Office for
National Statistics

Economic & Labour Market Review

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In brief

A generational accounts approach to long–term public finances in the UK

Generational accounts is a tool that has been developed by economists to look at the burden on future generations if current levels of taxation and services are maintained. This involves two aspects. First, the present value of net tax liabilities are calculated – these are the amount of taxes that people alive today will pay after allowing for the cost of individual services and other benefits received from the government, notably education, health and state benefits. Second is the intertemporal budget constraint: meaning that everything must be paid for by somebody, either those alive today or those not yet born. And postponed payments have to be paid with interest. The purpose of this constraint is to prevent debt rising forever as a proportion of GDP, which would happen if the real interest rate on the debt were to exceed the long-run growth rate in the economy.

Once these two elements are deduced it is possible to work out various indicators of fiscal sustainability facing those yet to be born. For example, this could be represented as the implied change in the average tax rate on labour income for future generations necessary to sustain existing patterns of spending patterns projected into the future, assuming, say, that labour incomes grew at the same rate as long-term labour productivity growth. The answer gives an indication of intergenerational fairness.

Generational fairness (between all generations, or birth cohorts, alive now and those not yet born) has become a more salient issue since the standard assumption that future generations will have a higher standard of living than current generations has come into question. Current doubts centre on concerns over environmental pollution and the ageing population. Hence the generational perspective on long-term public finances has a salience which was less acute a decade ago.

Further information

www.statistics.gov.uk/CCI/article.asp?ID=2473

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Wider measures of public sector debt

Just as for companies and households, the public sector's balance sheet is central to assessing its financial health. Such a balance sheet would set out the public sector's assets – what it owns or is owed – and its liabilities to others. A limitation of traditional balance sheets is that the liabilities they include are defined quite narrowly and so exclude a range of potential obligations to others. To ensure that fiscal policy setting expenditure, taxes and government borrowing is as well based as possible, and in the interests of transparency, the publicly available information on the range of public sector assets and liabilities needs to be as complete as possible.

In the July 2009 edition of *Economic & Labour Market Review*, two articles discussed the scope of the UK public sector's liabilities and obligations. O'Donaghue (2009) clarified what was then included within the public sector balance sheet and described the composition of public sector net debt (PSND). Maitland-Smith (2009) discussed what was beyond the boundary of PSND at the time. Since then a number of developments have occurred in terms of the nature of official fiscal measures, so a new article (see Hobbs 2010) builds upon earlier ONS articles.

This article sets out a fuller range of liabilities, obligations and assets and indicates how they have changed over time. It includes coverage of the public sector's:

- financial liabilities
- financial assets
- non-financial assets - both tangible and intangible, and
- wider liabilities and obligations, including those relating to
  - PFI schemes
  - public sector pay-as-you-go (PAYG) pensions schemes
  - state pension schemes
  - contingencies, provisions and guarantees, including those relating to nuclear decommissioning

Further information

Hobbs D (2010) 'Wider measures of public sector debt' available at www.statistics.gov.uk/CCI/article.asp?ID=2463

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Revisions to Workforce Jobs

Workforce Jobs is a quarterly measure of the number of jobs in the United Kingdom and is the preferred measure of jobs by industry. It is based on a range of employer surveys, household surveys, and administrative sources. It is the sum of employee jobs measured primarily by employer surveys, self-employment jobs from the Labour Force Survey (LFS), and government-supported trainees and Her Majesty's Forces from administrative sources. A variety of outputs by industry, region, gender and full/part-time status are regularly published.

A fundamental redevelopment of Workforce Jobs sources, classifications, methods and systems has been undertaken. The main changes are listed as follows:

- conversion to the new Standard Industrial Classification 2007 (SIC 2007) from the start of the industrial breakdown in 1978 Q2
- changes to the sample design, size, allocation and periodicity of the Short-Term Employer Surveys (STES) from 2010 Q1, used for quarterly private sector employee jobs in Great Britain (GB)
- new STES estimation methods and systems from 2008 Q3 including direct estimation of regional estimates by Government Office Region
- benchmarking GB quarterly employee jobs series to the latest Annual Business Inquiry (ABI1) for 2007 and 2008
- removal of benchmarking discontinuities, including the discontinuity between 2005 Q4 and 2006 Q3 caused by changes to ABI1 sources and methods
- revisions to Public Sector Employment inputs, entailing more detailed and wider coverage by industry and region
- revisions to LFS inputs and systems from 1996 Q1 and the use of self-employment jobs and government supported trainees estimates by region and industry to produce regional

Workforce Jobs by industry for the first time

- a new time series system for compiling Workforce Jobs, using preferred benchmarking and seasonal adjustment methods
- a seasonal adjustment review, with more seasonally adjusted series now available by industry and region
- changes to the published tables

Further information

www.statistics.gov.uk/cci/article.asp?ID=2474

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Measuring the output of Children's social care

The UK Centre for the Measurement of Government Activity (UKCeMGA) is the part of the ONS responsible for the measurement of public service output and productivity. New work recently published suggests a possible change to the way a particular public service is measured – the volume of output that government provides, either directly, or by buying in services, for looked after children. The sector providing the service is not in general relevant because, for consistency with other measures of public services produced by ONS, it is the source of funding which determines whether or not the services is defined as 'government', not who actually is paid to provide the service.

The note argues that the existing measure inappropriately separates pathways for looked after children which are substantially interchangeable. It therefore suffers from substitution bias when cheaper pathways are used in place of more expensive (and not necessarily more effective) pathways. Correcting this bias raises the overall volume of output associated with looked after children. For England, it is calculated that between 2001-02 and 2007-08 volume on the alternative method falls by 1.5 per cent, whereas the current measure falls by 9.4 per cent.

Further information

www.statistics.gov.uk/cci/article.asp?id=2476

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Multi–factor productivity estimates now available for 1994 to 2008

A growth-accounting framework allows growth in output to be broken down into its contributions from growth in labour inputs (in terms of both its quantity and composition) and growth in capital services (the flow of services into production that are generated by the capital stock). The residual growth that cannot be accounted by growth in labour and capital inputs is multi-factor productivity growth, sometimes also referred to as the Solow residual or total factor productivity growth. Whilst conceptually this residual can be thought of as capturing technological progress, in practise it may also capture a number of other effects. These may include changes in labour force quality not already captured by quality adjusted labour inputs (QALI); changes in management techniques or business processes; or returns from intangible inputs such as research and development. Some elements of multi-factor productivity growth will also reflect adjustment costs, economies of scale and measurement errors in inputs and outputs.

New estimates of multi-factor productivity for the period 1994 to 2008 have recently been published by ONS for the whole economy and market sector. Consistent with parallel developments in measuring labour inputs (QALI) and capital inputs (VICS - volume inputs of capital services) estimates are provided at an enhanced level of industrial disaggregation along with new estimates for 2008.

Further information

www.statistics.gov.uk/CCI/article.asp?ID=2478

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Latest ONS estimates of public service productivity

Public services account for over a fifth of Gross Domestic Product (GDP). A recent article published by the Office for National Statistics, calculates productivity by measuring output against inputs. In addition to productivity estimates for overall public services, the following areas of service are also covered in the article – healthcare, education, adult social care, children's social care, social security administration, public order and safety, defence and police.

Some of the key findings reported in the data are:

- productivity in public services fell on average by 0.3 per cent per year between 1997 and 2008, because the amount of inputs (such as staff and equipment) increased faster than the amount of output (such as operations performed and number of pupils taught)
- over this period total output rose by 36.8 per cent while inputs grew by 41.5 per cent. As a result productivity fell by 3.3 per cent
- first estimates for 2008 show that productivity in 2008 fell by 0.9 per cent because output grew by 1.9 per cent while inputs grew by 2.8 per cent.
- the fall in 2008 follows increases in productivity in 2006 and 2007 of 0.7 per cent and 0.1 per cent respectively

For the two largest individual areas of public service, healthcare and education, productivity in 2008 fell by 0.6 per cent and 1.1 per cent respectively. between 1997 and 2008, productivity fell on average by 0.2 per cent and 0.4 per cent a year for healthcare and education respectively.

Further information

www.statistics.gov.uk/cci/article.asp?id=2488

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UPDATES

Updates to statistics on www.statistics.gov.uk

9 June

UK Trade

Deficit widened to £3.3 billion in April
www.statistics.gov.uk/cci/nugget.asp?id=199

10 June

Household income

Top to bottom income ratio four to one
www.statistics.gov.uk/cci/nugget.asp?id=334

Travel and tourism

Visits abroad down in April
www.statistics.gov.uk/cci/nugget.asp?id=352

11 June

Producer prices

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

Index of production

April shows 2.1% annual rise
www.statistics.gov.uk/cci/nugget.asp?id=198

15 June

Inflation

March 2010: CPI inflation 3.4%, RPI inflation 5.1%
www.statistics.gov.uk/cci/nugget.asp?id=19

16 June

Average weekly earnings

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

Employment

Employment rate falls to 72.1%
www.statistics.gov.uk/cci/nugget.asp?id=12

Public sector

Employment decreases in Q1 2010
www.statistics.gov.uk/cci/nugget.asp?id=407

17 June

Retail sales

Volume growth increases in May
www.statistics.gov.uk/cci/nugget.asp?id=256

18 June

Public sector finances

May: £14.1 billion budget deficit
www.statistics.gov.uk/cci/nugget.asp?id=206

29 June

CPI and the budget

Estimated impact on inflation
www.statistics.gov.uk/cci/nugget.asp?id=336

Net investment

Institutional: £5.0 billion
www.statistics.gov.uk/cci/nugget.asp?id=396

30 June

Business investment

7.1% rise in first quarter 2010
www.statistics.gov.uk/cci/nugget.asp?id=374

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

2 July

Social Trends – 40

7 July

Profitability of UK companies – Q1 2010

8 July

Index of production – May 2010

9 July

Producer price index – June 2010

UK Trade – May 2010

12 July

Quarterly national accounts – Q1 2010

Balance of payments – Q1 2010

Index of services – April 2010

Financial statistics – July 2010

13 July

Consumer price indices – June 2010

Travel Trends 2009

Travelpac – 2009

Wider measures of public sector net debt

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

14 July

Average weekly earnings – May 2010

Workforce jobs revisions – June 2010

Labour market statistics – July 2010

Aerospace and electronic cost indices – April 2010

15 July

Overseas travel and tourism – Q1 2010

Overseas travel and tourism – May 2010

Productivity measures – Q1 2010

Consumer Trends – Q1 2010

16 July

Output and employment in the construction industry – April, May 2010

New orders in the construction industry – Q1 2010

Turnover and orders in production and services industries

20 July

Public sector finances – June 2010

21 July

Average earnings index – May 2010

22 July

Retail sales – June 2010

23 July

Gross domestic product preliminary estimate – Q2 2010

Index of services – May 2009

27 July

Public service productivity – 2010

30 July

UK National Accounts – the Blue Book 2010

UK Balance of Payments – the Pink Book 2010

Economic review

August 2010

Graeme Chamberlin
Office for National Statistics

SUMMARY

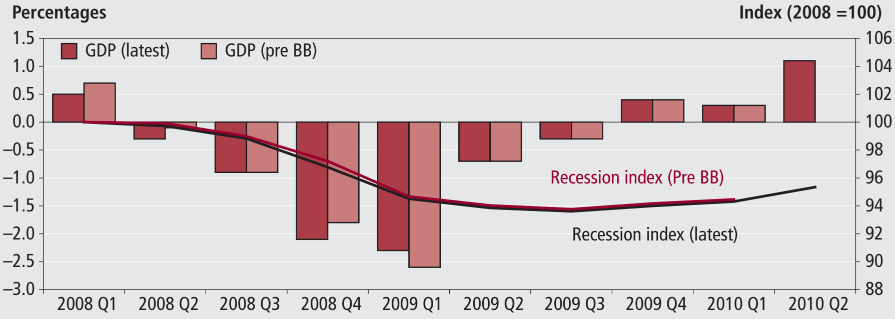
New National Accounts data consistent with Blue Book 2010 shows that the total peak to trough fall in GDP during the latest recession was 6.4 per cent, compared to the previous estimate of 6.2 per cent. Preliminary estimates report that GDP growth was 1.1 per cent in the second quarter of the year, with the strong pickup in growth being driven by the business services and finance and construction sectors – which both contributed 0.4 percentage points to the overall growth rate. New data on non-financial balance sheets shows that net worth in the UK fell during the recession, predominately reflecting lower asset prices (such as for equities and residential properties). New Workforce Jobs estimates show that over 1 million jobs were lost in the recent recession, and a more detailed breakdown by industry, especially in the services sector, is provided. Finally, CPI inflation continues to exceed 3.0 per cent, but around 1.7 percentage points is accounted for by the January rise in the rate of VAT.

Revised data show a deeper recession

In the last month ONS has published two new sets of GDP figures. On 12 July, the *Quarterly Economic Accounts*, presented the third estimate for 2010 Q1, but more significantly, these results were also consistent with the 2010 *Blue Book*. In this publication past data is benchmarked to annual data sources and supply and use balancing reconciles the output, income and expenditure sides of the economy by product and by industry. Then, on the 23 July, ONS published the GDP *Preliminary estimate* for 2010 Q2

This year's *Blue Book* revisions have had a fairly small impact on the past record of economic growth in the UK, mainly because there were no major methodological changes made to the National Accounts this time. **Figure 1** shows the quarter-on-quarter, growth rates for the latest published data and that available before the *Blue Book* (Pre BB), which is the *Output, Income and Expenditure* release in May 2010. The figure also shows a recession index, where the level of GDP is converted into an index where GDP in 2008 Q1, the last quarter before the recession, equals 100. The most interesting result is that the total depth of the recession has been revised slightly downwards. Between 2008 Q1 and 2009 Q3 GDP declined for 6 successive quarters. According to the latest data this peak to trough fall was 6.4 per cent, compared to 6.2 per cent in the Pre BB data.

Figure 1
GDP growth and the recession index



Source: GDP Preliminary estimate (2010 Q2) and Output, Income and Expenditure (2010 Q1)

These results confirm that the latest recession has been the most severe since the Second World War. An article in this edition of *Economic & Labour Market Review* (see Chamberlin 2010) compares output and expenditure movements in the last three UK recessions in more detail – and shows that peak to trough falls in the early 1990s and early 1980s recession were 2.5 per cent and 5.9 per cent respectively.

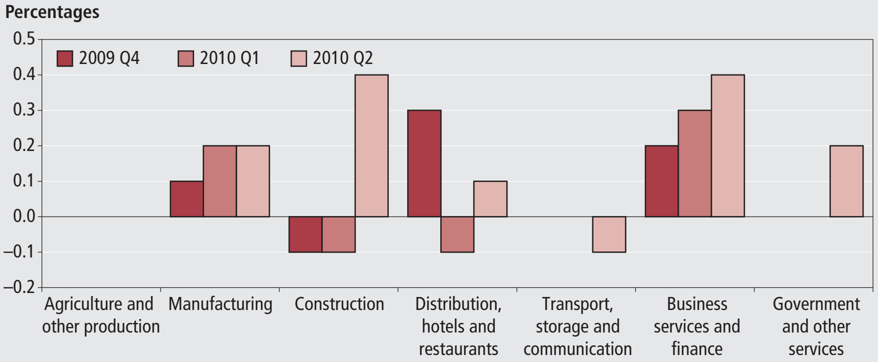
Preliminary estimates for 2010 Q2 shows that GDP grew by 1.1 per cent relative to the previous quarter. This is the fastest quarter of growth since 2006 Q1, and GDP has now expanded for three successive quarters since reaching a trough in 2009 Q3. The latest quarterly figure is also an acceleration on the two previous quarters when growth was 0.4 per cent in 2009 Q4 and 0.3 per cent in 2010 Q1. However, despite this recent pick up the level of GDP is still 4.7 per cent below its pre-recession mark.

Construction and business services lead growth in the second quarter

Services industries account for three-quarters of total Gross Value Added (GVA) in the UK, so it is unsurprising that this sector as a whole tends to drive growth overall (see **Figure 2**). Growth slowed to 0.3 per cent in the first quarter of the year, reflecting a 0.7 per cent fall in the output of the distribution, hotels and restaurants sector. Here, bad weather in January may have affected footfall in this sector, and the increase in the rate of VAT back to 17.5 per cent on the first day of 2010 may have meant that some consumption was brought forward to the final quarter of 2009. This appears to be the case, as

Figure 2

Contributions to GVA growth, 2009 Q4 – 2010 Q2



Source: GDP Preliminary estimate (2010 Q2)

the output of the distribution, hotels and restaurants sector showed strong growth of 2.2 per cent in the final growth of 2009 Q4.

The business services and finance sector has shown the most robust growth, output rising by 1.3 per cent on the quarter and contributing 0.4 percentage points to overall GDP growth. Furthermore, output in this sector was less affected by the bad weather at the beginning of the year, so stronger growth in the second quarter is less likely to reflect a rebound from weather-related disruptions to activity in the first quarter. Recent Purchasing Managers Index (PMI) reports on the service sector have pointed to strengthening activity in the key business-to-business services sector. And the British Chambers of Commerce (BCC) *Quarterly Economic Survey* reported that domestic orders in the services sector were at the highest level since 2008 Q1, although it also notes that confidence remains weak.

One particular source of growth in this sector may be the indirectly measured output of the financial services industry-known as FISIM (financial intermediary services indirectly measured). This accounts for the fact that much of the output of the financial sector is not charged for explicitly, but indirectly through a spread between the prices at which financial assets are bought or sold, or on the interest charged on loans and paid on deposits. An increase in spreads would tend to increase FISIM output, even if output volumes remained unchanged. Recent evidence from the CBI/PwC *Financial Services Survey* has reported just that, widening spreads across the financial sector including banks.

The manufacturing sector has also shown a steady recovery after output reached a trough in 2009 Q3. Since then, manufacturing output has expanded by 1.1 per cent, 1.4 per cent and 1.6 per cent respectively in the following three quarters up to and including 2010 Q2 when it contributed 0.2 percentage points to total GDP growth. PMI data, the *Industrial Trends Survey* published by the Confederation of British Industry and the BCC *Quarterly Economic Survey* all concur with the story of strengthening manufacturing output, stemming from an increase in new orders and as businesses begin to rebuild stock levels in anticipation of higher future demand.

The largest increase in second quarter output though was in the construction industry where output increased by 6.6 per cent and contributing 0.4 percentage points to overall growth. Given the relatively low weight of this sector in total GVA (around 6 per cent according to 2006 weights), this pickup in growth looks both large and sudden, and was the main factor explaining why GDP growth was ahead of consensus forecasts in the second quarter.

While both the production and services sectors have now grown for three successive quarters, output in the construction sector has been slower to shown signs of recovery. In fact, after quarter-on-quarter contractions of 1.6 per cent in both 2009 Q4 and 2010 Q1 construction output reached a new trough in the first quarter of the year, 15 per cent below its pre-recession level. Even accounting for the latest quarter of sturdy growth, construction output is still 9.4 per cent lower than its pre-recession level, not much different to production output which is around 11.8 per cent below its pre-recession level. Most recent data show that GDP as a whole reached its trough in 2009 Q3. Relative to this, construction output was 3.6 per cent higher in 2010 Q2 whilst manufacturing output was 4.2 per cent higher. Therefore, on the basis of quarter-on-quarter changes construction output exhibits greater volatility, but viewed over a longer period of time output movements have been less marked and more in line with production (manufacturing) output. It is also unclear to what extent the latest quarter of strong growth is as a result of the poor weather in January. By hampering activity in the first quarter, output in the second quarter may simply just look stronger in comparison.

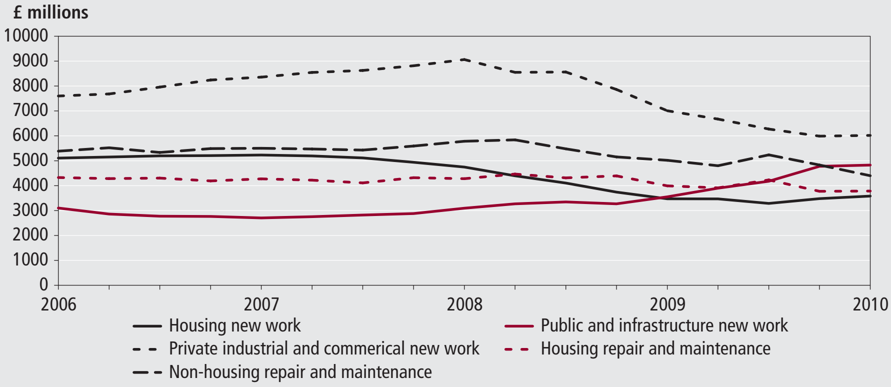
Construction new orders and output show signs of recovery

ONS publishes more detail on the construction industry in two quarterly statistical bulletins covering output and new orders. The most recent publications cover the period up until 2010 Q1, so it will be necessary to wait for the next release to understand better the large movements in construction output in 2010 Q2.

Construction activity has generally been in the doldrums during the last two years. **Figure 3** plots the value, in constant prices and seasonally adjusted, of the main categories of construction output

Figure 3

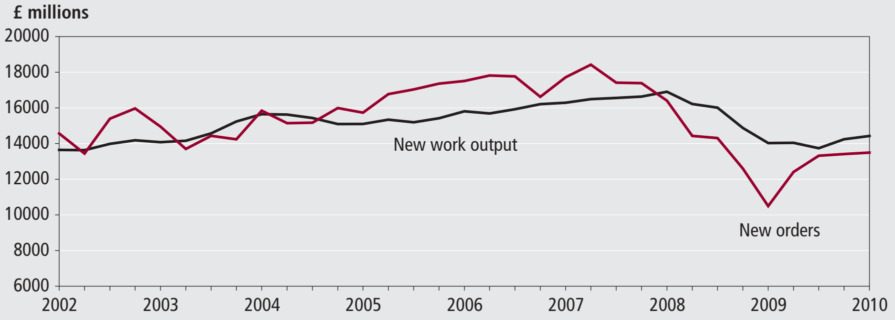
Construction output by main category of activity



Source: Output in the construction industry

Figure 4

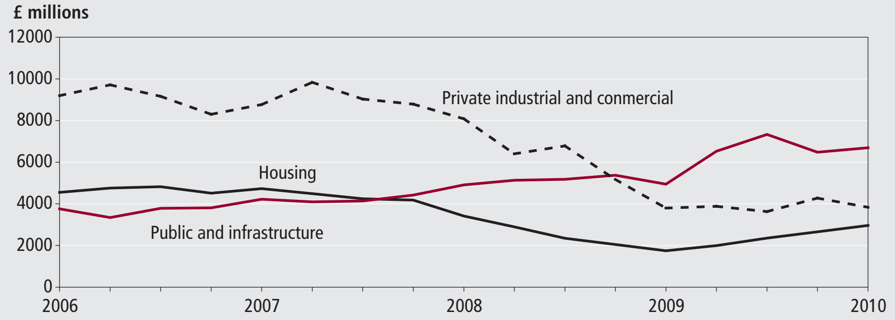
New orders and new work output in the construction industry



Source: Output in the construction industry and New orders in the construction industry

Figure 5

Main categories of new orders in the construction industry



Source: New orders in the construction industry

since 2006. The recession has clearly been associated with strong falls in (mainly private) new house building (down 37.2 per cent between 2007 Q1 and 2009 Q3) and new private commercial and industrial work (down 33.9 per cent between 2008 Q1 and 2009 Q4). In both cases falling property prices and the hiatus in mortgage and business lending have weighed on demand. In contrast, public sector and infrastructure new work have increased strongly, perhaps due to a different source of funding than available to the private sector.

It should be remembered that a significant part of construction output consists of repair and maintenance which has also fallen. However, as Figure 3 shows, this category of output tends to be less cyclical than new work. This makes some sense. Although households and businesses may delay some maintenance expenditures when cash flows are weaker, there is probably less scope to cut this spending than with new projects. Also, the search for cost savings may lead to a substitution away from replacing to repairing the building fabric. The government also brought forward some repair and maintenance work as part of its fiscal stimulus package. Having said this, it was this part that contributed the most to the further fall in construction output in 2010 Q1, just as new works were beginning to strengthen.

The value of new orders in the construction industry is presented in **Figure 4** alongside the value of total new work (see Figure 3). Clearly both series follow the same cyclical pattern, although new orders have shown stronger movements and, as would be expected, tend to lead new work output. In recent quarters new orders have shown some sign of recovery, picking up from the trough in the first quarter of 2009. This would be expected to eventually pass-through into new work output, and might explain some of the growth observed in construction output in 2010 Q2. PMI data on the construction industry concurs with this strong second quarter growth, with activity balances improving sharply from March 2010 onwards. Furthermore, this was attributed to an improvement in new orders, as Figure 3 also suggests.

Figure 5 shows the trends in the main categories of new orders. While private industrial and commercial orders fell abruptly in the recession, and in line with new work output, the decline has now at least slowed. Improvements to new orders in housing and public and infrastructure sectors though have started to emerge, which were also reported in recent PMI data. The housing market has shown some signs of recovery in the last year, and even though turnover and mortgage lending remains depressed, there is still a structural undersupply of homes in the UK.

Government net-borrowing increases as households and corporations become increasing-net lenders

The net-lending position of a particular sector is a good summary of its overall balance sheet. A sector is a net-lender if its gross saving – that is its disposable income minus consumption – exceeds its investment spending (what it actually spends on capital items). In this case, the surplus balances can be lent to other sectors of the economy, or overseas. Net-borrowing reflects the opposite scenario, where a particular sector's investment spending exceeds the internally generated funds available. In this case, external finance (borrowing from other sectors or overseas) is required to fund investment. Sectors normally become net-borrowers as consumption and investment increase above income, and vice-versa for net lending sectors.

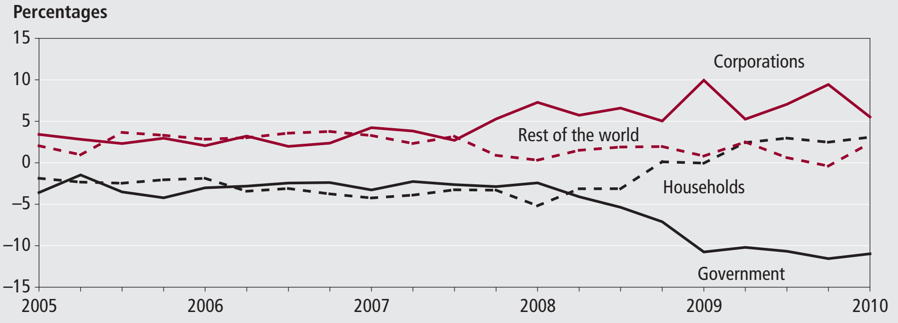
Figure 6 displays the net-lending/borrowing positions of the general government, household, corporate sectors and rest of the world sectors and how they have changed over the recent period of recession. Two very marked trends are visible. First, the household and corporate sectors have become increasing net-lenders. In the case of the household sector, it actually switched from being a net-borrower to a net-lender around the start of the recession and has maintained that position ever since. This is clearly evidence that these sectors of the economy have reduced current and capital spending (consumption and investment) relative to income – perhaps to pay down debt levels and strengthen balance sheets.

Secondly, and in stark contrast, the general government sector has become an increasing net-borrower. This is a clear manifestation of the large budget deficits posted in the last two calendar years as government spending (consumption and investment) increases relative to a sharp fall in general government income.

In fact, the rise in government borrowing has generally offset the rise in private sector lending (households and corporations), as evidenced by the fairly stable trend

Figure 6

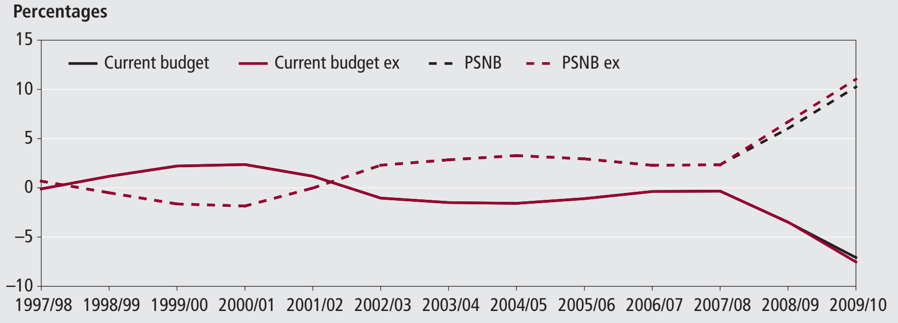
Net-lending/borrowing by sector as a percentage of GDP



Source: UK Economic Accounts

Figure 7

Current budget balance and net borrowing as a proportion of GDP



Source: UK Economic Accounts

in the net-lending position of the rest of the world sector. These sector accounts should be a closed system, so the rest of the world position reflects the net lending and borrowing positions of the domestic sectors. It should also, for the same reason, reflect movements in the current account. As the rest of the world has been a fairly constant net lender to the UK economy it suggests the UK has run, as a percentage of GDP, a fairly stable current account deficit in recent years – which it more or less has once sporadic quarterly movements in investment income are smoothed over a longer period (see later in the article).

The financial accounts for each sector, which ONS publishes routinely each quarter as part of the *UK Economic Accounts*, are a useful resource for understanding and analysing the financial positions of different parts of the UK economy. These can now be looked at in a little more detail.

Current budget deficit exceeds 7.0 per cent of GDP in 2009/10

As explained already, the net-lending position of the public sector, (general government plus public corporations) will tend to reflect the main trends in the public sector finances. **Figure 7** shows the current budget balance and Public Sector Net Borrowing (PSNB), both as a percentage of GDP. For each there are two measures, including and excluding the effects of the government's various interventions in the financial sector.

The current budget deficit reached 7.08 per cent of GDP in the financial year 2009/10 (7.53 per cent excluding financial interventions), up from 3.5 per cent (3.47 per cent) in 2008/09 and compares to an almost balanced current budget in 2007/08. The abrupt deterioration in the public finances is a clear consequence of the recession – as transfer payments (such as out of work benefits) increase and taxation revenues fall. Stimulus packages have also maintained (and in some instances increased) government spending through the recession adding to the deficit.

PSNB increases in line with the growing deficit as the government increases its liabilities. It also consists of borrowing to finance capital spending (public sector investment) which is not included in the current budget balance and which the previous government has generally maintained as a proportion of GDP in the last two financial years. As a result, PSNB was 10.25 per cent of GDP (11.03 per cent excluding interventions) in 2009/10, compared to 6.05 per cent (6.07 per cent) in 2008/09 and just 2.35 per cent (2.38 per cent) in 2007/08.

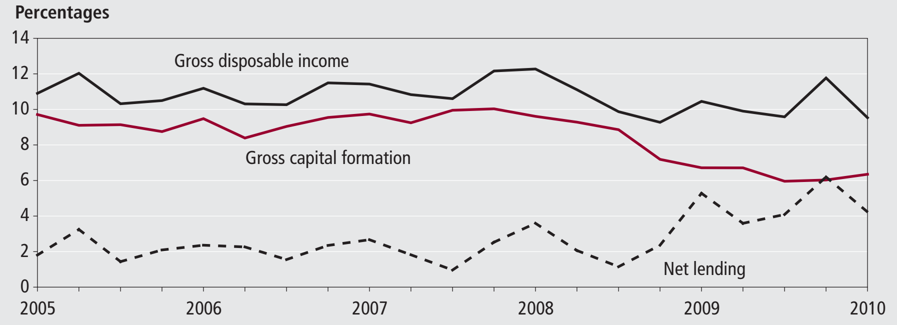
It is noticeable that the current budget balance and PSNB measures are worse once the government's financial interventions are excluded. This is because the government, through its stakes in the banking sector and through the Bank of England's asset purchase scheme has accumulated assets that have generated positive revenues, hence lowering the budget balance and the borrowing requirement. However, as the government intends to one day disinvest itself of these assets and return them to the private sector, the revenues they presently generate for the public purse must only be temporary. As a result, excluding the effects of these interventions provides an underlying measure of the public sector finances.

Corporate sector net lending continues to rise as gross capital formation falls

The corporate sector consists of financial corporations (FC), public corporations (PC) and private non-financial corporations (PNFC). The rise in corporate sector net lending, as seen in Figure 6, can be best observed by looking at the PNFC sector – which is the largest of the three. **Figure 8** shows the two main inputs into net lending, the gross disposable income of PNFCs and also gross capital formation. Both are expressed as a proportion of GDP. It can be seen that net lending has grown due to a relatively larger fall in the capital formation of the sector compared to disposable incomes, which mark the internally generated funds available for investment and has been more stable as a proportion of GDP through the recession.

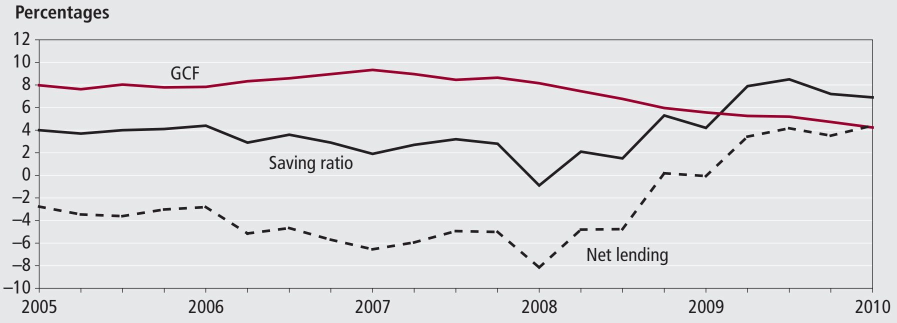
The fact that PNFC disposable income, as a proportion of GDP, has not shown such a large fall in itself hides a number of different trends. Most notably, corporate profitability has fallen in the recession, which other things being equal, would lower the corporate sector's disposable income. According to ONS's latest Profitability of UK companies statistical bulletin, the net rate of return for PNFCs was 10.2 per cent in the first quarter of 2010 Q1. This figure, which excludes the high impact of UK Continental Shelf companies, is a three percentage points fall from the 13.2 per cent net rate of return in 2008 Q1. The fall in profitability was more acute in the

Figure 8
Net-lending of private non-financial corporations as a proportion of GDP



Source: UK Economic Accounts

Figure 9
Household saving, gross capital formation and net-lending[1]



Note:

Source: UK Economic Accounts

1 Figures are a presented as a percentage of household total resources.

manufacturing sector. However, a number of factors have acted to offset the fall in profitability on disposable income.

First, taxes have fallen in line with profits. Second, major reductions in interest rates have reduced the cost of servicing debts and freed up cash flows. And finally, there is evidence that the sector on the average has cut dividend payments to share holders. Each of these would act to increase the internally-generated funds available for investment.

Gross capital formation (GCF) consists of both gross fixed capital formation (GFCF capital goods with a life length in excess of one year) and stockbuilding (the stocks of raw materials, works in progress and finished goods that companies use to meet future demand). Therefore, part of the fall in PNFC investment reflects the running down of stocks as the UK entered recession. The contraction in both types of capital spending is an indicator that the corporate sector sees less need to maintain future capacity when there is great uncertainty over future demand, but this may not be the only reason explaining weakening investment.

Some firms may be only too willing to invest more but have been constrained by the tightening in credit availability. Lending to businesses has fallen sharply, despite government efforts to use their stakes in the banking sector to this end, although it is not certain the extent to which the fall in lending can be attributed to the demand or supply of credit. Investment spending may also have been cut back in order to protect or build cash reserves, to act as a buffer against uncertainty, make additional contributions into deficit pension schemes, and to pay down existing debts.

Households continue as net-lenders

Households have also become increasing net lenders to the rest of the economy, and largely for the same reasons as the corporate sector. The household saving ratio predominately shows the balance of household disposable income and consumption spending. Although both would be expected to fall in a recession, consumption generally falls faster and the saving ratio increases, as has been the case (see **Figure 9**). In 2008 Q1 the household saving ratio was at a low of -0.9 per cent, meaning that household consumption exceeded disposable income. Since then, the saving ratio has risen, reaching a peak of 8.5 per cent in 2009 Q3, which is not high by historical standards but is certainly the case for more recent times.

Household disposable incomes, like those of corporations, have been subject to a number of opposing forces. Increasing unemployment and moderation in wage growth has constrained labour income. But because the household sector is an overall net debtor in interest bearing assets, due mainly to the large increase in secured mortgage debt built up in the last decade, the major reduction in interest rates has, in the aggregate, supported income available for consumption and investment. The taxes and benefits system has also behaved as an automatic stabilizer, protecting household incomes from some of the consequences of the weakening labour market through lower taxes and higher benefit payments. All in all, disposable incomes may not have fallen by as much as could be feared.

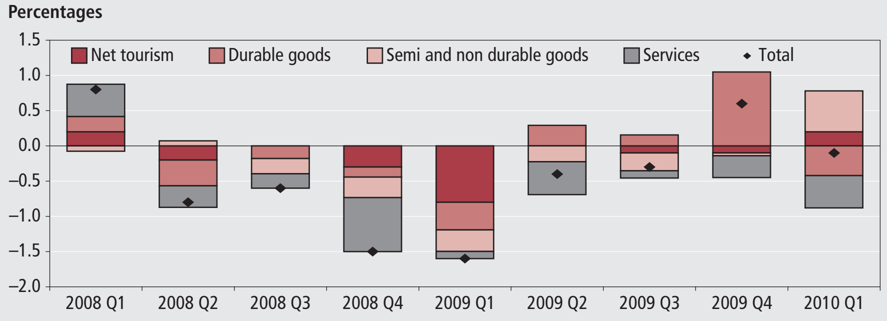
Household consumption though has contracted significantly. **Figure 10** shows the main contributions to the quarter-on-quarter growth rates through the recession. Large falls in 2008 Q4 and 2009 Q1 correspond to sharp rises in the saving ratio (which went from 1.5 per cent in 2008 Q3 to 7.9 per cent in 2009 Q2). The fall in household consumption has also been fairly broad-based across the main components. There are two items of note form Figure 10.

The first is the contribution of durable goods to consumption growth in the second half of 2009, especially in the final quarter. This may partly reflect the vehicle scrappage scheme. The temporary reduction in VAT to 15 per cent between December 2008 and January 2010 may also have resulted in some (durable) consumption being brought forward from 2010 Q1 to 2009 Q4. In that quarter alone consumption grew by 0.6 per cent, of which 1.0 percentage point was accounted for by spending on durables, and the saving ratio dropped by 1.3 percentage points from the previous quarter.

Second is the contribution of net tourist spending, which has often been significant even though it rarely attracts much attention. This component of household consumption balances out the consumption of UK resident households overseas, and the spending of overseas residents in the UK. As it refers to the household sector these spending flows are largely synonymous with tourists. Net tourist spending has generally made a negative contribution to household consumption growth in recent quarters.

Figure 10

Contributions to household consumption growth[1]



Note:

Source: UK Economic Accounts

1 Figures are a presented as a percentage of household total resources.

This appears to be a result of a lager fall in visits abroad by UK residents than in the visits to the UK by overseas residents. According to the ONS's Monthly Overseas Travel and Tourism statistical bulletin, the number of visits to the UK by overseas residents' fell by 15.6 per cent between 2008 Q1 and 2010 Q1. Over the same period, the number of visits by UK residents to overseas fell by 28.0 per cent. Given that there hasn't been a noticeable change in the average amounts spent by visitors to and from the UK, these trends in passenger numbers suggest that net tourist spending has fallen. An article in this edition of Economic & Labour Market Review (see Webber, Buccellato and White 2010) finds evidence of a *staycation* effect, where UK residents substitute foreign travel to domestic travel. One factor at play here may have been the depreciation in sterling, which makes UK visits relatively cheaper compared to foreign trips.

The rise in the saving ratio explains half the growing net-lending position of households. The other half is accounted for by a fall in household investment. For the household sector the main investment item is residential property, so the reduction here reflects both the fall in house prices and the weaker turnover, which may be in itself the result of tighter restrictions on mortgage lending.

Current account back in deficit in 2010 Q1

The balance of payments records one nation's transactions with the rest of the world. Within this the current account records flows of trade in goods and services, income and transfer payments across countries. **Figure 11** shows the recent path in the UK current account and the trade and income (including transfers) components, all expressed as a proportion of GDP.

Clearly quarterly movements in the current account can be and have been volatile, so often a better picture can be taken by looking at longer-term movements in the data. The balance of trade is the difference between exports and imports in goods and services; where the UK's large deficit in goods trade is partly offset by its surplus in services trade. As a proportion of GDP, the trade balance improved at the outset of the recession as imports fell at a faster rate than exports. However, since the UK and global economies have started to recover, UK imports have picked up at a faster rate than exports arresting the improvement in the current trade deficit. This is despite the large depreciation in sterling in the second half of 2008 – which seems to have had little impact on the UK's trade position – although it is hard to disprove the possible counterfactual that things may have been worse otherwise. Findings from recent business surveys have not reported overly optimistic balances regarding future export orders, with the exchange rate also having little noticeable effect in stimulating export orders.

The balance on income flows also includes current transfer payments. Current transfer payments include aid spending and the costs of belonging to supranational organisations such as the European Union or the United Nations, and is a remarkably stable component in the balance of payments with the UK running a deficit of about 1.0 per cent of GDP. Income includes remittances by workers, but most substantially investment income flows. These are payments associated with the international ownership of assets. The UK has typically generated positive investment income due to its large accumulated stock of foreign direct investment assets. In recent quarters these flows have been volatile, and due to their size they have impacted on the overall current account. For example, between 2009 Q4 and 2010 Q1 the current account position switched from a surplus of 0.1 per cent of GDP to a deficit of 2.7 per cent of GDP.

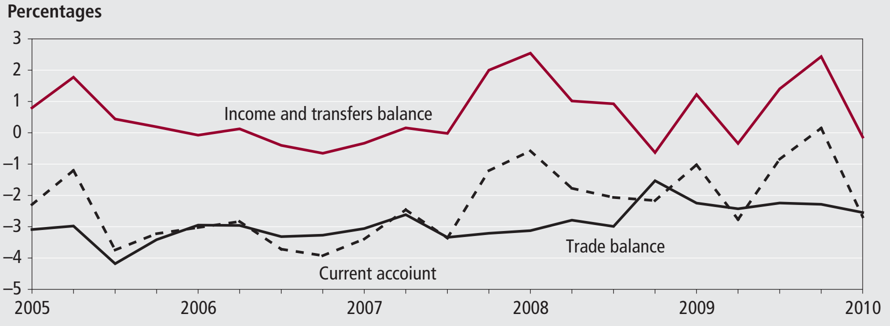
Investment income flows can be volatile. As mentioned earlier, much of the UK's investment income is derived from its stock of foreign direct investment, which unlike interest-bearing assets, exhibits higher but also more volatile returns. At times of equity market and exchange rate volatility investment income flows are likely to be even more variable. Some of the pattern of recent movements in the current account balance can also be seen in the net-lending position of the rest of the world sector in Figure 7.

