844	3,423	3,210	4,875	5,588	9,178	2,494	2,091	3,815	1,166
Total to September 2009	223,801	9,423	23,297	11,792	15,003	13,305	19,632	22,183	37,849	10,907	9,398	14,424	5,473

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.

(down by 22 per cent), followed by North East (down by 18 per cent) and Yorkshire and the Humber (down by 16 per cent). The smallest decline occurred in the North West (down by 0.4 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. In the UK as a whole, the value of exports to the EU dropped by 13 per cent between September 2008 and September 2009. With the exception of London (up by 2 per cent), all the regions recorded decreases in the value of goods exports to the EU. West Midlands reported the highest drop, by 24 per cent.

The total value of the UK exports to the rest of the world declined by 4 per cent from September 2008 to September 2009, with the highest drop occurring in the North East (down by 22 per cent). The rise in exports to non-EU countries, however, masks wide regional variation. Five out of the 12 regions had an increase in the value of goods exports to non-EU countries with Scotland leading the way (up by 14 per cent).

The number of exporters in the UK for the September 2009 quarter compared with the same quarter last year, decreased by 5.5 per cent to 48,454. London had the largest decrease of 7.5 per cent to 8,154¹. There were no regions where the number of exporters increased.

Figure 12 shows the value of exports of goods as a percentage of workplace-based regional GVA in 2000, 2004 and 2008, which takes account of the differing sizes of regional economies. In 2008, the value of goods exports relative to the size

of the regional economy was greatest in the North East and lowest in London. 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 export performance of some regions with a large share of services industries such as London.

In terms of this indicator's change over time, exports relative to GVA were lower in all the regions in 2004 than in 2000, with some recovery in 2008 except in East Midlands, London and Scotland. In Scotland, exports as a percentage of regional GVA dropped significantly between 2000 and 2004, but remained fairly stable over the last four years to 2008. North East had the largest increase in relative export performance, followed by Northern Ireland between 2004 and 2008.

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.

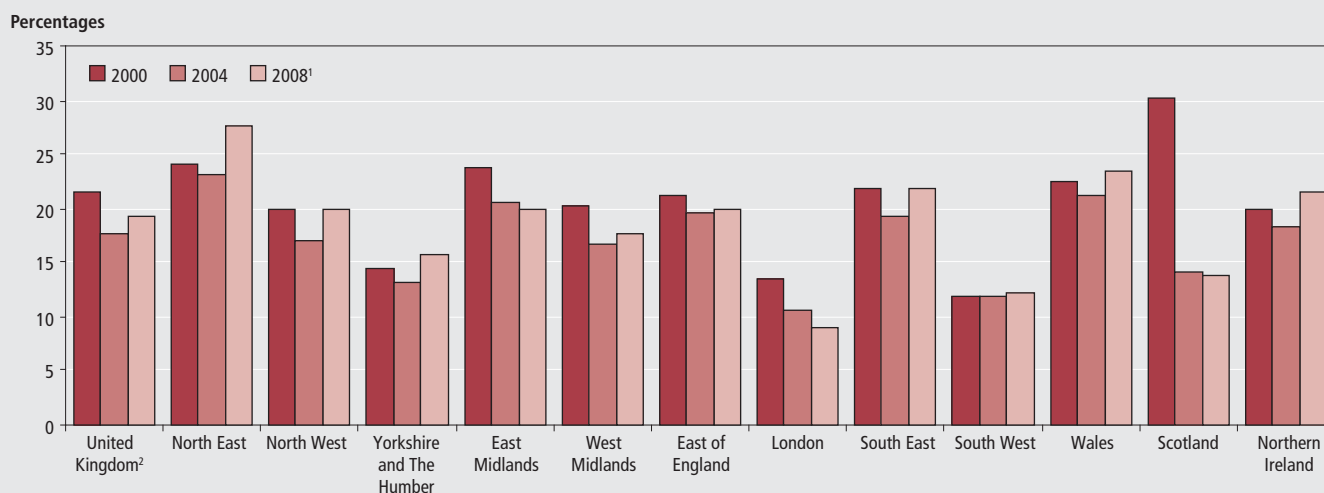
Figure 13 shows the proportion of the working-age population that has no qualifications in each region, alongside the UK average, for 2008. Northern Ireland had the highest proportion of the population with no qualifications (9.1 percentage points above the UK average); whereas the South East and the South West had the lowest proportions, 3.8 and 3.7 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

Figure 12

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



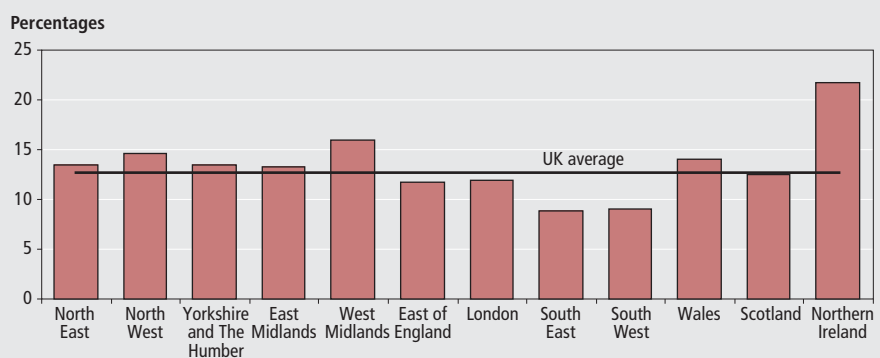
Notes:

1 Provisional.

2 UK less Extra-region and statistical discrepancy.

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

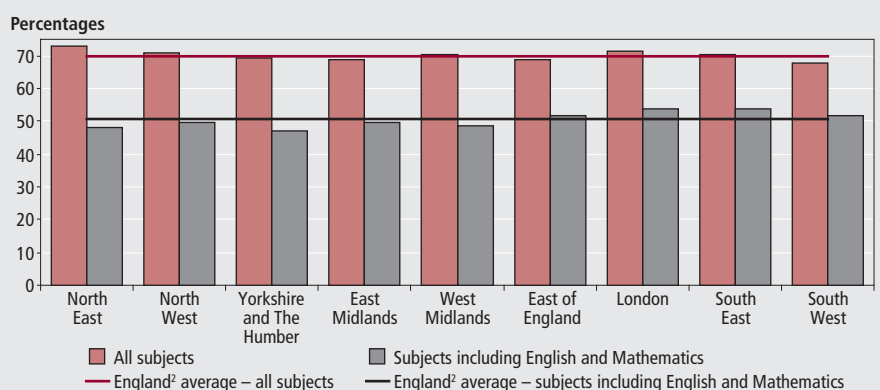
Figure 13

Working-age population with no qualifications: by NUTS1 region, 2008**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 14

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, 2008/09¹**Notes:**

Source: Department for Children, Schools and Families

- 1 Revised 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.

also aim to give regions the flexibility to tackle their own individual challenges and priorities.

Table 3 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 3 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 indicator². 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 14** 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 2008/2009, the England average for pupils in all schools achieving five or more grades A* to C in any subjects was 70.0 per cent, while it was down to 50.9 per cent if the subjects included English and Mathematics. These were increases of 4.7 and 3.3 percentage points from 2007/08, respectively. Across all English regions, the percentage of pupils achieving at least five 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 2.8 percentage points above the England average, but the percentage dropped 2.8 points below the average when the subjects included English and Mathematics. The opposite held for the South West 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 and South East were the only two regions which performed above the national average on both measures.

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.

The labour market

Table 4 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 three (July to September) of 2009, the UK employment rate was 72.5 per cent, down 1.9 percentage points from a year ago and down 0.2 percentage points from quarter two (April to June) of 2009. Regional rates varied from 77.2 per cent in the East of England to 66.1 per cent in Northern Ireland.

All UK regions experienced annual falls in the employment rate between September quarters 2008 and 2009. The largest fall was in Northern Ireland at 3.7 percentage points while the smallest

Table 3

Regional Skills Partnerships core indicators: by NUTS1 region

											Percentages
	Time period	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England
Skills outcome indicators											
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 above ¹	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 above ¹	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	30.5
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 4

Employment¹ 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	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	72.0	72.5	73.3	75.7	73.0	77.3	70.7	78.8	78.7	74.7	71.5	76.5	69.9
	Oct-Dec	74.8	71.5	72.9	73.8	75.7	73.2	78.2	70.3	79.0	79.3	74.9	71.6	76.6	69.7
2008	Jan-Mar	74.8	70.2	72.4	74.0	76.4	73.3	77.7	71.0	79.4	78.9	75.0	72.0	76.5	69.9
	Apr-Jun	74.8	70.5	72.1	73.3	75.8	72.5	77.7	71.8	79.4	78.8	74.9	72.4	76.6	70.3
	Jul-Sep	74.4	70.2	71.7	73.2	76.2	71.8	77.5	71.1	79.0	78.8	74.6	70.6	76.3	69.8
	Oct-Dec	74.0	69.9	71.0	72.1	76.2	71.6	77.7	71.5	78.6	78.0	74.3	70.5	75.3	68.6
2009	Jan-Mar	73.5	69.5	71.4	71.6	75.5	70.3	77.7	70.3	78.1	77.8	73.8	70.3	74.8	66.8
	Apr-Jun	72.7	67.3	71	71.1	75.2	70.2	77	69	77.3	76.6	73	69.6	74	65.7
	Jul-Sep	72.5	68.0	70.8	71.2	74.9	70.0	77.2	69.0	77.0	75.7	72.8	69.2	73.9	66.1

Note:

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

decrease was in the East of England at 0.3 percentage points.

Table 5 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 third quarter of 2009 was 7.8 per cent, up 1.9 percentage points from a year ago and unchanged from the last quarter. Regionally, the rates ranged from 10.0 per cent in the West Midlands to 6.0 per cent in the South East.

Over the year the unemployment rate rose in all regions. The West Midlands had an increase of 3.4 percentage points while the smallest increase was in both the South East and North East at 1.5 percentage points.

Table 6 shows economic inactivity rates for persons of working age from the LFS. The UK rate in the third quarter of 2009 was 21.1 per cent, up 0.1 percentage points from the previous quarter and up 0.3 percentage point on a year earlier. Across the regions, rates varied from 17.3 per cent in the East of England to 28.7 per cent in

Northern Ireland.

Compared with a year earlier, four regions had a decrease in the inactivity rate, and thus a corresponding increase in the working-age activity rate. The East of England and West Midlands had the largest annual fall of 1.1 percentage points each. Seven regions had an increase in the economic inactivity rate over the year. The largest annual rise was in Northern Ireland with 1.6 percentage points.

Table 7 shows the number of employee jobs, not seasonally adjusted, from the

Table 5

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	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	6.0	6.0	5.3	5.7	6.5	5.2	6.1	4.5	4.0	5.4	5.2	4.9	3.9
	Oct-Dec	5.2	5.8	5.8	5.4	5.3	5.8	4.4	6.6	4.5	3.7	5.3	5.1	4.9	4.2
2008	Jan-Mar	5.2	6.6	6.0	5.1	5.3	6.1	4.5	6.9	3.9	3.7	5.3	5.3	4.7	4.4
	Apr-Jun	5.4	7.5	6.4	6.0	5.6	6.2	4.6	6.7	4.1	3.8	5.5	5.2	4.2	4.1
	Jul-Sep	5.9	8.0	6.8	6.8	5.9	6.6	4.9	7.3	4.5	4.2	6.0	6.5	4.7	4.2
	Oct-Dec	6.4	8.5	7.8	6.8	6.3	7.9	5.5	7.3	5.0	4.8	6.5	7.0	5.3	5.2
2009	Jan-Mar	7.1	8.4	7.9	8.0	7.1	9.2	6.0	8.2	5.4	5.8	7.2	7.7	6.0	6.1
	Apr-Jun	7.8	9.8	8.5	8.8	7.3	10.5	6.5	8.8	5.9	6.4	7.9	7.7	7	6.8
	Jul-Sep	7.8	9.5	8.6	8.7	7.5	10.0	6.5	9.0	6.0	6.6	7.9	8.7	7.2	7.2