Recession hits net-worth of the UK

In the UK *Economic Accounts* which ONS publishes each quarter a full set of financial accounts are presented for each sector of the economy. These include net-positions in the holdings of financial assets. Similar balances for net-holding of non-financial assets are published annually in the Blue Book, and have just been main available up until 2009. Interest will lie in

Figure 11

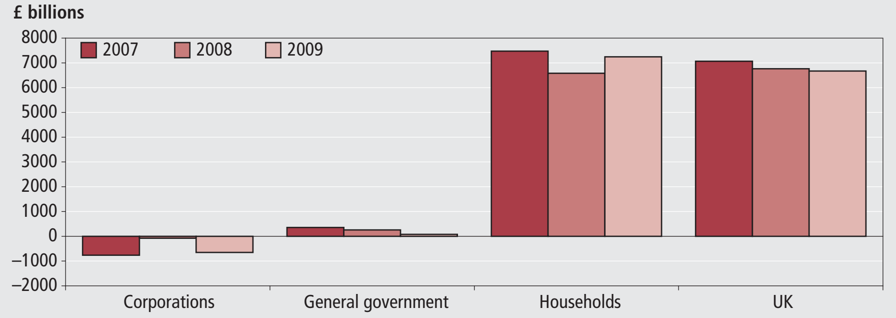
UK current account balance and its main components relative to GDP



Source: UK Balance of Payments

Figure 12

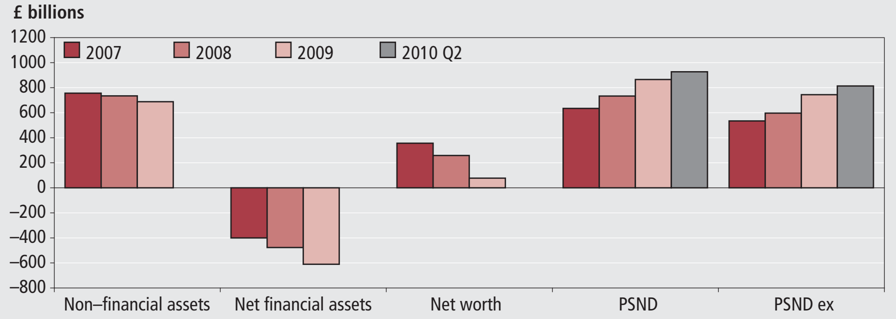
Net-worth in the UK by sector



Source: Blue Book

Figure 13

Net-worth of the general government sector



Source: Blue Book

how the recession has affected the UK's overall net-worth or wealth– the difference between total assets and total liabilities. These positions for 2007, 2008 and 2009 for the corporate, general government, household and UK are shown in **Figure 12.** Two things are immediately apparent. The first is that the net worth of the UK fell in the two years of the recession in 2008 and 2009. Second, the household sector accounts for almost all of the net worth position of the UK.

In 2007 the net worth of the UK was around £7.07 trillion. In 2008 this had fallen to £6.76 trillion, and in 2009 a further but smaller fall to 6.67 trillion. Residential buildings were the largest category of net worth. In line with the fall in house prices during 2008 the value of residential buildings assets fell from £4.31 trillion in 2007 to £3.92 trillion in 2008 – a drop of £390 billion. However, as house prices regained some of their value in 2009 the value of residential property assets increased by £130 billion to £4.05 billion. The value of commercial, industrial and other buildings have also fallen, from £700.1 billion in 2007 to £596.5 billion in 2008 and then further to £559.1 billion in 2007.

The movement in net financial assets over this period appears small in comparison, with liabilities of £323.3 billion in 2007 improving to liabilities of £101.5 billion in 2008 before deteriorating to net liabilities of £275 billion in 2009. This is because a lot of the net financial assets and liabilities are held between different sectors in the UK, so in the aggregate there is a lot of netting out.

Rising public sector debt reduces the government's net-worth

One feature in Figure 12 is the fall in the net worth of the general government sector. In 2007 its net-worth position was £356.2 billion, but this has subsequently fallen to £258.1 billion in 2008 and then to just £77.5 billion in 2009. A breakdown between the contributions of non-financial assets and financial assets is shown in **Figure 13**. Although the net-holding of non-financial assets have fallen, in line with general falls in asset prices and particularly property prices, the main factor behind the deterioration in the general government sector's net worth has been the rise in its financial liabilities. In 2007 these stood at net liabilities of £400 billion, and have now increased to over £600 billion in 2009. These have been incurred as the government borrows in order to fund its growing PSNB.

Also included in Figure 13 are recent levels of Public Sector Net Debt (PSND), and clearly this has grown in line with the general government's financial liabilities. In 2007 PSND stood at £634.4 billion (£534.6 billion excluding the government's interventions in the financial sector), but had grown to £865.5 billion in 2009 (£744 billion excluding the interventions). Note that public sector net-debt excluding the interventions is lower as it does not reflect the debt incurred in the purchase of assets such as the stakes in Lloyds and RBS, any contingent liabilities and the costs of the Bank of England's asset purchase scheme. As it is intended that these assets will only be temporarily held by the general government sector they are excluded from headline (underlying) figures in the public sector finances.

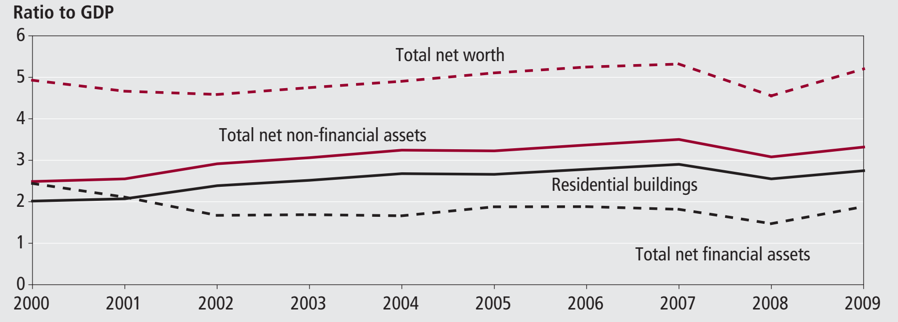
In the July Public Finances statistical bulletin it was reported that Public Sector Net Debt had increased to £926.9 billion (£813.7 billion). If this continues through to rising net financial liabilities it is likely that the government will have negative net-worth by the end of 2010.

Household net worth

The household sector dominates the holdings of net worth in the UK. This is hardly surprising, as it owns most residential property, and through its investments in pension funds and life insurance it owns much of the equity in the corporate sector as well. Trends in the main parts of the household sector's net worth since 2000, as a ratio to GDP, are shown in **Figure 14**. Clearly total net-worth has increased over the years, despite a fall in 2008 and that net-worth in 2009 was still below that in 2007. These movements were driven by changes to residential property prices. As a result, net-worth in all non-financial and financial assets was 2.5 times GDP in 2000, was 3.5 times in 2007, before falling back slightly to 3.1 times in 2008 and finally recovering to 3.3 times GDP in 2009.

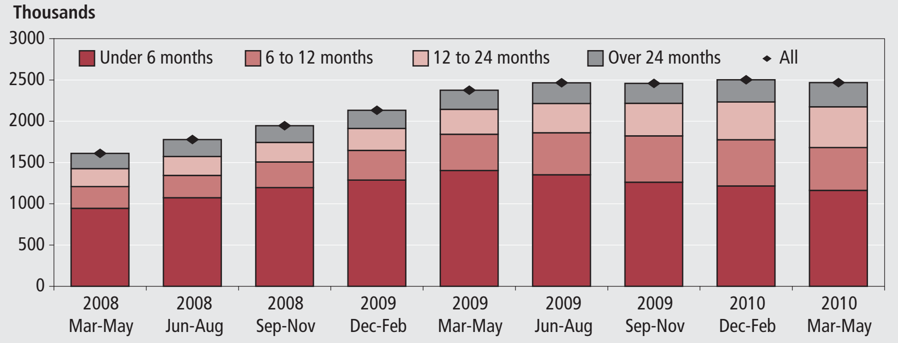
The household sector has generally held positive balances in financial assets, mainly due to the equity held on its behalf by pension funds. However, during the first half of the 2000's decades net financial wealth fell as a multiple of GDP. This was being driven by the accumulation of mortgage debt to fund the accumulation of wealth in residential property, so the household sector was largely using financial liabilities to accumulate non-financial wealth. In 2008 the fall in net

Figure 14
Household sector net-worth, 2000 – 2009



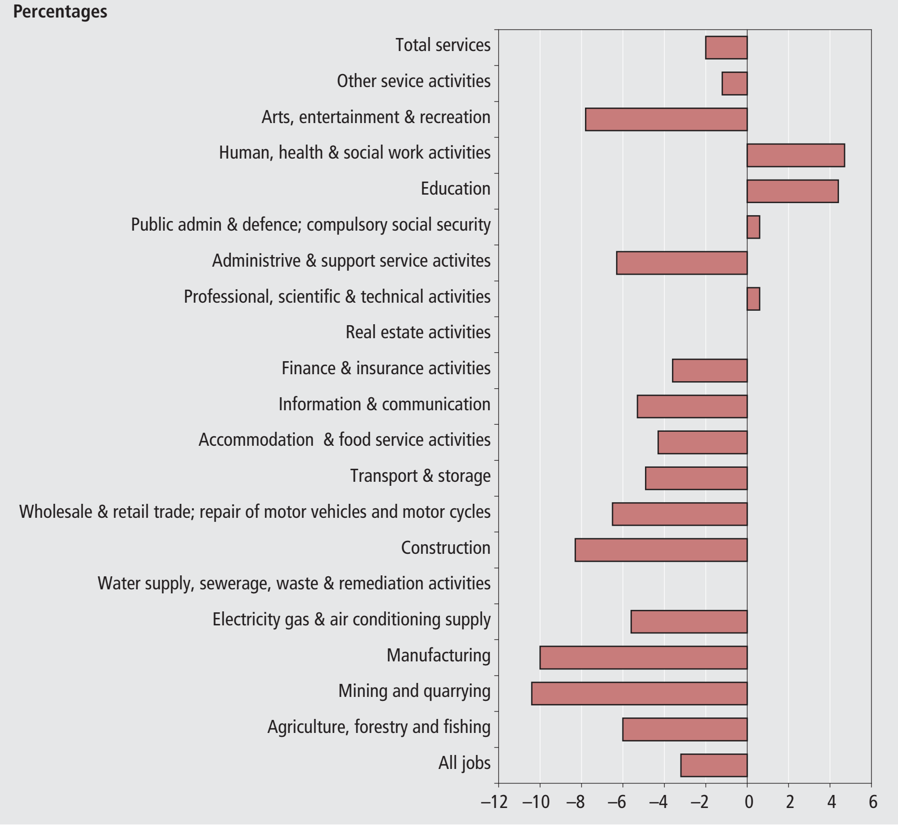
Source: Blue Book

Figure 15
Unemployment by duration



Source: Labour Markets Statistics

Figure 16
Change in jobs by industry, 2008 Q2–2009 Q4



Source: Labour Markets Statistics

financial wealth of households partly reflected the fall in equity markets in that year as the financial crisis took hold and the economy fell into recession. Equities though have rallied since the second half of 2009 helping to restore some of this net-financial wealth position. Note that the fall in equity valuations actually reduces the claims on the corporate sector and improved its net wealth position in 2008. This can also be seen in Figure 12 and explains why the fall in household net-worth in 2008 was greater than that of the UK as a whole.

Rising durations of unemployment

Between March-May 2008 and March-May 2009 the level and rate of unemployment in the UK increased sharply, from 1.61 million (5.2 per cent) to 2.38 million (7.6 per cent). However, in the last year the rise in unemployment has steadied, reaching 2.47 million (7.8 per cent) in the three months March-May 2010. In fact, for most of the last year unemployment has generally hovered at just below 2.5 million (8.0 per cent).

However, as **Figure 15** shows, although the level of unemployment has shown signs of stabilising, the duration of unemployment has continued to increase. At the outset of the recession, the ranks of the unemployment were predominately filled by those who had been unemployed for less than 6 months. As a result, the proportion that had been unemployed for over 12 months fell from 25 per cent in March-May 2008 to 22.5 per cent a year later. As the recession progressed this proportion has started to rise and the proportion of unemployed for less than six months has started to fall. In March-May 2010 the proportion of the unemployed over 12 months had increased to 31.9 per cent.

These labour market dynamics suggest that although the flows into unemployment have stabilised, the flows out are yet to pick up meaning the unemployed are moving up the duration classes. For example, the redundancy rate peaked at around 12.1 per 1000 in employment in the three months March–May 2009, but had fallen back to 6.5 in the same three month period a year later. In contrast, the ratio of unemployed to vacancies, which peaked at 5.7 in June–August 2009, has only shown a modest improvement to 5.1 in the three months March–May 2010.

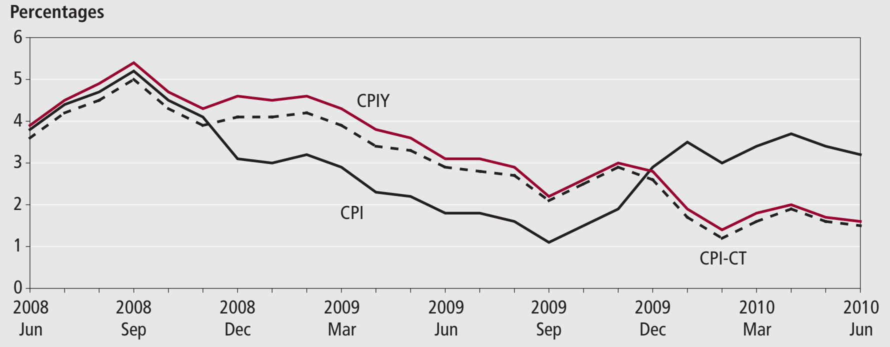
New estimates show over 1 million jobs were lost in the recession

The latest Labour Market Statistics statistical bulletin reports new estimates of Workforce Jobs. These reflect a number of methodological improvements, including a change in the classification to the 2007 Standard Industrial Classification (SIC). Between the second quarter of 2008 and the final quarter of 2009 the total number of jobs in the UK fell by 1.03 million from 31.78 million to 30.75 million. In the latest quarter total, 2010 Q1, jobs rose by a modest 13,000 to 30.77 million.

Workforce Jobs are the preferred measure for providing an industry breakdown of developments in the labour market. Therefore the new estimates can be used to show how the peak to trough fall in jobs between 2008 Q2 and 2009 Q4 was distributed by industry (see **Figure 16**). The new SIC 2007 also provides greater detail on the services sector than before.

Manufacturing jobs fell by 10 per cent (286,000 jobs) in this period, whilst construction jobs dropped by 8.3 per cent (191,000 jobs). In the services sector as a whole, the total fall in jobs was relatively smaller at 2.0 per cent (513,000 jobs). Within the services sector though there were differences in the patterns of job changes. For example, wholesale and retail distribution jobs fell by 6.5 per cent (326,000) and administrative and support service activities by 6.3 per cent (156,000 jobs). But in the education and human health sectors, the number of jobs actually rose by 4.4 per cent (114,000 jobs) and 4.7 per cent (177,000 jobs) respectively.

Figure 17
CPI, CPIY and CPI-CT inflation rates



Source: Consumer Prices

CPI inflation falls to 3.2 per cent in June

Figure 17 shows the recent path in Consumer Prices Index (CPI) inflation. In June 2010, the CPI was 3.2 per cent higher than in the same month a year before, with the annual rate of inflation falling from 3.4 per cent in the previous month. During 2010 the CPI inflation rate has exceeded 3.0 per cent, but monthly changes have generally reflected short-term price changes. For example, in the latest month the 0.2 percentage points fall in CPI inflation from the previous month was mainly accounted for by the transport category (fuel). The 0.3 percentage point fall between April and May also reflected fuel price changes, but more importantly changes in food, beverages and tobacco prices. The rise of 0.3 percentage points between March and April was mainly attributed to food, beverages and tobacco and clothing and footwear. So the month on month changes in the annual CPI inflation rate have not reflected any sustained patterns in 2010.

Taking a longer term view of the inflation figures though shows that the increase in the rate of VAT in January 2010 has increased the annual rate of CPI inflation by around 1.7 percentage points. As Figure 17 shows, the CPIY measure of inflation where indirect taxes are excluded was 1.6 per cent in June, and the CPI-CT measure where indirect taxes are included but held constant was 1.5 per cent in June. Therefore, underlying inflation trends are much weaker than the headline measure suggests.

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Independent forecasts

July 2010

UK forecasts

The tables below supplement the Economic Review by providing a forward-looking view of the UK economy. The tables shows the average and range of independent forecasts for 2010 and 2011 and are extracted from HM Treasury's Forecasts for the UK Economy.

2010

	Average	Lowest	Highest
GDP growth (per cent)	*1.2*	*0.9*	*1.9*
Inflation rate (Q4, per cent)			
CPI	*2.6*	*1.5*	*3.5*
RPI	*3.9*	*2.4*	*5.4*
Claimant count (Q4, million)	1.60	1.40	2.00
Current account (£ billion)	–21.6	–39.3	–1.1
Public Sector Net Borrowing (2009–10, £ billion)	149.8	133.7	175.7

2011

	Average	Lowest	Highest
GDP growth (per cent)	*2.1*	*1.0*	*3.2*
Inflation rate (Q4, per cent)			
CPI	*2.2*	*1.1*	*3.7*
RPI	*3.4*	*2.2*	*4.7*
Claimant count (Q4, million)	1.64	1.23	2.30
Current account (£ billion)	–18.3	–50.1	–0.3
Public Sector Net Borrowing (2010–11, £ billion)	124.0	88.7	165.0

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 Q4	2010 Q1	2010 Q2	2010 Apr	2010 May	2010 Jun
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	–0.1	–4.9	0.4	0.3	1.1	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	–0.1	–4.7	0.6	0.3	1.1	..	..	..
Industrial production	CKYW	–3.1	–10.2	0.5	1.0	0.9	–0.7	0.8	..
Manufacturing	CKYY	–2.9	–10.6	1.2	1.4	1.7	–0.8	0.3	..
Construction	GDQB	–0.8	–11.0	–1.5	–1.7	6.6	..	..	..
Services	GDQS	0.5	–3.3	0.7	0.3	0.9	..	..	..
Oil and gas extraction	CKZO	–5.0	–7.3	–0.2	–1.3	..	–0.2	2.5	..
Electricity, gas and water supply	CKYZ	0.1	–8.5	–2.9	0.3	–1.6	–0.5	1.4	..
Business services and finance	GDQN	2.0	–4.5	0.6	1.1	1.3	..	..	..
Household demand									
Retail sales volume growth	EAPS	2.6	1.7	0.7	..	..	..	..	..
Household final consumption expenditure growth (CVM)	ABJR	0.6	–3.4	0.6	–0.1	..	..	..	..
GB new registrations of cars (thousands)[1]	BCGT	..	..	..	..	..	..	..	..
Labour market[2,3]									
Employment: 16 and over (thousands)	MGRZ	29,443	28,979	28,905	28,829	..	28,984	..	..
Employment rate: working age (%)	MGSU	74.5	72.8	72.4	72.0	..	72.3	..	..
Workforce jobs (thousands)	DYDC	31,780	30,997	30,753	30,766	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	940.7	913.3	907.9	908.4	..	911.4	..	..
Unemployment: 16 and over (thousands)	MGSC	1,776	2,395	2,457	2,510	..	2,468	..	..
Unemployment rate: 16 and over (%)	MGSX	5.7	7.6	7.8	8.0	..	7.8	..	..
Claimant count (thousands)	BCJD	905.8	1,528.5	1,615.9	1,579.2	1,484.3	1,512.0	1,480.9	1,460.1
Economically active: 16 and over (thousands)	MGSF	31,220	31,374	31,363	31,340	..	31,452	..	..
Economic activity rate: working age (%)	MGSO	79.1	79.0	78.7	78.5	..	78.7	..	..
Economically inactive: working age (thousands)	YBSN	7,872	7,967	8,077	8,166	..	8,097	..	..
Economic inactivity rate: working age (%)	YBTL	20.9	21.0	21.3	21.5	..	21.3	..	..
Vacancies (thousands)	AP2Y	636	451	465	475	486	474	482	486
Redundancies (thousands)	BEAO	163	235	168	177	..	160	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses)[3]	LNNC	..	..	1.5	4.3	..	4.3	2.9	..
GB average earnings (excluding bonuses)[3]	JQDY	..	..	1.4	1.7	..	1.7	1.6	..
Whole economy productivity (output per worker)	A4YN	..	..	–0.9	1.3	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	..	..	..
Unit wage costs: whole economy	LOJE	..	..	4.1	3.9	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	..	..	..
Business demand									
Business investment growth (CVM)	NPEL	–1.1	–19.4	–3.6	7.8	..	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	1.6	1.2	0.1	1.5	..	..	..	..
Prices (12-monthly percentage change – except oil prices)[1]									
Consumer prices index	D7G7	3.6	2.2	2.1	3.3	3.5	3.7	3.4	3.2
Retail prices index	CZBH	4.0	–0.5	0.6	4.0	5.1	5.3	5.1	5.0
Retail prices index (excluding mortgage interest payments)	CDKQ	4.3	2.0	2.8	4.5	5.1	5.4	5.1	5.0
Producer output prices (excluding FBTP)[4,5]	PLLV	4.7	1.9	2.2	3.2	4.6	4.5	4.4	4.8
Producer input prices[5]	RNNK	21.6	–3.5	4.0	8.7	11.7	13.0	11.5	10.7
Oil price: sterling (£ per barrel)	ETXR	52.10	39.34	45.53	46.63	53.30	55.93	52.54	51.43
Oil price: dollars ($ per barrel)	ETXQ	98.37	62.05	74.40	77.25	79.49	85.77	77.03	75.66

Seasonally adjusted unless otherwise stated

	Source CDID	2008	2009	2009 Q4	2010 Q1	2010 Q2	2010 Apr	2010 May	2010 Jun
Financial markets[1]									
Sterling ERI (January 2005=100)	BK67	90.8	80.2	80.0	79.3	79.6	79.1	79.0	80.8
Average exchange rate /US$	AUSS	1.8528	1.5649	1.6343	1.5584	1.4909	1.5340	1.4627	1.4761
Average exchange rate /Euro	THAP	1.2588	1.1233	1.1058	1.1269	1.1747	1.1436	1.1685	1.2082
3-month inter-bank rate	HSAJ	2.75	0.55	0.55	0.50	0.65	0.50	0.60	0.65
Selected retail banks: base rate	ZCMG						0.50	0.50	..
3-month interest rate on US Treasury bills	LUST	0.11	0.06	0.06	0.16	0.17	0.16	0.17	0.17
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	–93,116	–81,789	–21,039	–21,854	..	–7,411	–8,062	..
Exports of services (£m)	IKBB	170,819	159,111	39,827	39,106	..	13,047	13,614	..
Non-EU balance on trade in goods (£m)	LGDT	–53,877	–44,701	–10,358	–12,256	..	–4,003	–4,487	..
Non-EU exports of goods (excl oil & erratics)[6]	SHDJ	106.8	97.2	104.0	103.4	..	108.4	108.5	..
Non-EU imports of goods (excl oil & erratics)[6]	SHED	106.6	92.2	94.1	102.3	..	99.7	107.5	..
Non-EU import and price index (excl oil)[6]	LKWQ	112.7	123.4	121.4	125.0	..	127.3	130.5	..
Non-EU export and price index (excl oil)[6]	LKVX	108.9	117.8	117.0	120.7	..	122.1	124.4	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth)[7]	VQUU	7.3	6.8	6.8	5.3	..	5.9	6.3	..
M4 (year on year percentage growth)	VQJW	12.4	12.3	6.7	3.4	..	3.2	2.8	..
Public sector net borrowing (£m)	–ANNX	61,296	140,497	42,537	26,417	40,278	8,730	17,050	14,498
Net lending to consumers (£m)	RLMH	11,185	–697	–308	740	..	–114	331	..

External indicators – non-ONS statistics

		2009 Dec	2010 Jan	2010 Feb	2010 Mar	2010 Apr	2010 May	2010 Jun	2010 Jul
Activity and expectations									
CBI output expectations balance[1]	ETCU	–7	4	7	5	14	17	15	6
CBI optimism balance[1]	ETBV		12			24			10
CBI price expectations balance	ETDQ	–2	7	9	14	16	12	9	9

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

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Impact of the recession on households

SUMMARY

This article examines the impact of the recent recession on households in the UK. The first half of the article uses the Labour Force Survey to assess the effect of the downturn on labour market participation, specifically the proportions of working, workless and mixed households below state pension age. Comparisons between different groups of the population are also drawn, including by: household type, housing tenure, region, age, number of dependent children and age of the youngest dependent child. The second part of the article focuses on changes to the level of household income using the Living Costs and Food Survey. Analysis is presented at different stages of income (original income, gross income, disposable income and post-tax income), and also by household characteristics including: economic position (working, workless or mixed), region, age and composition.

Introduction

The impact of the recent recession in 2008/09 has been different for many groups of the population and ONS has presented several articles looking at the effect of the recession on people. This article aims to show the impact of the recession on households, where there will be people working, out of work and a mixture of both.

The first half of the article uses the Labour Force Survey (LFS) to look at the economic activity of households by various characteristics such as the type of household, housing tenure, region of the household, the number of dependent children and the age of the youngest child in the household.

Changes in labour market participation will impact on household income, with individuals moving into work bringing in wages, whilst those losing work may have an increase in benefit payments. Therefore the second half focuses on household income, using the Living Costs and Food survey (LCF). It includes the amounts paid in taxes and received in benefits, during the recent recession. It develops analysis published by ONS in June 2010 – *The effects of taxes and benefits on household income, 2008/09* (see Barnard 2010). Note that the sample of households in the LCF (around 6,000) is much smaller than the LFS (around 52,000).

Labour Market

This section of the article considers data from the Labour Force Survey (LFS) household datasets, designed specifically to provide statistics at the household and family level. Firstly, this section considers the number of households in the UK by the working status of the household. Secondly, it shows how the percentage of workless households differs among the different types of household. Finally it looks at variations in working status by different characteristics such as region, housing tenure and the number of dependent children within the household.

The LFS household datasets are available, on a consistent calendar quarter basis, for the quarter April to June from 1997, and additionally for the quarter October to December from 2004.

When considering the working status of households there are three categories:

- all adults working (working household)
- a mixture where at least one adult works (mixed household)
- no adults working (workless household)

A workless household includes households in which all adults are unemployed; those in which all adults are economically inactive; and those containing both unemployed and inactive adults. Analysis from the LFS household datasets is based on households that contain at least one man aged 16 to 64 or a woman aged 16 to 59 (below state pension age households).

Table 1 shows the number and percentage of households by the working status of individuals living within them for the period October to December, 2004 to 2009. As the number of households can vary from one period to the next, a rate is

Table 1
Below state pension age[1] households by working status

United Kingdom

	Working households	Households containing both working and workless members				Workless households				All households
		Employed and unemployed	Employed and inactive	Employed unemployed and inactive	All households containing both working and workless members	All unemployed	Unemployed and inactive	All inactive	All workless households	
Levels (thousands)										
2004	10,946	559	4,289	179	5,028	274	223	2,470	2,967	18,941
2005	10,973	591	4,266	223	5,080	301	242	2,454	2,998	19,051
2006	11,182	627	4,006	189	4,821	351	267	2,439	3,057	19,060
2007	11,176	639	4,297	201	5,136	315	243	2,486	3,044	19,356
2008	11,239	707	4,055	244	5,006	414	306	2,430	3,150	19,395
2009	10,660	916	4,271	304	5,491	504	402	2,441	3,347	19,498
Percentages (%)										
2004	*57.8*	*3.0*	*22.6*	*0.9*	*26.5*	*1.4*	*1.2*	*13.0*	*15.7*	*100.0*
2005	*57.6*	*3.1*	*22.4*	*1.2*	*26.7*	*1.6*	*1.3*	*12.9*	*15.7*	*100.0*
2006	*58.7*	*3.3*	*21.0*	*1.0*	*25.3*	*1.8*	*1.4*	*12.8*	*16.0*	*100.0*
2007	*57.7*	*3.3*	*22.2*	*1.0*	*26.5*	*1.6*	*1.3*	*12.8*	*15.7*	*100.0*
2008	*57.9*	*3.6*	*20.9*	*1.3*	*25.8*	*2.1*	*1.6*	*12.5*	*16.2*	*100.0*
2009	*54.7*	*4.7*	*21.9*	*1.6*	*28.2*	*2.6*	*2.1*	*12.5*	*17.2*	*100.0*

Notes:

Source: Labour Force Survey Household datasets

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Figures have been adjusted for households with unknown economic activity.

a useful statistic when comparing periods. The workless rate is the percentage of households with no adults in work.

Between 2004 and 2009, the number of below state pension age households increased by around 557,000 to 19.5 million. As stated already, these households can be split into three groups – working, mixed or workless. In 2009, working households made up over half of all households, a sixth were workless with the rest being mixed households.

Looking at the years leading up to the recent recession, in 2004, the workless rate was 15.7 per cent (2.97 million). There were some fluctuations leading up to 2007, and in the final quarter of 2007, the rate was again 15.7 per cent (3.04 million).

In 2008, six months after the start of the recession, the rate increased by 0.5 percentage points, to 16.2 per cent (3.15 million), and there was a further and larger increase over the next twelve months. In 2009, the first quarter since the end of the recession, the rate was 17.2 per cent (3.35 million) an increase of 1.0 percentage point on a year earlier. Therefore between 2007 and 2009, which includes all the recession period there was an increase of 302,000 in the number of workless households.

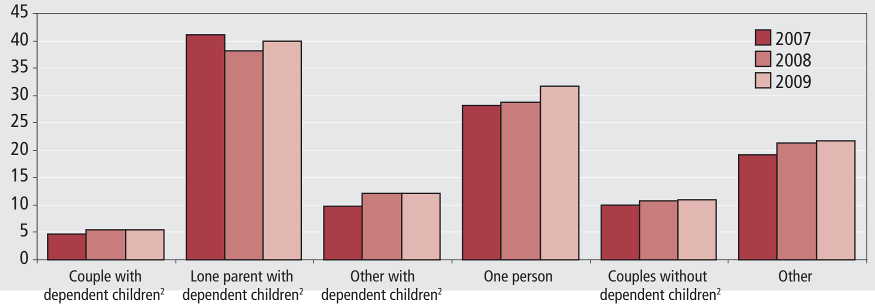
The main driver of this increase was through increases in households where all members were either unemployed or a mixture of unemployed and inactive. The third group where all people are inactive, which makes up three-quarters of workless households, fell by 0.3 percentage points from 12.8 per cent in 2007 to 12.5 per cent (2.44 million) in 2009. All of this fall happened in the first part of the recession, with a small increase between 2008 and 2009.

Looking at households in which everyone works, in 2004 the percentage of working households stood at 57.8 per cent (10.95 million). As with workless households, the percentage fluctuated for the next few years, standing at 57.7 per cent (11.18 million) in 2007. Over the next twelve months the working rate increased slightly, but between 2008 and 2009 there was a large fall, of 3.3 percentage points, to 54.7 per cent (10.66 million)

A fall in the number of working households does not necessarily lead to an increase in the number of workless households, as there are many households containing a mixture of people working and those who are not, known as mixed households. In 2004, 26.5 per cent (5.03 million) of households were mixed, and after some fluctuations, it stood at the same percentage but slightly more households in 2007. Between 2007 and 2008, the percentage of mixed households fell, explaining the increase in both working and workless households, to 25.8 per cent (5.01 million). The main driver was a decrease in households in which some are employed and some inactive. Over the

Figure 1
Workless below state pension age households,[1] by household type

United Kingdom
Percentages



Notes:

Source: Labour Force Survey household datasets

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59
2 Dependent children are those under 16 and those aged 16 to 18 who have never married and are in full-time education.
3 Figures have been adjusted for households with unknown economic activity.

Table 2
Below state pension age households[1] by working status and housing tenure

United Kingdom **Percentages**

	working households			mixed households			workless households		
	2007	2009	% point change	2007	2009	% point change	2007	2009	% point change
Owner occupied	*65.1*	*62.2*	*–2.9*	*27.7*	*29.6*	*2.0*	*7.3*	*8.2*	*0.9*
Owned outright	*43.7*	*41.3*	*–2.4*	*38.0*	*39.4*	*1.4*	*18.3*	*19.3*	*1.0*
Buying with a mortgage	*73.5*	*71.0*	*–2.5*	*23.6*	*25.5*	*1.9*	*2.9*	*3.5*	*0.6*
Rented/Rent Free	*44.0*	*43.0*	*–1.0*	*21.2*	*22.0*	*0.8*	*34.7*	*35.0*	*0.3*
Social rented[2]	*31.6*	*29.3*	*–2.3*	*22.3*	*22.4*	*0.1*	*46.1*	*48.3*	*2.2*
Privately rented	*58.6*	*56.1*	*–2.5*	*19.9*	*21.6*	*1.7*	*21.4*	*22.3*	*0.9*

Notes:

Source: Labour Force Survey household datasets

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Local authority or housing association.
3 Figures have not been adjusted for households with unknown economic activity.

next year, including the final nine months of the recession, the mixed rate rose by 2.4 percentage points (485,000) to 28.2 per cent (5.49 million) in 2009, with increases across each of the mixed household groups.

Labour market participation can vary for different groups of the population, such as household types, housing tenure, region, age of head of household, number of dependent children in the household and age of youngest dependent child in the household. The rest of the labour market section considers these different groups and shows the changes between 2007 and 2009.

Household type

There are various household types, and over the period, around a third of households were one-person households, a third were households with dependent children and the remaining third were households without dependent children. These household types can be broken down further, to identify couple households, lone parent households, and other types of households. **Figure 1** shows the percentage of workless households by the type of household, for October to December 2007, 2008 and 2009.

Lone parent households with dependent children had the highest percentage of workless households, but were the only group to show a fall between 2007 and 2009. All the fall happened between 2007 and 2008, from 41.2 per cent to 38.2 per cent, with an increase over the next year to 39.9 per cent. The lowest percentage of workless households was for couples with dependent children, and this group had an increase in the workless rate between 2007 and 2009, from 4.7 per cent to 5.5 per cent. Over the same period, the largest increase in the workless household rate was for one person households, rising from 28.3 per cent in 2007 to 31.7 per cent in 2009.

Housing tenure

Housing tenure refers to the type of arrangement under which someone has the right to live in their home. **Table 2** shows the percentage of households by working status and housing tenure for October to December 2007 and 2009. The percentage of working, mixed and workless households varies by housing tenure.

Housing tenure consists of two main groups, one owner-occupied household, and the other rented/rent free households. The percentage of households that are workless varies for the two groups, and in 2009, 8.2 per cent of owner-occupied households were workless, an increase of 0.9 percentage points from 2007. The percentage of rented/rent free households that were workless was over 4 times as much, at 35.0 per cent in 2009, up 0.3 percentage points from 2007. Analysis published in the Cabinet Office *State of the Nation* report (see Cabinet Office 2010) shows there is a strong link between worklessness and social housing. Looking at the rented/rent free group in more detail shows the workless rate is consistently higher for those renting through a local authority or housing association. This group also had the largest percentage point rise between 2007 and 2009, from 46.1 per cent, to 48.3 per cent, so almost half of these households are workless.

In contrast, the workless rate for those households that are owner-occupied and with a current mortgage stood at 3.5 per cent in 2009, an increase from 2.9 per cent in 2007. The workless rate for households owned outright stood at 19.3 per cent in 2009, up from 18.3 per cent in 2007. Of this group, four in five are where the household reference person is aged 50 and over and therefore more likely to have paid off their mortgage and possibly less likely to need to work.

Government Office Region

As already shown, the combined economic activity varies by household type, and also varies across the UK. **Table 3** shows the percentage of households by working status for the countries of the UK and the Government Office Regions in England for October to December 2007 and 2009.

Between 2007 and 2009, the working household rate has fallen across all areas, with increases in the mixed rate for most areas, and increases in the workless rate for all areas. Of the four countries of the UK, the largest increase in the workless rate was in Scotland, up 2.6 percentage points, to stand at 19.1 per cent in 2009. England experienced an increase of 1.4 percentage points, to 17.0 per cent in 2009, while within England, the largest increase in the workless rate was in the North East up 2.5 percentage points, to 21.5 per cent in 2009. Of all the areas, Inner London had the largest workless rate, where in 2009, 25.6 per cent of households contained no one in work, up 2.2 percentage points from 2007.

Age of household reference person

The household reference person (HRP) is the person who owns the accommodation, or is legally responsible for the rent, or has the accommodation tied to a job or has the accommodation under a relationship to the owner who is not a member of the household. **Table 4** shows the percentage of households by working status and age group of the HRP for October to December 2007 and 2009.

Over the period the workless rate was higher for those households where either the HRP was aged 16 to 24 and those where the HRP was above state pension age (SPA). The latter includes those households where the household reference person is aged above state pension age but at least one of the other adult members is below state pension age. In 2009, around a half of older

Table 3
Below state pension age households[1] by working status and region

Percentages

	working households			mixed households			workless households		
	2007	2009	% point change	2007	2009	% point change	2007	2009	% point change
Great Britain	*58.7*	*55.8*	*–2.9*	*25.5*	*26.8*	*1.4*	*15.9*	*17.4*	*1.5*
England	*58.8*	*55.7*	*–3.0*	*25.7*	*27.3*	*1.6*	*15.6*	*17.0*	*1.4*
North East	*55.1*	*52.8*	*–2.4*	*25.9*	*25.7*	*–0.1*	*19.0*	*21.5*	*2.5*
North West	*57.3*	*53.3*	*–4.0*	*24.0*	*26.7*	*2.6*	*18.7*	*20.0*	*1.4*
Yorkshire and The Humber	*58.7*	*55.1*	*–3.6*	*24.5*	*25.9*	*1.4*	*16.8*	*19.0*	*2.2*
East Midlands	*59.9*	*59.6*	*–0.3*	*26.0*	*25.3*	*–0.7*	*14.1*	*15.1*	*1.0*
West Midlands	*56.5*	*53.5*	*–3.0*	*26.8*	*28.7*	*1.9*	*16.7*	*17.8*	*1.1*
East of England	*61.7*	*58.7*	*–3.0*	*26.0*	*27.9*	*2.0*	*12.4*	*13.4*	*1.0*
London	*52.6*	*49.8*	*–2.8*	*28.1*	*29.7*	*1.7*	*19.4*	*20.4*	*1.1*
Inner London	*52.4*	*48.9*	*–3.5*	*24.1*	*25.4*	*1.3*	*23.4*	*25.6*	*2.2*
Outer London	*52.7*	*50.5*	*–2.2*	*31.0*	*33.1*	*2.1*	*16.3*	*16.4*	*0.1*
South East	*63.3*	*60.0*	*–3.3*	*25.7*	*27.5*	*1.7*	*11.0*	*12.6*	*1.5*
South West	*62.8*	*58.9*	*–3.9*	*23.6*	*26.2*	*2.6*	*13.6*	*14.9*	*1.3*
Wales	*53.1*	*52.9*	*–0.2*	*27.2*	*26.2*	*–1.0*	*19.8*	*20.9*	*1.1*
Scotland	*60.9*	*58.1*	*–2.8*	*22.5*	*22.8*	*0.2*	*16.6*	*19.1*	*2.6*
Northern Ireland	*49.1*	*46.7*	*–2.4*	*31.3*	*32.7*	*1.4*	*19.6*	*20.5*	*1.0*

Notes:

Source: Labour Force Survey household datasets

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Figures have not been adjusted for households with unknown economic activity.

Table 4
Below state pension age households[1] by working status and age of head of household

United Kingdom

Percentages

	working households			mixed households			workless households		
	2007	2009	% point change	2007	2009	% point change	2007	2009	% point change
16-24	*52.3*	*46.2*	*–6.1*	*16.3*	*16.7*	*0.4*	*31.4*	*37.1*	*5.7*
25-34	*71.9*	*69.5*	*–2.3*	*14.2*	*15.5*	*1.2*	*13.9*	*15.0*	*1.1*
35-49	*64.3*	*61.6*	*–2.6*	*24.7*	*26.2*	*1.5*	*11.0*	*12.2*	*1.1*
50-SPA	*50.8*	*48.3*	*–2.5*	*30.5*	*31.7*	*1.2*	*18.7*	*20.0*	*1.3*
SPA+[2]	*11.5*	*13.2*	*1.6*	*55.9*	*54.6*	*–1.3*	*32.6*	*32.3*	*–0.3*

Notes:

Source: Labour Force Survey household datasets

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Households where the household reference person is aged above state pension age but other adult memebers are below state pension age.
3 Figures have not been adjusted for households with unknown economic activity.

households contained at least one working adult, a third were workless while the rest were working households. In comparison, around half of households where the HRP was aged 16 to 24 were working, a third was workless households and the rest mixed households.

Between the two periods, the workless rate increased for all households except where the HRP was aged above SPA, which fell by 0.3 percentage points to 32.3 per cent. The largest of the increases in the workless rate was for households where the HRP was between 16 and 24 years old, up 5.7 percentage points, to 37.1 per cent. This is consistent with increases in unemployment over the recession, which shows large increases for younger people.

Number of dependent children

Table 5 shows the percentage of households by working status and number of dependent children within the households for October to December 2007 and 2009. Previous studies have shown that because of the lack of affordable childcare, the workless rate in large families is higher than for parents in smaller families (*Who does Poverty affect?*, see Barnardos 2010). Generally, the workless rate increases with the number of dependent children in the household. In 2009, the workless rate for households with one dependent child was 14.2 per cent compared with 31.4 per cent for households with four or more dependent children.

Over the period, the workless rate increased the most for households without dependent children, up 2.1 percentage points to 19.5 per cent in 2009. This group will contain many younger people households which as shown earlier also had a large increase in workless households.

Age of youngest dependent child

The age of the youngest child in a household is linked to the number of dependent children, with more children corresponding to a higher likelihood of there being a young child in the household. **Table 6** shows the percentage of households by working status and age of youngest dependent child for October to December 2007 and 2009. Research by the Department for Work and Pensions has shown the older the child, the higher the percentage of working mothers, this in turn decreases the percentage of workless households (see Hoxhallari, Conolly and Lyon 2007). As shown in Table 6, as the age of the youngest child increases the workless rate falls, in 2009 the workless rate was 17.7 per cent for those where the youngest child was aged under five compared with 8.3 per cent for those where the youngest child was aged between 16 and 18. The workless rate for households with dependent children is generally lower than those without dependent children, in 2009 it stood at 14.3 per cent and 19.5 per cent, respectively.