Source: Labour Force Survey

Table 6

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	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	23.3	22.8	22.4	19.6	21.7	18.4	24.6	17.3	17.9	20.8	24.5	19.4	27.2
	Oct-Dec	21.0	24.0	22.4	21.9	19.9	22.1	18.2	24.5	17.2	17.6	20.8	24.5	19.4	27.1
2008	Jan-Mar	20.9	24.8	22.9	22.0	19.2	21.7	18.5	23.6	17.2	18.0	20.7	23.8	19.6	26.8
	Apr-Jun	20.8	23.7	22.8	21.8	19.5	22.5	18.4	22.9	17.0	18.0	20.6	23.5	20.0	26.5
	Jul-Sep	20.8	23.5	22.9	21.2	18.9	22.9	18.4	23.1	17.1	17.6	20.5	24.3	19.9	27.1
	Oct-Dec	20.8	23.4	22.7	22.5	18.6	22.0	17.7	22.8	17.2	17.9	20.4	23.9	20.3	27.6
2009	Jan-Mar	20.7	23.9	22.2	21.9	18.5	22.3	17.3	23.3	17.3	17.3	20.3	23.6	20.2	28.7
	Apr-Jun	21	25.2	22.2	21.7	18.7	21.2	17.5	24.1	17.7	18	20.6	24.4	20.3	29.4
	Jul-Sep	21.1	24.5	22.3	21.8	18.9	21.8	17.3	24.0	17.9	18.7	20.7	23.9	20.2	28.7

Source: Labour Force Survey

Table 7

Employee jobs¹: 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
Sep 06		26,891	1,042	3,009	2,223	1,842	2,351	2,370	3,974	3,641	2,201	22,653	1,171	2,360	707
Sep 07		27,133	1,029	3,016	2,232	1,893	2,332	2,359	4,061	3,708	2,220	22,850	1,172	2,389	722
Sep 08		27,136	1,030	2,996	2,208	1,883	2,326	2,387	4,074	3,732	2,237	22,873	1,152	2,387	724
Dec 08		27,023	1,036	2,987	2,187	1,876	2,319	2,378	4,063	3,712	2,209	22,767	1,145	2,385	726
Mar-09		26,575	1,018	2,951	2,154	1,830	2,258	2,333	4,013	3,648	2,188	22,393	1,116	2,354	712
Jun 09		26,495	1,011	2,944	2,146	1,825	2,246	2,326	3,987	3,651	2,191	22,327	1,123	2,339	706
Sep 09		26,370	1,003	2,926	2,126	1,839	2,237	2,315	3,970	3,630	2,182	22,228	1,113	2,331	698

Note:

Source: Employer surveys

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.

Table 8
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	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
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
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
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
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
2008	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	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	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	4.8
	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	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	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	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	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	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	6.1
	Sep	5.0	7.3	5.8	6.1	5.1	6.7	4.3	4.7	3.5	3.5	5.0	5.8	6.2
	Oct	5.0	7.3	5.8	6.1	5.2	6.7	4.3	4.7	3.6	3.5	5.0	5.8	6.2
	Nov	5.0	7.2	5.7	6.1	5.1	6.6	4.2	4.7	3.5	3.5	4.9	5.7	6.2
	Dec	5.0	7.2	5.6	6.0	5.1	6.5	4.2	4.6	3.5	3.4	4.9	5.6	6.3

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.

Employers Surveys. The number of UK employee jobs was 26,370,000, a decrease of 766,000 over the year since September 2008. In percentage terms, this was a 2.8 per cent decrease.

There were annual decreases in all twelve regions. The largest percentage decrease was in the West Midlands (down by 3.8 per cent).

Table 8 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 December 2009, unchanged from November 2009, and up 1.4 percentage points on a year earlier. This national rate masks large variations between regions and component countries of the UK. For December 2009, the North East had the highest claimant count rate in the UK at 7.2 per cent. The North East was followed by the West Midlands (6.5 per cent), and Northern Ireland (6.3 per cent). The lowest claimant count was measured in the South West at 3.4 per cent followed by the South East at 3.5 per cent). The claimant count rate was 4.9 per cent in Scotland, 4.9 per cent in England and 5.6 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 (2.1 percentage points) and the West Midlands and Yorkshire and The Humber (both 1.6 percentage points).

Notes

- 1 UK Regional Trade in Goods Statistics, Quarter 3 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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REFERENCES

Department for Children, Schools and Families (2009) *GCSE and Equivalent Examination Results in England 2008/09 (Revised)* Statistical First Release at www.dcsf.gov.uk/rsgateway/DB/SFR/s000909/index.shtml

Department for Business, Innovation and Skills (2006) *Leitch Review of Skills* at www.dcsf.gov.uk/furthereducation/index.cfm?fuseaction=content.view&CategoryID=21&ContentID=37

Department for Business, Innovation and Skills (2009) *The Level of Highest Qualification Held by Adults: England 2008/09 (Revised)* Statistical First Release at www.dcsf.gov.uk/rsgateway/DB/SFR/s000903/index.shtml

Dey-Chowdhury S, Penny D, Walker M and Wosnitza B (2008) 'Regional Economic Indicators February 2008 with a focus on regional productivity' *Economic & Labour Market Review* 2(2), pp 48-61 and at www.statistics.gov.uk/cci/article.asp?id=1945

Dunnell K (2009) 'National Statistician's article: measuring regional economic performance' *Economic & Labour Market Review* 3(1), pp 18-30 and at www.statistics.gov.uk/cci/article.asp?id=2103