Table 5
Below state pension age households[1] by working status and number of dependent child[2] in the household

United Kingdom Percentages

	working households			mixed households			workless households		
	2007	2009	% point change	2007	2009	% point change	2007	2009	% point change
1 child	*57.2*	*53.5*	*–3.7*	*29.9*	*32.4*	*2.4*	*12.9*	*14.2*	*1.3*
2 children	*56.6*	*55.4*	*–1.2*	*31.7*	*32.9*	*1.1*	*11.7*	*11.7*	*0.1*
3 children	*39.7*	*37.7*	*–2.0*	*41.9*	*43.4*	*1.5*	*18.3*	*18.9*	*0.6*
4 or more children	*22.0*	*20.3*	*–1.7*	*46.8*	*48.3*	*1.5*	*31.2*	*31.4*	*0.2*
No dependent children	*61.5*	*58.4*	*–3.1*	*21.1*	*22.1*	*1.0*	*17.4*	*19.5*	*2.1*

Notes: *Source: Labour Force Survey household datasets*

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Dependent children are those under 16 and those aged 16 to 18 who have never married and are in full-time education.
3 Figures have not been adjusted for households with unknown economic activity.

Table 6
Below state pension age households[1] by working status and age of youngest dependent child[2] in the household

United Kingdom Percentages

	working households			mixed households			workless households		
	2007	2009	% point change	2007	2009	% point change	2007	2009	% point change
0 to 4	*52.4*	*52.9*	*0.5*	*31.2*	*29.4*	*–1.8*	*16.4*	*17.7*	*1.3*
5 to 10	*62.6*	*59.3*	*–3.4*	*23.1*	*25.6*	*2.6*	*14.3*	*15.1*	*0.8*
11 to 15	*56.0*	*51.9*	*–4.2*	*33.2*	*37.9*	*4.7*	*10.7*	*10.2*	*–0.5*
16 to 18	*24.6*	*20.9*	*–3.7*	*67.3*	*70.8*	*3.5*	*8.1*	*8.3*	*0.2*
No dependent children	*61.5*	*58.4*	*–3.1*	*21.1*	*22.1*	*1.0*	*17.4*	*19.5*	*2.1*

Notes: *Source: Labour Force Survey household datasets*

1 A below state pension age household is one that includes at least one man aged 16 to 64 or a woman aged 16 to 59.
2 Dependent children are those under 16 and those aged 16 to 18 who have never married and are in full-time education.
3 Figures have not been adjusted for households with unknown economic activity.

Over the period, households where the youngest child was aged between 11 and 15 were the only households to experience a fall in the workless rate, down 0.5 percentage points to 10.2 per cent, driven by a 4.7 percentage point increase in the mixed rate. Households where the youngest child was aged less than five saw the largest increase in the workless rate, up 1.3 percentage points, to 17.7 per cent, between 2007 and 2009. The same group also had an increase over the period in the working rate, driven by a fall in the mixed rate.

Income

So far the article has shown changes in the labour market participation for households over the period 2007 and 2009, covering most of the recession. The next section focuses on changes to the level of household income using a different dataset to that for the labour market. The Living Costs and Food survey (LCF) is the main source with each period shown covering the twelve months of April to March. The section will show changes over a five year period – in the years leading up to the recession (2003/04 to 2007/08), and then in the period 2007/08 to 2008/09, covering the first year of the recent recession.

Trends in household income for all households are shown with differences between retired and non-retired households. The previous section only looked at households that included at least one person below state pension age, but this section, except for when looking at the economic status of households, will include all households. Analysis is also presented according to different household characteristics including; the household economic activity status, the region of the household, the age of the household reference person (HRP), and the household composition. All income data in this section are *equivalised* and at constant prices (see the next sub-section for more details).

Concepts

Stages of income

The four stages of income in this analysis are as a result of the effects of taxes and benefits on the incomes of households. The stages in the redistribution of income used are:

1. **Original income**: To begin with, household members receive income from employment and self-employment, occupational pensions, investments and from other non-government sources
2. **Gross income**: This is original income, plus income from cash benefits
3. **Disposable income**: This is gross income after households pay direct taxes
4. **Post-tax income**: This is disposable income after households pay indirect taxes (for example VAT) via expenditure

Although gross and disposable incomes are arguably the stages most commonly referred to, analysis in this section includes data on all four of the income stages highlighted to enable a more complete investigation of the effects of the recession.

Equivalisation

As the sample of the LCF is different in each of the years, household income is equivalised to account for different households' sizes within each survey sample. For example, a couple with a child would need a higher income than a childless couple for the two households to

Table 7
Equivalised household income[1] of all households

United Kingdom **Average per household (£ per year)**

	Sample number in each band	Original	*Cash benefits*	Gross	*Direct taxes*	Disposable	*Indirect taxes*	Post-tax
All households								
2003/04	7048	26 834	5 003	31 837	6 427	25 409	4 807	20 603
2007/08	6113	28 696	5 364	34 060	7 095	26 964	4 723	22 241
2008/09	5766	28 159	5 486	33 645	6 746	26 899	4 459	22 440
Percentage change 2003/04 to 2007/08		*7*	*7*	*7*	*10*	*6*	*–2*	*8*
Percentage change 2007/08 to 2008/09		*–2*	*2*	*–1*	*–5*	*0*	*–6*	*1*
Non-retired								
2003/04	5236	32 823	2 938	35 760	7 828	27 932	5 275	22 657
2007/08	4479	35 128	3 092	38 219	8 590	29 629	5 126	24 504
2008/09	4179	34 521	3 276	37 797	8 242	29 555	4 837	24 718
Percentage change 2003/04 to 2007/08		*7*	*5*	*7*	*10*	*6*	*–3*	*8*
Percentage change 2007/08 to 2008/09		*–2*	*6*	*–1*	*–4*	*0*	*–6*	*1*
Retired[2]								
2003/04	1812	9 973	10 816	20 790	2 483	18 307	3 487	14 820
2007/08	1634	10 644	11 740	22 384	2 899	19 485	3 593	15 892
2008/09	1587	10 235	11 712	21 947	2 531	19 416	3 396	16 020
Percentage change 2003/04 to 2007/08		*7*	*9*	*8*	*17*	*6*	*3*	*7*
Percentage change 2007/08 to 2008/09		*–4*	*0*	*–2*	*–13*	*0*	*–5*	*1*

Notes:

Source: Office for National Statistics

1 Adjusted to 2008/09 prices using the implied expenditure deflator for the household sector.
2 A household where the combined income of retired members amounts to at least half the total gross income of the household, where a retired person is defined as anyone who describes themselves as ‘retired’ or anyone over minimum national insurance pension age describing themselves as ‘unoccupied’ or ‘sick or injured but not intending to seek work’.

achieve the same standard of living. The equivalence scale used in this analysis is the *McClements scale* (before taking off housing costs). In the earlier example, a childless couple's income of £10,000 is treated as equivalent to an income of £12,300 for a couple with a ten-year-old child. Not equivalising the data could mean that changes in income between different years could be because of a difference in the type of households in the survey, and not changes in income itself.

Prices

Income levels will change as a result of inflation and so it is useful to account for this by adjusting all income data to 2008/09 prices. The income data in this section have been adjusted to constant prices using the implied deflator for Household Final Consumption Expenditure (HHFCE) from the UK National Accounts.

Results

All households

Between 2003/04 and 2007/08, after adjustment to account for the effects of inflation, original income of all households in the UK increased by 7 per cent, largely because of increases in wages and salaries over the period. This increase also had a large effect on the other measures of income. There was also a 7 per cent increase in gross household income over the period, caused in part by an increase in cash benefits of 7 per cent (including income support and housing benefit). This increase in gross income, from which direct taxes are taken (including income tax and national insurance contributions) meant that after direct taxes, average disposable household income in the UK increased by 6 per cent from £25,409 per year in 2003/04 to £26,964 in 2007/08. Finally, because of a slight fall in indirect taxes (such as VAT, duty on alcohol and tobacco, and Stamp Duty), post-tax income was 8 per cent higher in 2007/08 than in 2003/04.

Between 2007/08 and 2008/09, that is, before and during the recession, some small changes were observed in average household incomes. Over the period, original household income fell by an average of 2 per cent. However, a slight increase in cash benefits offset some of this decline, so gross income (income including cash benefits) fell by only 1 per cent. Over the same period there was also a fall of 5 per cent in the average level of direct taxation paid by households, due to a fall in income tax payments. The effect of this meant that overall there was no significant change in average household disposable income in the UK between 2007/08 (£26,964 per year) and 2008/09 (£26,899).

From 1st December 2008 the Government dropped the standard rate of VAT from 17.5 per cent to 15.0 per cent and despite this change only contributing to the last four months of 2008/09, the level of VAT paid by households in this period fell substantially. Similarly, in September 2008, the Government raised the threshold at which 1 per cent stamp duty is paid on house purchases, from £125,000 to £175,000. As a result the average level of Stamp Duty fell by 58 per cent between 2007/08 and 2008/09. The overall effect was a fall of 6 per cent in the level of indirect taxes paid by households between 2007/08 and 2008/09. As households were paying on average a lower proportion of their income on indirect taxes, there was therefore a slight increase over the recession period in households' post-tax income.

Table 7 also shows how the four headline income measures (and the effects of benefits and taxes), depending on whether the household was non-retired or retired. A retired household is defined as one where the combined income of retired members amounts to at least half the total gross income of the household, where a retired person is defined as anyone who describes themselves as ‘retired’ or anyone over minimum national insurance pension age describing themselves as ‘unoccupied’ or ‘sick or injured but not intending to seek work’.

Non-retired households make up almost three-quarters of all UK households so

Table 8
Equivalised household income[1] by combined household economic activity status[2]

United Kingdom **Average per household (£ per year)**

	Working	Workless	Mixed
Sample number in each band (2008/09)	2375	676	1175
Original			
2003/04	42 000	5 477	28 293
2007/08	45 872	5 216	28 028
2008/09	45 423	4 728	27 181
Percentage change 2003/04 to 2007/08	*9*	*–5*	*–1*
Percentage change 2007/08 to 2008/09	*–1*	*–9*	*–3*
Total cash benefits			
2003/04	976	9 334	3 124
2007/08	978	10 667	3 105
2008/09	1 133	10 703	3 422
Percentage change 2003/04 to 2007/08	*0*	*14*	*–1*
Percentage change 2007/08 to 2008/09	*16*	*0*	*10*
Gross			
2003/04	42 976	14 812	31 418
2007/08	46 850	15 883	31 133
2008/09	46 556	15 432	30 602
Percentage change 2003/04 to 2007/08	*9*	*7*	*–1*
Percentage change 2007/08 to 2008/09	*–1*	*–3*	*–2*
Direct taxes			
2003/04	9 948	1 336	6 780
2007/08	11 271	1 288	6 678
2008/09	10 913	1 008	6 236
Percentage change 2003/04 to 2007/08	*13*	*–4*	*–1*
Percentage change 2007/08 to 2008/09	*–3*	*–22*	*–7*
Disposable			
2003/04	33 028	13 476	24 638
2007/08	35 579	14 596	24 455
2008/09	35 644	14 424	24 366
Percentage change 2003/04 to 2007/08	*8*	*8*	*–1*
Percentage change 2007/08 to 2008/09	*0*	*–1*	*0*
Indirect taxes			
2003/04	5 920	3 649	4 924
2007/08	5 753	3 547	4 754
2008/09	5 381	3 341	4 507
Percentage change 2003/04 to 2007/08	*–3*	*–3*	*–3*
Percentage change 2007/08 to 2008/09	*–6*	*–6*	*–5*
Post-tax			
2003/04	27 108	9 827	19 714
2007/08	29 825	11 049	19 701
2008/09	30 263	11 083	19 859
Percentage change 2003/04 to 2007/08	*10*	*12*	*0*
Percentage change 2007/08 to 2008/09	*1*	*0*	*1*

Notes: *Source: Office for National Statistics*

1 Adjusted to 2008/09 prices using the implied expenditure deflator for the household sector.
2 Data are for households containing at least one male aged 16 to 64 or one female aged 16 to 59.

the income patterns for this group are similar to those of all households. For retired households, however, there was a slightly larger fall in original income (4 per cent) and gross income (2 per cent) than for non-retired households in the 12 months to 2008/09. For retired households there was a larger proportional fall in the amount of direct taxes paid (13 per cent) than observed for non-retired households.

Therefore, even though original income for retired households fell by 4 per cent over the year, their disposable income in 2007/08 (£19,485 per year) was similar to 2008/09 (£19,416).

Household characteristics

Although the analysis has shown little or no change in the headline levels of income for all households during the recession and some small changes when household retirement status is considered, there are further differences when the data are analysed by other household characteristics.

Economic position

As mentioned, the analysis looking at the economic status of the household is restricted to households containing at least one person below state pension age. This removes a number of households that are not participating in the labour market for retirement reasons.

There were increases in original income among working households (9 per cent) whereas there were decreases among workless households (5 per cent) between 2003/04 and 2007/08 **(Table 8)**. However cash benefits for working households were the same in 2003/04 as in 2007/08 while an increase in benefits for workless households (14 per cent) meant that gross income over the period increased for both working households (9 per cent) and workless households (7 per cent). Direct taxes increased for working households and decreased for workless households and as a result average disposable income for each of these households increased by 8 per cent over this period.

In the period 2007/08 to 2008/09 there were some small changes in the income of working, workless and mixed households for the four measures of income. Although original income for working households fell slightly (1 per cent), an increase in cash benefits, particularly from maternity pay and housing benefit, meant that gross income fell by only 1 per cent, the same as the fall in original income. There was also a fall (3 per cent) in direct taxes, meaning the disposable income of working households was similar between 2007/08 (£35,579 per year) and 2008/09 (£35,644). Because of the fall in indirect taxes (driven by the fall in VAT and the change to the Stamp Duty threshold) working households' post-tax income was slightly higher in 2008/09 than in 2007/08.

The situation was different for workless households. Original income of workless households fell between 2007/08 and 2008/09 (9 per cent) and as there was only a negligible change in average cash benefits received, which form most of workless households' gross income, their gross income fell by 3 per cent. Due to a large drop (22 per cent) in direct taxes paid by workless households over the period, the disposable income of this group fell by a smaller amount (1 per cent) between 2007/08 (£14,596 per year) and 2008/09

Table 9
Equivalised household income[1] by region

United Kingdom

Average per household (£ per year)

	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East	London	South East	South West	Wales	Scotland	Northern Ireland
Sample number in each band (2008/09)	209	569	477	403	506	511	471	788	509	266	488	569
Original												
2003/04	18 324	24 750	23 541	24 335	24 843	28 772	36 673	33 107	24 646	21 786	23 068	20 006
2007/08	23 070	25 607	25 168	26 470	23 920	32 014	37 587	33 805	28 892	22 935	26 429	23 666
2008/09	17 965	24 172	23 554	26 690	26 686	32 761	34 582	35 592	27 489	23 972	28 442	23 897
Percentage change 2003/04 to 2007/08	*26*	*3*	*7*	*9*	*–4*	*11*	*2*	*2*	*17*	*5*	*15*	*18*
Percentage change 2007/08 to 2008/09	*–22*	*–6*	*–6*	*1*	*12*	*2*	*–8*	*5*	*–5*	*5*	*8*	*1*
Total cash benefits												
2003/04	6 047	5 147	5 079	4 981	5 032	4 897	4 473	4 616	5 069	5 269	5 190	5 761
2007/08	5 701	5 708	5 522	5 438	5 814	5 211	5 126	4 937	5 232	5 615	5 164	5 689
2008/09	6 909	5 620	5 637	5 184	5 527	4 627	5 751	4 741	5 566	6 236	5 333	5 917
Percentage change 2003/04 to 2007/08	*–6*	*11*	*9*	*9*	*16*	*6*	*15*	*7*	*3*	*7*	*–1*	*–1*
Percentage change 2007/08 to 2008/09	*21*	*–2*	*2*	*–5*	*–5*	*–11*	*12*	*–4*	*6*	*11*	*3*	*4*
Gross												
2003/04	24 371	29 897	28 620	29 317	29 875	33 669	41 146	37 724	29 715	27 054	28 258	25 767
2007/08	28 772	31 315	30 690	31 908	29 734	37 225	42 713	38 742	34 124	28 549	31 593	29 355
2008/09	24 874	29 791	29 191	31 874	32 213	37 388	40 333	40 333	33 054	30 209	33 776	29 814
Percentage change 2003/04 to 2007/08	*18*	*5*	*7*	*9*	*0*	*11*	*4*	*3*	*15*	*6*	*12*	*14*
Percentage change 2007/08 to 2008/09	*–14*	*–5*	*–5*	*0*	*8*	*0*	*–6*	*4*	*–3*	*6*	*7*	*2*
Direct taxes												
2003/04	4 264	5 787	5 518	5 516	5 698	7 144	9 028	8 352	5 775	4 995	5 539	4 323
2007/08	5 442	6 330	5 996	6 574	5 811	7 823	9 600	8 680	7 130	5 348	6 537	5 213
2008/09	4 059	5 631	5 573	6 290	6 303	8 032	8 972	8 820	6 122	5 497	6 830	5 000
Percentage change 2003/04 to 2007/08	*28*	*9*	*9*	*19*	*2*	*10*	*6*	*4*	*23*	*7*	*18*	*21*
Percentage change 2007/08 to 2008/09	*–25*	*–11*	*–7*	*–4*	*8*	*3*	*–7*	*2*	*–14*	*3*	*4*	*–4*
Disposable												
2003/04	20 107	24 110	23 103	23 801	24 177	26 525	32 118	29 371	23 940	22 059	22 719	21 445
2007/08	23 329	24 985	24 694	25 333	23 923	29 402	33 112	30 062	26 994	23 202	25 056	24 142
2008/09	20 815	24 160	23 618	25 584	25 909	29 356	31 361	31 514	26 932	24 712	26 946	24 814
Percentage change 2003/04 to 2007/08	*16*	*4*	*7*	*6*	*–1*	*11*	*3*	*2*	*13*	*5*	*10*	*13*
Percentage change 2007/08 to 2008/09	*–11*	*–3*	*–4*	*1*	*8*	*0*	*–5*	*5*	*0*	*7*	*8*	*3*
Indirect taxes												
2003/04	4 198	4 819	4 698	4 595	4 612	4 943	5 104	5 215	4 786	4 373	4 650	4 785
2007/08	4 208	4 559	4 494	4 475	4 258	4 768	4 891	5 185	4 966	4 363	4 875	5 285
2008/09	3 506	4 184	4 137	4 409	4 521	4 904	4 751	4 847	4 502	4 111	4 464	4 638
Percentage change 2003/04 to 2007/08	*0*	*–5*	*–4*	*–3*	*–8*	*–4*	*–4*	*–1*	*4*	*0*	*5*	*10*
Percentage change 2007/08 to 2008/09	*–17*	*–8*	*–8*	*–1*	*6*	*3*	*–3*	*–7*	*–9*	*–6*	*–8*	*–12*
Post-tax												
2003/04	15 909	19 291	18 404	19 206	19 565	21 582	27 014	24 156	19 153	17 686	18 068	16 660
2007/08	19 121	20 426	20 200	20 859	19 665	24 634	28 222	24 877	22 027	18 839	20 181	18 857
2008/09	17 309	19 976	19 481	21 175	21 389	24 453	26 611	26 667	22 430	20 601	22 481	20 176
Percentage change 2003/04 to 2007/08	*20*	*6*	*10*	*9*	*1*	*14*	*4*	*3*	*15*	*7*	*12*	*13*
Percentage change 2007/08 to 2008/09	*–9*	*–2*	*–4*	*2*	*9*	*–1*	*–6*	*7*	*2*	*9*	*11*	*7*

Notes:

Source: Office for National Statistics

1 Adjusted to 2008/09 prices using the implied expenditure deflator for the household sector.

(£14,424). It is worth noting that some of this fall in direct taxes will have been because of the changes to the personal income tax thresholds between 2007/08 and 2008/09. The effects of the changes to VAT and Stamp Duty meant that workless households also paid less (6 per cent) in indirect taxes and their post-tax income was unchanged over the period.

For mixed households containing both working and workless members, there were smaller changes between 2007/08 and 2008/09 in the four measures of income. An increase in cash benefits (10 per cent) for mixed households also went some way to offset a fall of 3 per cent in their original income, as gross income for mixed households fell by only 2 per cent. A fall in direct taxes meant that disposable income was similar in 2007/08 (£24,455) and 2008/09 (£24,366). As with working households the fall in the amount of indirect taxes paid by mixed households meant that post-tax income for this group was also slightly higher in 2008/09 than 2007/08.

Government Office Region

Now looking again at all households, **Table 9** shows income for the Government Office Regions of England, Wales, Scotland and Northern Ireland. Note that breaking down the sample to the many areas results in smaller sample sizes and so caution should

Table 10
Equivalised household disposable income[1] by age of household reference person

United Kingdom **Average per household (£ per year)**

	Under 25	25–34	35–44	45–54	55–64	65–74	75 and over
Sample number in each band (2008/09)	157	753	1139	1124	1049	790	754
Original							
2003/04	21 923	34 478	33 400	35 163	28 768	12 979	7 898
2007/08	18 399	38 849	35 950	35 877	31 560	14 212	9 343
2008/09	18 411	35 650	36 565	36 791	30 049	13 873	8 741
Percentage change 2003/04 to 2007/08	*–16*	*13*	*8*	*2*	*10*	*9*	*18*
Percentage change 2007/08 to 2008/09	*0*	*–8*	*2*	*3*	*–5*	*–2*	*–6*
Total cash benefits							
2003/04	3 388	2 623	2 565	2 391	4 099	10 802	11 293
2007/08	3 574	2 538	2 971	2 419	4 605	11 297	12 143
2008/09	4 059	2 778	2 917	2 535	4 834	11 197	12 357
Percentage change 2003/04 to 2007/08	*6*	*–3*	*16*	*1*	*12*	*5*	*8*
Percentage change 2007/08 to 2008/09	*14*	*9*	*–2*	*5*	*5*	*–1*	*2*
Gross							
2003/04	25 311	37 101	35 965	37 555	32 867	23 781	19 191
2007/08	21 974	41 387	38 920	38 296	36 165	25 508	21 485
2008/09	22 470	38 428	39 482	39 326	34 883	25 070	21 098
Percentage change 2003/04 to 2007/08	*–13*	*12*	*8*	*2*	*10*	*7*	*12*
Percentage change 2007/08 to 2008/09	*2*	*–7*	*1*	*3*	*–4*	*–2*	*–2*
Direct taxes							
2003/04	4 717	8 269	8 044	8 303	6 873	3 214	2 037
2007/08	3 871	9 545	8 811	8 800	7 760	3 943	2 440
2008/09	3 923	8 547	8 760	8 868	6 975	3 480	2 279
Percentage change 2003/04 to 2007/08	*–18*	*15*	*10*	*6*	*13*	*23*	*20*
Percentage change 2007/08 to 2008/09	*1*	*–10*	*–1*	*1*	*–10*	*–12*	*–7*
Disposable							
2003/04	20 593	28 832	27 922	29 252	25 993	20 567	17 154
2007/08	18 103	31 842	30 109	29 496	28 405	21 565	19 045
2008/09	18 547	29 882	30 722	30 458	27 908	21 590	18 819
Percentage change 2003/04 to 2007/08	*–12*	*10*	*8*	*1*	*9*	*5*	*11*
Percentage change 2007/08 to 2008/09	*2*	*–6*	*2*	*3*	*–2*	*0*	*–1*
Indirect taxes							
2003/04	4 503	5 530	5 354	5 331	5 252	4 089	2 510
2007/08	3 917	5 056	5 009	5 320	5 504	4 258	2 778
2008/09	3 664	4 728	4 758	5 039	5 134	4 086	2 620
Percentage change 2003/04 to 2007/08	*–13*	*–9*	*–6*	*0*	*5*	*4*	*11*
Percentage change 2007/08 to 2008/09	*–6*	*–6*	*–5*	*–5*	*–7*	*–4*	*–6*
Post-tax							
2003/04	16 090	23 302	22 567	23 920	20 741	16 478	14 644
2007/08	14 186	26 786	25 100	24 176	22 901	17 307	16 267
2008/09	14 882	25 154	25 963	25 419	22 774	17 504	16 199
Percentage change 2003/04 to 2007/08	*–12*	*15*	*11*	*1*	*10*	*5*	*11*
Percentage change 2007/08 to 2008/09	*5*	*–6*	*3*	*5*	*–1*	*1*	*0*

Notes:

Source: Office for National Statistics

1 Adjusted to 2008/09 prices using the implied expenditure deflator for the household sector.

be attributed when looking at changes from one year to the next.

Most of the Government Office Regions of England had increases in original income between 2003/04 and 2007/08, except for the West Midlands. The region with the largest increase over this period was the North East, with original income increasing by 26 per cent followed by Northern Ireland (18 per cent) and the South West (17 per cent). In 2003/04, the North East and Northern Ireland were the regions with the lowest household income in the UK.

Focusing on the period 2007/08 to 2008/09, although Table 7 showed a small fall of 2 per cent in original income in the UK, there were some larger changes among the areas of the UK. The largest fall was in the North East, at 22 per cent. There were also falls in London (8 per cent), Yorkshire and the Humber (6 per cent) and the North West (6 per cent). These falls in household original income (which includes wages and salaries) reflects data presented in the Labour Market section, which showed the North East having the second largest increase in the proportion of households which were workless between 2007 and 2009.

The impact of the increase in worklessness in households could contribute to the increase in cash benefits (21 per cent) seen in the North East during the period, although there was a smaller increase in Yorkshire and the Humber (2

Table 11

Equivalised household income[1] by household type

United Kingdom **Average per household (£ per year)**

	Retired 1 adult	Retired 2 or more adults	Non–retired 1 adult	Non–retired 2 or more adults	Non–retired 3 or more adults	Non–retired 1 adult with children	Non–retired 2 adults with 1 child	Non–retired 2 adults with 2 children	Non–retired 2 adults with 3 or more children	3 or more adults with children
Sample number in each band (2008/09)	795	792	826	1191	436	354	414	534	206	218
Original										
2003/04	8 422	11 697	33 347	41 088	32 212	10 910	34 865	29 839	26 676	26 881
2007/08	8 589	13 045	36 041	44 147	32 115	11 888	34 985	36 523	24 315	25 495
2008/09	7 745	13 376	36 680	44 526	31 997	10 464	36 100	32 307	22 030	23 517
Percentage change 2003/04 to 2007/08	*2*	*12*	*8*	*7*	*0*	*9*	*0*	*22*	*–9*	*–5*
Percentage change 2007/08 to 2008/09	*–10*	*3*	*2*	*1*	*0*	*–12*	*3*	*–12*	*–9*	*–8*
Total cash benefits										
2003/04	11 933	9 576	3 470	2 265	2 112	7 941	2 015	2 119	3 151	2 639
2007/08	13 044	10 217	4 083	2 066	1 954	8 186	2 403	2 335	3 881	2 764
2008/09	12 827	10 304	3 894	2 236	2 626	8 698	2 722	2 363	3 899	2 966
Percentage change 2003/04 to 2007/08	*9*	*7*	*18*	*–9*	*–7*	*3*	*19*	*10*	*23*	*5*
Percentage change 2007/08 to 2008/09	*–2*	*1*	*–5*	*8*	*34*	*6*	*13*	*1*	*0*	*7*
Gross										
2003/04	20 355	21 272	36 817	43 353	34 324	18 851	36 880	31 958	29 827	29 520
2007/08	21 633	23 262	40 124	46 214	34 069	20 074	37 389	38 858	28 196	28 260
2008/09	20 573	23 680	40 574	46 762	34 623	19 163	38 822	34 670	25 929	26 484
Percentage change 2003/04 to 2007/08	*6*	*9*	*9*	*7*	*–1*	*6*	*1*	*22*	*–5*	*–4*
Percentage change 2007/08 to 2008/09	*–5*	*2*	*1*	*1*	*2*	*–5*	*4*	*–11*	*–8*	*–6*
Direct taxes										
2003/04	2 175	2 825	8 586	10 102	7 089	1 815	7 966	6 961	6 265	5 867
2007/08	2 363	3 526	9 325	11 051	7 178	2 323	8 407	9 084	5 380	5 560
2008/09	2 097	3 078	9 384	10 764	7 270	2 027	8 712	7 292	4 988	4 966
Percentage change 2003/04 to 2007/08	*9*	*25*	*9*	*9*	*1*	*28*	*6*	*31*	*–14*	*–5*
Percentage change 2007/08 to 2008/09	*–11*	*–13*	*1*	*–3*	*1*	*–13*	*4*	*–20*	*–7*	*–11*
Disposable										
2003/04	18 180	18 448	28 231	33 252	27 235	17 036	28 915	24 996	23 561	23 653
2007/08	19 270	19 737	30 799	35 162	26 890	17 750	28 982	29 773	22 817	22 699
2008/09	18 476	20 602	31 190	35 999	27 353	17 136	30 110	27 378	20 941	21 517
Percentage change 2003/04 to 2007/08	*6*	*7*	*9*	*6*	*–1*	*4*	*0*	*19*	*–3*	*–4*
Percentage change 2007/08 to 2008/09	*–4*	*4*	*1*	*2*	*2*	*–3*	*4*	*–8*	*–8*	*–5*
Indirect taxes										
2003/04	3 014	4 013	5 768	5 937	5 040	3 505	5 252	4 897	4 403	4 555
2007/08	3 126	4 139	5 361	5 872	5 182	3 686	4 921	4 868	3 719	4 060
2008/09	2 952	3 956	5 044	5 561	4 913	3 307	4 863	4 436	3 691	3 827
Percentage change 2003/04 to 2007/08	*4*	*3*	*–7*	*–1*	*3*	*5*	*–6*	*–1*	*–16*	*–11*
Percentage change 2007/08 to 2008/09	*–6*	*–4*	*–6*	*–5*	*–5*	*–10*	*–1*	*–9*	*–1*	*–6*
Post-tax										
2003/04	15 166	14 435	22 463	27 315	22 194	13 531	23 662	20 100	19 158	19 098
2007/08	16 143	15 597	25 438	29 290	21 708	14 064	24 060	24 905	19 098	18 639
2008/09	15 524	16 646	26 146	30 437	22 440	13 829	25 247	22 942	17 250	17 691
Percentage change 2003/04 to 2007/08	*6*	*8*	*13*	*7*	*–2*	*4*	*2*	*24*	*0*	*–2*
Percentage change 2007/08 to 2008/09	*–4*	*7*	*3*	*4*	*3*	*–2*	*5*	*–8*	*–10*	*–5*

Notes:

1 Adjusted to 2008/09 prices using the implied expenditure deflator for the household sector.

Source: Office for National Statistics

per cent). Cash benefits also increased in London (12 per cent). Looking at the North East, the increase in cash benefits were not large enough to compensate for the falls in original income, with a similar story for other regions. Therefore gross income in this region also fell (14 per cent) between 2007/08 and 2008/09. The large fall in average household gross income also meant the North East experienced the largest fall (25 per cent) in the UK in the level of direct taxes.

When comparing regional changes in average disposable income between 2007/08 and 2008/09 the most notable was a fall (11 per cent) among households in the North East from £23,329 to £20,815 per year. Some regions, however, experienced increases in average household income. For example the West Midlands and Scotland experienced the largest increases (each 8 per cent) in average household disposable income over the period.

Age of household reference person

The age bands presented in the following analysis are in line with those presented in *The effects of taxes and benefits on household income, 2008/09* and are slightly different to those presented in the Labour Market section.

When analysed by age bands shown in **Table 10**, original and gross income increased for nearly all groups in the years 2003/04 to 2007/08. The exception was for those where the HRP was aged under 25 where there were falls of 16 per cent and 13 per cent, respectively, over the period. It is worth noting however, that this age group is the smallest in number, largely because people of this age are less likely to be a household reference person, and the estimate for this group has large variation.

In the 12 month period between 2007/08 and 2008/09, average household income fell for some age groups while others have experienced less change. The group most affected was those households where the HRP was aged 25 to 34 which experienced a fall of 8 per cent in original income. Cash benefits for this group also increased, but as is the case with many of the estimates, these benefits did not replace the original income lost and therefore gross income also fell (7 per cent). Households where the HRP was aged 55 or over (55 to 64, 65 to 74, and 75 and over) also experienced falls in gross income (although smaller than for those aged 25 to 34).

Disposable income for all age groups was either the same, or changed by no more than 3 per cent, between 2007/08 and 2008/09. The exception was for those aged 25 to 34 who experienced the largest change – a fall of 6 per cent from £31,842 (the highest disposable income in 2007/08 of all age groups) to £29,882 per year (lower than for those aged 35 to 44 and 45 to 54). The main driver behind this fall was a corresponding fall in wages and salaries of 10 per cent between 2007/08 and 2008/09. The proportion of HRPs in the 25 to 34 age group who were not receiving any income from wages and salaries fell between 2006/07 (22 per cent), 2007/08 (18 per cent) and 2008/09 (16 per cent). Although data above from the Labour Force Survey shows the increase in unemployment in the economic downturn, these income data from the LCF suggest that at least some of the fall in income from wages and salaries in this group could be as a result of wage freezes rather than job losses.

Household composition

In the years leading up to the recession there were increases in original income for nearly all household types presented in **Table 11** with the exception of those comprising of two non-retired adults with three or more children, and three or more adults with children. However, it is worth noting that these groups are the smallest in terms of sample size. The households which experienced the largest increase in original income between 2003/04 and 2007/08 were those comprising two non-retired adults with two children (22 per cent), and two or more retired adults (12 per cent).

However, the original income of households comprising of two non-retired adults with two children fell by 12 per cent between 2007/08 and 2008/09 (as did that of non-retired one person households with children). Similarly, the original income of retired one person households fell by 10 per cent.

After direct taxation, the disposable income of households with two non-retired adults and two children fell from £29,773 per year in 2007/08 to £27,378 in 2008/09 – a fall of 8 per cent. The disposable income of households with two non-retired adults and three children also fell by 8 per cent over the period, from £22,817 to £20,941 per year.

Conclusion

Analysis from the LFS household datasets shows that labour market participation among UK households is uneven, with some households having no adults in work. Between 2007 and 2009, of which includes the recent recession, the number and percentage of workless households increased, largely due to an increase in unemployment. Economic inactivity continues to be an important feature in workless households, with economically inactive households representing a high percentage of workless households, whilst excluding households containing all adults above state pension age.

The percentage of workless households varies by factors such as type of household, housing tenure, region, age of head of household, number of dependent children in the household and age of youngest dependent child in the household.

Nearly half of socially rented households are workless, and this group also had the largest increase in the percentage of workless households between 2007 and 2009. Lone parents with dependent children also have the highest workless rates among the different household types, but this group was the only one to fall between 2007 and 2009.

The analysis of household income presented is not exhaustive and is limited to data available from the LCF. However it has shown that overall, households in the UK experienced little change in their disposable and post-tax income between 2007/08 and 2008/09. This means that despite an increase overall in the number of households in which no one is in work, the money that households have to spend on goods, services and utilities remained the same. Over the period there were increases in benefits paid to households, offsetting a fall in original income, whilst there were falls in direct taxes.

However, when looking at households across the UK, some regions did experience a fall in disposable income, most notably in the North East, which also had the second largest increase in the workless household rate.

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ARTICLE

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The labour market in the 1980s, 1990s and 2008/09 recessions

SUMMARY

This article analyses and compares the movements in key labour market outcomes during the last three recessions and in the first six months of each recovery. These include: employment and jobs by industry and region, hours and wages, and unemployment and inactivity.

The recession in 2008/09 has been the deepest for several decades. Starting in the second quarter of 2008, Gross Domestic Product (GDP) fell for six consecutive quarters, recording a total peak to trough fall of 6.4 per cent. As output fell and spare capacity in the economy opened up, interest turned to how the recession was passing-through to the labour market. In particular, the extents to which employers have cut back on their workforces. ONS has produced several articles looking at the effects of the recession, with two, in May and November 2009 focusing on the labour market.

Growth in GDP returned in the final quarter of 2009, and according to latest Preliminary estimates, has been sustained through the first half of 2010. However, the end of the downturn in GDP does not necessarily result in instant improvements in the labour market. History shows that unemployment can continue to increase for many months after a recession has finished. This article aims to show how the paths of employment and other key labour market indicators during the recent recession and in the first six months of the recovery compare with experiences of previous recessions.

Although some of the causes of the last three UK recessions are similar, there are also important differences, meaning the resulting impact on the labour market may also be different. Therefore it is useful to briefly explain at the outset some of the key features of each of them.

1980s recession (January 1980 - March 1981)

In the 1980s the UK recession was part of a synchronised downturn across all the major economies. The doubling of oil prices in 1979, the second major oil price shock in the decade, generated significant inflation. The resulting policies to control this and reduce government borrowing, such as a major tightening in monetary policy and increases in taxes, pulled down on real disposable incomes and demand across the world.

1990s recession (July 1990 - September 1991)

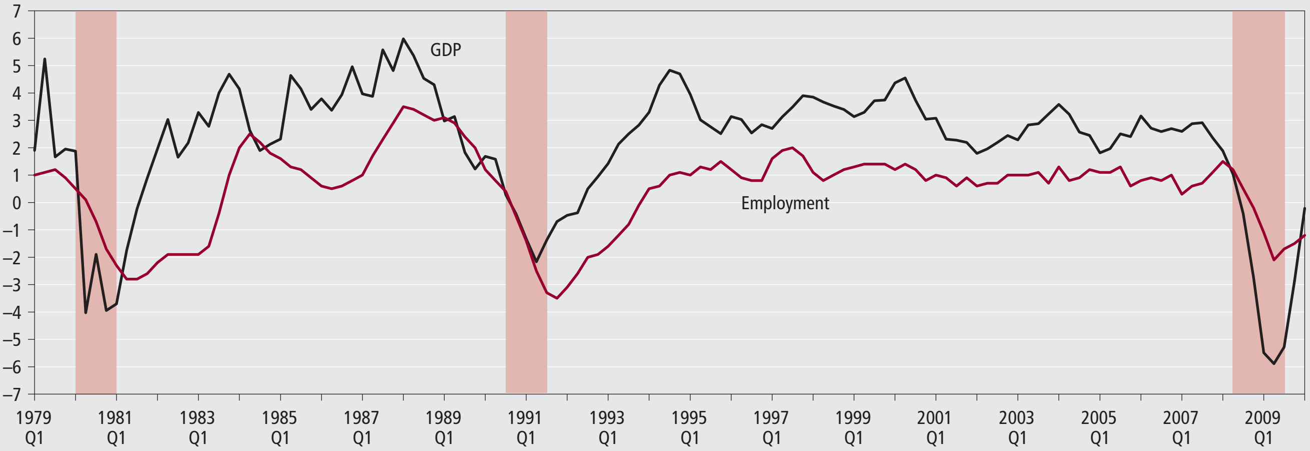
Through the mid to late 1980s, strong economic growth caused high levels of inflation, peaking at over 10 per cent. Interest rates were increased to control this, and the pursuit of lower inflation eventually led to sterling joining the European Exchange Rate Mechanism. However, inflationary pressures resulting from German reunification diminished the scope to cut interest rates as the UK economy entered into recession, with rates reaching up to 15 per cent as the government tried to defend sterling's parity against the Deutschmark. High interest rates had a severe impact on the UK housing market, leading to a significant fall in prices, a surge in repossessions and growing numbers trapped in negative equity. These factors and a doubling in the level of unemployment led to a large fall in domestic spending.

Figure 1

Annual percentage change in Gross Domestic Product[1] and LFS employment,[2] Q1 1979 to Q1 2010[3]

United Kingdom

Percentages, seasonally adjusted



Notes:

Source: ONS Labour Force Survey and Quarterly National Accounts

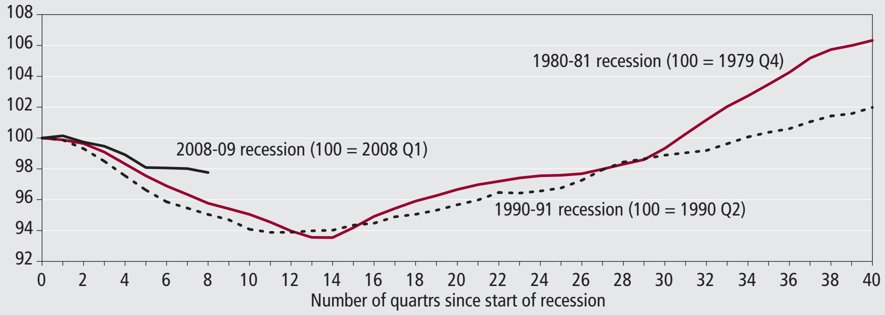
1 Gross Domestic Product (ABMI), chain volume measure, seasonally adjusted.
2 Employment level is for those aged 16 and over.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 2

Employment[1] levels from the start of recession for the 1980s, 1990s and 2008/09 recessions

United Kingdom

Employment index, seasonally adjusted



Notes:

Source: ONS Labour Force Survey

1 Employment level is for those aged 16 and over.

2008/09 recession (April 2008 - September 2009)

The latest recession came after a period of unparalleled stability in both the UK and global economies. However, the NICE (non-inflationary consistently expanding) decade masked growing international imbalances, which became manifest in very liquid financial markets and a world-wide credit boom, including the US sub-prime mortgage market. As massive losses in assets related to US sub-prime mortgages began to emerge, and uncertainty as to their exact size and location, the short-term money markets closed as financial institutions became hesitant to lend to each other. The sudden drying up of liquidity endangered the entire global banking system, which may have collapsed had it not been for large-scale government interventions. Demand across the world then fell sharply, partly due to the hiatus in lending (credit crunch) and also as over-indebted households and businesses looked to rebuild their balance sheets.

The analysis presented in this article mainly focuses on the UK as a whole with a briefer analysis of the devolved countries of the UK and Government Office Regions within England. The article will show how employment has changed through each of the recessions, before looking at jobs across different industries. It will then show how hours and wages have altered, before finally looking at unemployment and inactivity. The term 'immediate recovery' is used throughout the article when commenting on the first six months of the recovery.

Employment and GDP

Figure 1 shows the annual changes in GDP and employment from 1979 onwards with the shaded areas showing periods of recession. In the 1980s recession, GDP fell by 4.6 per cent over five quarters, in the 1990s it fell by 2.5 per cent over five quarters, and in 2008/09 it fell by 6.4 per cent over six quarters, the largest fall. However, changes in employment have not been the same, with the largest fall in the 1990s recession, at 3.4 per cent (910,000), while it only fell by 1.9 per cent (573,000) through the most recent recession. There was a 2.4 per cent fall (619,000) in the 1980s recession.

Figure 2 shows an employment index, which is the quarter on quarter change in the employment level since the start of each recession. The 1980s and 1990s recessions both lasted for five consecutive quarters but employment continued to fall for around three and a half years after the start of the 1980s recession, and for three years after the start of the 1990s recession. In the 1980s recession it took 32 quarters (8 years) for employment levels to reach that at the start of the recession, while it took 35 quarters (8 years and 9 months) for employment to fully recover after the 1990s recession. As shown, the recession has lasted longer in 2008/09 and employment levels have not fallen as much as in previous recessions. In the six months following the third quarter of 2009 (which was the final quarter of falling GDP), the employment level fell by a further 0.3 per cent. This is much smaller than in previous recessions, where

Table 1
Percentage change in Workforce Jobs[1] by industry[2] through each recession and first six months of recovery

United Kingdom **Percentage change, seasonally adjusted**

	1980s		1990s		2008/09	
	Recession	Recovery	Recession	Recovery	Recession	Recovery
All Jobs	***–3.6***	***–1.1***	***–3.7***	***–0.6***	***–2.7***	***–0.3***
Manufacturing	*–11.2*	*–2.7*	*–9.7*	*–2.3*	*–10.7*	*–2.3*
Construction	*–3.4*	*–2.7*	*–10.9*	*–3.2*	*–8.9*	*–2.9*
Service industries						
Wholesale & retail trade; repair of motor vehicles and motor cycles	*–2.5*	*0.1*	*–2.4*	*0.3*	*–5.7*	*–1.9*
Transport & storage	*–3.0*	*–0.7*	*–2.8*	*–0.2*	*–2.4*	*–3.3*
Accommodation & food service activities	*0.8*	*–0.7*	*–4.2*	*–1.1*	*–3.5*	*–0.6*
Information & communication	*–5.4*	*–0.8*	*–4.4*	*–0.9*	*–4.9*	*–1.3*
Financial & insurance activities	*3.9*	*–0.6*	*–2.8*	*–2.1*	*–3.5*	*–3.9*
Professional scientific & technical activities	*–0.5*	*0.9*	*–1.9*	*0.2*	*1.6*	*2.3*
Administrative & support service activities	*–0.7*	*0.4*	*–2.1*	*0.5*	*–6.9*	*4.6*
Public admin & defence; compulsory social security	*–1.5*	*–0.8*	*1.5*	*0.0*	*0.4*	*–0.2*
Education	*–2.6*	*5.4*	*–1.1*	*0.3*	*4.9*	*–0.5*
Human health & social work activities	*3.9*	*–2.8*	*3.3*	*1.6*	*5.3*	*1.9*
Total services	*–0.9*	*0.0*	*–1.5*	*0.1*	*–1.3*	*0.0*

Notes:

Source: ONS Workforce Jobs

1 Workforce Jobs figures are a measure of jobs rather than people. For example if a person holds two jobs, each job will be counted in the workforce jobs total. Estimates come from a variety of sources, and where possible from the employer rather than the individual.

2 Standard Industrial Classification 2007.

in the six months following the recession, employment levels fell by 1.2 per cent in both the 1980s and 1990s.

The number of jobs in the economy is an indicator of whether employers are cutting back on recruitment, which will impact on employment levels. Estimates of Workforce Jobs are taken mainly but not exclusively from surveys of employers. These differ from the Labour Force Survey (LFS), which provides the number of people in employment, with estimates based on individuals' responses. Individuals, who report themselves as being in employment, could have more than one job, so they may be recorded twice in the Workforce Jobs series. However, the trends in both series are similar so a comparison of Workforce Jobs with GDP and a Workforce Jobs index are not shown. As it is sometimes difficult for individuals to identify exactly what industry they work in, perhaps because companies may work in a variety of different industries, the Workforce Jobs series provide a better estimate than the LFS for industry information.

Table 1 shows the percentage change in Workforce Jobs by industry through each of the last three recessions and in the first six months of the immediate recovery. Industries containing less than 3 per cent of all jobs over the last thirty years are not shown. There were similar falls in the percentage of jobs lost in the recessions in the 1980s and 1990s, at 3.6 per cent (985,000) and 3.7 per cent (1.1 million jobs) respectively, while for the most recent recession jobs fell by a lower 2.7 per cent (856,000 jobs). The fall in the number of jobs across all three recessions differs by industry. The largest falls were in manufacturing, at 11.2 per cent (733,000 jobs) in the 1980s, 9.7 per cent (474,000 jobs) in the 1990s and 10.7 per cent (311,000 jobs) in the most recent recession. However, in the 1990s recession, although the number of jobs lost was not as large as in manufacturing, the construction industry had the largest relative percentage fall in jobs, down 10.9 per cent (269,000 jobs).

Total jobs in the services industries have also fallen in all of the last three recessions, although the extent of the fall has differed across recessions and by specific industry. In the 1980s recession there was a fall in jobs of 0.9 per cent (158,000 jobs), in the 1990s recession the fall was 1.5 per cent (309,000 jobs) and in the recent recession the fall was 1.3 per cent (338,000 jobs). In each instance, the largest fall in jobs in the services industries was within wholesale and retail trades (including repair of motor vehicles and motor cycles).

However, despite the overall fall in jobs, some services industries have exhibited an increase in the number of jobs during periods of recession. In the 1980s recession, there were 3.9 per cent increases in both health and social work activities (79,000 jobs) and financial and insurance activities (34,000 jobs). In the 1990s recession, jobs in health and social work activities rose by 3.3 per cent (85,000 jobs). This industry also reported a rise in jobs during the most recent recession, up 5.3 per cent (197,000 jobs). There was also an increase in jobs within education, up 4.9 per cent (127,000 jobs). Throughout the last three recessions, the industries that have typically reported an increase in jobs have been those based predominately in the public sector.

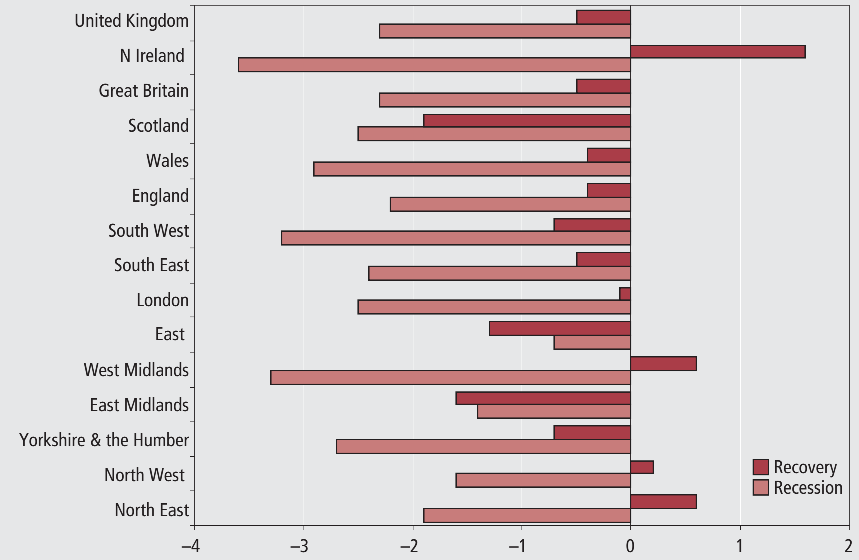
In the immediate recovery stage of a recession, defined as the six-month period after the final quarter of falling GDP, the number of jobs has continued to fall but to different extents in each period. In the six months following the 1980s recession the number of jobs fell by 1.1 per cent (301,000 jobs). In the immediate recovery from the 1990s recession there was a further fall in the number of jobs of 0.6 per cent (160,000 jobs). Whilst after the most recent recession jobs have fallen by 0.3 per cent (108,000 jobs).

In the manufacturing and construction industries the number of jobs has typically fallen between 2.3 per cent and 3.2 per cent during the immediate recovery, although this is a marked slowdown from some falls of over 10 per cent through the recession itself. In contrast, jobs falls across all service industries stopped, with there being no change in jobs in the six months following the 1980s and recent recessions, and a small increase of 0.1 per cent (12,000 jobs) following the 1990s recession. However, within the services sector some industries continued to experience a fall in jobs in the immediate recovery. For example, in the recent recession, there is a further fall in jobs in financial and insurance activities of 3.9 per cent (43,000 jobs).

Figure 3

Percentage point change in employment[1] through each recession and first six months of recovery

Percentages, seasonally adjusted



Notes: *Source: ONS Labour Force Survey and Quarterly National Accounts*

1 Employment rate is for men aged 16–64 and women aged 16–59.

Variations in the impact of recessions on employment and jobs across industry groupings will also help to explain the regional impact as composition of output by industry differs from one part of the country to another. Workforce Jobs does not allow for analysis of total jobs by region and industry and so the LFS is the only source to show how employment by industry varies across the countries of the UK and the Government Office Regions within England. Based on the April to June 2008 quarter of the LFS, which was the first quarter of the recent recession:

- in Wales, Scotland, Northern Ireland and the North East, around 33 per cent (1 in 3) of employment is in the industries of public administration and defence, education and health and social work, while in London the same group accounts for 25 per cent (1 in 4)
- across London the manufacturing sector accounts for around 6 per cent (1 in 16) of employment, while in both the West and East Midlands, the percentage of employment reliant on manufacturing is almost treble, at 16 per cent (1 in 6)
- in London, information and communication, financial and insurance activities and professional, scientific and technical activities account for 25 per cent (1 in 4) of employment. The same industries account for 16 per cent (1 in 16) of employment in the South East and East of England at 16 per cent (1 in 6) with all other parts of the UK at 13 per cent or lower

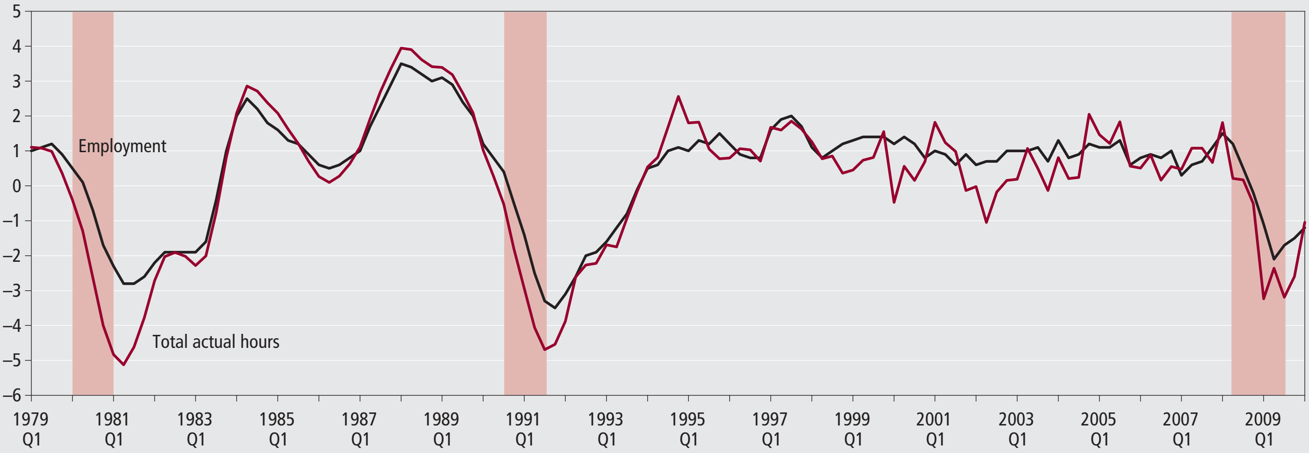
Considering the variations in employment by industry across the UK and the impact on jobs across the industries, **Figure 3** shows the percentage point change in employment rates over the recession and for the first six months of the recovery for the countries of the UK and the Government Office Regions within England. The employment rate is used as it shows employment relative to the population, and therefore removes the effect of differences in population levels across each area. For the UK as a whole, there was a 2.3 percentage point fall in the employment rate, from 74.8 per cent in January to March 2008, the final quarter before the recession, to 72.5 per cent in July to September 2009, the final quarter of the recession. Across the UK, the largest falls in employment rates were in Northern Ireland, at 3.6 percentage points, followed by the West Midlands, at 3.3

Figure 4

Annual percentage change in total actual hours worked[1] and employment,[2] Q1 1979 to Q1 2010[3]

United Kingdom

Percentages, seasonally adjusted

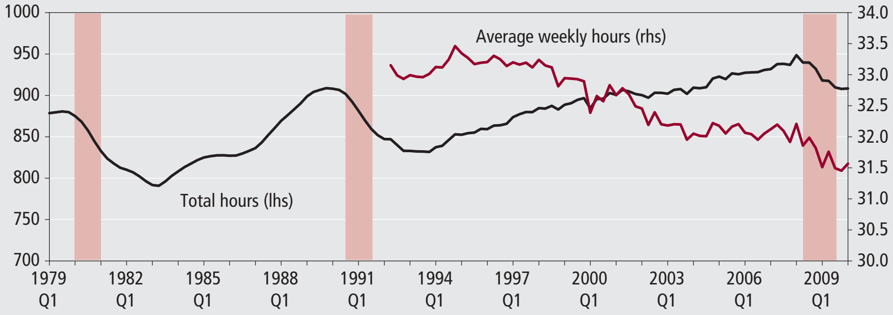


Notes: *Source: ONS Labour Force Survey*

1 Total actual weekly hours worked in main and second job, including paid and unpaid overtime.
2 Employment level is for those aged 16 and over.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 5
Total hours worked[1] and average actual weekly hours worked[2,3]

United Kingdom
Hours, seasonally adjusted



Notes: *Source: ONS Labour Force Survey*

1 Total actual weekly hours worked include paid and unpaid overtime, Q1 1979 to Q1 2010.
2 Average actual weekly worked, Q2 1992 to Q1 2010.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

percentage points and the South West, at 3.2 percentage points. For the first six months of the recovery, both Northern Ireland and the West Midlands have seen increases in employment rates, up 1.6 percentage points and 0.6 percentage points respectively. There was also an increase of 0.6 percentage points in the employment rate in the North East in the first six months of the recovery.

Hours and wages

In an economic downturn changes in employment levels may be partly influenced by movements in hours and wages. For instance, businesses can use hours worked to vary their labour input without varying the numbers employed. Controlling wage growth (including pay freezes or pay cuts) is also a way for firms to control costs without reducing employment. **Figure 4** shows the annual change in total hours worked and employment from 1979 onwards. As expected, mainly through falls in employment, total hours have fallen through recessions. However, the fall in hours has typically been faster, suggesting that employers have cut back on overtime or offered fewer hours to employees as a way of reducing labour inputs as well as through reduced employment.

Through the 1980s recession, total hours fell by 5.3 per cent, compared to the fall in employment of 2.4 per cent. In the 1990s recession, the gap between the two falls was smaller, with total hours falling by 5.2 per cent, and employment by 3.4 per cent. Whilst in the recent recession total hours fell by 4.1 per cent compared to an employment fall of 1.9 per cent. Following the two earlier recessions total hours continued to fall for around two years, reflecting the same patterns shown in the employment series. It was only when the recovery was well underway that total hours started to rise, reflecting not just an increase in employment but also as employers offer more overtime and longer working hours to their workforce.

Another point that is notable in Figure 4 is that before 1998, the annual change in total hours worked followed quite strictly the annual change in employment. However since 1995, until the most recent recession, while annual employment growth has been hovering around 1 per cent, the annual change in total hours worked is more volatile. This is best explained by **Figure 5** which shows total hours worked since 1979 (left-hand side scale) and average hours worked since 1992 (right-hand scale), the earliest point a consistent series is available. Despite a strong economy at the time, average hours have been falling since 1998 coinciding with rules imposing a Working Time Directive. This policy, aimed to limit the maximum length of the working week, helps to partly explain the fall in average hours. Other explanations include the shift to more flexible working and policies promoting work-life balance. The downward trend in average hours levelled off from around 2004, but average hours began to fall again through the recent recession through lower overtime and shorter working weeks, and also reflecting decreases in full-time working and increases in part-time working.

Figure 6 shows average *real* wage growth, which is nominal wage growth adjusted for inflation, and is an indicator of changes in the purchasing power of wages. Inflation adjustments are made using the Retail Price Index (RPI), both including and excluding mortgage interest payments. Inflation is an important consideration in negotiating wage settlements as employees are concerned with protecting the real value of their pay. These considerations are likely to be more acute in times of high inflation.

Inflation was high through the 1980s recession reaching a peak of over 20 per cent in the summer of 1980. The cause was mainly cost-push, a result of strong increases in energy (oil) prices and a doubling in the rate of VAT to 15 per cent. Wage-price spirals result when high inflation is passed through into wage settlements, which then by increasing costs, push up prices even further. Nominal annual wage growth also reached levels of over 20 per cent in the recession.

There were large variations in real earnings growth over the 1980s recession. Nominal wages adjusted with RPI inflation excluding mortgage interest payments grew by just 0.1 per cent in the Spring of 1980, but growth peaked at 8.3 per cent in the Autumn of 1980. Tight monetary policy aimed at controlling inflation, such as an increase in interest rates, meant that real earnings growth including mortgage interest payments were lower across the whole period.

In the 1990s recession, inflation and wage growth were much lower than that during the 1980s recession, but still at relatively high levels compared with more recent times. Going into the 1990s recession, nominal wage growth was around 10 per cent, with inflation around 11 per cent (including mortgage interest payments). At the time interest rates were also at relatively high levels as monetary policy was tightened to bring down inflation. Therefore for the first few months of the recession, because of the higher cost of mortgage interest payments, real earnings growth including these was negative.

Interest rates fell through the recession but remained above 10 per cent, resulting in inflation falling to 4.1 per cent (including mortgage interest) and 5.7 per cent (excluding mortgage interest) in September 1991. Nominal annual wage growth also fell but not as fast as inflation, to 7.4 per cent in September 1991. Falling interest rates lowered the cost of mortgage interest payments, meaning that after the first three quarters of the recession, real earnings growth (including mortgage interest) was higher than real earnings growth (excluding mortgage interest), standing at 3.3 per cent and 1.7 per cent respectively in September 1991.

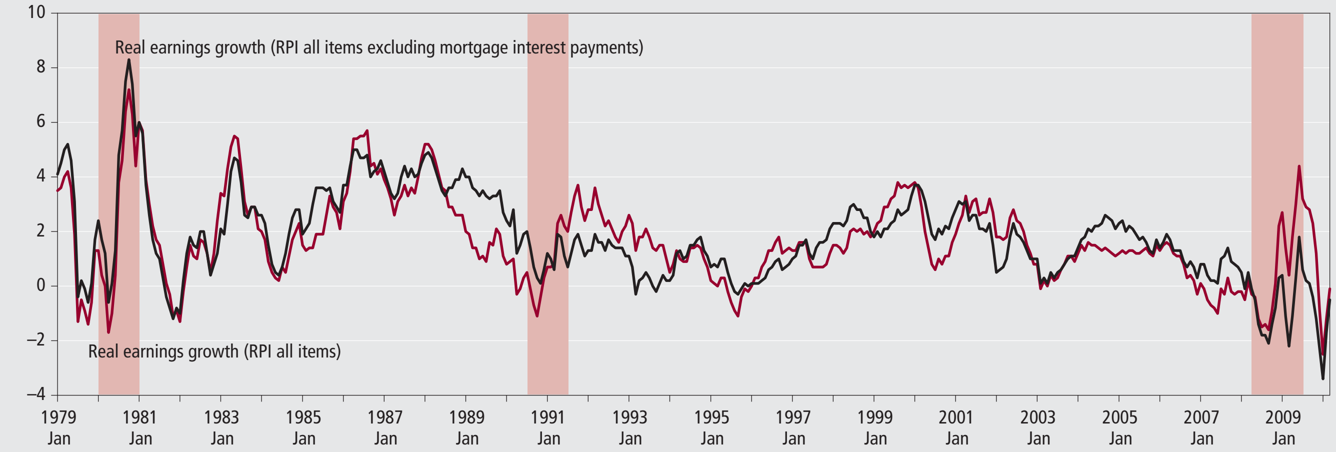
After sterling's exit from the European Exchange Rate mechanism in 1992 and up until the start of the most recent downturn, the UK enjoyed a period of unprecedented

Figure 6

Annual percentage change in real earnings growth adjusted by (i) RPI all items and (ii) RPI excluding mortgage interest payments, January 1979 to March 2010[1]

Great Britain

Percentages, seasonally adjusted



Notes:

Source: ONS Retail Price Index and Monthly Wages and Salaries Survey

1 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

low and stable inflation. Between 1993 and the end of 2007, inflation averaged around 2.5 per cent reaching a high of 3.9 per cent and a low of 1.5 per cent. This long period of low inflation, coinciding with the move to inflation targeting and independence in monetary policy as well as benefiting from the strong tail winds provided by the emergence of China and other low cost producers into global trade, has been tagged as the 'Great Moderation'. The stability of inflation meant that interest rates remained at low levels compared with the previous two decades, averaging around 5 per cent from 1993 to the end of 2007. With little change in both series, annual nominal wage growth has also been stable since the last recession, and with low inflation and interest rates, is also much lower than the previous twenty years.

Therefore, and in contrast to the previous two recessions, the most recent downturn did not start with a sharp tightening in monetary policy to curb excessive inflation. In the month before the start of the recession, RPI inflation was 3.8 per cent (including mortgage interest) and 3.5 per cent (excluding mortgage interest) compared with nominal annual wage growth of 4.0 per cent. This meant that in real terms, using both inflation measures, real earnings growth was modest. As the recession started, and up until the end of 2008, the pick up in inflation resulting from an increase in energy prices combined with a slowdown in nominal wage growth as the labour market weakened resulted in a fall in real wages – which may have been one factor helping to minimise the reduction in jobs.

In 2009 inflation on both measures started to fall as the previous year's increases in commodity and energy prices either dropped out of the annual calculation or were reversed as demand fell in the global recession. To avoid the onset of debt-deflation, the Bank of England cut interest rates aggressively from the onset of the recession to just 0.5 per cent in the second quarter of 2009, where rates have remained ever since.

The fall in the Bank of England base rate has been, on average, passed through to UK mortgage rates. Note, however, that not all mortgage rates track the base rate, for example those on fixed-rate terms. Increases over the last thirty years in the number of owner-occupiers with mortgages means there is more significance in looking at annual real earnings growth with and without interest mortgage payments than in previous recessions. Although it is worth noting that the percentage of households with mortgages are not uniform across the many population groups, with those most vulnerable such as the young and lower skilled, less likely to have access to mortgage finance. The fall in interest rates meant that the rate of RPI inflation (including mortgage interest) went negative, falling to -1.6 per cent in the summer of 2009. The RPI inflation rate excluding mortgage interest was also low at 1.0 per cent. Low inflation meant that, despite the slowdown in annual earnings growth, real earnings grew over this period, especially when using the RPI inflation measure including mortgage interest payments. Low inflation may also have been a factor in suppressing nominal wage growth as the impact on real wages would be lower.

Unemployment and inactivity

Not all businesses, facing lower demand in a recession, will be able to fully insulate employment by adjusting hours and wages. This means an increase in unemployment. However, not everyone who loses their job automatically becomes unemployed, as some individuals become economically inactive. The difference between the two categories is that individuals are unemployed if they are looking and available for work, while those not available or not seeking work are classed as inactive.

Figure 7 shows the unemployment rate for individuals aged 16 and over. **Figure 8** shows the inactivity rate for individuals below state pension age since 1979 but only shows the range of inactivity rates from 14 per cent to 24 per cent, so visually the changes may look bigger than they are. Restricting inactivity rates to those below state pension age removes many individuals who are not looking for work because of retirement, and therefore less likely to re-enter the labour market, whether there is a recession or not. The falls in employment through the recessions described earlier reflect immediate increases in unemployment through each of the recessions, although not so immediate increases in inactivity.

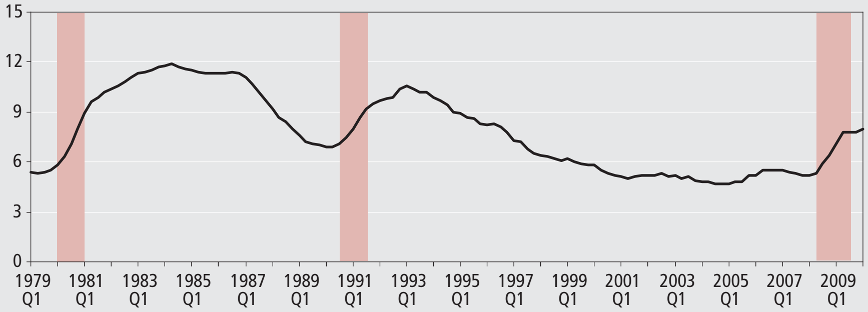
Immediately before the 1980s recession, in the final quarter of 1979, the unemployment rate was 5.5 per cent (1.47 million) having hovered around this rate since the mid 1970s. The onset of

Figure 7

Unemployment rate,[1] Q1 1979 to Q1 2010

United Kingdom

Per cent, seasonally adjusted



Notes: *Source: ONS Labour Force Survey*

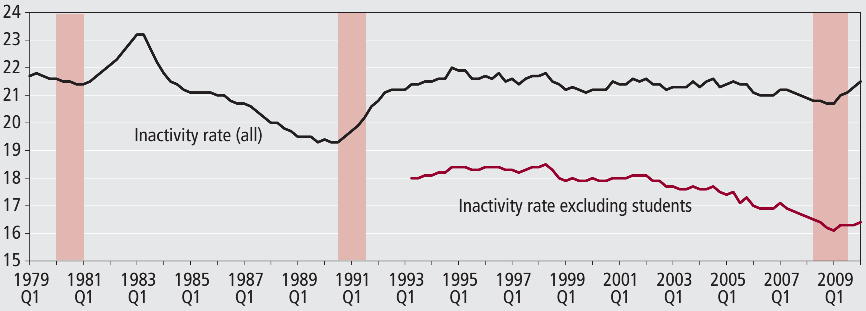
1 Unemployment rate is for those aged 16 and over
2 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 8

Inactivity rates[1] including[2] and excluding[3] students[4]

United Kingdom

Percentages, seasonally adjusted



Notes: *Source: ONS Labour Force Survey*

1 Inactivity rates are for men aged 16 to 64 and women aged 16 to 59.
2 All individuals, Q1 1971 to Q4 2009.
3 Excluding students, Q2 1993 to Q1 2010.
4 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

recession saw an immediate increase in the unemployment rate, rising to 8.9 per cent (2.4 million), and the number unemployed increasing by 932,000. As explained earlier, the end of the recession does not necessarily signal an immediate improvement in labour market performance. Unemployment rates continued to increase after the 1980s recession, reaching a peak of 11.9 per cent (3.27 million) in the summer of 1984, and more than double that before the start of the recession. Unemployment rates and levels decreased slightly over the next few years, before falling more sharply from 1987 until the start of the 1990s recession, although they never returned to the level before the start of the 1980s recession.

In the quarter before the start of the 1990s recession, the unemployment rate was 6.9 per cent (2 million) which was 1.4 percentage points higher than the rate before the 1980s recession. By the final quarter of the recession the unemployment rate had increased to 9.2 per cent (2.62 million) reflecting an increase of 622,000 in the number unemployed. The rise in unemployment through the 1990s recession was not as large as during the previous recession, although the peak to trough fall in GDP was also less severe and unemployment was higher before the start of the recession. After the end of the recession unemployment continued to rise, reaching a peak rate of 10.6 per cent (3 million) in the first quarter of 1993. This again shows that the total impact of the 1990s recession on unemployment was smaller than the 1980s recession.

Since 1993 unemployment rates and levels have been in general decline, reaching a low of 4.7 per cent (1.41 million) in 2004. These also happen to be lower than the level and rate before the start of the 1980s recession. After this there was a slight increase, so in the quarter immediately before the recession started the unemployment rate stood at 5.2 per cent (1.62 million). Unemployment through the 2008/09 recession increased by 2.6 percentage points to reach 7.8 per cent (2.46 million) in the final quarter of the recession, reflecting an increase of 842,000 people.

During the actual recession period the rise in the unemployment rate in the most recent recession was greater than that in the 1990s but less than that experienced in the 1980s. In the two earlier recessions unemployment continued to rise after GDP had started to increase, while in the latest recession unemployment appears to have stabilised much faster.

Inactivity rates do not fluctuate as much as employment and unemployment rates, varying by around 4 percentage points in the last 30 years, between a low of 19.3 per cent and a high of 23.2 per cent. There are various reasons for an individual to be inactive, with the main reasons being study, looking after the family or home and long-term sick. Some individuals are also inactive because they do not want work, or believe there are no jobs available.

Through the 1980s recession, inactivity rates were fairly stable showing only a slight fall from 21.6 per cent (7.15 million) to 21.4 per cent (7.12 million). Inactivity rates increased following the recession, reaching a peak of 23.2 per cent (7.82 million) in the summer of 1983, with most of the increase accounted by males.

One of the key changes in the inactive series over the last three decades is the shift from women moving into the labour market, becoming either employed or unemployed, whilst more men have moved out of the labour market into inactivity. The main shift happened between 1983 and the start of the 1990s recession, with inactivity rates for women falling from 36.1 per cent to 27.9 per cent, with many moving into part-time employment. This fall meant that going into the 1990s recession, inactivity rates for all individuals, at 19.3 per cent (6.73 million), were at their lowest for 30 years. This rate subsequently increased to stand at 20.2 per cent (7.05 million) by the final quarter of the recession – a reflection of fewer jobs being available. Inactivity rates increased for both men and women, with the increase slightly greater for men. Following the recession the inactivity rate continued to increase, reaching a peak of 22.0 per cent (7.68 million) in 1994.

Another key change in inactivity patterns has been the increase, since 1997, for study reasons. This coincides with polices aimed at increasing participation in higher education, including a large expansion in the number of universities. In 1998 there were 329,000 people starting a degree, which increased by over 100,000 over the next decade. This impact is clear when looking at inactivity rates excluding students as shown in Figure 8. Information on the reason for inactivity is only available consistently from 1993, and so the series excluding students is shown from then.

In 1993, students accounted for around 1 in 5 of all inactive individuals, and around the start of the most recent recession, this had increased to 1 in 4. Therefore, whilst the inactivity rate for all individuals remained fairly constant, the rate once students were removed fell from 18.0 per cent (6.03 million), to 16.6 per cent (5.92 million) in the final quarter before the start of the recession. Over the recent recession inactivity rates for all individuals increased by 0.2 percentage points (144,000), from 20.9 per cent (7.86 million) in the quarter before the recession, to 21.1 per cent (8.01 million) in the final quarter of the recession.

Students are the most important factor in accounting for this increase. During the recent recession the number of inactive for study reasons grew by 224,000. As such, the inactivity rate excluding students actually fell from 16.6 per cent (5.92 million) to 16.3 per cent (5.81 million), reflecting a fall of 113,000. There were also increases in those inactive because of long-term sickness (20,000) and discouraged workers (32,000), with the latter consisting of people who are inactive because they believe there are no jobs available. These increases were offset by a fall in individuals looking after the family or home (39,000), temporary sick (12,000), those retired (22,000) and inactive for other reasons (58,000), resulting in the overall increase of 144,000.

In the first six months of the recovery inactivity rates have increased by 0.4 percentage points (160,000), to stand at 21.5 per cent (8.17 million) in the first quarter of 2010. Again, growing numbers of students account for the majority of the rise (up 105,000). There were also smaller increases across the other reasons for inactivity, except for discouraged workers, which in the immediate recovery fell by 8,000, from 73,000 to 65,000.

Conclusion

With output and expenditure falling in a recession businesses would be expected to react to surplus capacity by reducing their workforces. However, the pass-through from falling GDP to labour market outcomes is not simply predictable, as evidenced by the rather different patterns between falling GDP and employment over the last three recessions.

The recessions of the early 1980s and early 1990s both predominately resulted from the contraction in monetary policy aimed at bringing down high inflation. In this respect the latest recession has been different, inflation has remained at relatively low levels, at least by historical standards, and monetary policy has been loosened aggressively. Instead, the recent recession reflects the downswing in a credit cycle, where lenders tighten the accessibility of finance and households and businesses look to pay down the indebtedness incurred during the upswing of the cycle.

The evidence on employment, jobs and unemployment all suggest the labour market has been more resilient this time around. Lower interest rates have removed some of the cash-flow constraints on businesses, and lower inflation has made it easier for firms to restrict wage growth without putting too much downward pressure on real wages. The rise in part-time at the expense of full-time jobs also reflects that employment may have been protected somewhat by a greater adjustment in hours worked than in previous downturns.

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Employment in the 2008–2009 recession

SUMMARY

After some 15 years of near continuous job growth, the employment rate in the UK in 2008 stood at around 75 per cent of the working age population, a level which was broadly in line with previous employment peaks observed in 1989, 1978 or 1968. In 2005, the (ILO-based) unemployment rate fell below 5 per cent for the first time since the 1970s. Since then, the UK has experienced the worst recession since World War 2 in terms of output lost and the full effects of this on the labour market may not have yet been felt. However the impact on the labour market so far has been rather surprising given the patterns observed both in previous recessions and the contemporaneous experience of other industrialised countries. This article aims to chart the performance of the labour market through the recession and to explain the surprising patterns that have emerged. It also tries to assess the prospects for the next few years.

Employment in the recession

This recession has seen a GDP fall of over 6 per cent, far worse that in the recessions of the 1990s or 1980s (see **Figure 1**). The recession, with a full six quarters of falling output, was both deeper and longer than the previous two. In the previous two recessions, the percentage fall in employment was broadly in line with the percentage fall in GDP (indeed the employment rate fall was somewhat larger than the percentage decline in GDP in the 1990s – Figure 1). Moreover in the previous two recessions, see **Figure 2**, the fall in employment was only halted some 12 to 14 quarters after the onset of recession. This is because typically GDP growth of 2 per cent per annum seems to be needed before employment starts to rise, because small rises in GDP are typically accounted for by productivity growth rather than employment growth. Employment remained below pre-recession levels for 18 months or so after the recovery in jobs has started.

However, the picture for this recession is strikingly different. Whilst the GDP fall has been markedly worse than past recessions, the loss of employment has been rather benign, with a smaller employment fall, amounting to just 2 per cent of the pre-recession workforce, and an earlier flattening of employment loss than in the past (Figure 2), limited to 900,000 jobs on the workforce series. This is notable, but could it be misleading?

One potential problem concerns the monitoring of recent migrants, mainly from the group of accession countries in Eastern Europe, often called the A8. If the numbers of A8 workers in the UK were underestimated in the official employment numbers and A8 migrants returned home in large numbers in response to the recession, this could, conceivably, generate a smaller decline in employment in the official data. The employment numbers in Figure 1 derive from the Labour Force Survey which surveys households. It is possible that recent migrants living in temporary accommodation on building sites or farms may often be missed. However there are a number of reasons to think immigration is not a major factor here.

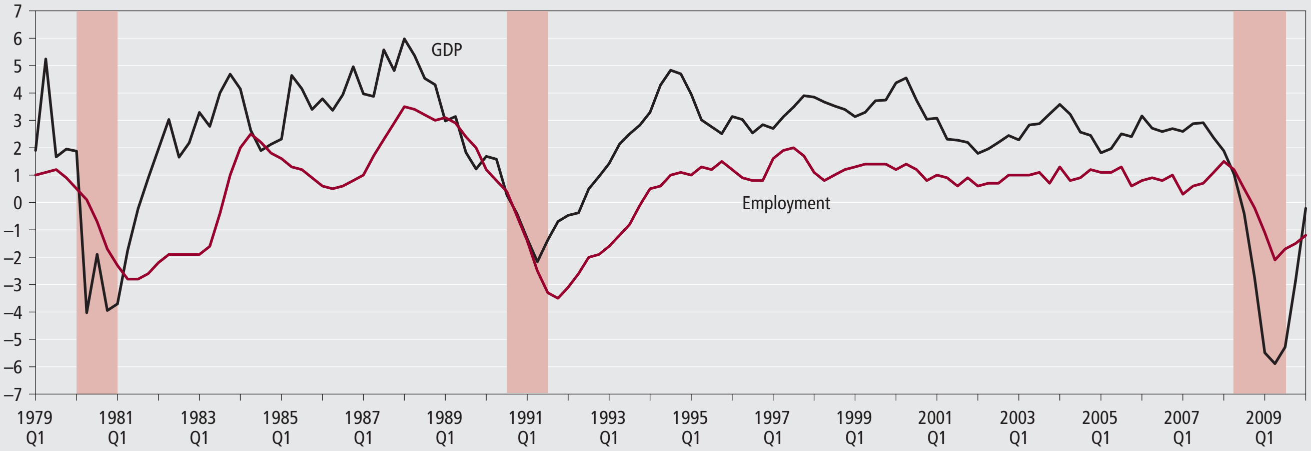
The first is that there is an alternative data source which derives employment from employer rolls, the Workforce Jobs series, and this shows a similar pattern to that given by LFS employment data. The second point concerns the data available on migration. Whilst the numbers of new migrants fell back after 2006 and the number of returnees to the A8 countries has risen, the picture to the end of 2009 was of continuing but smaller net in-migration rather than a mass exodus. The third is a question of scale. The number of jobs saved so far relative to what might be expected by the drop in GDP, amounts to just over 1 million (4 per cent of employment). If however 1 million jobs had been lost, but obscured by immigration, the scale of hidden migration would have to have been huge. Moreover the recession would have to be centred on sectors that employ migrants and there is little evidence that this is the case. In short, it is unlikely that mis-

Figure 1

Annual percentage change in Gross Domestic Product[1] and LFS employment,[2] Q1 1979 to Q1 2010[3]

United Kingdom

Percentages, seasonally adjusted



Notes:

Source: ONS Labour Force Survey and Quarterly National Accounts

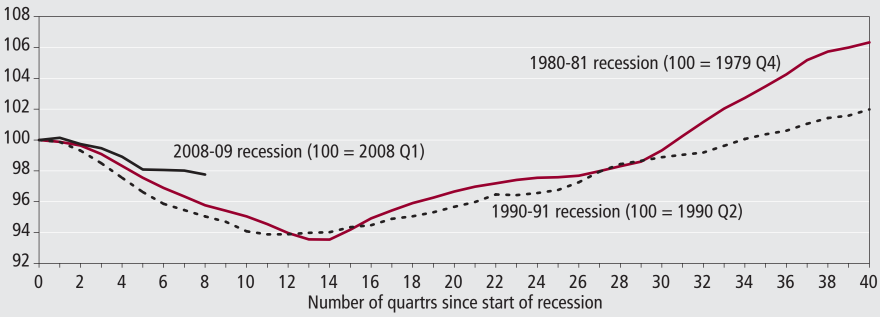
1 Gross Domestic Product (ABMI), chain volume measure, seasonally adjusted.
2 Employment level is for those aged 16 and over.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 2

Employment[1] levels from the start of recession for the 1980s, 1990s and 2008/09 recessions

United Kingdom

Employment index, seasonally adjusted



Notes:

Source: ONS Labour Force Survey

1 Employment level is for those aged 16 and over.

measurement of immigration underlies the smaller than expected fall in employment.

So if an estimated 1 million jobs appear to have been preserved, how it has happened? The first point to consider is how widespread across countries this pattern has been and whether it is related to institutional differences across countries. **Table 1** shows that countries like France and Canada have escaped relatively lightly from the recession with around a 3% fall in GDP and a similar rise in unemployment, in line with past norms. Whilst in the US, Spain and Ireland, the rise in unemployment exceeded the fall in output. However there are a large number of countries with smaller than expected employment falls. Many of these countries adopted a deliberate strategy to encourage short-time working rather than lose jobs. Hence in Germany the government has supported a policy called 'Kurzarbeit', or short-time working. Firms that face a decrease in demand avoid shedding employees by cutting hours instead. If hours and wages are reduced by 10 per cent or more, the government pays 60 per cent of lost salaries. Similar employment subsidy schemes are operating in Italy, the Netherlands and Japan.

The UK is one of a smaller number of countries which have experienced relatively small employment loses without a deliberate government funded strategy of short hours working. Does this mean then that the putative flexible labour market in the UK is helping by creating adjustment in hours or wages instead of jobs? It is important to note that the low employment loss countries are far from obviously those with flexible labour markets. The US is held to be the prime example of the flexible model and Ireland is also a relative less regulated country. Spain has strong labour protection but also has a large share of temporary jobs, which are weakly protected and have been very vulnerable in the downturn. By contrast Sweden, Italy, Germany and the Netherlands have relatively high employment protection levels. In short, there is no relationship between a countries degree of labour market flexibility and employment losses in this recession.

Hours of work

We can also explore whether adjustment is falling on hours or wages rather than employment. **Figure 3** gives the annual change in employment across the last three recessions (as in Figure 1) and adds the change in total hours worked. It is typical in recessions for total hours to fall faster than employment as overtime working is cut, some workers are placed on short time working and people move into part-time work when they struggle to find full-time jobs. The difference between the fall in total hours and employment then reflects what is happening to average hours. The figure makes clear that hours have fallen in this recession but the picture is less marked than in the last two recessions, especially the 1980s recession when the government did subsidise short time working in many major manufacturing plants. So in the 1990s recession and this one average hours amongst workers have fallen by around 2

Table 1
Percentage change in GDP and unemployment across selected countries, 2008–09 recession

	Q1 2008–Q2 2009 percentage change in GDP	Q1 2008–Q4 2009 percentage point change in unemployment
Countries with small employment fall relative to decline in GDP		
UK	*–5.9*	*2.7*
Sweden	*–6.1*	*2.9*
Countries with small employment fall relative to GDP and with employment subsidies		
Italy	*–6.5*	*1.8*
Germany	*–6.3*	*–0.1*
Netherlands	*–5.8*	*1.2*
Japan	*–7.1*	*1.3*
Countries with similar employment and GDP falls		
France	*–3.1*	*2.4*
Countries with larger employment falls than GDP		
US	*–3.5*	*5.0*
Spain	*–4.3*	*9.7*
Ireland	*–9.6*	*8.2*
Countries with little GDP fall		
Australia	*1.5*	*1.5*

Source: OECD (2009)

per cent but in the 1980s this peaked at 4 per cent with the policy of short time working.