Grierson and Allen (2008) 'Introducing the new business demography statistics' *Economic & Labour Market Review* 2(12), pp 53-5 and at www.statistics.gov.uk/cci/article.asp?id=2096

HM Revenue & Customs (2009) *UK Regional Trade Statistics Quarter 3 2009* at www.uktradeinfo.com/index.cfm?task=td_regstats_press

HM Treasury (2004) *Productivity in the UK 5: Benchmarking UK Productivity Performance. A Consultation on Productivity Indicators* at www.hm-treasury.gov.uk/consult_productivity_indicators_index.htm

Office for National Statistics *Annual Survey of Hours and Earnings* at www.statistics.gov.uk/statbase/product.asp?vlnk=13101

Office for National Statistics *Business*

Demography at

[www.statistics.gov.uk/statbase/product.](http://www.statistics.gov.uk/statbase/product.asp?vlnk=15186)

[asp?vlnk=15186](http://www.statistics.gov.uk/statbase/product.asp?vlnk=15186)

Office for National Statistics *Business*

Expenditure on Research & Development by

Government Office Region at

[www.statistics.gov.uk/statbase/tsdataset.](http://www.statistics.gov.uk/statbase/tsdataset.asp?vlnk=572)

[asp?vlnk=572](http://www.statistics.gov.uk/statbase/tsdataset.asp?vlnk=572)

Office for National Statistics *Regional*

Household Income May 2008 Statistical First

Release at

[www.statistics.gov.uk/statbase/product.](http://www.statistics.gov.uk/statbase/product.asp?vlnk=14651)

[asp?vlnk=14651](http://www.statistics.gov.uk/statbase/product.asp?vlnk=14651)

Office for National Statistics *Regional, sub-*

regional and gross value added, December

2009 at

[www.statistics.gov.uk/statbase/Product.](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14650)

[asp?vlnk=14650](http://www.statistics.gov.uk/statbase/Product.asp?vlnk=14650)

Office for National Statistics *Regional*

Trends 37: Notes and Definitions at

[www.statistics.gov.uk/statbase/product.](http://www.statistics.gov.uk/statbase/product.asp?vlnk=836)

[asp?vlnk=836](http://www.statistics.gov.uk/statbase/product.asp?vlnk=836)

Office for National Statistics (2007) *The*

ONS Productivity Handbook: A Statistical

Overview and Guide at

[www.ons.gov.uk/about-statistics/user-](http://www.ons.gov.uk/about-statistics/user-guidance/productivity-handbook/index.html)

[guidance/productivity-handbook/index.](http://www.ons.gov.uk/about-statistics/user-guidance/productivity-handbook/index.html)

[html](http://www.ons.gov.uk/about-statistics/user-guidance/productivity-handbook/index.html)

Organisation for Economic Co-operation

and Development (2002) *Frascati Manual:*

Proposed Standard Practice for Surveys on

Research and Experimental Development

Organisation for Economic Co-operation

and Development (2003) 'Identifying the

Determinants of Regional Performances'

Working Party on Territorial Indicators

Swadkin C and Hastings D (2007) 'Regional

Economic Indicators with a focus on

the differences in regional economic

performance', *Economic & Labour Market*

Review 1(2), pp 52-64.

www.statistics.gov.uk/elmr/02_07/

Swadkin C. and Hastings D. (2007)

'Regional Economic Indicators with a focus

on the differences in sub-regional economic

performance', *Economic & Labour Market*

Review 1(8), pp 47-58.

www.statistics.gov.uk/elmr/08_07/

Wosnitza B. and Walker M. (2008)

'Regional Economic Indicators May 2008

with a focus on differences in sub-regional

economic performances ' *Economic &*

Labour Market Review 2(5), pp 40-53 and

at

www.statistics.gov.uk/elmr/05_08/

TECHNICAL NOTE A

Methodology for decomposing GVA per head

This methodology developed by the Organisation for Economic Co-operation and Development splits Gross Value Added (GVA) per head into five components of average labour productivity (GVA per hour worked and hours per job), employment rates, activity rates and commuting rates.

$$\frac{GVA_i}{P_i} = \frac{GVA_i}{HW_i} * \frac{HW_i}{EW_i} * \frac{EW_i}{LFW_i} * \frac{LFW_i}{LFR_i} * \frac{LFR_i}{P_i}$$

This multiplicative model can then be transformed into an additive model by taking logarithms of each term, which allows the above GVA per capita formula to be divided up into the expression (2) below. Using an additive model enables the contributing effect of each component to be calculated, which means it is possible to identify what is determining a region's level of GVA per head.

$$\log\left(\frac{GVA_i}{P_i}\right) = \log\left(\frac{GVA_i}{HW_i}\right) + \log\left(\frac{HW_i}{EW_i}\right) + \log\left(\frac{EW_i}{LFW_i}\right) + \log\left(\frac{LFW_i}{LFR_i}\right) + \log\left(\frac{LFR_i}{P_i}\right)$$

This model is used to explain the estimate of GVA per head for a particular sub-region. However it can also be extended to decompose the difference in GVA per head of each sub-region compared to the UK average. By definition, the logarithm of the difference between the GVA per head of a sub-region and the UK average will equal the sum of the logarithms of the difference of each component from the UK average. This is shown in (3).

$$\log\left(\frac{GVA_i}{P_i}\right) - \log\left(\frac{GVA_{UK}}{P_{UK}}\right) \quad \text{where } i \text{ denotes the sub-region}$$

$$\begin{aligned} &= \left[\log\left(\frac{GVA_i}{HW_i}\right) - \log\left(\frac{GVA_{UK}}{HW_{UK}}\right) \right] \\ &+ \left[\log\left(\frac{HW_i}{EW_i}\right) - \log\left(\frac{HW_{UK}}{EW_{UK}}\right) \right] \\ &+ \left[\log\left(\frac{EW_i}{LFW_i}\right) - \log\left(\frac{EW_{UK}}{LFW_{UK}}\right) \right] \\ &+ \left[\log\left(\frac{LFW_i}{LFR_i}\right) - \log\left(\frac{LFW_{UK}}{LFR_{UK}}\right) \right] \\ &+ \left[\log\left(\frac{LFR_i}{P_i}\right) - \log\left(\frac{LFR_{UK}}{P_{UK}}\right) \right] \end{aligned} \quad (3)$$

Using these terms, it is then possible to split the differences in GVA per head for each of the sub-regions relative to the UK by looking at the differences in each of the five components. This shows the relative effect of each component in terms of what is driving the differences between a sub-region's estimate of GVA per head and the UK average.

TECHNICAL NOTE B

Smoothing of component estimates

To produce a five period moving average, symmetric weights are applied to the underlying data (as used in Regional Accounts). The weights are designed so that they are centred on the value for the actual year meaning that this year is given more weight. Instead of forecasting (or backcasting), for end points of the time series asymmetric weights are applied to the data.

Weights	2002	2003	2004	2005	2006	2007
2002	11/27	11/27	5/27			
2003	7/27	10/27	7/27	3/27		
2004	1/9	2/9	3/9	2/9	1/9	
2005		1/9	2/9	3/9	2/9	1/9
2006			3/27	7/27	10/27	7/27
2007				5/27	11/27	11/27

Key time series

1 National accounts aggregates

Last updated: 26/01/10

Seasonally adjusted

	£ million		Indices (2005 = 100)						
	At current prices		Value indices at current prices		Chained volume indices			Implied deflators ³	
	Gross domestic product (GDP) at market prices	Gross value added (GVA) at basic prices	GDP at market prices ¹	GVA at basic prices	Gross national disposable income at market prices ²	GDP at market prices	GVA at basic prices	GDP at market prices	GVA at basic prices
	YBHA	ABML	YBEU	YBEX	YBFP	YBEZ	CGCE	YBGB	CGBV
2004	1,202,956	1,070,951	95.9	95.9	98.4	97.9	97.7	98.0	98.2
2005	1,254,058	1,116,648	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2006	1,325,795	1,181,141	105.7	105.8	101.7	102.9	103.0	102.8	102.7
2007	1,398,882	1,245,735	111.5	111.6	105.4	105.5	105.7	105.7	105.6
2008	1,448,391	1,298,795	115.5	116.3	106.9	106.1	106.2	108.9	109.6
2009						100.9	101.3		
2004 Q1	294,112	261,280	93.8	93.6	97.9	97.2	96.9	96.5	96.5
2004 Q2	299,142	265,977	95.4	95.3	98.0	97.8	97.6	97.6	97.6
2004 Q3	302,115	269,503	96.4	96.5	97.8	97.9	97.7	98.5	98.8
2004 Q4	307,587	274,191	98.1	98.2	100.0	98.7	98.5	99.5	99.7
2005 Q1	308,723	274,756	98.5	98.4	99.6	99.0	99.0	99.5	99.4
2005 Q2	313,479	279,258	100.0	100.0	101.1	99.7	99.7	100.3	100.3
2005 Q3	313,378	278,669	100.0	99.8	99.2	100.3	100.3	99.6	99.6
2005 Q4	318,478	283,965	101.6	101.7	100.0	101.0	101.0	100.6	100.7
2006 Q1	326,085	291,002	104.0	104.2	101.2	102.1	102.2	101.9	102.0
2006 Q2	327,836	291,886	104.6	104.6	101.5	102.5	102.6	102.0	101.9
2006 Q3	333,542	297,046	106.4	106.4	101.8	103.0	103.1	103.3	103.2
2006 Q4	338,332	301,207	107.9	107.9	102.3	103.8	104.0	103.9	103.8
2007 Q1	344,238	306,154	109.8	109.7	103.6	104.6	104.7	105.0	104.7
2007 Q2	348,010	309,585	111.0	110.9	104.7	105.2	105.4	105.5	105.2
2007 Q3	351,635	313,159	112.2	112.2	105.1	105.8	106.0	106.0	105.8
2007 Q4	354,999	316,837	113.2	113.5	108.0	106.3	106.6	106.5	106.5
2008 Q1	363,438	324,362	115.9	116.2	109.6	107.1	107.2	108.2	108.4
2008 Q2	363,981	324,596	116.1	116.3	107.9	107.0	107.1	108.5	108.6
2008 Q3	361,706	325,359	115.4	116.5	106.3	106.0	106.1	108.8	109.8
2008 Q4	359,266	324,478	114.6	116.2	103.9	104.1	104.2	110.1	111.6
2009 Q1	348,953	316,181	111.3	113.3	102.7	101.5	101.8	109.7	111.3
2009 Q2	346,756	313,452	110.6	112.3	101.0	100.8	101.2	109.7	110.9
2009 Q3	350,566	316,046	111.8	113.2	100.9	100.6	101.1	111.1	112.0
2009 Q4						100.7	101.2		