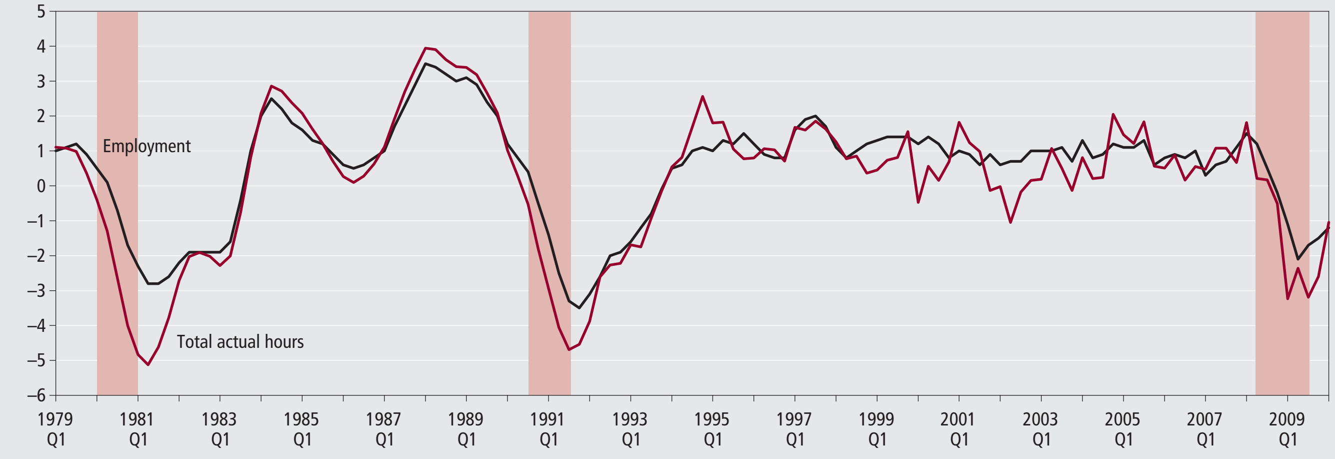
Figure 4 tracks the long-term trend in part-time working in the UK. Part-time working rose from around 16 per cent of employment in 1980 (excluding students) to 22 per cent in 1995, after which it has been broadly stable. The share of part-time working has risen during this recession, consistent with the fall in hours. However this pattern is not unique to this recession. Similar or sharper rises in the share of part-time work can be found during the last two recessions, which tend to stabilise when employment recovers to before-recession levels. Since output fell much faster than employment or hours worked, then productivity also fell sharply. This contrasts with the US where productivity levels were maintained by aggressive job cuts. So in contrast again with previous recessions, the lack of jobs being lost in the UK allied to relatively small hours reductions means that productivity has fallen (**Figure 5**).

One explanation for differential employment and productivity performance in this recession, is that the shock of the recession hit sectors with different capital intensities or productivity differentials by differing amounts across countries. A high productivity, high capital intensity sector subject to a negative shock is likely to experience a sharper fall in output than employment. **Table 2** indicates that, in the UK, the manufacturing sector, once again experienced the sharpest percentage fall in employment over the latest and indeed over previous recessions, (in contrast to the financial sector, the source of the recession). Since high productivity manufacturing experienced the largest employment loss, it is unlikely that the simple shock to a high productivity story explains much of what we have observed in the UK.

Any fall in productivity will put upward pressure on firm costs and reduce demand, other things equal, unless offset by an adjustment of wages. Over the last fifty years, productivity growth has allowed real wages to grow by around 2 per cent a year, on average. Squeezing *real* wage costs during a recession is not as straightforward as it seems, as pointed out by Keynes, since prices also tend to fall during downturns so offsetting any *nominal* wage moderation. Furthermore, wages are a major driver of consumer spending and squeezing the earnings of consumers makes stabilising output harder. **Figure 6** shows the patterns for real wage growth including and excluding the impact of mortgage interest rates and thus aims to capture the growth of real wages from the perspective of firms (excluding mortgage rates) and

Figure 3
Annual percentage change in total actual hours worked[1] and employment,[2] Q1 1979 to Q1 2010[3]

United Kingdom
Percentages, seasonally adjusted



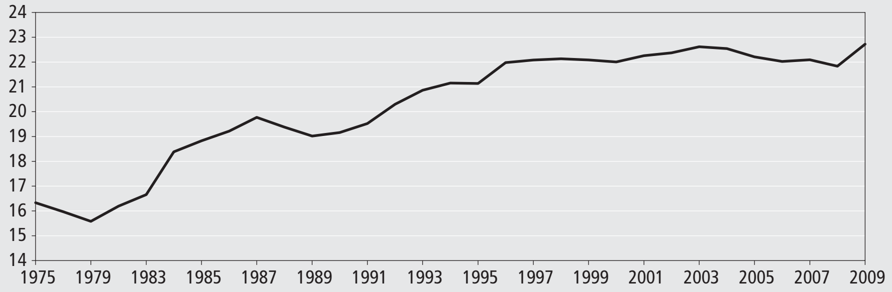
Source: ONS Labour Force Survey

Notes:

1 Total actual weekly hours worked in main and second job, including paid and unpaid overtime.
2 Employment level is for those aged 16 and over.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 4
Part-time share of employment excluding students, 1975 to 2009

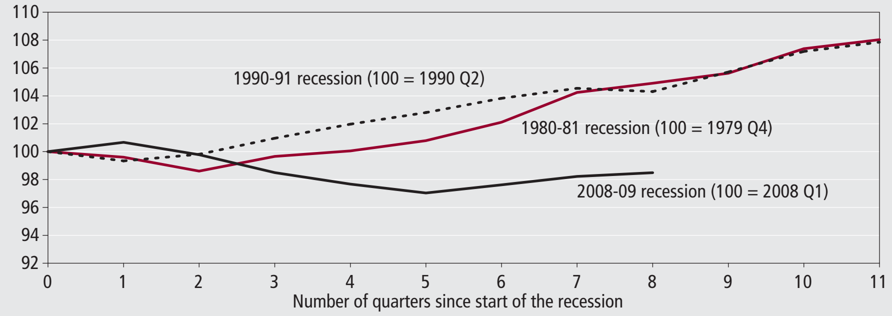
United Kingdom
Per cent, seasonally adjusted



Source: Labour Force Survey (authors' calculations)

Figure 5
Productivity[1] levels from the start of the recession for the early 1980s, 1990s and 2008/09 recessions

United Kingdom
Productivity index, seasonally adjusted



Notes:

Source: ONS Labour Fore Survey and Quarterly National Accounts

1 Output per hour worked.

Table 2
Trends in the nature of work

Percentage change

	1979–83	1983–90	1990–93	1993–2007	Q2 2008–Q4 2009
Employment	*–7.3*	*15*	*–6.3*	*15.6*	*–2.9*
Manufacturing	*–21.5*	*–5.6*	*–16.7*	*–27.8*	*–9.7*
Finance	*3.7*	*45.4*	*–1.5*	*51.7*	*–4.3*
Construction	*–9.2*	*35.2*	*–20.6*	*18.9*	*–8.2*
Retail, Hospitality	*–3.9*	*20.7*	*–3.6*	*12.8*	*–3.9*
Public Admin.	*0.0*	*13.8*	*1.5*	*21.9*	*3.5*

Source: ONS Workforce Jobs (authors' calculations)

consumers (including mortgage rates). In all three recessions, both prices and wage growth slowed sharply but in the previous recessions real consumer wages rose quite markedly as prices fell earlier and faster than wages. Real wage costs to producers (excluding the impact of mortgage interest rates) also rose rapidly in the early part of 1980s recession but rather more modestly in the 1990s. Both recessions saw a flat period or slightly falling wage costs for around 2 years after the recession had finished. This time, the dramatic reduction in wage growth has resulted in real wage cost falls *to firms* of the order of 1 per cent or so, whilst real consumer wages have continued to grow, maintaining demand. This gap between consumer wage growth and that faced by producers will have been even more marked by the 2 per cent cut in VAT rates. This will have undoubtedly helped firms cope with cash flow and to survive the recession.

To understand what has been happening in preserving jobs through the recession it is worth considering what we know about firm's workforce strategies. Staff are valuable to firms, they have firm specific knowledge and productive experience, so losing valuable staff knowledge is costly, particularly if it will be needed again in the near future (see Geroski and Gregg, 1997, on the evidence for this over the 1990s recession). So firms will hold labour where possible through a recession preferring to take short term hits on profitability. However, if a firm is in deep financial trouble, such longer term planning is overridden and the firm will instead take emergency measures to cut costs and improve cash flow. This means job cuts, as dramatic wage cuts are difficult to implement quickly. So a large part of the story of employment through the recession is shaped by the extent to which firms are in a battle for survival rather than adjusting to lower demand.

Figure 7 looks at profitability through the latest recession as a guide to the potential for further job shedding. In the 1990s recession profitability was already being squeezed ahead of the recession proper, as interest rates were set high to bear down on inflation. By contrast this time, profits were much higher immediately prior to the recession. This means that the immediate pressure on firms to cuts jobs in order to survive was lower. Since then, profitability held up well through the recession and rose as a share of GDP. This is in part due to lower interest rates making financing debt easier; partly due to the fall in the exchange rate, unlike in the 1990s when membership of the ERM precluded devaluation; partly due to falls in real wages and partly due to the maintenance of spending in the economy.

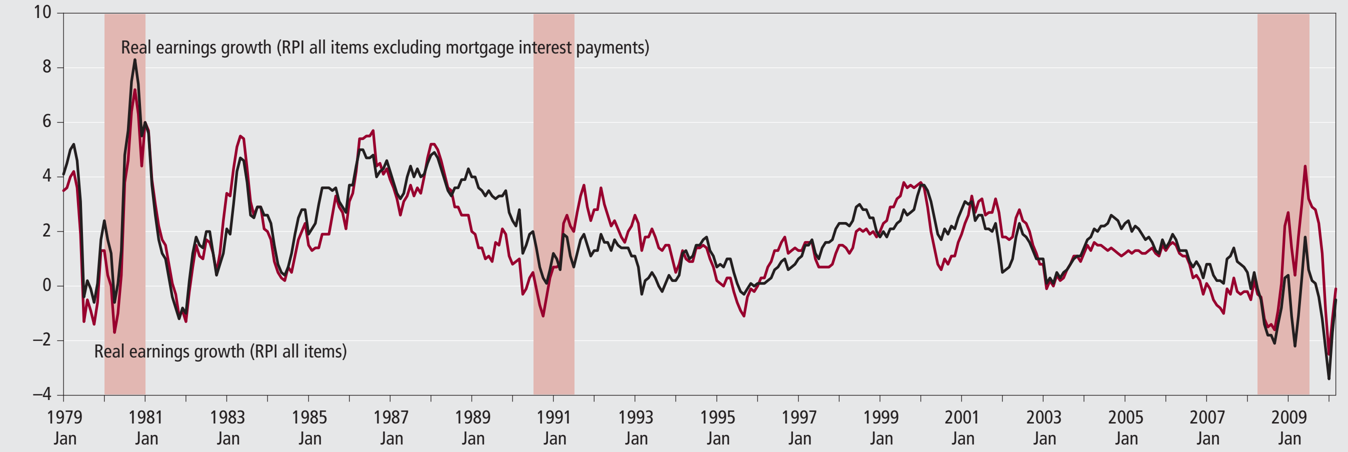
It seems that the explanation of how Britain got away with a smaller fall in employment in 2008-09 is because of firms strong financial position at the start of the recession and the smaller financial squeeze on firms in this recession compared to previous ones. This in turn has been driven by three factors. Firstly, policies aimed at assisting the banking system, cutting interest rates and the large government deficit created a strong stimulus. Secondly, the flexibility of workers in allowing real falls in wage costs to firms, aided by low interest rates which sustained real wage growth for consumers. Finally, firms holding on to valuable labour, whilst facing the pressure on profits and the severity of the financial crisis. However, firms are now, as always, considering their medium term needs for labour. The recession means that firms have under-used labour at the

Figure 6

Annual percentage change in real earnings growth adjusted by (i) RPI all items and (ii) RPI excluding mortgage interest payments, January 1979 to March 2010[1]

Great Britain

Percentages, seasonally adjusted



Notes: *Source: ONS Retail Price Index and Monthly Wages and Salaries Survey*

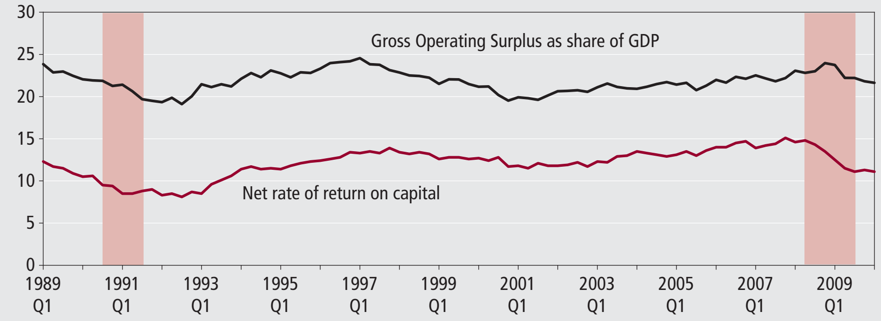
1 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 7

Net rate of return on capital (profit rate) and Gross Operating Surplus as share of GDP, Q1 1989 to Q1 2010[1]

United Kingdom

Percentages, seasonally adjusted



Notes: *Source: ONS Profitability of UK companies and Quarterly National Accounts*

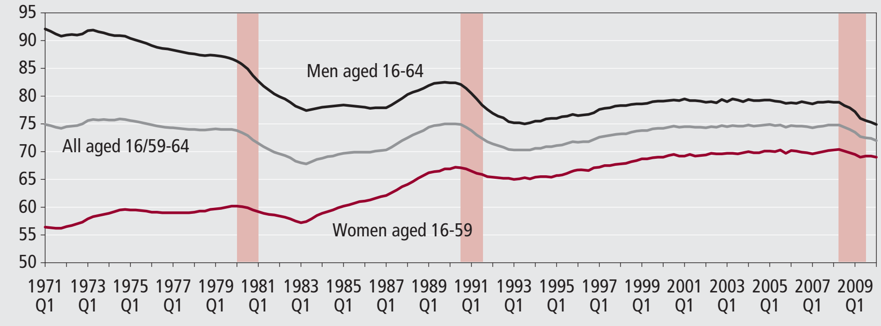
1 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 8

Working age[1] employment rates by sex, Q1 1971 to Q1 2010[2]

United Kingdom

Percentages, seasonally adjusted



Notes: *Source: ONS Labour Force Survey*

1 Working age includes men aged 16 to 64 and women aged 16 to 59.
2 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

moment and this will allow growth without extra jobs in the next 18 months or so. However, if demand continues to be weak then job shedding will continue on a slow but sustained basis. Employment took eight to nine years to get back to before-recession levels after the last two recessions. This time it might be less if a second wave of job shedding is avoided.

Employment across major population groups

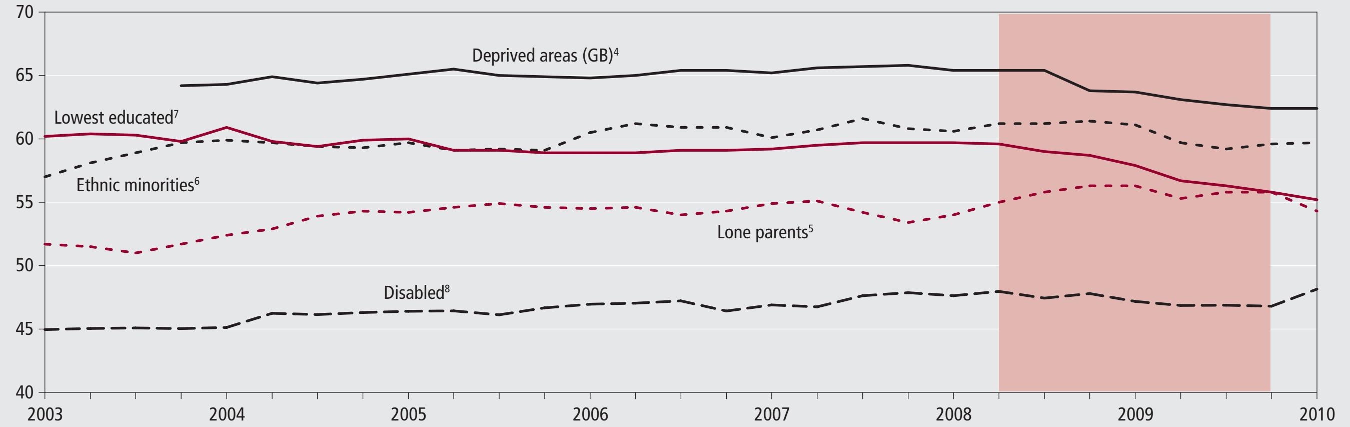
The overall picture for employment has been surprisingly good but whilst job shedding has been less common than before, firms have still frozen recruitment and vacancies have become scarcer. This does not involve the loss of experienced staff and so natural wastage is a relatively costless way of reducing staff. This creates acute problems for those trying to enter the labour market, especially for the young where employment falls have been sharp but unemployment has been muted a little by increased numbers staying on in full-time education. Older workers have also seen greater employment falls than most in previous recessions, through widespread use of early retirement or retirement on health grounds. This is notably absent in this recession with little fall in employment among workers over 50 and employment has risen among those over normal retirement age. So the impact of any downturn is likely to vary across sections of the population, industries and parts of the country.

Figure 8 starts by looking at one of the most striking changes in employment over

Figure 9

Working-age[1] employment rate for vulnerable groups,[2] Q1 2003 to Q1 2010[3]

Percentages, seasonally adjusted



Notes:

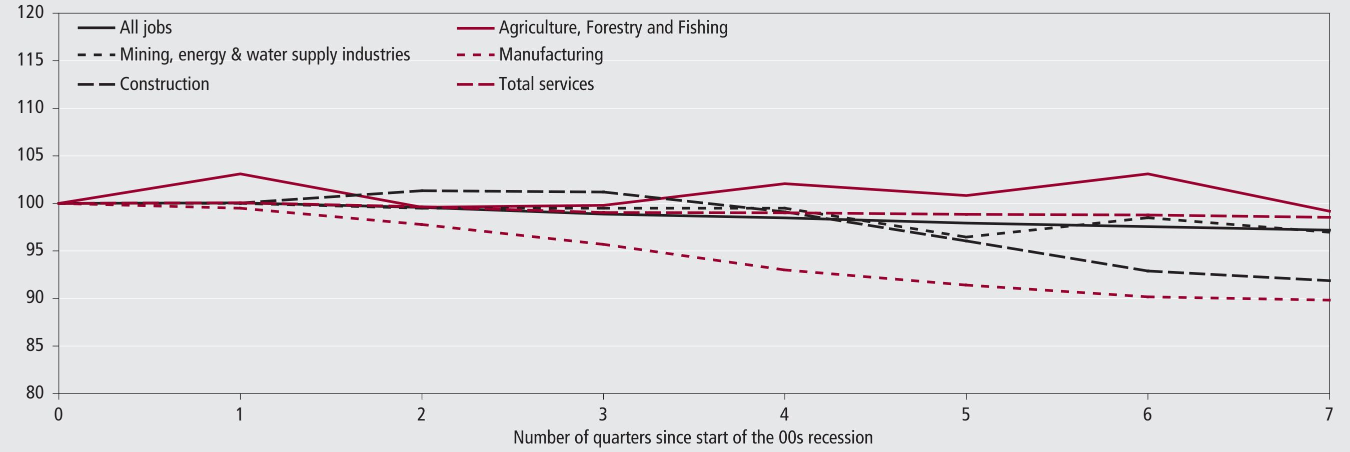
Source: ONS Labour Force Survey

1 Working age includes men aged 16 to 64 and women aged 16 to 59.
2 United Kingdom, except for deprived areas series which is for Great Britain.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth
4 Deprived areas cover the 1250 most deprived wards in Great Britain.
5 Lone parents are people of working age caring for a dependent child (a child aged under 16 and those aged 16 to 18 who are never married and in full-time education), who do not have a partner that is a member of the same household.
6 Ethnic minorities are those who classify themselves to an ethnic background that is non-white.
7 The lowest qualified are those who have not obtained a minimum of a C grade at GCSE or equivalent.
8 Disabled includes people who are DDA disabled only and people who are both DDA disabled and work-limiting disabled.

Figure 10

Workforce Jobs levels[1] from the start of the 2008/09 recession by major industrial groups[2]

United Kingdom
Workforce Jobs index, seasonally adjusted (Q1 2008 = 100)



Notes:

Source: ONS Workforce Jobs

1 Workforce Jobs figures are a measure of jobs rather than people. For example if a person holds two jobs, each job will be counted in the Workforce Jobs total. Estimates come from a variety of sources, and where possible from the employer rather than the individual.
2 Based on the 2003 Standard Industrial Classification (SIC).

the last thirty years. Employment pattern by gender have profoundly shifted with male employment rates falling sharply during and just after recessions and failing to get back to previous levels in the following recovery. So in the 1970s over 90 per cent of men were in work, the recovery after the 1980s recession saw a peak of 83 per cent and after the 1990s recession 79 per cent. Whilst in contrast female employment rates have fallen little in recessions and grown strongly in the following recoveries. An employment gap of 35 percentage points in the mid-1970s is now just 6 percentage points, with once again the recession hitting men harder. It is highly likely that employment rates by gender will equalise in the recovery that hopefully follows this recession.

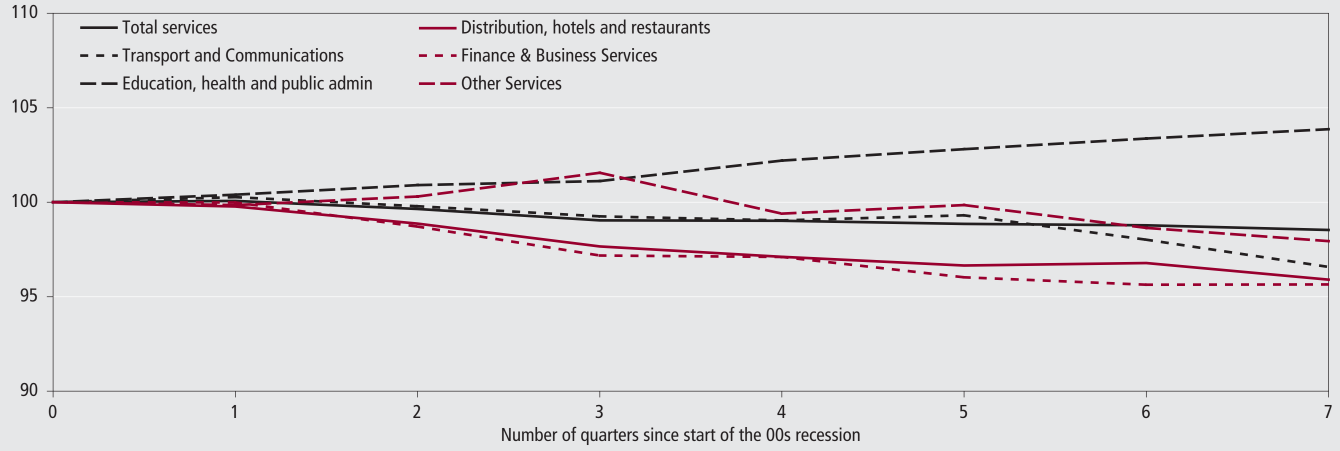
This recession has also shown substantial variation in its impacts across groups with low employment rates, who are often considered vulnerable to downturns. The most deprived wards in the UK and the lowest educated have seen much larger falls in employment through the recession. Employment of the lowest educated had stabilised at 60 per cent through the long period of growth prior to the recession but has fallen by 4 percentage points, almost double the national average, in the recession. Employment in the most deprived wards has also fallen by twice the national average. But employment rates for ethnic minorities have fallen in line with the national trend, they suffered far more

Figure 11

Workforce Jobs levels[1] from the start of the 2008/09 recession by major service sector industrial groups[2]

United Kingdom

Workforce Jobs index, seasonally adjusted (Q1 2008 = 100)



Notes:

Source: ONS Workforce Jobs

1 Workforce Jobs figures are a measure of jobs rather than people. For example if a person holds two jobs, each job will be counted in the Workforce Jobs total. Estimates come from a variety of sources, and where possible from the employer rather than the individual.
2 Based on the 2003 Standard Industrial Classification (SIC).

in past recessions, and for lone parents and those with long-term limiting illnesses or disabilities employment rates have been broadly stable (see **Figure 9**).

An alternative way of exploring variation in the impact of the recession is by industry. **Figure 10** shows employment indexed for the beginning of the recession and tracked across major industry groupings. It shows clearly how manufacturing and construction have been hardest hit with 8 to 10 per cent of employment lost compared to services at under 2 per cent. However, the picture within the large service sector shows considerable variation (**Figure 11**) with mainly public services of education, health and administration showing 4 per cent employment growth whilst the large finance, transport and retail sectors all showing around 4 per cent job loses. These are still well below construction and manufacturing as proportionate declines but they account for most of the total jobs lost.

Conclusion

This recession has been remarkable for its depth and duration but also for the relatively low loss of employment, at least so far. The relatively low levels of redundancies seem to reflect a combination of three saving influences. First, employers entered the recession in good financial shape and this has helped avoid the same level of crisis job shedding that occurs when firms get into deep financial trouble. Further, employers have not used early retirement and the like as a form of easier job shedding. Second, the rapid reduction in interest rates, rescuing the banks and the fiscal stimulus from the government have helped maintain firms cash flow and avoid a more serious employment meltdown. Third, workers accepted nominal wage moderation very early in this recession, compensated by lower overall levels of unemployment and higher average chances of returning to work, even though this may entail a part-time job and lower wages. To put it bluntly the system as a whole has worked well. The cost has been huge on the public finances and in terms of productivity which will be hitting cost competitiveness looking forward. Whether this good news will be fully sustained in the next phase where the recession hits the public sector and employers assess their longer term employment needs for the recovery, is less than clear.

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ARTICLE

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Unemployment and inactivity in the 2008–2009 recession

SUMMARY

This article looks at the pattern of worklessness, that is unemployment and inactivity, in the latest recession. Compared to previous recessions, the rise in unemployment has been small relative to the fall in Gross Domestic Product. Likewise, numbers receiving workless benefits other than for unemployment are not rising, in contrast to the two previous economic downturns. This suggests that labour market policies introduced since 1996 have, so far, been effective. However, the ability for new policies to withstand a rise in long-term unemployed is yet to be tested.

The UK experienced twelve years of near continuous decline in unemployment after 1993, following the double digit rates experienced in the early 1990s (and before that in the first half of the 1980s). Thereafter, the unemployment rate, measured on the ILO/OECD basis, hovered around 5 per cent until 2008, the lowest it had been for some thirty years. While long-term unemployment had fallen considerably going into the recession, many of the problems that had emerged in the previous downturns had not been rectified fully by the time the labour market turned. These reflect a drift toward long-term disconnection from work for large numbers reporting themselves as being economically inactive rather than unemployed and the related large numbers of people claiming sickness and disability benefits.

Labour market policy over the long recovery shifted dramatically compared to that in previous recessions. This is the first recession since the advent of Job Seekers Allowance, tax credits, and a raft of schemes in place, centred on the various New Deals programmes that were designed to help maintain job search effectiveness, facilitating the return to work and addressing the problems associated with long-term unemployment. This article aims to assess these patterns through the latest recession.

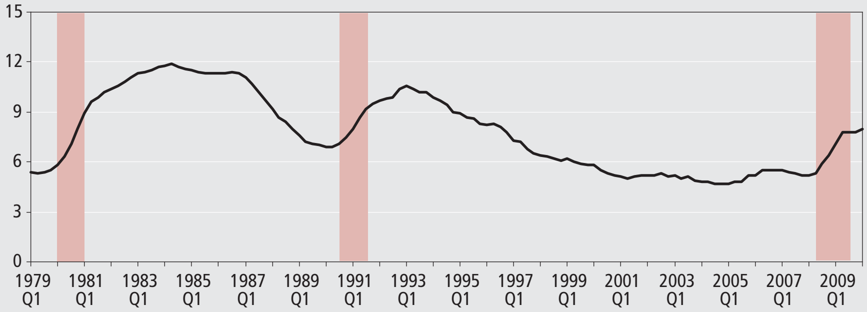
In summary, a number of less obvious and surprising patterns of worklessness emerged in the latest downturn. Firstly, the rise in unemployment has been small relative to the fall in GDP. Further, patterns of worklessness across the population are showing marked differences from past recessions. Likewise the numbers receiving the other major workless benefits than unemployment, mainly Income Support for lone parents and incapacity benefits, are not rising. This is in sharp contrast to the last two recessions, when dependency grew by between 750,000 and 1 million.

Unemployment in the recession

With the 1980/81 recession unemployment, on the internationally agreed ILO basis, rose from just over 5 per cent of the workforce to 12 per cent, with a third of the rise occurring after the recession had ended, (see **Figure 1**). Unemployment did not start to fall consistently until 1986, some 5 years after the recession end. The peak in the 1990s was lower but still in excess of 10 per cent. Around a quarter of the rise occurred after the recession had ended. This delay in unemployment falling with the recovery is partly due to employment decisions lagging about 6 months behind output, partly due to a period of weak growth in the early stages of the recovery and partly due to population growth outstripping employment growth. This last factor being very strong in the early 1980s as the 1960s baby boom generation entered the labour market. The period from 1999 to 2007 saw a long period of broadly stable low unemployment at or slightly below the levels of the late 1970s. In this recession the rise in the unemployment has been sharp but short. The fall in GDP has been greater than in either of the previous two

Figure 1
International agreed ILO unemployment rate,[1] Q1 1979 to Q1 2010[2]

United Kingdom
Per cent, seasonally adjusted



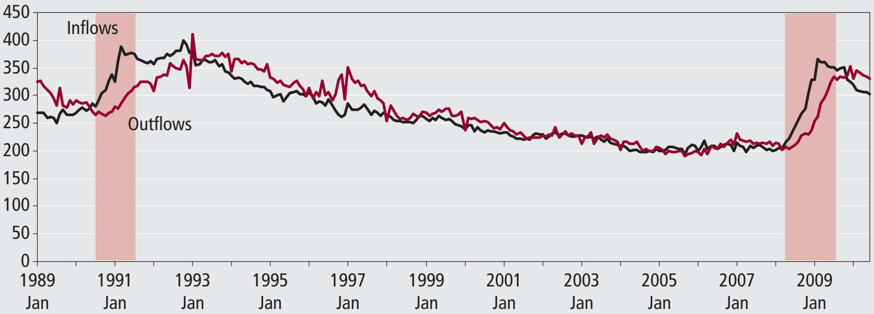
Notes:

Source: ONS Labour Force Survey

1 Unemployment rate is for those aged 16 and over
2 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 2
Claimant count flows, January 1989 to June 2010[1]

United Kingdom
Thousands, seasonally adjusted



Note:

Source: ONS Jobcentre Plus administrative data

1 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

recessions but the 3 percentage points rise in unemployment since the onset of the recession is in line with that of the milder 1990s recession and modest compared to that in the 1980s. Unemployment even stabilised for a period before the recession had ended. This appears to have been due to an unprecedented increase in young people staying on in education in the Autumn of 2009 rather than increased employment. With moderate population growth unemployment is likely to continue rising until growth approaches 2.5 per cent per annum.

It is perhaps not realised the extent to which people move in and out of work. In any 3 month window, some 1 million people move into work and 1 million stop working. In a recession period, there are small but important shifts in these patterns. An additional 100,000 more people lose work each quarter and 50,000 fewer gain work, leading to unemployment rising by 150,000 or so. What shifts more markedly is that vacancies are filled much faster. Indeed the numbers of unfilled vacancies, registered at Job Centres, have fallen from around 700,000 to 430,000 over the latest recession. So whilst it is true that there are still jobs available, the problem is that there are less of them and with more competition it means that it takes longer for any one person to get a job.

Comparing employment patterns on two dates a year apart, around 5 per cent of the working age population have stopped working even in the tight labour market around 1999 to 2005. About half of these became unemployed and the other half economically inactive through looking after children, ill health and so on. Likewise half of the unemployed will have moved into work (another fifth will stop looking for work) and about a fifth of the inactive return to the labour force. During a recession the flow out of employment increases but these employment outflows in this recession have been lower than in previous recessions, with 6.5 per cent of those in leaving employment, compared to around 8 per cent in the last two recessions. Similarly the outflow from unemployment into employment remained higher this time round than in past downturns, with 35 per cent of those unemployed getting work compared to 30 per cent in the previous recessions. As a result, the proportion of the unemployed still out of work a year later remained lower than in previous downturns. However outflows from inactivity into employment are as low in this recession as in previous ones. The net result of all these flows is that lower unemployment in this recession has been driven by lower rates of job loss and slightly higher return to work rates than in past recessions, but that the low flows in and out of inactivity mean that the inactive population remains very marginalised.

The extent of moves in and out of work is perhaps even clearer in the numbers starting and stopping claims for unemployment benefits (JSA). These account for around 60 per cent of all the unemployed, as many people who are on other benefits or no benefits still actively seek work. It is perhaps not widely appreciated that in a downturn the numbers becoming unemployed and the numbers who return to work both rise (**Figure 2**). However whilst the number finding new jobs rises, it does so more slowly than increases in newly unemployed, so the total rises. Furthermore, with the rise in unemployment, the time it takes for each person to find a new job starts to rise. Inflows into unemployment drive initial rises in unemployment, so that the stock is dominated by short-term unemployed. As the recession draws to a close those in the initial surge of new claims, who have not found work become the long-term unemployed. This then is driven by the extent of outflows.

Figure 2 maps on the patterns of new claims for unemployment benefit alongside outflows from unemployment benefit, back to 1989. The numbers of new claims in this recession looks similar to the last one, however the numbers in employment are much larger this time (by around 3 million), so that the *inflow rate*, as a percentage of employment, is lower this time round. A more striking difference is that claims ending (outflows) have risen much quicker in this recession and this is helping to keep unemployment rates down but even more so long-term unemployment.

Long-term unemployment

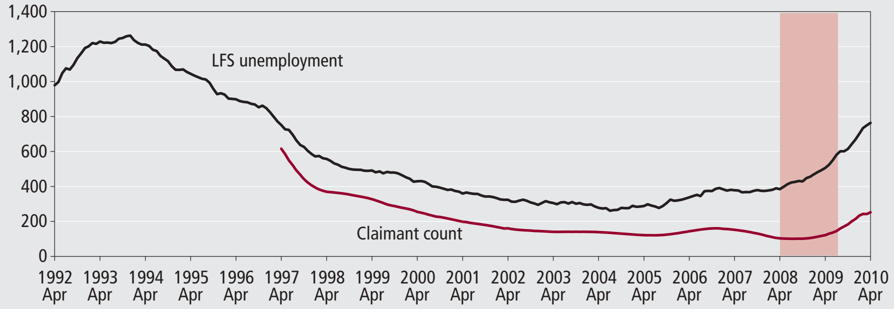
Long-term unemployment typically begins to rise around one year after the initial rise in total unemployment and may often continue to rise even when the total

Figure 3

Long term unemployment[1] and claimant count,[2] April 1993 to April 2010[3]

United Kingdom

Thousands, seasonally adjusted



Notes: *Source: ONS Labour Force Survey and Jobcentre Plus administrative data*

1 The long-term unemployed are those aged 18 and over who have been unemployed for 12 months.
2 Claimants for over 12 months, aged 18 and over.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Table 1

Unemployment rates[1] by age, education and gender

United Kingdom **Per cent**

	1979	1986	1993	2007	2009
Men					
High education[2]					
16-24	*4.4*	*12.7*	*14.5*	*8.8*	*14.6*
25-49	*2.4*	*5.1*	*6.8*	*2.7*	*3.8*
50+	*2.4*	*5.6*	*9.1*	*3.0*	*4.5*
Low education[3]					
16-24	*14.1*	*26.4*	*24.6*	*21.0*	*26.4*
25-49	*6.3*	*14.5*	*14.3*	*6.6*	*9.7*
50+	*4.4*	*10.0*	*14.5*	*5.2*	*7.5*
Women					
High education[2]					
16-24	*5.3*	*10.4*	*9.0*	*7.2*	*10.8*
25-49	*4.8*	*7.7*	*4.7*	*2.7*	*3.4*
50+	*3.1*	*4.1*	*4.5*	*2.1*	*2.5*
Low education[3]					
16-24	*16.4*	*24.2*	*16.7*	*16.4*	*19.6*
25-49	*6.4*	*10.3*	*8.5*	*6.2*	*8.1*
50+	*4.4*	*6.4*	*7.2*	*3.3*	*4.3*

Notes: *Source: Labour Force Survey (authors' calculations)*

1 Population of working age, not including students.
2 High education is top 50% based on level of educational attainment.
3 Low education is bottom 50% based on level of educational attainment.

unemployment first starts to fall again. In previous recessions, LFS-based long-term unemployment (12 months spell or longer), reached 1.2 million, some 40 per cent of the unemployed. Long-term unemployment is rising again and had reached 700,000 or 25 per cent of the workforce by early 2010. The numbers of long-term claimants for unemployment benefits (JSA) tends to be lower than the numbers of people who have not worked in the last year (LFS), (**Figure 3**). Since JSA and the New Deal schemes were introduced in the mid-late 1990s this gap has widened sharply. Yet the numbers who have claimed JSA for over a year remains extremely low in this recession. The gap is partly explained by reporting differences. The claimant count is administrative data and any break, even for just two weeks is treated as a new claim. Hence, very short periods of work and even interruptions in claims for administrative reasons can prevent a person being counted as long-term unemployed. By contrast the ILO is based on recalling a person's last job, meaning that small pieces of work or periods when not looking for work are likely to be discounted. The person may be looking back to their last period of sustained work. In addition a lot of those looking for work are not claiming JSA and may refer to a period of time as being unemployed when they were looking after children or were sick. Even so the growing divergence in this recession is striking.

Unemployment across groups

The experience of unemployment is also far from even in the population. Unemployment has always varied by factors such as age, education, gender, ethnicity and region. Often the combination of these characteristics acts to make job prospects rather bleak for a significant minority. In good times, relative prospects tend to improve for these most disadvantaged groups. In bad times, relative prospects for the most disadvantaged worsen. **Table 1** gives a flavour of how a combination of three factors, age, education and gender interact to produce contrasting labour market performance over time.

It is clear that lower levels of education and youth combine to generate poor labour market prospects. Disadvantage amongst the young has been a long standing feature of the labour market. As a general rule of thumb, the youth unemployment rate is always double the adult rate. However younger workers, as **Figure 4** shows, typically have much shorter spells of unemployment than others. So while the risk of unemployment is higher among the young, so are the chances of escaping it. There are however recent concerns that, for some youths, the chances of escaping unemployment are not that high. Unemployment rates among less educated young people in the latest recession were as bad as those of previous recessions, whilst the situation for older workers is much better. In this recession, youth unemployment rates are nearer three times that of prime age adults, rather than double as in the past. The share of long-term unemployed among younger workers in 2009 was also much closer to the share among older workers than in the past.

Scarring effects of unemployment

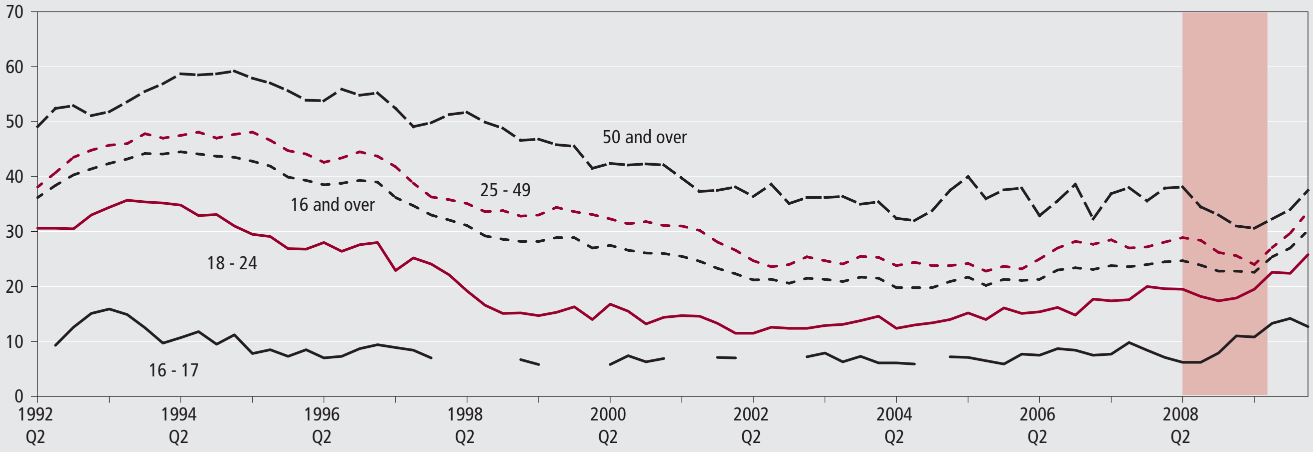
Over a five year window, around 1 in 3 men will make a claim for unemployment benefits. Yet most days of unemployment are accounted for by a small number of individuals. This is because long term unemployment ultimately affects only a

Figure 4

Long-term unemployment[1] by age, Q2 1992 to Q1 2010[2,3]

United Kingdom

Percentages, seasonally adjusted



Notes:

Source: ONS Labour Force Survey

1 The long-term unemployed are those who have been unemployed for 12 months.
2 Some data points for 16-17 year olds suppressed due to small sample sizes.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Table 2

The effect of unemployment on the later experience of unemployment

Group type at age 23	Percentage of sample	Average percentage time spent unemployed between ages 28 and 33 (Per cent of group with any unemployment in this interval)	Average percentage time spent economically inactive between ages 28 and 33 (Per cent of group with any economic inactivity in this interval)
No spell of unemployment	*58.6*	*1.4* *(7.5)*	*2.3* *(9.6)*
1-5 months of unemployment	*22.5*	*2.6* *(13.8)*	*3.7* *(15.6)*
6-12 months of unemployment	*10.1*	*5.3* *(21.4)*	*7.1* *(24.6)*
13+ months of unemployment	*8.7*	*18.5* *(40.0)*	*22.9* *(46.8)*

Source: NCSD Cohort Men aged 23 in 1981

minority, but also because some people experience a large number of repeat spells of unemployment, often moving frequently between employment and unemployment. Information on an individual's lifetime exposure to unemployment and inactivity can be determined from data on birth cohorts where all those born in a given week are tracked for the rest of their lives. The National Child Development Survey, (NCDS) of 1958 followed a group who were aged 21 at the onset of the 1980s recession. Research (Gregg, 2001 and Gregg and Tominey 2005) has shown that those among the 1958 birth cohort who experienced extended spells out of work in the 1980s recession went on, through to the age of 44, to experience much more time out of work, substantially lower wages and poorer health than others.

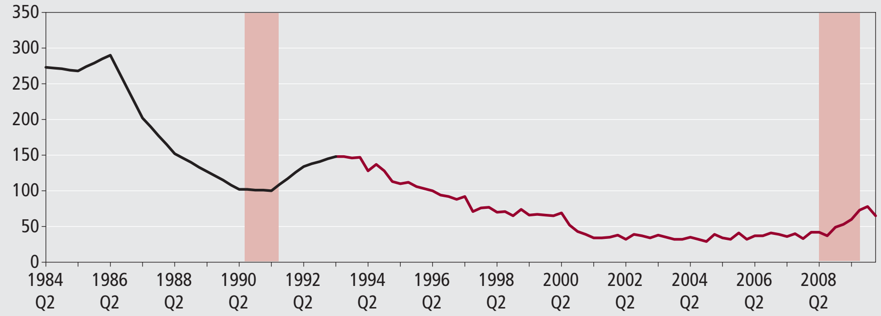
Table 2 shows that around 9 per cent of the male 1958 birth cohort had experienced a year or more out of work by the age of 23, but that more than half the cohort had experienced no unemployment at all. Those with lots of experience of unemployment often had more than one jobless spell, rather than being unemployed for a single long spell. The table then shows that those with long periods of unemployment went on to spend nearly 20 per cent of their life between the age of 28 and 33 unemployed and another 20 per cent of this interval economically inactive. Gregg (2001) suggests that around half of these scars are due to the long exposure to unemployment itself and the rest due to other factors like poor education, family background or residence in a depressed neighbourhood. For these groups there is a failure to connect to stable employment and jobs offering experience and training that can lead to higher wages. So the justification for intervention to prevent long or frequent periods out of work or education among young people does not rest just on the current unemployment, but on the long term scars that these young people experience and potentially feed into the next generation. These scarring effects are not confined to young people (see Gregory and Jukes, 2001 for the UK) but they are more common for this age group.

Broader measures of unemployment

According to the international (ILO/OECD) measure of unemployment an individual is deemed to be unemployed if they are not in work but have looked work in the last four weeks and are ready to start any job within two weeks. This is quite restrictive in that when unemployment is high, many people give up looking for work and become economically inactive. Some of these individuals are known as discouraged workers if they notify surveys that they are not searching for work because they believe that no jobs are available. Under-employment is also an issue in recessions, because some people will take part-time work if they can't find full-time work. **Figure 5** shows the numbers of discouraged workers since 1983. The numbers, never particularly high, have been in long-term decline with brief interruptions in recession periods. Numbers rose in the latest downturn, but were well below that of the boom period in 1989, let alone the subsequent recession. The peak of

Figure 5
Discouraged workers,[1] Q2 1984 to Q1 2010[2,3]

United Kingdom
Thousands, seasonally adjusted

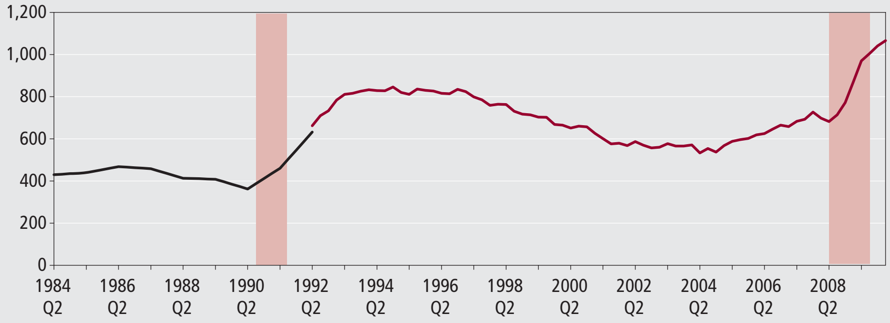


Notes: *Source: ONS Labour Force Survey*

1 A sub-group of the economically inactive population who said although they would like a job their main reason for not seeking work was because they believed there was no jobs available.
2 Annual data points prior to 1992.
3 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 6
Number of part-time[1] workers[2] reporting that they would like full-time work, Q2 1984 to Q1 2010[3,4]

United Kingdom
Thousands, seasonally adjusted

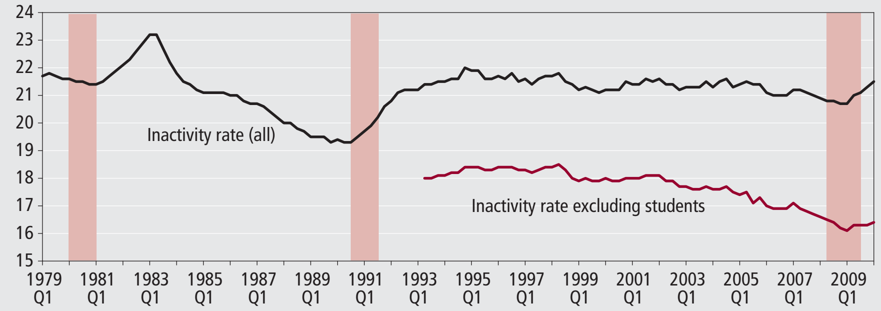


Notes: *Source: ONS Labour Force Survey*

1 Part-time employment is based on respondents' self-classification.
2 Covers employees (including temporary employees) and self-employed.
3 Annual data points prior to 1992.
4 The shaded areas on the graph represent consecutive quarters of negative GDP growth.

Figure 7
Economic inactivity[1] including and excluding full-time students, Q1 1979 to Q1 2010[2]

United Kingdom
Percentages, seasonally adjusted



Notes: *Source: ONS Labour Force Survey*

1 Inactivity rates are for men aged 16 to 64 and women aged 16 to 59
2 The shaded areas on the graph represent consecutive quarters of negative GDP growth

discouraged workers has occurred typically about two years after the recession ends and so numbers are likely to continue rising through 2010. This is likely to be related to the increased requirement to search for a job when claiming JSA and the Restart process which preceded it from 1986, but it may also reflect reclassification by jobless individuals themselves allied to receipt of other welfare benefits.

Figure 6 shows the numbers of under-employed grew to over 1 million in the latest recession. This previously peaked at 800,000 about three years after the last recession, roughly a similar proportion of the then substantially smaller workforce. However the numbers and workforce share of under-employment at the onset of the latest recession do appear substantially higher than at the onset of the previous recession. This is perhaps indicative of a combination of relative buoyancy in job opportunities this time around compared to last and individuals making greater use of more widely available and generous in-work benefits/tax credits to maintain income when mixed with part-time work.

Inactivity

Only a minority of those not working at any point in time are unemployed. It is more common for people not currently working to not be actively seeking a job and hence not classified as unemployed. Hence, it is also true that unemployment can fall both because individuals find work and because they become economically inactive. The main categories of inactivity are students, sickness, early retirement or looking after children. Inactivity normally rises in a recession, typically lagging behind movement in the unemployment rate by about a year. Some delay looking for work by continuing to study. Whilst some people losing work don't seek, for instance taking early retirement, or stop seeking work because they are unable to find a new job. For others there is a move from, often long-term, unemployment into sickness related inactivity. It has long been debated whether this is akin to an extended spell of what is disguised long-term unemployment or whether it reflects that long-term unemployment leads to genuine health deterioration.

Figure 7 shows the proportion of the working age population who are economically inactive since 1979. The long-term average is for about 22 per cent of the adult population to be neither working or actively looking for work. In each of the last two recessions the inactivity rate rose by

Table 3
Inactivity rates[1] by age, education and gender

Per cent

	1979	1986	1993	2007	2009
Men					
All men[2]	*4.3*	*9.5*	*11.3*	*12.2*	*12.0*
High education[3]					
16-24	*0.5*	*3.2*	*4.4*	*4.9*	*4.6*
25-49	*0.8*	*2.0*	*3.9*	*4.0*	*3.8*
50+	*4.5*	*16.9*	*23.3*	*19.7*	*18.5*
Low education[4]					
16-24	*2.3*	*6.0*	*5.7*	*8.4*	*7.7*
25-49	*3.2*	*7.0*	*9.1*	*12.7*	*11.8*
50+	*8.2*	*28.2*	*32.5*	*30.3*	*28.6*
Women					
All women[2]	*31.9*	*29.5*	*26.0*	*22.1*	*20.7*
High education[3]					
16-24	*12.3*	*9.4*	*8.8*	*7.6*	*7.8*
25-49	*32.7*	*24.6*	*16.5*	*13.2*	*12.1*
50+	*33.0*	*30.8*	*28.7*	*18.3*	*17.5*
Low education[4]					
16-24	*33.2*	*27.0*	*20.8*	*21.5*	*20.3*
25-49	*38.9*	*36.1*	*31.7*	*32.0*	*31.2*
50+	*42.0*	*44.2*	*40.8*	*34.8*	*33.5*

Notes:

Source: Labour Force Survey (authors' calculations)

1 Students are not classified as inactive.
2 Population of working age.
3 High education is top 50% based on level of educational attainment.
4 Low education is bottom 50% based on level of educational attainment.

around 2 percentage points. The rise in the latest recession has been more modest, but, on the basis of past experience, might be expected to increase later in the cycle.

One major development worthy of note is the increase in numbers of young people staying on in both further and higher education. The second line on Figure 7 tracks the inactivity rate excluding full-time students, on this basis, economic inactivity has falling steadily, by around 2 percentage points, since the aftermath of the 1990s recession. In 2009 there were just over 16 per cent of the adult population neither economically active nor in full-time education, the lowest rate for over thirty years. Staying-on rates have risen in past recessions but the latest downturn has led to a substantial rise and as the figure makes clear that the small rise in inactivity observed in this recession has, so far, been mainly due to increased participation in education. However the news is not all good. The composition of the (non-student) economically inactive has shifted markedly over time toward men. Back in 1979 around 40 per cent of women aged 25 and over were economically inactive compared to a rate of under 5 per cent for men. Since then the number of women entering the labour force has grown rapidly and shows little sign of halting. The rise in male inactivity has been primarily for reasons of ill health and disability. At around 2.3 million, there were almost twice as many inactive men (who are not in full-time education), as there were unemployed men, (on the ILO/OECD definition), at the end of 2009.

Policy changes on pensions and incapacity benefits have minimised the inflow of sickness related inactivity recently and has made early retirement much rarer in this recession than in the past, but the overall level of inactivity among men has been persistently high for twenty years. The net result is that inactivity among men is, at best, static and remains 3 times higher than the rates observed in the 1970s, (**Table 3**). Indeed more than half of the fall in the male unemployment rate from 1993 to 2008 can be accounted for by rising inactivity, though much of that rise in inactivity took place in the 1990s.

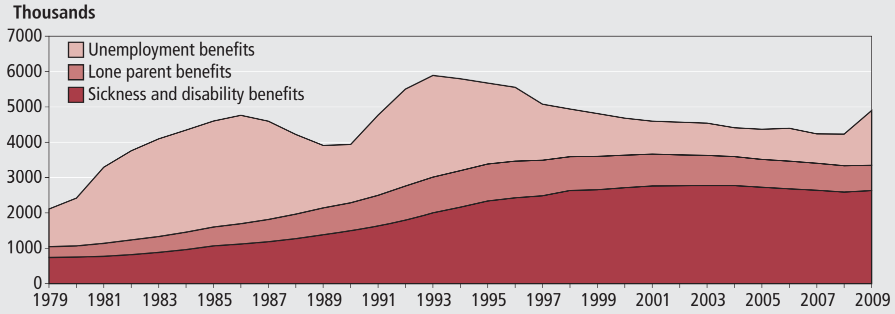
As Table 3 shows, the factors that help generate disadvantage among the unemployed are also present when inactivity is tracked across different sub-groups. Inactivity rates are much higher for less skilled, older workers, particularly among men and have been for some considerable time. It is here that the least inroads into long-term detachment from the labour market have been made. Yet this was not always so. In the 1970s, inactivity rates among older less skilled men were much lower, below 10 per cent. It is also notable that the continued increase in labour force participation among women is still skewed toward the better educated. Inactivity rates among women are much higher for the less well educated in every age group. This has implications for household patterns of joblessness.

With recovery small inroads are made into the inactive numbers but never enough, so far, to offset the initial problem. When recession comes these individuals are at the back of the queue for jobs and so inactivity rises again. Among men, the increase in inactivity rates over time, for all age groups is apparent, though improvement has been made among men over the age of 50, back to levels last seen in the 1980s, if not the 1970s. For women, inactivity rates have declined significantly over time, for all but the youngest age group.

Figure 8 shows the numbers in receipt of the major welfare benefits available to those out of work and eligible to claim. In addition to the large cyclical fluctuations in unemployment benefit receipts there were marked increases in claims for Income Support by lone parents and incapacity benefits. The vast majority of these claimants are economically inactive. This amounted to around 750,000 extra claims in the 1980s recession and 1 million in the 1990s. Unlike unemployment, claims for these benefits did not fall back after the recessions ended and represented structural increases in families reliant on welfare benefits. Numbers of claims for these lone parents started to fall after 1995. The use of tax credits to make work more financially rewarding, increased availability of childcare, including free half day places for 3 and 4 year olds and welfare to work programmes were also focused on this group of the inactive. Claims for incapacity benefits didn't start to fall back until 2003. This was due to sharp reductions in the numbers of new claims from 1996 to 2004 which were offset by increases in the numbers with very long durations. Individuals claiming incapacity benefits for more than a year rarely return to work and most will claim until retirement or death. This means it takes a long time for changes in the numbers making new claims to affect the stock. The number claiming

Figure 8

Number of claims for major workless benefits, 1979 to 2009



Source: Department for Work and Pensions

incapacity benefits for between 1 and 2 years has halved since 1999. This means that the numbers of claims is set for a steady decline for the next decade or so, as this lower inflow eventually replaces those larger earlier cohorts flowing into these benefits in the early 1990s.

More recently there have been two major developments, the effects of which are not fully clear. Lone parents with children aged 7 and over are now being moved from Income Support to unemployment benefits (JSA) that require active job search. So far this has just applied to those with children aged 10 and over where 50,000 lone parents now claim JSA. Incapacity benefits are being brought into a new single benefit called Employment Support Allowance (ESA) and the new Work Capability Assessment test to claim ESA is making claiming disability benefits much harder. These changes are pushing up the number of claims for JSA during the recession making the small rise in JSA unemployment all the more remarkable and the absence of any rise in the numbers on inactive benefits is in stark contrast with previous recessions. Figure 8 shows the long-run picture of the number claims for major workless benefits and thus represents a useful picture of the underlying performance of the labour market and the welfare system. The picture at its worst in the mid- 1980s was for 4.5 million such claims compared to just over 2 million prior to the 1980s recession. After the 90s recession this peaked at just under 6 million before falling back to 4 million or so. In this recession the peak appears to be just under 5 million, substantially better than in the 1990s despite the deeper recession.

Conclusions

Unemployment has long blighted the UK labour market. There were signs that, prior to the recession, an unemployment rate of a little 5 per cent was about as good as things could get without further changes in policy and performance on factors, like education, industrial policy, regional imbalances, export performance and productivity that furthered balanced and sustained growth. The recession represents the first serious test of labour market policies that have been put in place since 1996. These included innovations aimed at keeping individuals in the labour market and maintain search effectiveness through increased conditionality on welfare claimants to take active steps to secure work, increased package of support services for job search available to those claiming benefits and use of outside providers to deliver these services rather than Job Centres. In addition reforms aimed to increase the financial returns to working relative to not working, such as the National Minimum Wage and Working Tax Credits which can continue to make work pay through a downturn when full-time well paid job prospects are scarce.

The signs are that unemployment has not been as bad this time round as many people thought given the depth of the recession. Further, there has to date been little or no drift into economic inactivity, apart from increased numbers in full-time education, or onto inactive benefits. This is all to be welcomed and suggests that the labour market and the welfare system have performed well in the current recession. Although the ability of the new policies to withstand a build up of long-term unemployment that has in the past followed in the wake of a recession is still to be tested. However the scar that has blighted the UK labour market performance for thirty years, increased male economic inactivity, focused on the less educated, still remains. While (non-student) inactivity is the lowest for over thirty years, virtually all of this improvement has been among more educated women. For less skilled men and some deprived parts of the country, 15 years of sustained recovery have failed to make major inroads to the legacy of high inactivity spawned by previous recessions. As a result, for some groups, there has been a shift upward in joblessness from the 1980s onward.

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ARTICLE

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Output and expenditure in the last three UK recessions

SUMMARY

This article describes the main features of the last three UK recessions using the output and expenditure measures of Gross Domestic Product (GDP) to reflect supply and demand activity in the economy. The most recent recession saw a similar peak to trough fall in GDP as the early 1980s recession. Both these recessions, which coincided with a period of downturn in the global economy, were more severe than the early 1990s recession where the peak to trough fall in output was relatively modest. The services sector made a larger contribution to the latest recession than before, perhaps reflecting the growing share of the sector in total UK output and its strong growth in the years leading up to the downturn. Falling output of business and financial services were a particular feature of the most recent recession. Looking at the expenditure side, gross fixed capital formation, and in particular business investment, was a greater contributor to the fall in GDP in the most recent recession than in the early 1980s and early 1990s recessions.

The latest Preliminary estimate of Gross Domestic Product (GDP) reported that the UK economy grew by 1.1 per cent in the second quarter of 2010 – the third successive quarter of positive growth. This follows the severest recession since the Second World War, when between 2008 Q1 and 2009 Q3, GDP contracted for six successive quarters as the level of output fell from peak to trough by 6.4 per cent. Now that it appears a recovery is underway, and following recent publication of the Blue Book where National Accounts are benchmarked to more reliable annual data sources, it seems a good time to take stock of what happened in the latest recession.

This article compares the features of the recent UK recession with those experienced in the early 1980s and 1990s. The focus is on a description of the output and expenditure measures of GDP, which relate to measures of supply and demand in the economy. In doing so, chained volume measures (CVM) are used, which are the methodologically preferred estimates of real (that is adjusted for price changes) activity. Other aspects of the UK economy, such as the labour market, inflation and financial and asset prices are not part of the article's scope. In fact, three articles on the performance of the labour market in the recession (see Jenkins 2010, Gregg and Wadsworth 2010a and Gregg and Wadsworth 2010b) and one on the impact of the recession on households (see Howell, Leaker and Barrett) are published in this edition of *Economic & Labour Market Review*.

Of course, dating recessions is an incomplete science, and here much depends on the definition being applied. Data revisions can also complicate matters by changing the perceived history of economic time series, meaning that dates of past cycles may also change over time. For these reasons dating business cycles is often a precarious task, even with the benefit of hindsight. The Business Cycle Dating Committee, based at the National Bureau of Economic Research (NBER) which is the leading association of academic economists in the US and considered to be a global authority on business cycle dating, still updates the start and end point of the early 1980s recession even though almost three decades have passed. **Box 1** describes how the NBER defines a period of economic recession.

Recessions compared: GDP

GDP is the total output or expenditure in an economy, with economic growth referring to changes in GDP. Although there is no universally accepted definition of a recession, a technical definition based on two successive quarters of falling GDP, has gained some broad appeal. If a recession is a sustained fall in output, then the 'two quarters' rule would, in effect, rule out idiosyncratic shocks that have a one-off, temporary and short-term impact on GDP being classed as recessions. Only if those shocks generate a persistent downturn, would they be described as recessionary.

However, the two quarters rule may not always provide a clear cut prognosis of when a recession has occurred. For

Box 1

Recessions: how are they defined?

The Business Cycle Dating Committee (BCDC) at NBER defines a recession as 'a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial production, and wholesale-retail sales'. In terms of dating - 'a recession begins just after an economy reaches a peak of activity and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion is the normal state of the economy; most recessions are brief and they have been rare in recent decades'.

Because a recession influences the economy broadly, and is not just refined to one sector, the BCDC emphasises economy-wide measures of economic activity. For this reason, real GDP is regarded as the best single measure of aggregate economic activity. In determining whether a recession has occurred and in identifying the approximate dates of the peak and trough the BCDC usually places considerable weight on estimates of real GDP.

However, the BCDC also tries to maintain a monthly chronology of the US economy and GDP is only available quarterly. For this reason, a variety of monthly indicators are also used to determine the monthly peaks and troughs. Two monthly measures across the entire economy are given particular emphasis:

- personal income less transfer payments in real terms
- employment

In addition, two further indicators are considered:

- industrial production
- volume of sales of the manufacturing and wholesale retail sectors adjusted for price changes

Most recessions identified by the BCDC fit into the 'at least two quarters of falling GDP' rule. However, this need not always be the case. If a recession is characterised as 'a significant decline in economic activity' then depth as well as duration of the recession is also considered. Also a broader array of indicators than just GDP are used, although there are no fixed rules as to how data other than real GDP are weighted as part of the assessment. However, unemployment is considered to be a lagging indicator so of less use than direct output-based measures of economic activity.

The BCDC also makes clear that recessions are defined as a period of diminishing rather than diminished activity- hence why dates are based on the peak to trough calculation. Diminished activity is essentially when the level of activity is below normal (trend), so obviously part of the expansion will be when the economy is below trend as well as part of the contraction being when the economy is above trend.

A final and important feature of the BCDC is that they are very patient about calling the start and finish of recessions, typically waiting 6 to 18 months in each case so as to leave the peak and trough dating in as little doubt as possible. This will also allow for revisions to early estimates of GDP to be made.

example, in 1979 Q3 the UK economy contracted by 2.4 per cent before rebounding by 1.0 per cent in the next. The economy then contracted for the next five successive quarters. Here, strict implementation of the two quarters rule would start the recession in 1980 Q1, but on a peak to trough basis, the recession started in 1979 Q3.

Box 2 looks back at the history of UK economic growth, showing there to have been many instances when the economy has contracted for one or two quarters. These occurrences have become less common in recent decades as the quarterly path of GDP has become less volatile. There are several reasons why these very short term falls in GDP are seen less frequently. First, the relative contribution of the production sector in total output has steadily declined. As the output of these industries is more lumpy, sensitive to overseas demand and significantly influenced by changes in stock holdings, it tends to be more erratic than services output. Second, economic policy has changed, with less aggressive intervention by government policy attempting to influence economic output. Instead, active demand management has given way to policy designed to promote nominal or inflation stability.

In this article, recessions have been defined as the periods in which the peak to trough fall in output or expenditure are observed. This is broadly consistent with the NBER approach described in Box 1, but in doing so, it is not intended to argue that this approach is necessarily superior to other ways of defining recessions. It just gives an operational basis for defining the periods of economic downturn. Other descriptions, perhaps based on the persistence of a downturn or the time it takes output to fully recover are often used. Wider ranges of variables, often focussing on labour market outcomes like employment or unemployment, are also popular in emphasising the more social aspects of a recession.

Figure 1 plots an index of output during the most recent recession and compares it to output indices for two previous recessions of the early 1980s and early 1990s. In each case, the peak level of output prior to the recession is indexed equal to 100. Between 2008 Q1 and 2009 Q3, GDP fell by a total of 6.4 per cent over six successive quarters. In contrast, the peak to trough fall in GDP between 1990 Q2 and 1992 Q2 of 2.5 per cent was less severe, although it took eight quarters for GDP to eventually reach a trough. Based on the magnitude of the drop in GDP, the latest recession is more similar to that of the early 1980s. From 1979 Q2 to 1981 Q1, GDP saw a peak to trough fall over seven quarters of about 5.9 per cent.

Having reached a trough, the output indexes in Figure 1 are then extended until GDP reaches its pre-recession level (that is an index of 100). Obviously, the current level of GDP is still below its level in 2008 Q1, so for the latest recession this tracker only extends up to the latest published data. But for the previous two episodes it can be seen how long it took for output to fully recover.

Although the fall in output was not as severe in the early 1990s recession, the economy remained near the trough for a number of quarters before starting to recover. GDP eventually surpassed its 1990 Q2 level in 1993 Q3. While the 1980s recession was much deeper, the rebound was also much sharper. However, due to the depth of the recession, it still took 10 quarters until 1983 Q3 for GDP to fully

Box 2

A brief history of UK downturns

There have been four major UK recessions in the post Second World War period. As well as the three identified in this article, there was a fourth in 1973-75. This was effectively two recessions within a recession (double dip). Initially the UK economy contracted from by 3.4 per cent from 1973 Q2 to reach a trough in 1974 Q1. After two quarters of relatively strong growth in 1974 Q2 and Q3, but before the pre-recession level of output was reached, the economy then contracted for three of the next four quarters reaching a further trough in 1975 Q3 where the level of GDP was 3.3 per cent lower than in 1973 Q2.

Previous recessions were much more short lived- and often neighboured by quarters of strong growth.

The UK economy experienced three successive quarters of negative growth between 1956 Q1 and 1956 Q3, registering a peak to trough fall in output of 1.4 per cent.

There have been two periods where the economy has contracted for two successive quarters. In 1957 Q2 and 1957 Q3 the level of GDP shrunk by a total of 0.9 per cent, and in 1961 Q3 and 1961 Q4 the level of GDP fell by a total of 0.7 per cent.

There have been 12 occasions when the UK has experienced a single quarterly fall in GDP that was not part of a longer downturn. These were 1958 Q2, 1960 Q2, 1962 Q4, 1965 Q1, 1966 Q4, 1968 Q2, 1970 Q1, 1971 Q1, 1976 Q2, 1977 Q2, 1979 Q1 and 1984 Q2. However, in some of these instances the single quarter contraction in GDP was actually larger than the two or three quarter falls in output. For example, in 1958 Q2 GDP fell by 2.6 per cent, and in 1960 Q2 it fell by 1.1 per cent. It should be noted though that, in both of these two cases, the quarter of significant contraction was neighboured by periods of strong quarterly growth.

Table 1 provides a summary of UK recessions and single quarters of contractions in GDP.

Box 2 Table 1
UK recessions and single quarters of contraction

Percentages

UK recessions									Single quarters	
Quarter	GDP growth (per cent)	Peak to trough fall (per cent)	Quarter	GDP growth (per cent)	Peak to trough fall (per cent)	Quarter	GDP growth (per cent)	Peak to trough fall (per cent)	Quarter	GDP growth (per cent)
1956 Q1	–1.1	–1.4	1979 Q3	–2.4	–5.9	2008 Q2	–0.3	–6.4	1958 Q2	–2.6
1956 Q2	–0.2		1979 Q4	1		2008 Q3	–0.9		1960 Q2	–1.1
1956 Q3	–0.1		1980 Q1	–0.9		2008 Q4	–2.1		1962 Q4	–0.4
			1980 Q2	–1.8		2009 Q1	–2.3		1965 Q1	–0.3
1957 Q2	–0.1	–0.9	1980 Q3	–0.2		2009 Q2	–0.7		1966 Q4	–0.4
1957 Q3	–0.8		1980 Q4	–1.1		2009 Q3	–0.3		1968 Q2	–0.7
			1981 Q1	–0.7					1970 Q1	–0.9
1961 Q3	–0.6	–0.7							1971 Q1	–1.2
1961 Q4	–0.2		1990 Q3	–1.2	–2.5				1976 Q2	–0.8
			1990 Q4	–0.6					1977 Q2	–0.5
1973 Q3	–0.8	–3.3	1991 Q1	–0.1					1979 Q1	–0.8
1973 Q4	–0.2		1991 Q2	–0.3					1984 Q2	–0.7
1974 Q1	–2.5		1991 Q3	–0.4						
1974 Q2	1.9		1991 Q4	0.1						
1974 Q3	1		1992 Q1	0.1						
1974 Q4	–1.2		1992 Q2	–0.2						
1975 Q1	0.3									
1975 Q2	–1.6									
1975 Q3	–0.2									

Source: GDP Preliminary estimate

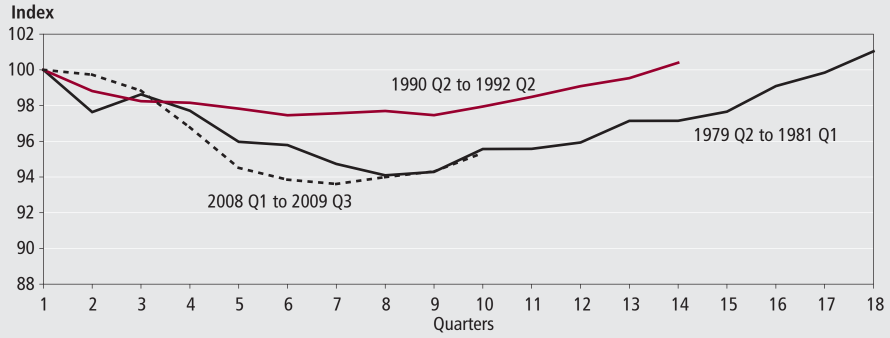
recovery to its pre-recessionary level. The shape of the recent downturn, so far, is similar to that of the early 1980s. As a benchmark, for the economy to recover at the same rate (that is reach its 2008 Q1 level by 2012 Q2), it would have to grow at an average quarterly rate of 0.6 per cent from here onwards. Despite three quarters of positive growth, GDP in 2010 Q2 is till 4.7 per cent below its 2008 Q1 level.

When thinking about the severity of a recession the term 'loss in output' is often used. Peak to trough falls give one interpretation of this, describing the magnitude of the total fall in output. However, loss of output could also refer to the persistence as well as depth, measuring the cumulative loss relative to the pre-recession, or perhaps trend, level.

If the cumulative or total loss of output is judged relative to the pre-recession (quarterly) level it would be shown in the area above the output index line but below the Index = 100 part of the recession tracker. For example, the cumulative loss in output during the 1980s recession was around 53 per cent (that is the average depth of the recession was 3.3 per cent below the pre-recession level of output in 1979 Q2 for a total of 16 quarters). For the early 1990s recession, the cumulative loss in output was 22 per cent, based on an average depth of 1.8 per cent below the pre-recession level of GDP in 1990 Q2 for a total of 12 quarters. So far, the cumulative loss in output relative to the 2008 Q1 level is 39 per cent.

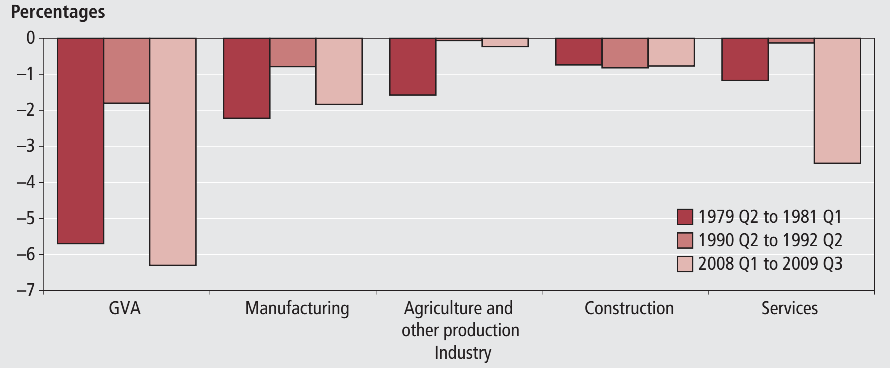
A variant of this approach, which has been used by several organisations

Figure 1
UK recession tracking: Gross Domestic Product



Source: GDP Preliminary estimate

Figure 2
Contributions to peak to trough falls in UK GDP by industry



Source: GDP(O) database

Table 1
Average quarterly growth in value-added, 1992 Q3 to 2008 Q1

Percentages

Sector	Average growth rate (per cent)
GVA/GDP	0.7
Agriculture	–0.1
Total production	0.2
Mining and quarrying	–0.2
Manufacturing	0.2
Electricity, water and gas	0.5
Construction	0.5
Total services	0.9
Wholesale and retail distribution	0.7
Transport and communications	1.5
Business services and finance	1.3
Government and other services	0.4

Source: GDP(O) database

including the International Monetary Fund, is to judge the depth and duration of a recession against the trend rather than the pre-recession level of output. That is against what it otherwise would have been had the economy kept moving along its long-term trend path. This makes a potentially large difference. The position from which an economy starts to contract is often above trend, so therefore the 'loss of output' commences later as the initial fall in output is simply a trend correction. However, the persistence of the downturn becomes more important. As the trend level of output is assumed to keep growing, the longer the economy remains below trend the higher the level of output the economy has to eventually recover to. An added complication here is the difficulty in forming trend growth assumptions, for which judgement is usually required. Furthermore the trend growth rate may undergo a structural change due to the downturn having persistent effects on economic activity. For example, if an increase in long term unemployment during a recession leads to lower job search intensity and skill degradation there may be persistent effects for labour market outcomes and the supply side of the economy (hysteresis).

Comparing UK recessions: output measures

Breakdowns of the peak to trough falls in Gross Value Added (GVA which is the production-based measure of GDP[1]) during the last three UK recessions, by main industrial sector, are presented in **Figure 2**. These confirm the relative severity of the recent and early 1980s recessions compared to the early 1990s recession. However, although peak to trough falls in GDP were around 6 per cent in the two recessions, 1979 Q2 to 1981 Q1 and 2008 Q1 to 2009 Q3, the composition was different. The earlier recession appears to have been more concentrated in production (including manufacturing), whereas recently, it has been the services sector that has driven the downturn.

To some extent, this reflects the large structural change in the composition of UK output over the last three decades towards services. According to 2006 weights the services sector accounts for 76 per cent of total Gross Value Added (GVA), compared to 58 per cent in the 1985 weights – an 18 percentage point increase in 21 years. As more UK output is accounted for by the services sector, it is unsurprising it will play a larger role in any downturn than previously.

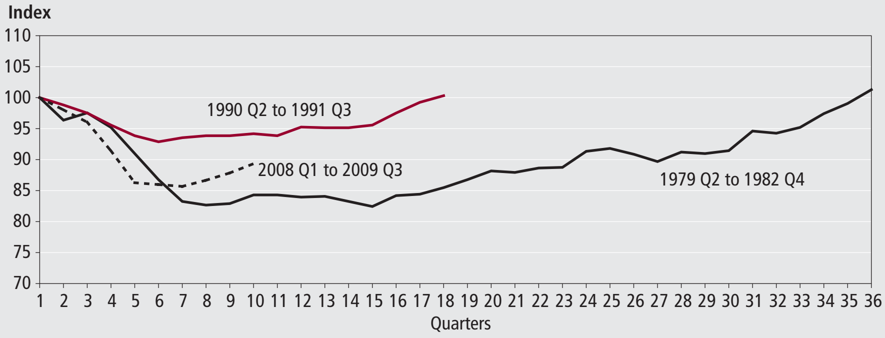
Contributions to the downturn may also partly reflect the speed at which sectors grew beforehand. As **Table 1** shows, Britain's long economic expansion between 1993 and 2008 was largely concentrated in the services sector. If an economy is above trend as it starts to contract, the sectors that exhibited the fastest growth in the lead up to the downturn may be more prone to correction, especially if they invested significantly in extra capacity on the proviso that strong growth would continue unabated.

UK recessions compared: manufacturing output

Indices tracking manufacturing output through the recent and past recessions are shown in **Figure 3**.

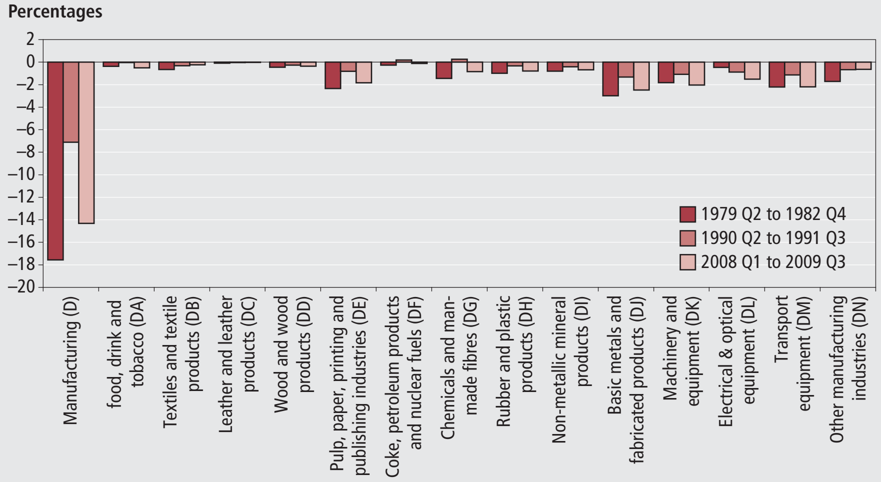
Between 1979 Q2 and 1982 Q4, manufacturing output fell sharply, registering a peak to trough fall of 17.6 per cent. In line with the smaller drop in GDP, manufacturing output fell from peak to trough (1990 Q2 to 1991 Q3) by a smaller

Figure 3
UK recession tracking: manufacturing output



Source: GDP(O) database

Figure 4
Contributions to peak to trough falls in UK manufacturing



Source: GDP(O) database

7.1 per cent in the early 1990s recession. In the most recent recession, manufacturing output fell by 14.3 per cent between 2008 Q1 and 2009 Q3.

A factor very pertinent to manufacturing output, which differentiates the early 1990s recession from the other two, is the extent that recessions are global. Both the recent and early 1980s UK recessions coincided with a global economic downturn, with the majority of industrialised countries entering a synchronised recession. As a result, global trade fell sharply and because a large proportion of manufacturing output tends to be traded, this sector is then more severely affected. In the early 1990s, the UK recession did not coincide with a world-wide downturn. In fact, growth in the rest of the world was fairly robust over the period. So although output weakened in line with domestic demand, it continued be supported, to a degree, by external demand.

A noticeable feature is that the peak to trough falls in manufacturing output tend to be significantly larger than the corresponding drops in GDP. Therefore, manufacturing output accounts for a relatively large part of the change in output during the cycle given its share in the level of GDP. One factor at play here is stockbuilding. The manufacturing sector holds stocks of inventories, which are raw materials, semi-finished goods and finished goods. As the economy enters recession, expecting future output to fall, firms meet existing orders by running down stocks rather than through production. Consequently, production falls quickly, often abruptly. On the other hand, as the economy emerges from recession and begins a sustained recovery, production will rise sharply to meet higher expected future orders and also to rebuild stock levels. The workings of what is commonly termed as the 'stocks cycle' tends to amplify cyclical movements in manufacturing output.

Figure 4 decomposes the total peak to trough fall in manufacturing output in each recession to the respective contributions of each industry. Clearly the large output falls during the recent and early 1980s recessions have been broad-based, with every sector contributing to the overall decline. The patterns of falling output have also been similar, with the largest contributions stemming from the fabricated and metal products (DJ) and the allied and engineering industries (machinery (DK), electrical and optical (DL) and transport (DM)).

These four categories of manufactures are the primary inputs into capital goods. Fabricated metal products are the main component into building structures. Machinery, electrical and optical equipment constitute a major part of plant and machinery investment. And transport equipment is largely, although not exclusively vehicles. Spending on these items, tending to be lumpy and irreversible, are very sensitive to the economic outlook. Therefore the sharp fall in fixed investment expenditure during recessions will pass through in lower orders for these capital goods producing industries.

Similar trends, albeit on a lower magnitude, were also reported during the early 1990s recession as domestic investment spending contracted. However, the fall in manufacturing output during this recession was not uniform. Small positive contributions to growth came from the coke, petroleum and nuclear fuels (DF) and the chemicals and man-made fibres (DG) industries.

Figure 2 shows, that following the early 1980s recession, manufacturing output took a long time to completely recover to its precession level. It was not until 1988 Q1, over five years after the end of the recession, that output fully recovered. This recession had a profound impact on the structure of the UK economy, prompting large shift away from manufacturing to services. Therefore, much of the output lost during the recession was lost forever, partly explaining why the drop in output was so persistent. In fact, output in a number of UK manufacturing sectors have failed to reach their pre 1980s recession level, indicating that movements in manufacturing output over the last three decades have been structural as well as cyclical.

Within the manufacturing sector there have been large structural shifts in the composition of output between the eve of the 1980s recession (1979 Q2) and the eve of the latest recession (2008 Q1). As shown in **Table 2**, the overall level of output was 18.6 per cent higher but there were large variations at lower industry levels. For example, output in the chemicals and man-made fibres and electrical and optical equipment approximately

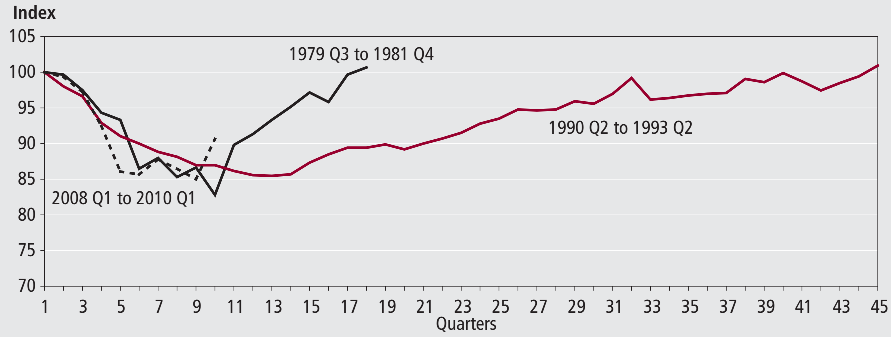
Table 2
Structural change in UK manufacturing

Index (1979 Q2 = 100)

Industry	Output index (2008 Q1)
Total manufacturing	118.6
Food, drink and tobacco	118.6
Textiles and textile products	42.5
Leather and leather products	23.8
Wood and wood products	91.5
Pulp, paper, printing and publishing	119.7
Coke, petroluem and nuclear fuels	94.3
Chemicals and man-made fibres	199.6
Rubber and pastics	144.6
Mineral processing	103.4
Metals and fabricated goods	85.9
Machinery and equipment	90.7
Electrical and optical equipment	201.1
Transport equipment	133.4
Other manufacturing	77.2

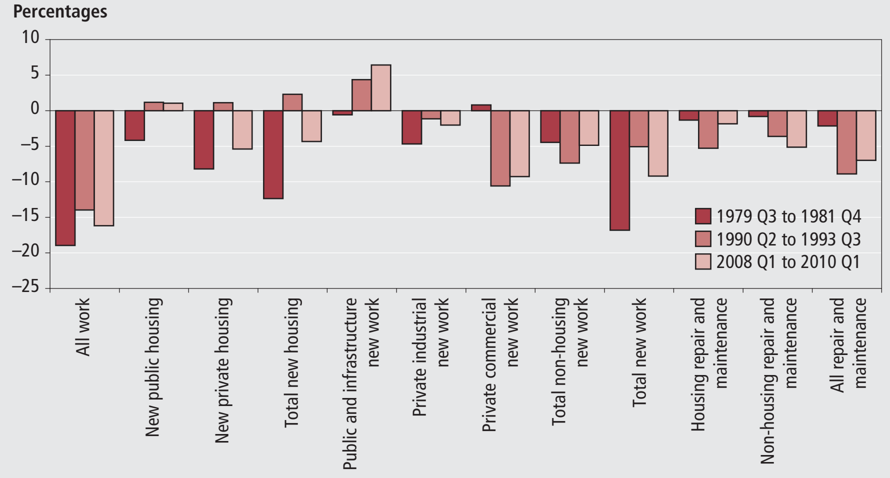
Source: GDP(O) database

Figure 5
UK recession tracking: construction output



Source: GDP Preliminary estimate

Figure 6
Contributions to peak to trough falls in GB construction



Source: Output in the construction industry

doubled. There were also notable increases in rubber and plastics and transport equipment. Significant reductions though were recorded in the textile industries, basic metals and fabricated products, other manufacturing and machinery and equipment.