Percentage change, quarter on corresponding quarter of previous year

	IHYO	ABML ⁴	YBGO ⁴	IHYR	ABMM ⁴	IHYU	ABML/ABMM ⁴
2004 Q1	5.7	5.4	3.0	3.6	3.4	2.0	1.9
2004 Q2	5.6	5.3	3.4	3.2	3.2	2.3	2.1
2004 Q3	5.2	5.4	2.5	2.6	2.6	2.6	2.8
2004 Q4	5.7	5.9	3.0	2.4	2.4	3.1	3.4
2005 Q1	5.0	5.2	1.8	1.8	2.1	3.1	3.0
2005 Q2	4.8	5.0	3.2	2.0	2.2	2.8	2.7
2005 Q3	3.7	3.4	1.4	2.5	2.6	1.2	0.7
2005 Q4	3.5	3.6	0.0	2.4	2.6	1.1	1.0
2006 Q1	5.6	5.9	1.6	3.2	3.2	2.4	2.6
2006 Q2	4.6	4.5	0.4	2.8	2.9	1.7	1.5
2006 Q3	6.4	6.6	2.6	2.7	2.9	3.7	3.6
2006 Q4	6.2	6.1	2.3	2.8	2.9	3.3	3.1
2007 Q1	5.6	5.2	2.3	2.4	2.5	3.1	2.7
2007 Q2	6.2	6.1	3.1	2.7	2.7	3.4	3.3
2007 Q3	5.4	5.4	3.3	2.7	2.8	2.6	2.5
2007 Q4	4.9	5.2	5.6	2.4	2.6	2.5	2.6
2008 Q1	5.6	5.9	5.8	2.4	2.4	3.1	3.5
2008 Q2	4.6	4.8	3.1	1.7	1.6	2.9	3.2
2008 Q3	2.9	3.9	1.0	0.2	0.1	2.6	3.8
2008 Q4	1.2	2.4	-3.8	-2.1	-2.3	3.4	4.8
2009 Q1	-4.0	-2.5	-6.3	-5.2	-5.0	1.3	2.7
2009 Q2	-4.7	-3.4	-6.4	-5.8	-5.5	1.1	2.2
2009 Q3	-3.1	-2.9	-5.0	-5.1	-4.8	2.1	2.0
2009 Q4				-3.2	-2.9		

Notes:

1 "Money GDP".

2 This series is only updated once a quarter, in line with the full quarterly national accounts data set.

3 Based on chained volume measures and current price estimates of expenditure components of GDP.

4 Derived from these identification (CDID) codes.

Source: Office for National Statistics

2 Gross domestic product: by category of expenditure

Last updated: 26/01/10

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

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								Gross domestic at product market prices
	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)	
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2004	766,856	30,827	262,917	204,756	4,843	-39	1,270,173	306,582	1,576,497	348,894	0	1,227,387
2005	784,140	30,824	268,088	209,758	4,472	-377	1,296,905	330,794	1,627,699	373,641	0	1,254,058
2006	795,595	31,868	272,271	223,305	4,789	304	1,328,132	368,076	1,696,207	406,374	0	1,289,833
2007	815,157	30,040	275,488	240,613	6,646	562	1,368,506	357,677	1,726,183	403,341	0	1,322,842
2008	822,086	30,832	282,681	232,202	866	1,295	1,369,962	361,535	1,731,497	401,137	-271	1,330,088
2009												1,265,587
2004 Q1	189,235	7,875	65,615	50,706	515	-113	314,855	74,389	389,121	84,284	0	304,784
2004 Q2	191,672	7,737	65,323	51,680	294	65	316,727	76,058	392,705	86,139	0	306,510
2004 Q3	192,642	7,664	65,746	51,351	953	8	317,863	76,895	394,700	87,840	0	306,806
2004 Q4	193,307	7,551	66,233	51,019	3,081	1	320,728	79,240	399,971	90,631	0	309,287
2005 Q1	194,294	7,745	66,418	51,092	2,978	-45	322,029	77,762	399,757	89,398	0	310,313
2005 Q2	195,610	7,676	66,986	51,273	2,025	90	323,588	80,830	404,405	91,846	0	312,550
2005 Q3	196,450	7,687	67,265	53,964	-251	-292	325,046	84,250	409,304	94,834	0	314,490
2005 Q4	197,786	7,716	67,419	53,429	-280	-130	326,242	87,952	414,233	97,563	0	316,705
2006 Q1	197,278	7,941	67,862	53,372	2,346	106	328,906	95,835	424,741	104,616	0	320,125
2006 Q2	199,392	8,025	67,692	54,499	63	241	329,912	97,932	427,844	106,555	0	321,289
2006 Q3	198,692	8,012	68,232	56,780	1,679	-30	333,365	86,854	420,220	97,364	0	322,855
2006 Q4	200,233	7,890	68,485	58,654	701	-13	335,949	87,455	423,402	97,839	0	325,564
2007 Q1	202,299	7,447	68,394	59,659	928	76	338,804	88,279	427,083	99,211	0	327,872
2007 Q2	203,492	7,413	68,650	59,620	-12	348	339,510	88,650	428,160	98,193	0	329,967
2007 Q3	204,321	7,471	69,165	59,777	3,130	45	343,909	90,348	434,256	102,647	0	331,609
2007 Q4	205,045	7,709	69,279	61,557	2,600	93	346,283	90,400	436,684	103,290	0	333,394
2008 Q1	206,823	7,693	69,853	59,370	3,261	212	347,212	91,462	438,674	102,979	86	335,781
2008 Q2	206,278	7,789	70,423	59,512	1,529	436	345,968	91,727	437,696	102,201	17	335,511
2008 Q3	205,676	7,723	70,809	57,362	378	366	342,315	91,219	433,534	101,037	-104	332,393
2008 Q4	203,309	7,627	71,596	55,958	-4,302	281	334,467	87,127	421,593	94,920	-270	326,403
2009 Q1	200,290	7,383	71,567	51,753	-4,858	279	326,415	81,066	407,480	88,580	-726	318,174
2009 Q2	198,815	7,196	72,036	48,701	-3,657	280	323,371	79,286	402,657	85,739	-879	316,039
2009 Q3	198,927	7,037	72,265	49,754	-4,629	234	323,588	79,922	403,510	87,000	-981	315,529
2009 Q4												315,845