Longer term trends in UK manufacturing output have tended to reflect the UK's comparative advantage in international trade – shifting away from assembly and basic manufactures towards petrochemicals and more advanced optical and electronic equipment. An economic downturn might simply accelerate change in this direction. Buisan et al (2006) report the UK's increasing share in global manufacturing exports in medical, pharmaceuticals, radio, television, office machinery and computers. But the shares in global exports of manufactures including motor vehicles, clothing and footwear have fallen. Chamberlin (2008) argues that this has also been reflected in the significant improvement in the UK's terms of trade, particularly over the last 15 years. Import prices in more basic manufactured goods have fallen, driven by increasing competition from low cost producers in emerging markets. At the same time export prices in services and more specialised manufactured goods, where the UK's comparative advantage lies and quality matters as much as price for competitiveness, have actually been growing.

UK recessions compared: construction output

In the three previous recessions, peak to trough falls in construction output have been fairly similar (see **Figure 5**). This is also shown in Figure 2 where the contributions of the construction sector to the overall fall in GVA were close to 0.8 percentage points each time.

Between 2008 Q1 and 2010 Q1 output fell by 15.0 per cent, similar to the 14.5 per cent fall recorded between 1990 Q2 and 1993 Q2. In the early 1980s, construction output registered a peak to trough fall of 17.2 per cent between 1979 Q3 and 1981 Q4. Although this recession was deeper, the recovery was quicker. In comparison, the length of time it took construction output to recover from the early 1990s downturn was particularly striking. Output remained below its pre-recession level for a total of 44 quarters, finally exceeding the 1990 Q2 level in 2000 Q2.

The contributions of each category of construction output to the total peak to trough falls are shown in **Figure 6**. Note, that this slightly differs from the National Accounts measures in Figure 5 as the data corresponds to Great Britain rather than the UK.

Falling output in 'new work' generally accounts for most of the peak to trough falls. In the early 1980s recession this was more concentrated in the house building sector (specifically public housing), whereas in the latter two recessions falling new work in the private commercial sector and house building sectors have been more significant. The importance of the commercial construction sector in the last two recessions probably reflects the growing importance of services, especially business, finance and retailing, in the overall economy.

This figure though tends to underplay falls in private house building output, as in this segment the peak to trough fall tends to lead the rest of the sector. For example, between 1988 Q2 and 1991 Q1 private house building registered a peak to trough fall of 53.8 per cent, but this period only slightly overlaps the period 1990 Q2 to 1993 Q3 when construction output as a whole saw its peak to trough fall. In contrast, peak to trough falls in private house building output were 40 per cent between 1978 Q2 and 1981 Q4; and 44.2 per cent between 2006 Q4 and 2009 Q3.

In the last two recessions there have been clearer associations between house prices and activity in the construction sector and the wider economy, with house price movements generally preceding the latter.

According to the Nationwide house price index, average house prices increased by 12.3 per cent between 1979 Q2 and 1982 Q2 (although in real terms they actually fell by 17.0 per cent due to high inflation at the time). The next two recessions though exhibited strong falls in both *nominal* and *real* house prices. Between 1989 Q3 and 1993 Q1 Nationwide house prices were down by 20.2 per cent in nominal terms (33.2 per cent in real terms). Based on the same index, house prices fell by 18.7 per cent between 2007 Q3 and 2009 Q1 (20.2 per cent in real terms due to relatively low inflation).

The latter two recessions though occurred in a very different financial environment to that of the early 1980s. Financial markets deregulation in the early and mid 1980s prompted a significant easing in the availability of credit, which has strengthened the rapid rate of house price increases in the upturn, but also resulted in larger nominal falls in the downturn. This implies that the credit cycle is pro-cyclical, strengthening the role of the housing market in the overall business cycle. Between 1986 Q1 and 1989 Q3 nominal prices had risen by 76.1 per cent; and between 1996 Q1 and 2007 Q3 nominal prices were 258.5 per cent higher. Furthermore, in this second period general inflation was relatively low, meaning there was also a spectacular increase in real prices.

Volatility in house prices appears to have been strongly transmitted into housing demand and then construction. Rising prices encourages demand, and mortgage lenders become more willing to lend due to the rising prices of property on which the loans are secured. One of the hallmarks of the last two housing market booms has been a financial sector that has supported stronger lending even as the ratio of house prices to income grows. Numbers of mortgage approvals and property transactions have moved in tandem over the last two decades (see Chamberlin 2009a). Naturally, rising prices and demand encourages the house building sector, and as discussed in **Box 3**, there was a surge in new dwelling completions during the up phase of the market.

In the down phase of the cycle though these dynamics can change direction rather abruptly, with prices and construction output falling quickly. Box 3 also identifies the increased cyclicality in new dwelling completions in the post financial deregulation era. This may also contribute to the long protracted slump in construction output experienced after the early 1990s recession as portrayed in Figure 5. Surges in house building and prices increases both the stock of houses available and also the level of debt (secured) held on the balance sheets of the household sector. Both of these may then generate a significant hangover in a subsequent downturn, weighing on supply and demand for a considerable period of time while stocks are cleared and balance sheets strengthened.

When looking at construction output it is also important to bear in mind that just under half the level reflects repair and maintenance work. As Figure 6 shows, this also contributed negatively to the peak to trough fall in output, especially in the early 1990s recession, but the impact is less than new work. In fact, repair and maintenance work tends to be more stable over the cycle. It is natural to assume that in a downturn, when faced with reduced cash flow and tighter credit conditions, households and businesses may choose to delay repair and maintenance spending. However, efforts to economise may also generate some substitution in construction demand towards the repair and maintenance of existing buildings and away from new projects.

UK recessions compared: services output

As shown in **Figure 7**, the decline in services sector output has been more pronounced in the most recent recession than before.

Between 1979 Q2 and 1980 Q4 service sector output fell by 2.4 per cent. The largest negative contribution came from the distribution sector, where output of wholesale and retail distribution fell by a total of 13.3 per cent (**Figure 8**), and the other services category which includes a number of miscellaneous services including personal recreation and culture. These trends are consistent with the sharp drop in consumer spending during the period. However, the business services and finance sector made a strong positive contribution to services output during this period, up 5.3 per cent..

The fall in service sector output in the early 1990s recession was relatively small. Peak to trough, the total decline was 1.0 per cent between 1990 Q1 and 1991 Q1 based broadly across the consumer and business sectors. Wholesale and retail distribution output fell by 4.2 per cent and business services and finance output fell by 1.1 per cent.

The most recent recession differs to those previously in that the service sector has made the largest contribution to the fall in GDP (see Figure 2). Between 2008 Q2 and 2009 Q3, services output fell by 4.6 per cent. Business and financial services over this period contracted by 7.6 per cent, much stronger than in earlier downturns, making the largest single contribution to the fall. Although consumer services have also weakened, with wholesale and retail distribution contracting by 6.2 per cent, business to business services have been a larger part of this recession than experienced before.

To a large extent this is reflective of the changing structure of the UK economy and the recent drop in business activity is fairly small compared to the strong and sustained rise in output between 1993 and 2007 (see Table 1) when the UK economy registered 64 consecutive quarters of positive growth. **Table 3** shows how output in the services sector has changed since before the early 1980s recession up until the eve of the most recent downturn. Total service output has more than doubled during this period, but in the business services and finance sector output grew almost five-fold.

Figure 8 also shows that a number of services sectors continued to make small but positive contributions to growth in each of the last three recessions. Ownership of dwellings predominately reflects the implicit rents that owner-occupiers pay themselves to live in their own properties. This is required so that GDP can be compared across countries on consistent

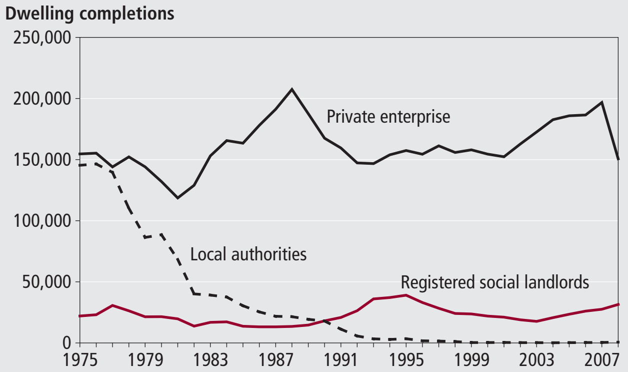
Box 3
New dwellings completions

Data on construction output for housing is corroborated with the numbers of completed dwellings reported in each year by the Department for Communities, Housing and Local Government (see **Figure 1**).

Between 1978 and 1982 the number of completed dwellings fell strongly by 36.7 per cent from 289,000 to 183,000. However, this largely represented the continuation of a long term trend in falling completions by local authorities following the surge in new completions in the period immediately after the War. New completions by private enterprise reported a more modest fall of 15 per cent over the period.

Since 1982, the longer term trend in new housing completions has been broadly flat, despite a growing population and an even larger increase in the number of households as an aging population and changing family structures mean more households are formed out of the same population. However, this top level trend masks two features observed in the more disaggregated data.

Box 3 Figure 1
House building: permanent dwellings completed



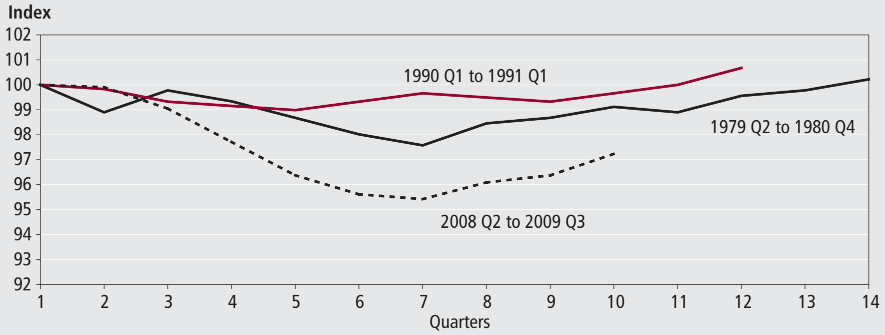
Source: Department for Communities, Housing and Local Government

First, local authority housing completions have drifted towards zero while this has been offset by growing completions from registered social landlords (such as housing associations). Therefore, over the last three decade new dwelling completions from public or social construction have been broadly flat. The majority of new dwellings completions since the start of the 1980s have come from private enterprise. Here, the longer term trend in new completions is also flat, but this trend is punctuated by a pronounced cyclical pattern that is strongly associated with movements in UK house prices.

Between 1988 and 1993 the total number of completed dwellings fell by 23.2 per cent, driven by a 29.3 per cent fall in completed dwellings from private enterprise. However, the level of house building had picked up strongly since the beginning of the 1980s. In 1988 over 207,000 houses were completed by private enterprise, the highest number since 1968 and a level which has not been surpassed since.

In 2008 the total number of completed dwellings fell by 18.9 per cent, driven by a 23.5 per cent fall from private enterprise. In this year just over 150,000 new dwellings were completed by private enterprise, the lowest number since 1993 which represented the previous trough. Once again, prior to the slump, there had been a sustained increase in completions between 2001 and 2007. In 2007, nearly 200,000 new dwellings were completed, the highest number since the previous peak in 1988.

Figure 7
UK recession tracking: services output



Source: GDP Preliminary estimate

basis when there are different proportions of the resident population in rented or owner-occupied accommodation. Although this sector accounts for a fairly large part of the level of services output, growth tends to be very stable and hence the contributions to changes in output are relatively mild. In the last three recessions, starting with the earliest, the contribution to growth during the periods of peak to trough falls in GDP were +0.2, +0.1 and +0.1 percentage points respectively.

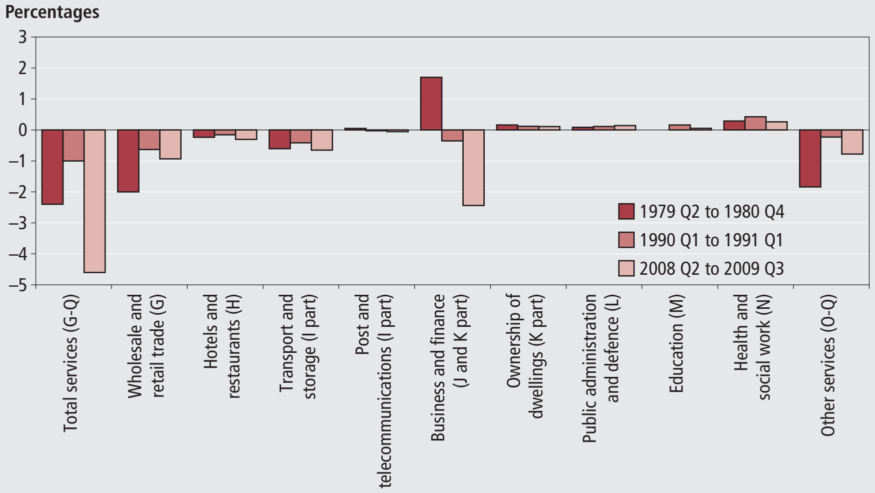
The public administration and defence, education and health and social services sectors all consist of a high proportion of government (public sector/service) output. These all tend to be fairly immune from cyclical variations that impact on the rest (market sector) of the economy, making a small contribution to growth throughout the previous three recessions. During periods of peak to trough falls in GDP, these sectors made respective contributions of +0.4, +0.7 and +0.5 percentage points in the 1980s, 1990s and most recent recessions.

Comparing UK recessions: expenditure measures

Output and expenditure are inescapably linked through the circular flow of income – which is the basic idea of stock and flow relationships that underlie the structure of modern National Accounts. Output produced by an economy is sold, and in generating that output income is earned which funds expenditure. Therefore, while output measures describe the supply side of economic activity, expenditure measures are the flip side in describing the demand side of the economy.

Figure 9 presents the same peak to trough falls in GDP shown in Figure 2, but this time split between the contributions made by the main categories of expenditure. Compared to previous recessions,

Figure 8
Contributions to peak to trough falls in UK services[1]



Note:

1 Other services calculated as a residual.

Source: GDP Preliminary estimate

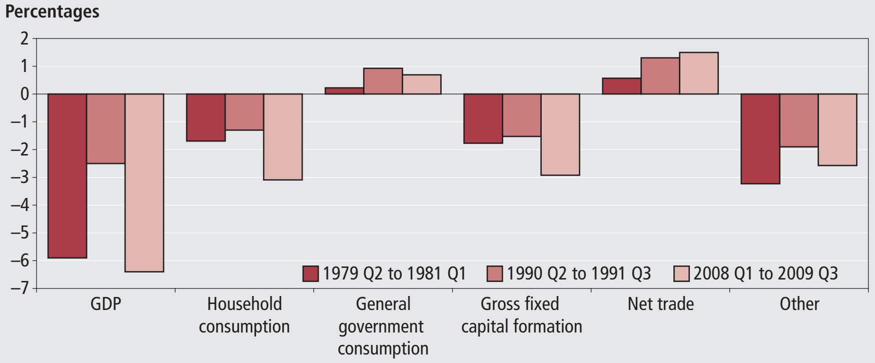
Table 3
Structural change in UK services

Index (1979 Q2 = 100)

Industry	**Output index (2008 Q1)**
Total services	231.1
Wholesale and retail distribution	201.0
Retail distribution	227.8
Hotels and restaurants	168.0
Transport	207.8
Air transport	429.9
Communications	707.5
Business services and finance (ex letting of dwellings)	480.7
Financial intermediation (ex insurance and pension funding)	565.2
Business sercices, computer activities and auxiliary finance	637.4
Ownership of dwellings	143.2
Public administration and defence	99.2
Education	131.2
Health	211.7
Sewage and refuse disposal	364.5
Recreation and cultural services	212.1

Source: GDP(O) database

Figure 9
Contributions to peak to trough falls in UK GDP by expenditure[1]



Note:

1 Other calculated as a residual.

Source: GDP Quarterly National Accounts

household consumption and fixed investment have contracted more sharply. However, the contributions of net trade and general government consumption have partially offset these falls.

The 'other' component consists of Non Profit Institutions Serving Households (NPISH), valuables and most importantly – inventories. While only a small part of the level of total demand, inventories or stockbuilding can account for a relatively large part of swings in GDP, especially over the course of an economic cycle. It also helps to explain why manufacturing output accounts for a disproportionate part of the fall in GDP relative to services (see Figure 2).

UK recessions compared: household consumption

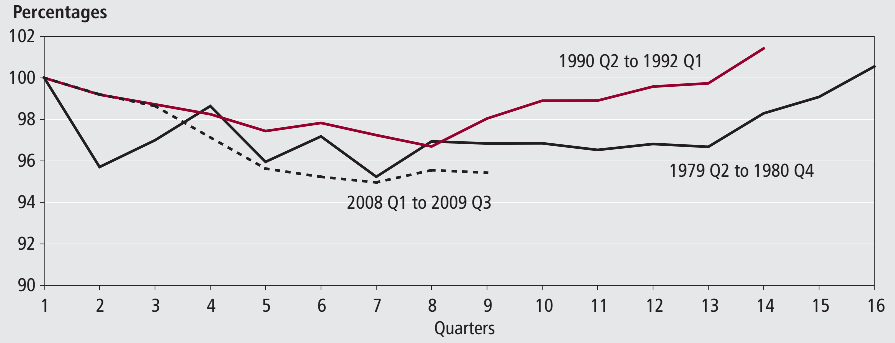
Household consumption is the largest component of total expenditure, and as such, plays an important role in accounting for GDP movements. Indices describing the movement of this variable over the course of the last three recessions are plotted in **Figure 10**.

Peak to trough falls of household consumption in the last three UK recessions have been broadly similar in magnitude. Between 1979 Q2 and 1980 Q4, household consumption fell by 4.8 per cent. In the early 1990s recession, household consumption fell by 3.3 per cent from 1990 Q2 to 1992 Q1. And in the latest recession, there was a drop of 5.0 per cent in household consumption between 2008 Q1 and 2009 Q3. The rising share of household consumption in total expenditure though means that it made a larger contribution to the most recent downturn than in the previous two episodes (Figure 9).

The general patterns of falling consumption have also been fairly consistent over previous recessions (see **Figure 11**). The transport sector, and in particular the purchase of motor vehicles, has generally made the largest contribution to falling consumption. In the periods of peak to trough falls in household consumption, purchases of new motor vehicles fell by 34.3 per cent in the early 1980s recession, by 22.6 per cent in the early 1990s recession, and by 23.3 per cent in the most recent recession. As large, durable purchases, often dependent on the availability of finance, it is not surprising that this category of spending is sensitive to the economic cycle.

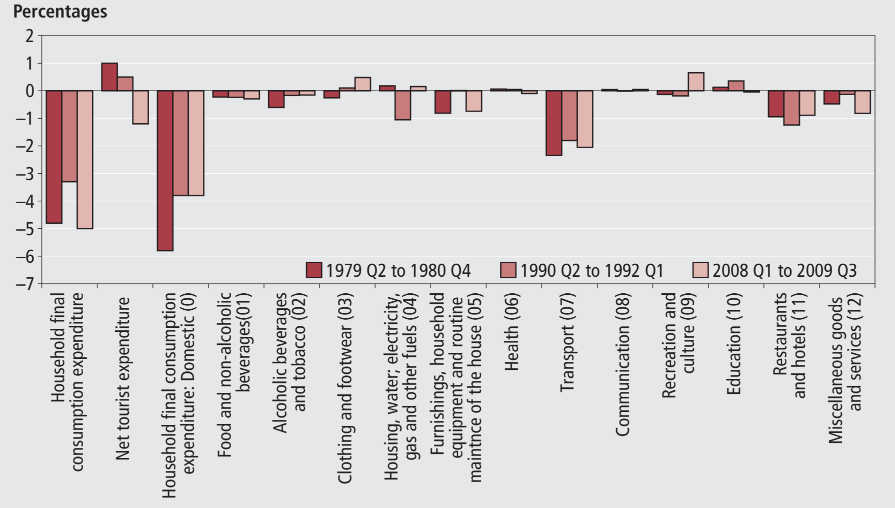
It is difficult to isolate the possible effects of the vehicle scrappage scheme, without which, the contraction in motor vehicle purchases may have been even worse. In

Figure 10
UK recession tracking: household consumption



Source: GDP Quarterly National Accounts

Figure 11
Contributions to peak to trough falls in UK household consumption



Source: GDP Quarterly National Accounts

addition, low interest rates may also have provided some support to spending in the recent recession, compared to the previous two when they were raised in order to control inflation. In the final quarter of 2009 the purchase of motor vehicles rebounded to almost its pre-recession level (up by 21.6 per cent on the previous quarter), providing some evidence of a late surge in order to take advantage of the temporarily lower rate of VAT before it increased to 17.5 per cent on 1 January 2010. Although motor vehicle purchases fell back a little in the first quarter of 2010, they were only 10.5 per cent lower before the recession (2008 Q1). Incidentally, this was the final quarter of the vehicle scrappage scheme which may have helped to sustain expenditure.

Net tourist spending though has fallen heavily in the latest recession – that is the difference between spending overseas by UK residents and foreign residents' spending in the UK. The average spend by inbound and outbound tourists hasn't shown any significant change, so recent trends have been driven by visitor numbers. While numbers of foreign tourist visitors to the UK have been fairly robust, UK tourist-based visits overseas have fallen markedly – especially to Europe. These movements may have been influenced by the near 25 per cent depreciation in sterling in the second half of 2008, making visits to the UK from overseas relatively cheaper, and overseas visits by UK residents relatively more expensive. An article looking at the impact of the global recession on tourists' spending in the UK in this edition of *Economic & Labour Market Review* (see Webber, Buccellato and White 2010) finds evidence of a 'staycation' effect – where UK residents substitute foreign for domestic travel. Furthermore, this component of spending now has a higher weight than in previous recessions as international travel becomes more and more popular, so its contribution to the change in spending will be greater.

Discretionary areas of spending, such as hotels and restaurants; and furniture and household appliances have shown general falls in all three recessions. However, in the latest downturn there have been pockets where spending, in real terms, have been supported by strong discounting (such as clothing and footwear) and also rapid technological advances (as in audio visual and information processing equipment).

The impact of the recession on household balance sheets, including the household saving ratio, is discussed in more detail in a previous edition of *Economic & Labour Market Review* (see Davies, Fender and Williams 2010). The saving ratio typically rises in a recession, as households concerned about uncertain future income, cut back on spending as a proportion of their disposable income. Saving can therefore strengthen balance sheets by paying down debts or building buffers to protect against future income shocks.

Since financial market deregulation in the early 1980s, the saving ratio has shown a stronger cyclical pattern. This is because movements in household spending have been amplified by the cyclical demand and availability of consumer credit. Between 1988 Q3 and 1992 Q1 the household saving ratio rose from 3.3 per cent to 12.2 per cent; and between 2008 Q1 to 2009Q3 it increased from -0.9 per cent to 8.5 per cent. Both these periods were also synonymous with a sharp fall in unsecured lending (consumer credit), down by 62 per cent and 133 per cent respectively.

Although there is little evidence that secured borrowing funds a significant proportion of consumer spending (through mortgage equity withdrawal such as remortgaging, see Chamberlin 2009b) there could have been some substitution in recent years from more expensive unsecured to cheaper secured borrowing. However, the hiatus in mortgage lending as the UK housing market went into reverse, meant that this form of lending fell by 39 per cent between December 1990 and December 1993 and by 73 per cent between December 2006 and December 2009.

The impact of the recession on the household sector can also be seen in certain stress indicators such as housing arrears and repossessions and personal insolvencies and bankruptcies. Despite the sharp downturn in the housing market, the percentage of properties taken into possession in the recent recession has not increased to the same extent as the early 1990s recession, rising to 0.42 in 2009 compared to 0.77 in 1991. The percentage of mortgages more than 12 months in arrears was 0.6 per cent in 2009 compared to a spike of 1.5 per cent in 1993.

Personal insolvencies and bankruptcies have also increased sharply in each recession. Between 1979 and 1984 these rose from 3,500 to 8,229. Between 1989 and 1993 the increase was from 9,365 to 36,703. And between 2007 and 2009 the increase was from 106,643 to 134,142. Interpreting these numbers though requires a good deal of care, as bankruptcy and insolvency laws and facilities have changed over time. Numbers surged with the introduction of Individual Voluntary Arrangements in 1986, making it easier for households to voluntarily renegotiate debts that might otherwise eventually lead to bankruptcy orders against them.

There have been two key supporting factors to the household sector in the latest recession. First, pressures on household balance sheets have been mitigated by sharp reductions in interest rates, making it easier to fund current debt levels. During the early 1980s recession, Bank of England base rates averaged over 10 per cent as part of the fight against inflation. In the recession of the early 1990s, interest rates were also maintained at high levels to also fight against double-digit inflation and support the value of sterling within the European Exchange Rate Mechanism (ERM). In October 1990 the Bank of England base rate was 13.9 per cent, although this had fallen to 9.9 per cent by May 1992. It was not however until after sterling had left the ERM, and that the economy had started to recover that they were reduced to below 6.0 per cent in January 1993. But by then the economy had already begun to emerge from recession after a protracted downturn. In contrast, Bank of England base rate was 5.25 per cent on the eve of the latest downturn in February 2008. As the recession began to take hold this was cut sharply, falling to 0.5 per cent by March 2009 where it has since been maintained.

Secondly, pass through from output to the labour market has been more muted this time around. Between April–June 1979 and March-May 1984, unemployment rose from 5.3 per (1.4 million) to 11.9 per cent (3.3 million). The number of jobs between 1979 Q4 and 1983 Q1 fell by 2.0 million (-7.3 per cent).

Between April–June 1990 and December–February 1993 unemployment also increased substantially, from 6.9 per cent (2.0 million) to 10.7 per cent (3.0 million). The number of jobs fell heavily, recording a peak to trough fall of 1.95 million (-6.7 per cent) from 1990 Q2 to 1992 Q4.

In the latest downturn, the rise in unemployment has been less strong and has shown some indication of stabilising at an earlier stage. Unemployment grew from 5.2 per cent (1.6 million) in January–March 2008 to 8.0 per cent (2.5 million) in January–March 2010. The peak to trough fall in the number of jobs was also less severe, declining by 1 million (-2.3 per cent) between 2008 Q2 and 2009 Q4.

Several reasons have been proposed as to why the labour market appears to be performing better in the latest recession compared to the previous two. There is some evidence that workers have accepted moderation in pay settlements and shorter working hours in order to preserve their employer's cash flow and sustain their own employment. Research published by the Bank of England (see Hackworth 2009) found that pay settlements averaged below 2 per cent in 2009 – with the recession and weak labour demand a key influence on settlements. Although there were relatively few instances of employees being forced to accept pay cuts, around 35 per cent in the private sector experienced a pay freeze in the last year. Walling and Clancy (2010) report on the increasing incidence of time–related underemployment in the current recession and the increasing share of part–time employees unable to find full–time work.

Businesses may also have held on to labour to a greater extent. In the services sector, which accounts for a growing share of total GVA, skilled labour inputs are relatively important. Therefore, in the downturn firms have to judge the extent to which labour might be cut in relation to spare capacity against the expected difficulty and cost in hiring and training skilled labour once business conditions improve. Sharp reductions in interest rates may have aided this form of labour hoarding by reducing the costs of servicing debts and supporting cash flows – relieving pressure to cut the wage bill. Furthermore, the incentive to push employees into early retirements has become less attractive by large deficits in corporate pension schemes that have to be reported in greater detail in published company accounts.

UK recessions compared: GFCF

GFCF, or fixed investment spending, typically exhibits sharp falls in recessions. Businesses, facing low and uncertain future demand, will be reluctant to invest in additional capacity. And because the capital output ratio, that is the amount of capital required to produce a unit of output, usually exceeds unity (standard assumption in economic models is that it is around three), the fall in capital spending will tend to significantly exceed the fall in GDP.

Even if a firm wishes to undertake investment, constraints may arise due to the availability of finance. Internal finance, from retained profits, generally falls in a recession due to the impact of lower sales volumes on operating surpluses. Furthermore, firms operating at lower rates of capacity utilisation see their unit costs rise, further lowering profitability. External financing is also constrained, or becomes more expensive to reflect the riskier economic environment.

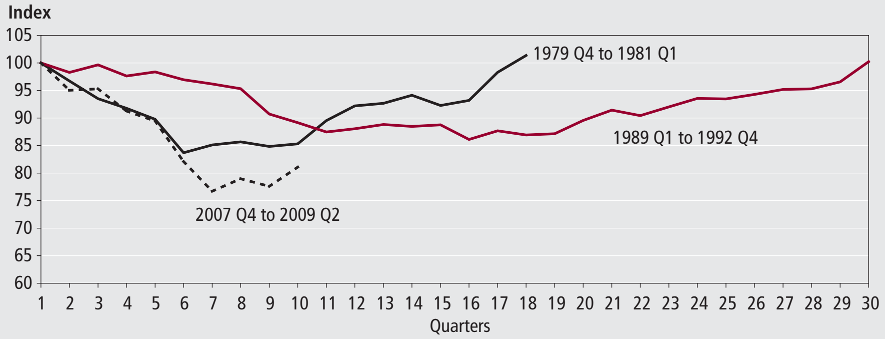
In the recession of the early 1980s, fixed investment spending fell by 16.3 per cent from 1979 Q4 to 1981 Q1, and between 1989 Q1 and 1992 Q4 GFCF declined by 13.9 per cent (see **Figure 12**). In the latest recession, the fall in GFCF has been even larger, with a 23.3 per cent contraction recorded from 2007 Q4 to 2009 Q2.

The contribution of business investment has been particularly important in the latest recession (see **Figure 13**) . The recorded 25.1 per cent fall during this period was approximately twice the 13.6 per cent in the early 1990s and the 11.3 per cent fall in the early 1980s, relating to a much sharper downturn in plant and machinery spending than in previous downturns. This suggests that business confidence and uncertainty over the economic outlook, plus restrictions in the availability of finance, have had a severe impact on capital spending.

Investment in dwellings has also fallen significantly during recessions. In line with the evidence on construction output, theses falls have been broadly similar across recessions at -27.1 per cent in the early 1980s, -33.5 per cent in the early 1990s and -27.7 per cent in the most recent recession. The contribution to total change in GFCF in the different recessions therefore reflects the particular share of this capital spending at each point in time.

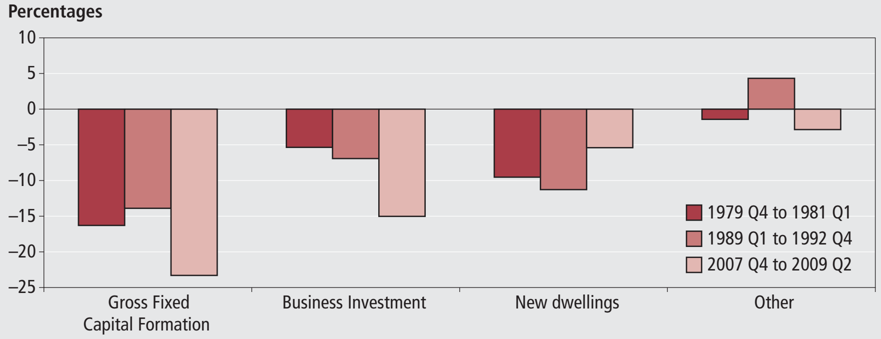
The 'other' component primarily consists of transfer costs associated with the sale of fixed assets and public sector investment. The first of these would be expected to fall during recessions, reflecting lower turnover in residential and commercial property markets as well as falling prices (transfer fees are often a proportion of the sale price). Public sector investment though tends to be more stable than its business sector counterpart, and often makes a small contribution to growth. In the most recent recession the Government has brought forward some of its scheduled investment as part of the fiscal stimulus

Figure 12
UK recession tracking: gross fixed capital formation



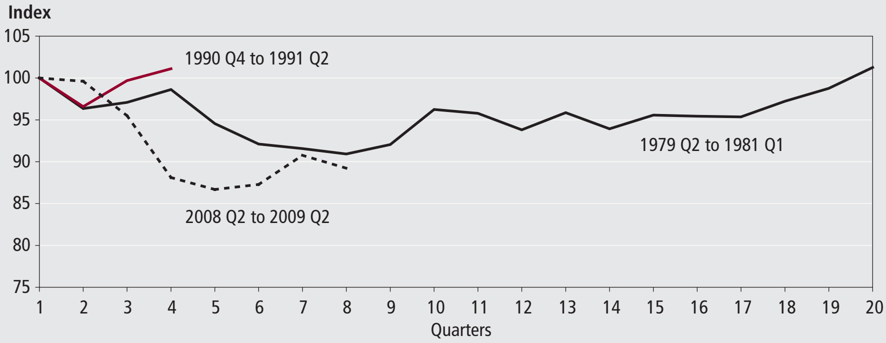
Source: GDP Quarterly National Accounts

Figure 13
Contributions to peak to trough falls in UK GFCF



Source: GDP Quarterly National Accounts

Figure 14
UK recession tracking: exports



Source: ONS UK Quarterly National Accounts

package introduced in the 2009 Pre-Budget Report.

Assessing the extent to which credit restrictions have impacted on fixed investment is difficult, as the reported fall in lending to the private non-financial sector (PNFC) may also reflect lower demand from businesses who are unwilling to add more debt to their balance sheets at a time of weak and uncertain sales. Between December 1989 and December 1993, lending to the PNFC sector fell by 116 per cent. A fall in excess of 100 per cent obviously implies that the sector has switched from being a net borrower to a net lender and seeking to pay down its debts. In the most recent recession, lending to the PNFC sector fell by a similar magnitude of 114 per cent.

Nor has the rise in company insolvencies been particularly marked compared to previous recessions. Between 1979 and 1982 these rose by just under 8,000 from 4,537 to 12,067. Between 1989 and 1992 the annual number rose more dramatically, increasing by around 12,000 from 10,456 to 24,425. In the latest recession, company insolvencies rose by approximately 6,500 from 12,507 in 2007 to 19,077 in 2009. Of these, the majority were voluntary creditor agreements (such as entering administration) rather than compulsory bankruptcies as in previous downturns. Significant falls in interest rates may have supported corporate sector balance sheets in the most recent recession compared to the two previous, and perhaps explains the lower number of company insolvencies.

Therefore, it seems that uncertainty over future demand has been the major driver of falling business investment in the latest recession. This has meant that the UK corporate sector has become an increasing net-lender, that is the saving the sector generates increasingly exceeds its capital spending. Increasing its cash reserves may be a deliberate move to protect against future uncertainty, not just to the economic outlook but also concerning commodity prices and the funding of pensions deficits.

UK recessions compared: exports, imports and net trade

Figure 9 shows that net trade, the difference between exports which add to GDP and imports which subtract, has contributed positively to growth during the last three recessions. In the latest recession though the contribution was relatively large, perhaps reflecting the larger fall in domestic spending (household consumption and GFCF) and the higher share of imports and exports in GDP as the UK economy continues to be more open to international trade.

Although contributions to growth have generally been positive, the circumstances behind them have been different. The patterns of exports over the past three recessions are shown in **Figure 14**. Peak to trough falls in exports have been greater when the global economy has also been in recession, representing a fall in overseas demand for UK output. Between 1979 Q2 and 1981 Q1 there was a peak to trough fall of 9.1 per cent in the level of exports; and between 2008 Q2 and 2009 Q2 the peak to tough fall was 13.5 per cent. By contrast, there was no real fall in exports during the recession of the early 1990s.

These trends tally with global conditions prevailing at the time. Estimates of the global output gap, provided by the IMF, were -4.4 per cent in 1982, -0.61 per cent in 1992 and -4.6 per cent in 2009, showing the relative severity of the global recession in each period. Further data on global and regional growth rates in each period of recession are presented in **Table 4**.

For imports, the magnitude of peak to trough falls bear strong resemblance to the associated peak to trough falls in GDP.

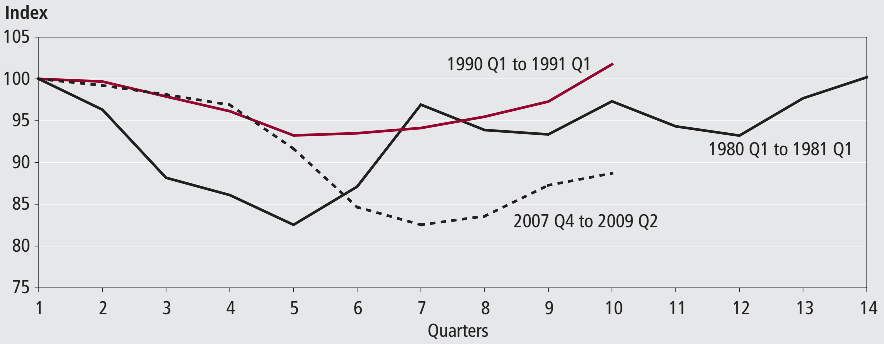
Table 4
Global growth rates during the last three UK recessions

Percentages

	Annual growth rates								
Region or country	**1981**	**1982**	**1983**	**1990**	**1991**	**1992**	**2007**	**2008**	**2009**
World	2.3	0.9	2.9	3	1.5	2	5.2	3	–1.1
Major advanced	2	–0.06	3.2	2.9	1.1	2.1	2.2	0.3	–3.6
European Union	–0.1	0.9	2	2.4	0.8	0.7	3.1	1	–4.2
Developing Asia	5.9	5.6	7	5.4	6.1	8.9	10.6	7.6	6.2
UK	–1.33	2.09	3.6	0.8	–1.4	0.1	2.6	0.7	–4.4
USA	2.5	–1.9	4.52	1.9	–0.2	3.4	2.1	0.4	2.7
China	5.3	9	10.9	9.2	14.23	14	13	9	8.5
Germany	0.1	–0.8	1.6	5.7	5	2.3	2.5	1.3	5.3

Source: IMF World Economic Outlook

Figure 15
UK recession tracking: imports



Source: ONS UK Quarterly National Accounts

As **Figure 15** shows, falling imports were greater in the most recent and early 1980s recessions. Between 1980 Q1 and 1981 Q1, the level of imports to the UK declined by 17.5 per cent; and between 2007 Q4 and 2009 Q2 the peak to trough fall was also 17.5 per cent. In the early 1990s, the level of imports fell by a relatively modest 6.8 per cent between 1990 Q1 and 1991 Q1.

Therefore, the positive contribution of net trade in the most recent and early 1980s recessions reflected a sharper fall in imports than in exports, especially in the most recent case when the UK entered recession with a large and persistent trade deficit. In the early 1990s, although, the fall in imports was relatively modest, stronger demand in the rest of the world meant that exports remained fairly robust throughout the recession period.

Exchange rates have a direct impact on the competitiveness of UK goods and services in both domestic (through the competitiveness of imports) and foreign (through the competitiveness of exports) markets. Conventional wisdom argues that an exchange rate depreciation makes imports relatively more expensive in the domestic market and exports relatively cheaper in overseas markets. Exchange rate appreciation would, conventionally, have the opposite effect.

Between January 1979 and October 1980 sterling actually appreciated by about 20 per cent against both the US Dollar ($US) and German Deutschmark (DM). However, sterling then began a long five year fall against the US dollar almost reaching parity in early 1985, which may have provided some fillip to net trade during the recovery.

In the recession of the early 1990s, sterling's parity was semi-fixed by its membership of the Exchange Rate Mechanism. Therefore, between January 1990 and August 1992 (just prior to Black Wednesday when the UK suspended sterling's membership of the ERM) the sterling effective exchange rate was broadly unchanged (rise of about 5 per cent). After leaving the ERM the sterling effective exchange rate depreciated by just under 20 per cent up until February 1993. It then remained fairly constant at this new level until September 2006 when it appreciated again, eventually rising above its ERM effective rate in July 2007. This long sustained fall in the value of sterling has been attributed as one of the most important drivers of growth as the UK recovered from the early 1990s recession.

Sterling depreciation in the second half of 2008 was even greater than when the UK exited the ERM, with the effective rate falling by almost 25 per cent. However, there has been little evidence that this has stimulated an improvement in the UK's net trade position. In fact, during the second half of 2009 net trade made a negative contribution to GDP growth as imports rebounded more strongly than exports as the domestic and global economies emerged from recession. Weaker sterling may be expected to support net trade through the rest of the year, and of course, the contribution of net trade to GDP in the second half of 2009 may have been even worse had it not been for depreciation.

Conclusion

This article has set out to compare the main features of the last three UK recessions. The peak to trough fall in GDP between 2008 Q1 and 2009 Q3 of 6.4 per cent marks the recession since the Second World War – and is much closer in magnitude to the recession of the early 1980s than the last recession in the early 1990s.

Both the most recent and early 1980s recessions were part of global downturns. The doubling of oil prices in 1979, the second major oil price shock in that decade, generated significant inflation in the major economies, which was countered by a severe tightening in monetary policy. The build up to the latest recession though was altogether more different, with the world experiencing low inflation and interest rates for well over a decade – a period of unprecedented stability referred to as the 'Great Moderation'. However, this masked the effects of growing global imbalances and a full-blown credit cycle- the downside of which led to the near collapse of the global banking system, a hiatus in lending and a sharp reduction in asset prices.

Although the falls in aggregate GDP were broadly similar, the impact on the composition differed. On the output side, the services sector, in particular business services and finance, contributed more to the downturn than before – a reflection of the sectors strong growth in the decade before and the changing structure of the UK economy. On the expenditure side, gross fixed capital investment, and business investment in particular, contributed more to the fall in GDP in the latest recession than in the previous two – suggesting that confidence in the corporate sector was most adversely affected by the uncertain economic outlook and credit crunch. The household sector, although also facing a balance sheet recession which has prompted a rise in the saving ratio, has at least been buoyed by a sharp reduction in interest rates and a less severe pass through to the labour market than expected.

The recession in the early 1990s was shallower and more reflective of domestic than global economic conditions as interest rates were raised to control inflation and as a result bursting the bubble in house prices. The large build up in housing investment prior to the collapse though generated a large hangover in the construction sector, where output took around a decade to fully recover. The collapse in the housing market also weighed on growth in household consumption and gross fixed capital formation, which rebounded far slower than in the early 1980s recession despite much lower peak to trough falls.

Notes

1. Gross Value Added is measured in basic prices (sometimes referred to as factor cost) whilst Gross Domestic Product is measured in market prices. The difference between the two is called the basic price adjustment (BPA), and reflects the impact of taxes and subsidies on market prices. In chain volume measures the effects of the BPA should be reflected in the respective deflators constraining GVA and GDP volume growth to each other. However, it is not uncommon for differences to occur as appears to be the case when looking at the peak to trough changes in GVA compared to GDP. This may merit some further investigation.