Percentage change, quarter on corresponding quarter of previous year

	IHYY										
2004 Q1	3.4	1.6	4.7	3.8			4.4	0.2	3.5	3.3	3.6
2004 Q2	3.3	0.7	3.2	7.4			3.9	5.3	4.2	7.6	3.2
2004 Q3	3.2	-0.6	2.6	7.1			3.1	6.8	3.8	8.5	2.6
2004 Q4	3.0	-2.1	1.7	2.3			2.7	7.9	3.7	8.4	2.4
2005 Q1	2.7	-1.7	1.2	0.8			2.3	4.5	2.7	6.1	1.8
2005 Q2	2.1	-0.8	2.5	-0.8			2.2	6.3	3.0	6.6	2.0
2005 Q3	2.0	0.3	2.3	5.1			2.3	9.6	3.7	8.0	2.5
2005 Q4	2.3	2.2	1.8	4.7			1.7	11.0	3.6	7.6	2.4
2006 Q1	1.5	2.5	2.2	4.5			2.1	23.2	6.2	17.0	3.2
2006 Q2	1.9	4.5	1.1	6.3			2.0	21.2	5.8	16.0	2.8
2006 Q3	1.1	4.2	1.4	5.2			2.6	3.1	2.7	2.7	2.7
2006 Q4	1.2	2.3	1.6	9.8			3.0	-0.6	2.2	0.3	2.8
2007 Q1	2.5	-6.2	0.8	11.8			3.0	-7.9	0.6	-5.2	2.4
2007 Q2	2.1	-7.6	1.4	9.4			2.9	-9.5	0.1	-7.8	2.7
2007 Q3	2.8	-6.8	1.4	5.3			3.2	4.0	3.3	5.4	2.7
2007 Q4	2.4	-2.3	1.2	4.9			3.1	3.4	3.1	5.6	2.4
2008 Q1	2.2	3.3	2.1	-0.5			2.5	3.6	2.7	3.8	2.4
2008 Q2	1.4	5.1	2.6	-0.2			1.9	3.5	2.2	4.1	1.7
2008 Q3	0.7	3.4	2.4	-4.0			-0.5	1.0	-0.2	-1.6	0.2
2008 Q4	-0.8	-1.1	3.3	-9.1			-3.4	-3.6	-3.5	-8.1	-2.1
2009 Q1	-3.2	-4.0	2.5	-12.8			-6.0	-11.4	-7.1	-14.0	-5.2
2009 Q2	-3.6	-7.6	2.3	-18.2			-6.5	-13.6	-8.0	-16.1	-5.8
2009 Q3	-3.3	-8.9	2.1	-13.3			-5.5	-12.4	-6.9	-13.9	-5.1
2009 Q4											-3.2

Notes:

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

Source: Office for National Statistics

3 Labour market summary

Last updated: 20/01/10

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
Sep–Nov 2007	48,793	30,999	29,363	1,637	17,793	63.5	60.2	5.3	36.5
Sep–Nov 2008	49,197	31,319	29,372	1,947	17,878	63.7	59.7	6.2	36.3
Dec–Feb 2009	49,292	31,353	29,226	2,127	17,938	63.6	59.3	6.8	36.4
Mar–May 2009	49,386	31,359	28,982	2,377	18,028	63.5	58.7	7.6	36.5
Jun–Aug 2009	49,482	31,400	28,935	2,465	18,082	63.5	58.5	7.8	36.5
Sep–Nov 2009	49,581	31,379	28,921	2,458	18,202	63.3	58.3	7.8	36.7
Male	MGSM	MMSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Sep–Nov 2007	23,736	16,829	15,896	934	6,907	70.9	67.0	5.5	29.1
Sep–Nov 2008	23,958	16,996	15,834	1,162	6,962	70.9	66.1	6.8	29.1
Dec–Feb 2009	24,008	17,000	15,721	1,279	7,008	70.8	65.5	7.5	29.2
Mar–May 2009	24,059	16,996	15,543	1,453	7,063	70.6	64.6	8.5	29.4
Jun–Aug 2009	24,111	16,983	15,455	1,529	7,128	70.4	64.1	9.0	29.6
Sep–Nov 2009	24,166	16,909	15,400	1,509	7,257	70.0	63.7	8.9	30.0
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Sep–Nov 2007	25,056	14,170	13,467	703	10,886	56.6	53.7	5.0	43.4
Sep–Nov 2008	25,239	14,323	13,538	785	10,916	56.7	53.6	5.5	43.3
Dec–Feb 2009	25,283	14,353	13,505	848	10,930	56.8	53.4	5.9	43.2
Mar–May 2009	25,327	14,362	13,438	924	10,965	56.7	53.1	6.4	43.3
Jun–Aug 2009	25,371	14,417	13,481	936	10,955	56.8	53.1	6.5	43.2
Sep–Nov 2009	25,415	14,470	13,521	949	10,945	56.9	53.2	6.6	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
Sep–Nov 2007	37,616	29,723	28,106	1,617	7,893	79.0	74.7	5.4	21.0
Sep–Nov 2008	37,790	29,946	28,030	1,916	7,844	79.2	74.2	6.4	20.8
Dec–Feb 2009	37,837	29,980	27,887	2,094	7,857	79.2	73.7	7.0	20.8
Mar–May 2009	37,885	29,960	27,615	2,345	7,924	79.1	72.9	7.8	20.9
Jun–Aug 2009	37,931	29,964	27,532	2,432	7,967	79.0	72.6	8.1	21.0
Sep–Nov 2009	37,976	29,930	27,508	2,422	8,046	78.8	72.4	8.1	21.2
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Sep–Nov 2007	19,594	16,409	15,483	926	3,185	83.7	79.0	5.6	16.3
Sep–Nov 2008	19,727	16,538	15,389	1,149	3,190	83.8	78.0	6.9	16.2
Dec–Feb 2009	19,756	16,551	15,285	1,266	3,205	83.8	77.4	7.6	16.2
Mar–May 2009	19,784	16,544	15,103	1,441	3,240	83.6	76.3	8.7	16.4
Jun–Aug 2009	19,812	16,518	15,005	1,513	3,294	83.4	75.7	9.2	16.6
Sep–Nov 2009	19,839	16,437	14,947	1,490	3,402	82.8	75.3	9.1	17.2
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Sep–Nov 2007	18,021	13,314	12,623	691	4,708	73.9	70.0	5.2	26.1
Sep–Nov 2008	18,063	13,408	12,641	767	4,655	74.2	70.0	5.7	25.8
Dec–Feb 2009	18,082	13,429	12,602	828	4,652	74.3	69.7	6.2	25.7
Mar–May 2009	18,100	13,416	12,513	903	4,685	74.1	69.1	6.7	25.9
Jun–Aug 2009	18,119	13,445	12,527	918	4,673	74.2	69.1	6.8	25.8
Sep–Nov 2009	18,137	13,493	12,562	932	4,643	74.4	69.3	6.9	25.6

Notes:

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

Source: Labour Force Survey, Office for National Statistics

Labour Market Statistics Helpline: 01633 456901

4 Prices

Last updated: 19/01/10

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	EL25	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	1.3	-6.2	-1.2
2009 Oct	1.5	2.6	2.5	-0.8	1.9	2.8	1.9	2.2	0.4	0.8
2009 Nov	1.9	3.0	2.9	0.3	2.7	3.5	2.9	2.0	4.0	0.7
2009 Dec	2.9	2.8	2.6	2.4	3.8	3.8	3.5	2.6	6.9	1.0

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.

NOTES TO TABLES

Identification (CDID) codes

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

Conventions

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

The following standard symbols are used:

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

CONCEPTS AND DEFINITIONS

Labour Force Survey 'monthly' estimates

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

Labour market summary**Economically active**

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

Economically inactive

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

Employment and jobs

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

Unemployment

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

Unemployed people:

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

Other key indicators**Claimant count**

The number of people claiming Jobseeker's Allowance benefits.

Earnings

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

Productivity

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

Redundancies

The number of people, 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/02_10/data_page.asp

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

Selected labour market statistics

2.01 Summary of Labour Force Survey data	M
2.02 Employment by age	M
2.03 Full-time, part-time and temporary workers	M
2.04 Public and private sector employment	Q
2.05 Workforce jobs	Q
2.06 Workforce jobs by industry	Q
2.07 Actual weekly hours of work	M
2.08 Usual weekly hours of work	M
2.09 Unemployment by age and duration	M
2.10 Claimant count levels and rates	M
2.11 Claimant count by age and duration	M
2.12 Economic activity by age	M
2.13 Economic inactivity by age	M
2.14 Economic inactivity: reasons	M
2.15 Educational status, economic activity and inactivity of young people	M
2.16 Average 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/02_10/data_page.asp

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

Prices

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

Selected output and demand indicators

4.01	Output of the production industries	M
4.02	Engineering and construction: output and orders	M
4.03	Motor vehicle and steel production ¹	M
4.04	Indicators of fixed investment in dwellings	M
4.05	Number of property transactions	M
4.06	Change in inventories ¹	Q
4.07	Inventory ratios ¹	Q
4.08	Retail sales, new registrations of cars and credit business	M
4.09	Inland energy consumption: primary fuel input basis ¹	M

Selected financial statistics

5.01	Sterling exchange rates and UK reserves	M
5.02	Monetary aggregates	M
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5.05	Public sector key fiscal indicators	M
5.06	Consumer credit and other household sector borrowing	M
5.07	Analysis of bank lending to UK residents	M
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5.09	A selection of asset prices	M

Further labour market statistics

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Weblink: www.statistics.gov.uk/elmr/02_10/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
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6.17	Regional Jobseeker's Allowance claimant count rates	M
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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@isc.gov.uk

Department for Children, Schools and Families Public Enquiry Unit

☎ 0870 000 2288

For statistical information on

Average Earnings Index (monthly)

☎ 01633 819024

Claimant count

☎ 01633 456901

Consumer Prices Index

☎ 01633 456900
✉ cpi@ons.gsi.gov.uk

Earnings

Annual Survey of Hours and Earnings
☎ 01633 456120

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

☎ 01633 819008

Low-paid workers

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

Labour Force Survey

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

Economic activity and inactivity

☎ 01633 456901

Employment

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

Employee jobs by industry

☎ 01633 456776

Total workforce hours worked per week

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

Workforce jobs series – short-term estimates

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

Labour costs

☎ 01633 819024

Labour disputes

☎ 01633 456721

Labour Force Survey

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

Labour Force Survey Data Service

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

New Deal

☎ 0114 209 8228

Productivity and unit wage costs

☎ 01633 456720

Public sector employment

General enquiries
☎ 01633 455889

Source and methodology enquiries

☎ 01633 812865

Qualifications (Department for Children, Schools and Families)

☎ 0870 000 2288

Redundancy statistics

☎ 01633 456901

Retail Prices Index

☎ 01633 456900
✉ rpi@ons.gsi.gov.uk

Skills (Department for Innovation, Universities & Skills)

☎ 0870 001 0336

Skill needs surveys and research into skill shortages

☎ 0870 001 0336

Small firms (BERR)

Enterprise Directorate
☎ 0114 279 4439

Subregional estimates

☎ 01633 812038

Annual employment statistics

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

Annual Population Survey, local area statistics

☎ 01633 455070

Trade unions (BERR) Employment relations

☎ 020 7215 5934

Training

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

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

☎ 0870 001 0336

Travel-to-Work Areas Composition and review

☎ 01329 813054

Unemployment

☎ 01633 456901

Vacancies

Vacancy Survey: total stocks of vacancies
☎ 01633 455070

ONS economic and labour market publications

ANNUAL

Financial Statistics Explanatory Handbook

2010 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)

2009 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

Business Enterprise Research and Development

2008 edition

www.statistics.gov.uk/StatBase/Product.asp?vlnk=165

Share Ownership

2008 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 3

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

United Kingdom Economic Accounts

2009 quarter 3. 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 3

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

January 2010. 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

December 2009

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

Monthly review of external trade statistics (MM24)

November 2009

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

Producer Price Indices (MM22)

December 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

2009 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 Indices (experimental) – Third quarter 2009
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Regional analysis of tourism