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Webber D, Buccellato T and White S (2010) 'The global recession and its impact on tourists' spending in the UK', *Economic and Labour Market Review*, August 2010 (this edition)

ARTICLE

The global recession and its impact on tourists' spending in the UK

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SUMMARY

This article uses an input–output (IO) modelling approach to investigate the impact of the global recession on the expenditures of inbound and overnight domestic visitors and the wider effect on the UK economy. The results suggest that the economic crisis has had a negative direct impact on tourism in the UK of around £42 million, although this was the relatively small difference between a large increase in domestic holiday tourism and falls in business and visiting family, friends and relatives spending. In turn, this led to a negative indirect impact of £45 million, representing a £21 million net fall across the production chain and a £24 million net fall in the compensation of employees. Overall, the economy has suffered a total net loss of £87 million.

Introduction

Tourism is an important sector in the UK economy. Recent estimates show that in 2006 consumption by tourists accounted for 3.3 per cent of UK gross value added (GVA)[1]. Furthermore, between 2000 and 2008 inbound tourism expenditure grew at an average rate of 3.3 per cent[2] each year. However, this was a period of relatively strong economic growth in the UK and the rest of the world. Since then the UK has endured its largest post war recession as the major economies around the world entered into a synchronised downturn, the effects of which have been felt by the tourism sector in the UK and globally.

It is easy to understand why tourism may be particularly adversely affected by a global economic downturn. Household consumption, both at home and overseas, has been hit by falling asset values, rising unemployment and tightening of credit conditions. Business expenditure, which is a major component of tourism spending, has fallen in line with economic activity and as firms seek to reduce costs and preserve cash flows. With household and corporate sectors looking to rebuild balance sheets the more discretionary components of spending are those most likely to face retrenchment.

However, the net effects on tourism spending in the UK are not immediately obvious. For example, the weakened economic position of households and firms may induce substitution from outbound to domestic tourism, an observation coined as the *staycation effect*. Staycation effects are likely to have been supported by depreciation of sterling since the second half of 2008, making outward trips for domestic residents relatively more expensive compared to domestic ones.

Sterling depreciation also makes inbound tourism cheaper and more attractive to foreigners. Recent evidence from *Consumer Trends*[3] has shown that net tourist spending has made a negative contribution to household consumption growth during the recession. This is also consistent with the findings reported in the Travel and tourism statistical bulletin[4], which has shown that UK visits abroad have fallen more sharply than foreign visits to the UK.

This article attempts to answer two questions relating to tourism and the economic downturn. First, how has the economic downturn affected the expenditures of domestic and inbound visitors? Second, what is the overall economic impact of this?

The next section assesses the direct change in expenditure of inbound and domestic tourists over the recession. Then, the third section uses input–output modelling[5] to calculate the overall economic impact of the direct changes in expenditure induced by the recession. Finally some conclusions are offered. The technical details on the methodologies adopted are presented in an **Appendix**.

The direct effects of the recession on tourism expenditure

This section estimates the change in expenditure on two of the main components of the UK tourism sector[6] – inbound and domestic overnight visitors. The second of these is one of three components that make up total domestic tourism. Excursionists and resident visitors travelling abroad make up the remainder. The expenditure of resident visitors travelling abroad captures the amount that domestic residents spend in the UK as a consequence of an outbound trip. It consists of fares for UK–based outbound carriers. This data is not centrally collected on an annual, let alone quarterly basis. Similarly, day–visitor or excursionist data is sparse with the latest survey conducted for England in 2005. Consequently the only element of domestic tourism which will be considered in this study is overnight visitors. Data on these visitors are obtained by the UK Tourism Survey (UKTS), conducted by Taylor Nelson Sofres (TNS). This provides quarterly expenditure by purpose of visit, which is broken down into purchased products.

ONS measures the expenditure of inbound visitors through the International Passenger Survey (IPS). It provides monthly data on the expenditure of these visitors, one month after the reference period.

Expenditure by purpose of trip is further categorized by the product purchased. This is required to apportion expenditure to its supplying industry[7] which is done in two stages. The first involves disaggregating expenditure by product purchased, following the classification contained in the ONS' Supply and Use (SU) Tables, which disaggregates the economy into 123 products and industries. Expenditure breakdowns are available both for the IPS and the UKTS. However, they are not without weaknesses. For instance, the IPS expenditure trailer, while being detailed, only covers the year 1997. This is a major drawback as using it assumes the composition of goods and services purchased by tourists have remained unchanged since then.

The UKTS, on the other hand, provides an expenditure breakdown for every quarter, and by purpose of visit. A cautionary note should be added, however, that when one starts considering expenditure broken down in this way, the sample size is much reduced.

The second stage of apportioning the purchased product to its supplying industry requires the use of a Make Matrix, the technical details of which are described in **Box 1**.

Figure 1 shows the four-quarter change in nominal expenditure for inbound visitors. Changes in spending over the period have been fairly volatile. Inbound holiday tourism, although dipping in 2008 Q3 has shown fairly constant growth over time, and increased growth over the last few quarters. Business tourism on the other hand, has generally shown negative changes, apart from in 2008 Q2 and 2008 Q4. Visiting friends and relatives (VFR), and miscellaneous[8] tourism have both fluctuated over time. VFR exhibits a small positive total increase, whilst the opposite is true for the miscellaneous part of spending.

Figure 2 shows the change in expenditure of domestic overnight tourists. It shows that the latter part of 2008 and early 2009 was characterised by falls in domestic tourism spending. However, since then domestic tourism expenditure has shown two quarters of stronger growth, predominately accounted for by increases in domestic holiday tourism. Domestic business tourism, despite showing positive change in 2008 Q2, recorded a negative change throughout the whole period considered. Domestic VFR shows a fairly cyclical trend over the period, with the overall net spending effect being quite neutral.

Latest National Accounts data show that UK gross domestic product (GDP) fell for six successive quarters from 2008 Q2 to 2009 Q3 and the 6.4 per cent peak–to–trough fall was the largest since the start of the data in 1955. However, tourists' spending by its very nature is not just determined by domestic economic conditions but also by those overseas. Therefore, cyclical activity in the UK tourist industry need not exactly follow the rest of the economy. Indeed, analysis of Figures 1 and 2 suggest there is a quarter lag between the start of the UK recession and the change in inbound and domestic overnight tourism expenditure. As a result, this article uses the period 2008 Q3 to 2009Q3 as its scope for analysis.

Table 1 presents the total change in tourists' direct expenditure over the period 2008 Q3 to 2009 Q3 and how this has been accounted for by different supplying industries. For clarity, industries have been grouped into sectors, in line with the SU table methodology. Tourism though, in contrast to the SU tables, is a sector in its own right made up of a set of industries as recommended by international guidelines on tourism statistics[9]. The table shows there has been a decline in expenditure of inbound and domestic overnight tourists of £42 million. Inbound tourism expenditure has increased by £142 million, while domestic tourism has fallen by £184 million.

The main driver of the increase in inbound tourism is holiday visitors, which increased by £677 million. However, this is almost completely offset by a decrease of £668 million in inbound business expenditure by foreign visitors. Foreign visitors to friends and relatives (VFR) and miscellaneous trips increased inbound tourist receipts by £16 million and £117 million respectively.

Changes in domestic overnight tourist spending have also shown offsetting patterns. Whilst domestic holiday tourism

Box 1

Using the Make Matrix to apportion tourists' expenditure by supplying industry

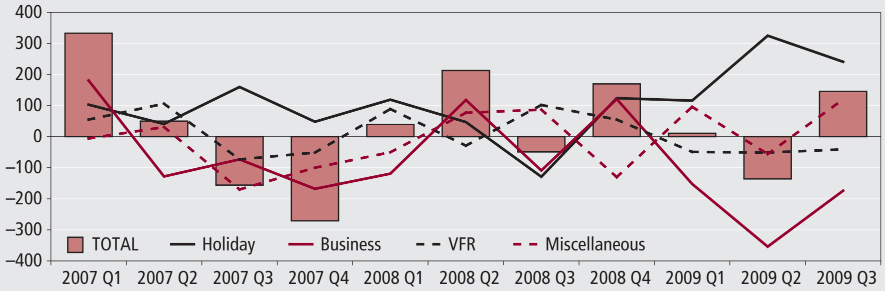
Survey data reports the changes in expenditure by inbound and domestic tourists by products purchased. Translating changes in the demand for a specific product to changes in output of the supplying industries requires the use of a Make Matrix. This article makes use of one constructed by the Stockholm Environment Institute for 2004. It details the output of each of the 123 industries in terms of 123 products. It is largely diagonal, as each product is chiefly produced by its corresponding industry; nonetheless, there exist off-diagonal elements to it.

For each type of visitor, and by purpose of visit, there is a 123-product vector detailing the breakdown of products purchased. By applying this to information conveyed in the MM it is then possible to derive demand in terms of industry outputs as opposed to products purchased. This information is then required to derive the indirect and induced effects of the change in direct spending using the Input-Output method, which is explained in more detail in the Appendix.

Figure 1

Change in final demand of inbound tourists by purpose of trip, 2007 Q1 – 2009 Q3

£ millions, quarter on same quarter 1 year ago

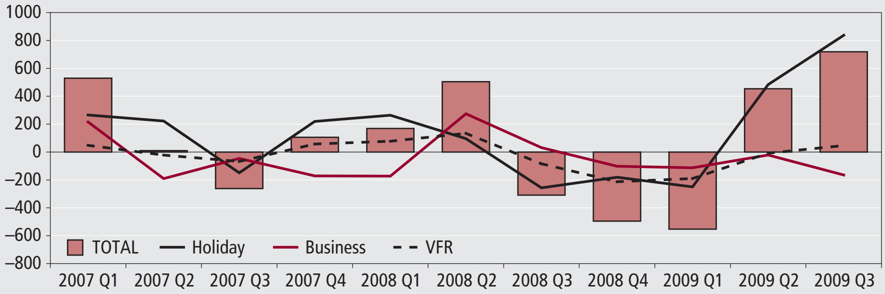


Source: International Passenger Survey, Stockholm Environment Institute

Figure 2

Change in final demand of domestic tourists by purpose of trip, 2007 Q1 – 2009 Q3

£ millions, quarter on same quarter 1 year ago



Source: United Kingdom Tourism Survey, Stockholm Environment Institute

grew strongly by £633.1 million, domestic business trip expenditure fell by £368.9 million and domestic VFR trips spending also fell by £448.6 million. The increase in domestic holiday tourism is indicative of the 'staycation' phenomena. **Figure 3** plots the change in expenditure of outbound holiday visitors and domestic holiday visitors. It shows clearly that whilst outbound holiday visit expenditure has declined considerably since 2008 Q3, domestic holiday tourism expenditure has shown the opposite trend.

Figure 4 displays the change in demand of sector output demanded by both types of visitors (reflecting the data presented in Table 1). On balance, the effect on the tourism sector has been positive, showing an increase of £51.4 million in the demand of its products, mainly driven by inbound tourists. Although there has been an overall fall in the expenditure of tourists, the overall direct impact on the tourism sector has been positive. The sector which has suffered the most is the manufacturing sector followed by the wholesale and retail trade sector. They have experienced direct falls in spending of £69.8 million and £38.1 million respectively.

A note of caution should be applied at this stage. It is being assumed here that a fall in demand for manufactured goods, for example, of £69.8m is equal to the fall in that sector's output. This is not necessarily the case. For instance, as recorded prices are market prices there will be a fall in VAT and other indirect revenues to the government. Furthermore, if the good or service is imported then the fall in demand will be felt mainly by overseas producers. If these effects are significant then the estimated change in sector output from a change in final demand will be overestimated. Therefore, the overall economic impact of a change in final demand is likely to be overestimated, and the multiplier effect overstated. Throughout the rest of this paper it will be assumed that goods and services purchased in the UK are produced here. Furthermore, a decline in the demand for goods and services will be felt fully and equally by the industry that produces them. Future analysis will attempt to refine these rather strong assumptions.

The fall in demand for manufacturing sector output is driven by domestic tourists, who reported a drop of £197

Table 1

Total change in final demand of sector output by type of visitor and purpose of visit 2008 Q3 – 2009 Q3

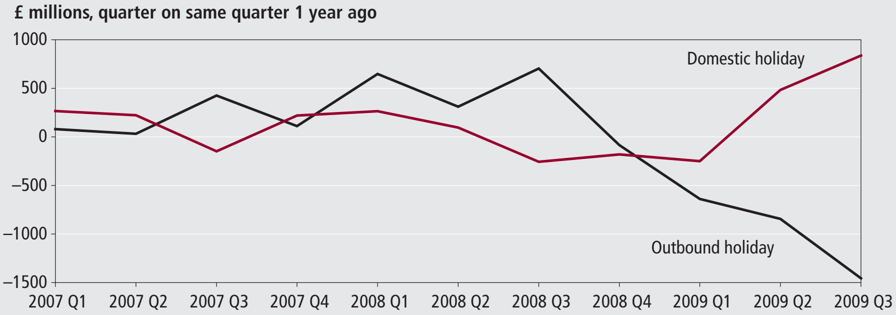
£ millions

	Inbound					Domestic				
Sector	Holiday	Business	VFR	Miscell-aneous	TOTAL	Holiday	Business	VFR	TOTAL	TOTAL
Agriculture	3.0	–3.5	0.1	0.4	–0.1	4.5	–2.0	5.3	7.7	**7.7**
Mining and quarrying	1.7	–2.0	0.0	0.2	–0.1	2.1	–1.0	1.8	2.9	**2.9**
Manufacturing	151.5	–80.3	4.1	25.8	101.0	–28.2	–19.1	–123.5	–170.8	**–69.8**
Electricity, gas and water supply	1.4	–1.7	0.0	0.2	–0.1	1.8	–0.8	1.5	2.4	**2.4**
Construction	0.1	–0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.2	**0.2**
Wholesale and retail trade	87.7	–80.1	2.9	19.3	29.8	12.6	–41.0	–39.6	–68.0	**–38.1**
Tourism	401.2	–423.3	7.4	46.4	31.7	628.2	–298.9	–309.6	19.7	**51.4**
Communication	8.6	–15.3	0.2	2.7	–3.8	1.2	–1.0	0.8	1.0	**–2.8**
Financial intermediation	20.7	–27.5	0.5	2.3	–3.9	9.8	–4.4	13.2	18.5	**14.5**
Public administration	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
Education, human health and social work	0.6	–13.9	0.0	19.7	6.4	0.7	–0.3	1.0	1.4	**7.8**
Other services	0.5	–20.3	0.8	0.1	–19.0	0.4	–0.2	0.4	0.5	**–18.5**
Compensation of employees	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	**0.0**
TOTAL	**677.0**	**–668.0**	**16.0**	**117.0**	**142.0**	**633.1**	**–368.9**	**–448.6**	**–184.4**	**–42.4**

Source: International Passenger Survey, United Kingdom Tourism Survey, Stockholm Environment Institute

Figure 3

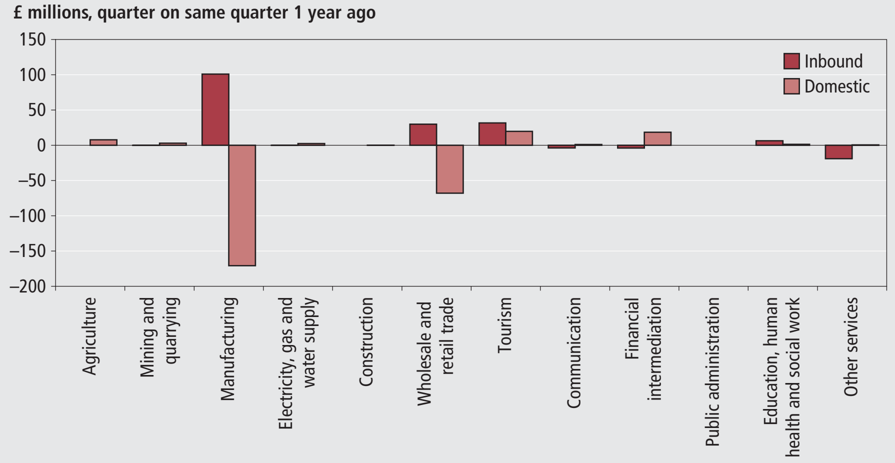
Change in final demand of outbound and domestic visitors for the purpose of holiday, 2007 Q1 – 2009 Q3



Source: International Passenger Survey, United Kingdom Tourism Survey

Figure 4

Change in final demand of sector output by type of visitor, 2008 Q3 – 2009 Q3



Source: International Passenger Survey, United Kingdom Tourism Survey, Stockholm Environment Institute

million in their expenditure on clothing (translated to a fall in 'Wearing apparel; dressing and dying of fur' in the IO table). This has been largely offset by the increase in inbound holiday visitors who spend almost 10 per cent of their total expenditure on manufactured goods, leading to an increase in spending of £151.5 million from manufacturing industries.

Similarly, domestic tourists have reported a drop in 'Other shopping' expenditure, translated to a £156 million fall in 'Retail trade, except of motor vehicles and motor cycles, repair of personal and household goods' in the IO tables. This mainly accounts for the relatively large fall in the spending on the output of the wholesale and retail trade sector.

The indirect and induced effects

This section quantifies the indirect, induced, and hence overall effect on the UK economy resulting from the £42 million fall in the net expenditure of inbound and domestic overnight tourists. Indirect effects occur as the change in initial spending results in further rounds of purchases by industries in the supply chain of final products consumed by tourists. For example, if tourists demand extra hotel rooms, the hotel industry will purchase products which are used in the production of hotel rooms. This could be linen for bedding, food or toiletries. In turn, this will induce a further round of spending from each of these supplying industries.

Induced effects are the impacts on household income due to a change in the direct spending of tourists. This occurs through changes in labour requirements resulting from changes in industry output. The total change in output is simply derived as the summation of direct, indirect and induced effects. The process of quantifying the indirect and induced effects involves algebraic matrix manipulation, first proposed by Wassily Leontief[10]. The methodology and tables used are discussed in finer detail in the Appendix. **Table 2** reports the indirect effects as a result of the changes in direct spending of tourists.

Overall, it is calculated there is a total negative indirect effect of £20.6 million. This is due to a negative contribution from domestic tourism of £204 million, but counteracted by inbound tourism which has a positive indirect impact of £183.4 million. The most striking result is that the tourism sector shows an indirect negative effect of £172 million, even though direct spending has increased by £51 million. The net result is that the output of the tourism sector over the period studied dropped by £121 million. The difference between the change in the direct and indirect effects are attributed to domestic tourists – in particular the VFR category of spending.

VFR spending, which has proportionately the highest indirect effects with respect to direct spending, has declined significantly, and been offset by spending from holiday/business visitors, with far lower indirect effects – thus leading to negative indirect effects despite a small increase in gross direct spending. This effect occurs because the pattern of VFR spending is very different – clearly with accommodation sectors less dominant, and as **Figure 5** illustrates the hotel and restaurant industry, as a proportion of its output, makes the least intra-sector purchases in the production of its products. The result being that a change in demand for hotel and restaurant products has little effect on the output of other tourism industries, compared to industries such as railway transport or travel agencies. This explains why the fall in output in the tourism sector driven by VFR visitors is not offset by the increase in spending in the tourism sector of holiday visitors.

The opposite pattern emerges for the change in indirect spending attributed to the manufacturing sector, which is £161 million, compared to a fall in direct spending of £69.8 million. In this case the difference reflects that the manufacturing sector is the most important contributor to the production of intermediate goods. So, although spend on its final demand goods has fallen, demand for the products that use its output in their production has increased, and hence it has seen an indirect boost to its output.

Table 2

Total change in indirect effects on sector by type of visitor and purpose of visit, 2008 Q3 – 2009 Q3

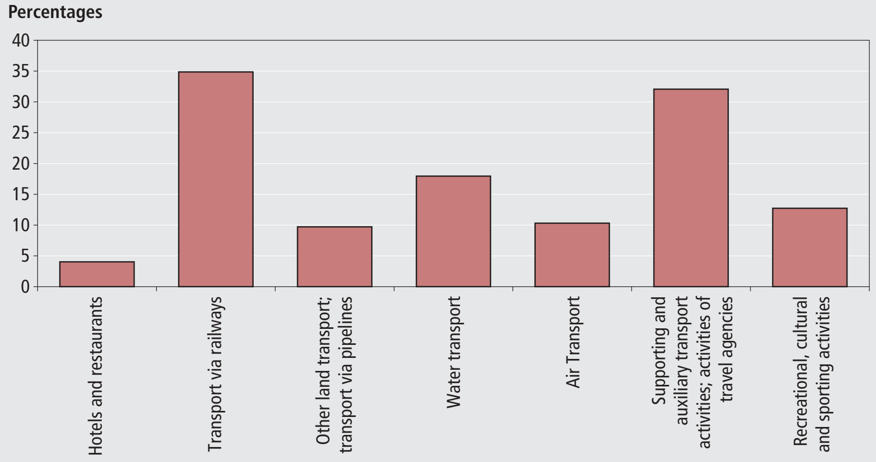
£ millions

	Inbound					Domestic				
Sector	Holiday	Business	VFR	Miscell-aneous	TOTAL	Holiday	Business	VFR	TOTAL	TOTAL
Agriculture	23.9	–22.9	0.5	3.5	5.0	24.7	–12.4	15.7	28.0	**33.0**
Mining and quarrying	11.2	–11.3	0.3	1.8	1.9	11.8	–6.7	–6.9	–1.8	**0.1**
Manufacturing	199.5	–200.3	4.4	31.7	35.3	204.0	–110.3	32.1	125.8	**161.0**
Electricity, gas and water supply	31.2	–30.4	0.7	5.4	6.9	28.1	–16.4	–12.4	–0.7	**6.1**
Construction	22.1	–22.3	0.5	3.9	4.2	22.8	–13.0	–23.6	–13.8	**–9.6**
Wholesale and retail trade	124.6	–121.5	2.9	21.7	27.7	111.5	–65.3	–49.9	–3.7	**24.0**
Tourism	133.7	–128.6	3.1	22.2	30.5	146.8	–83.0	–266.2	–202.4	**–172.0**
Communication	32.7	–34.0	0.8	5.5	5.0	33.5	–18.5	–14.8	0.2	**5.2**
Financial intermediation	303.6	–303.9	7.3	51.3	58.2	291.4	–170.1	–236.0	–114.7	**–56.5**
Public administration	6.2	–6.1	0.2	1.0	1.3	5.3	–3.4	–6.3	–4.4	**–3.1**
Education, human health and social work	20.7	–22.0	0.5	4.9	4.2	20.9	–11.8	–14.9	–5.7	**–1.6**
Other services	19.6	–19.9	0.5	3.2	3.3	21.9	–11.4	–21.3	–10.7	**–7.4**
TOTAL	**929.0**	**–923.2**	**21.4**	**156.2**	**183.4**	**922.6**	**–522.1**	**–604.5**	**–204.0**	**–20.6**

Source: International Passenger Survey, United Kingdom Tourism Survey, Stockholm Environment Institute, Karen Turner's ESRC Leadership Fellow

Figure 5

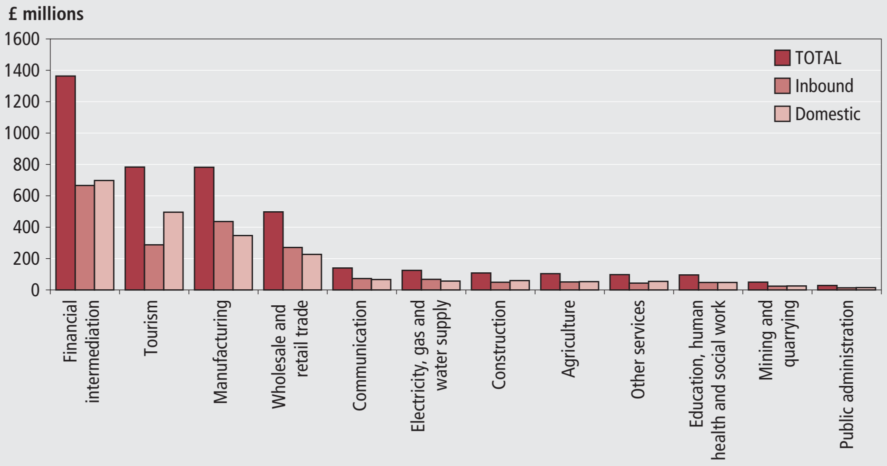
Share of each tourism industry's intermediate consumption supplied by other tourism industries, 2004



Source: Stockholm Environment Institute

Figure 6

Total absolute changes in indirect effects by sector, 2008 Q3 – 2009 Q3



Source: International Passenger Survey, United Kingdom Tourism Survey, Stockholm Environment Institute, Karen Turner's ESRC Leadership Fellow

Figure 6 shows the total absolute changes in indirect spending by sector attributed to both inbound and domestic, in order to gain a better understanding of the significance of each sector in the production of products tourists purchase. The absolute change is reported for a simple reason. There are opposite trends exhibited by holiday and business visitors, with the former showing a large increase in indirect effects, and the latter showing a decrease. Therefore, they would cancel each other out when considering the total changes in indirect effects. For example, the financial intermediation sector shows the largest change in indirect effects in absolute terms. This reflects the fact that this sector plays an important role in the production of goods that tourists buy. However, in actual terms, holiday visitors are responsible for an indirect impact on the financial intermediation sector of £303.6 million, while business visitors account negatively for £303.9 million. Hence focussing on just the total actual (net) change could severely underestimate the importance of some sectors in the production processes.

Other sectors which are responsible for a relatively large change in indirect spending are wholesale and retail trade, and the tourism sector. The wholesale and retail trade provides the mechanism for which goods are sold. The fact that tourism ranks highly appears indicative of the existence of intra–industry links within the tourism sector. An obvious example of these links comes from the travel agency industry which will purchase hotel rooms, travel services and entertainment tickets to produce its own packaged good. This hypothesis

Table 3

Total change in induced effects by type of visitor and purpose of visit, 2008 Q3 – 2009 Q3

£ millions

	Inbound					Domestic				
Sector	Holiday	Business	VFR	Miscell-aneous	TOTAL	Holiday	Business	VFR	TOTAL	TOTAL
Compensation of employees	472.6	–474.4	11.0	87.3	96.6	460.2	–263.9	–316.8	–120.5	**–24.0**

Source: International Passenger Survey, United Kingdom Tourism Survey, Stockholm Environment Institute, Karen Turner's ESRC Leadership Fellow

is confirmed by the fact that the travel agency industry accounts for 44 per cent of the change in indirect effects of the tourism sector.

Table 3 presents the induced effects on household income due to a change in direct spending by tourists. The overall effect is negative in the region of £24 million. This is due to a £96.6 million positive impact from inbound visitors being overshadowed by the £121 million negative contribution of domestic visitors.

Finally, the derivation of indirect and induced effects allows the computation of a multiplier of direct spending to output. The total output to total spending multiplier for the period covered is found to be 2.1. This indicates that for every £1 change in spend by tourists, there is a £2.10 change in overall economy output. This can be further disaggregated into indirect and induced multipliers – 0.5 and 0.6 respectively. So every £1 spent by a tourist generates 50p in terms of additional rounds of spending on intermediate products, and 60p in the form of compensation of employees.

Conclusion

This article measures how key components of the UK tourism industry have performed in the light of the recent global economic downturn. The analysis concerns both inbound and domestic overnight visitors. The sum of inbound and domestic overnight expenditure has reported a total fall of £42.4 million between 2008 Q3 and 2009 Q3. This resulted from a drop in domestic tourism expenditure receipts of £184 million but largely offset by a £142 million rise in inbound tourism receipts.

The inbound market has appeared to benefit from the depreciation of sterling. Expenditure of inbound tourists is an export, which is typically expected to react positively to a devaluation of the domestic currency. Outbound tourism, which represents an imported good, would be expected to show the opposite reaction to exchange rate depreciation and, indeed, has fallen by approximately £2.3 billion over the analysis period.

The fall in sterling also plays an indirect role through the staycation effect. As Figure 4 shows, whilst the expenditure of outbound holiday makers has shrunk, the expenditure of domestic holiday makers has increased. There is a strong possibility that this is a direct substitution from outbound travel to domestic travel. Furthermore, this is likely to be a net positive impact as the alternative to domestic holiday expenditure, in this case, is an outbound foreign trip which is a leakage from the economy.

Business tourism, as might be expected, has fallen by just over £1 billion. This is generated by a £668 million fall in inbound business expenditure, and a £369 million fall in domestic tourism. This probably reflects the cost–cutting practices of domestic and international firms in reducing their outlays on non–essential business trips.

The tourism sector, whilst benefiting from an increase in purchases of its goods, actually suffers from an overall fall in output. This result highlights how the expenditures of different types of visitors have contrasting effects in terms of the indirect effects borne by other sectors. For example, VFR visitors spend more of their income, compared to holiday and business visitors, on tourism related industries which use a higher proportion of their intermediate consumption on goods produced by the tourism sector. This is indicated by the fact that holiday and business visitors spend more on hotels than VFR visitors; the hotel industry being the one which demands the least, as a proportion of its total intermediate consumption, on the output of the tourism sector. The result being that the correlation between the direct and indirect effects of holiday and business visitors is less than that of VFR visitors.

The financial intermediation sector shows the greatest absolute indirect change over the period studied. This shows that this sector plays the greatest role in the production processes of goods that tourists purchase. To summarise, the Leontief inverse approach shows that the fall in direct tourism spending of £42.4 million has initiated a total fall in output for the economy of £87m. A negative indirect spending effect of £20.6 million and a negative induced spending effect of £24.0 million implies an output to direct spending multiplier of 2.1.

This article applies an input–output methodology to estimate the indirect and induced effects following a direct change in spending. This approach can be used for other scenarios, for instance, to assess the economic impact of mega–events. Further improvements to this methodology though may involve the consideration of a number of factors. Firstly, there are many recognised shortcomings of the input–output methodology, including the assumption of linear production functions[11]. A possible improvement might consider the use of more advanced approaches – the most obvious candidate being Computable General Equilibrium (CGE) models. Second, it would be interesting to estimate how the change in demand for a good affects the output of the industry producing that good. This would take into account factors such as VAT and the importance of imported goods. Finally, the IO framework could be linked with an employment module so the user can assess the impact of a change in final demand to a change in employment.

Notes

1. 3.3 per cent represents the demand to supply ratio reported in the UK Experimental Tourism Satellite Account (E-UKTSA) for the year 2006.
2. Authors' calculations based on the International Passenger Survey (IPS)
3. Available at www.statistics.gov.uk/StatBase/Product.asp?vlnk=242
4. Available at www.statistics.gov.uk/statbase/Product.asp?vlnk=8168
5. The Input-Output methodology utilises the Leontief inverse framework, for which Wassily Leontief won the Nobel Prize in 1973.

6. The tourism sector is internationally defined as a group of industries in Standard Industrial Classification coding 2007. The industries are: accommodation services, food and beverage services, transport services, travel agencies and other reservation services, cultural services, and sports and recreational services.
7. The assumption that a product is always produced by its supplying industry is not valid. Consider, for example, an agricultural industry which also produces bed and breakfast services.
8. Visits for miscellaneous purposes include those for study, to attend sporting events, for shopping, health, religious or other purposes, together with visits for more than one purpose when no one purpose predominates (such as visits both on business and on holiday). Overseas visitors staying overnight in the UK between another destination are also included in the miscellaneous purposes category.
9. UNWTO (2008), *International Recommendations for Tourism Statistics*
10. Hara, Tadayuki (2008), Quantitative Tourism and Industry Analysis, pp.39-113
11. For further reading on this see Dwyer, Forsyth and Spurr (2003), *Evaluating tourism's economic effects: new and old approaches.*

ACKNOWLEDGEMENTS

The authors would like to thank Karen Turner's ESRC Leadership Fellow for providing the Input Output Tables developed from the work of the Stockholm Environment Institute. Finally, thanks to Dr Calvin Jones for his valuable insight and expertise.

FURTHER INFORMATION

This paper represents a first step in a wider programme of research on the economic impact of events which the Tourism Intelligence Unit (TIU) is undertaking as a result of increased interest in this issue from its stakeholder bodies, as articulated through the English Tourism Intelligence Partnership (ETIP).

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APPENDIX

Calculating the indirect impact of changes in tourists' expenditure

Inter-industry transactions

Indirect effects occur due to inter-industry transactions in the production process. This is because the output of certain industries may represent the intermediate inputs into other industries (known as intermediate consumption), as well as final demand.

The relationship between intermediate consumption and output is summarised as:

$$AX + Y = X \qquad (1)$$

This states that output, X, is the sum of final demand, Y, and the proportion, A, of output traded between industries as intermediate consumption.

Input-Output tables

An Input-Output table is the basic framework for recording the intermediate consumption between different industries. It is an industry-by-industry matrix recording domestic transactions for the most important industries making up the UK economy. By row, the table shows each industry's output destination. A value in an industry column represents that the row industry is selling its output to that column industry as intermediate consumption. Anything else is final demand, which is often disaggregated by purchasing agent, such as households, government or exports. The columns show the mix of intermediate consumption required to make that industry's final output. It also provides information on that industry's compensation of employees, imports, taxes and gross operating surplus – the total of which is gross value added.

The ONS regularly produces Supply and Use (SU) tables for the UK, which include a Combined Use (CU) matrix. Although similar to Input Output tables, they fail to represent information that is important to studying inter-industry transactions. By column, the CU matrix shows the input of products in the construction of industry output. By row, it shows the location of products, whether by intermediate consumption or final demand. Crucially though, it provides no information on the industry that produced the product. For instance, although the agricultural industry produces mainly agricultural products, it will also produce others, such as bed and breakfast rooms, which is considered an accommodation product. The SU table does not report this information, and hence, can not provide information on the value of inter-industry transactions.

Another crucial aspect of the IO table is that it only records inter-industry transactions for domestic industries. Imports are recorded elsewhere. This is important when analysing the links between industries. For instance, to take an earlier example, if the hotel industry imports the textiles required for linen, then further rounds of domestic spending do not occur. If the textiles are traded with a domestic industry then effects will then reach further, to other domestic industries that the textile industry trades with to produce the sheets. The CU matrix just shows the value of products used, and makes no distinction of whether the product is imported or domestically produced.

Table A1

Aggregated industry–by–industry symmetric input output matrix at basic prices, 2004

£ millions

Industry	Retail trade[1]	Hotels and restaurants	Financial intermediation[2]	All other products	Total intermediate demand	Total final demand	Total demand for products
Retail trade[1]	27	89	21	790	927	96,521	97,448
Hotels and restaurants	847	302	115	2,767	4,031	65,650	69,681
Financial intermediation[2]	2,390	2,023	6,630	55,916	66,958	21,007	87,965
All other products	30,649	31,393	20,083	752,141	834,267	1,059,729	1,893,996
Total intermediate consumption	33,914	33,807	26,849	811,614			
Gross value added at basic prices	60,286	32,233	56,818	906,758			
Imports	3,248	3,641	4,299	175,623			
Gross output at basic prices	97,448	69,681	87,965	1,893,996			

Notes:

1 Except of motor vehicles and motor cycles; repair of personal and household goods.
2 Except insurance and pension funding.

Source: Karen Turner's ESRC Leadership Fellow

The last IO table produced by the ONS was for the year 1995. However, the Stockholm Environment Institute (SEI) produced one for 2004. However, this is reported in a product-by-product fashion, and is not appropriate for calculating changes in output at an industry level. As a result, they have been converted into industry-by-industry format by Karen Turner's ESRC Leadership Fellow. The drawback is the same as for the MM tables, in that it relates to data from 2004. However, according to equation (1) it is only the proportions in the table that are used and these are not expected to change much over time. Of course, the argument exists that firms in the recession might have streamlined their production ,causing more efficient mixes of inputs. If that were the case, this would in fact cause the proportions to change in recent periods.

Table A1 shows a condensed version of the IO table used, aggregating all industries into sectors. It shows that in the production of financial intermediation products, £5 million of retail trade products were used as intermediate consumption. Similarly 8 per cent of hotel and restaurants products are consumed as intermediate consumption for other products, while the rest serves final demand.

Calculating change in output

Calculating the change in output from change in final demand requires manipulation of equation (1). Factoring out from the right-hand-side of the equation yields,

$$Y = (I - A)X \qquad (2)$$

Where I is the identity matrix. Then multiplying through by the inverse of (I-A) and taking the differences yields,

$$(I - A)^{-1}\Delta Y = \Delta X \qquad (3)$$

Equation (3) states that the inverse of the proportion of leftover output used for intermediate multiplied by the change in final demand equals the change in output. $(I\text{-}A)^{-1}$ is the famous Leontief inverse and provides the relationship between final demand and output. The A matrix is simply derived by dividing intermediate consumption for each industry by the output of each industry. **Table A2** and **Table A3** show the A matrix of Table A1, and the identity matrix respectively. _

Table A2
The 'A' matrix derived from Table A1

Industry	Retail trade[1]	Hotels and restaurants	Financial intermediation[2]	All other products
Retail trade[1]	0.00	0.00	0.00	0.00
Hotels and restaurants	0.01	0.00	0.00	0.00
Financial intermediation[2]	0.02	0.03	0.08	0.03
All other products	0.31	0.45	0.23	0.40

Notes: *Source: Karen Turner's ESRC Leadership Fellow*

1 Except of motor vehicles and motor cycles; repair of personal and household goods.
2 Except insurance and pension funding.

Table A3
The 4x4 Identity matrix

Industry	Retail trade[1]	Hotels and restaurants	Financial intermediation[2]	All other products
Retail trade[1]	1	0	0	0
Hotels and restaurants	0	1	0	0
Financial intermediation[2]	0	0	1	0
All other products	0	0	0	1

Notes: *Source: Authors' calculation*

1 Except of motor vehicles and motor cycles; repair of personal and household goods.
2 Except insurance and pension funding.

ARTICLE

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Regional economic indicators

A focus on regional gross value added using shift-share analysis

SUMMARY

This quarter, the regional economic indicators article focuses on explaining variations in economic growth rates across NUTS1 regions between 1995 and 2007 by using the shift-share method. The technique is based on the assumption that local economic growth is explained by the combined effect of three components: national growth, industry mix or structural effect, and local competitiveness. Thus, one can apply shift-share to determine how much each component contributes to local economic growth. 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 regional economic growth (NUTS1 regions)

Previous Regional Economic Indicators (REI) articles have shown significant and persistent differences in economic performance between and within the UK regions and identified some of the factors (such as productivity) that might account for such differences. The focus section of this article attempts to shed further light on different regional economic performances by investigating the underlying forces of economic growth in 12 NUTS1 regions between 1995 and 2007.

Table 1 shows change in nominal Gross Value Added (GVA) for 12 NUTS1 regions between 1995 and 2007. Total GVA in the UK grew by 90 per cent between 1995 and 2007. Total GVA growth in the regions varied from 65.2 per cent in Wales to 117.5 per cent in London over the same period.

One way to determine why GVA growth rates among regions differed widely during this time period is to use shift-share analysis. The shift-share is a popular technique in regional analysis that examines economic change in a region by splitting the growth of its GVA into three additive components: the reference area such as the national economy effect, the structural effect and regional competitiveness. By applying shift-share analysis to GVA growth in a region one can determine how much of the regional GVA growth may be attributed to the unique local factors and how much of it is due to the national business cycle and the national performance of specific industries.

Table 2 presents a shift-share decomposition of the change in GVA for NUTS 1 regions between 1995 and 2007. It shows that in every region the National Share factor dominated the growth in GVA over this period. This implies that the largest contribution to regional GVA was made by national economic growth over this period. If the GVA in all the regions had grown at the same rate as the national GVA during this period, their GVA would have increased by 90 per cent. However, as shown in Table 1, growth rates actually varied significantly among regions. These differences can be explained by the Industry Mix (IM) and Regional Shift (RS) components of the growth.

Comparing the IM components by region, Table 2 shows that London had the most favourable industry mix, followed by the South East between 1995 and 2007. In these regions, the industrial structure of the region had a positive effect on the GVA growth. For example, in London, 20 percentage points of the overall GVA growth (117.5 per cent) is explained in shift-share analysis by the region's industry mix. In other regions, negative IM factors imply that the industry mix had a negative effect on regional GVA growth relative to the UK overall. East Midlands and Wales had the least favourable industry mix over this period.

The Regional Shift component, which indicates overall local competitiveness, was positive in half of the regions. The RS factor was highest in Northern Ireland, which more than offset its disadvantage

Table 1
Change in workplace-based gross value added at current basic prices between 1995 and 2007: by NUTS1 region

	Per cent
North East	*66.9*
North West	*72.5*
Yorkshire and The Humber	*77.3*
East Midlands	*84.8*
West Midlands	*69.5*
East of England	*97.3*
London	*117.5*
South East	*102.5*
South West	*93.8*
Wales	*65.2*
Scotland	*77.3*
Northern Ireland	*93.3*

Source: Regional Accounts, Office for National Statistics

Table 2
Shift-share decomposition of the change in workplace-based gross value added at current basic prices between 1995 and 2007: by NUTS1 region

	National Share (NS)	Industry Mix (IM)	Regional Shift (RS)	Total change (per cent)
North East	89.8	–8.5	–14.4	*66.9*
North West	89.8	–6.0	–11.3	*72.5*
Yorkshire and The Humber	89.8	–7.0	–5.5	*77.3*
East Midlands	89.8	–12.0	7.0	*84.8*
West Midlands	89.8	–8.5	–11.9	*69.5*
East of England	89.8	–2.0	9.5	*97.3*
London	89.8	20.0	7.7	*117.5*
South East	89.8	4.6	8.1	*102.5*
South West	89.8	–0.9	4.9	*93.8*
Wales	89.8	–10.9	–13.7	*65.2*
Scotland	89.8	–4.4	–8.2	*77.3*
Northern Ireland	89.8	–9.4	12.9	*93.3*

Source: Regional Accounts, Office for National Statistics

in industrial structure ensuring its overall economic growth was above the UK average over the 1995 to 2007 period. Similarly, in the South West and the East of England the positive impact of factors specific to the region were more important in terms of overall growth than the negative impacts of their industrial structure. The East Midlands also had a positive regional factor but this could not fully compensate for the negative effect of the industrial structure on GVA growth.

In the South East the regional shift had a more positive impact on the region's economic growth than its industrial structure, whereas in London the industrial structure played a more prominent role than its local competitive advantages in its economic growth. In other regions, both industrial structure and region specific factors had a negative impact on the relative economic growth.

In addition to overall growth, the analysis involved in calculating shift-share can be used to examine how individual industries have fared in the regions. This helps to shed further light on regional differences in the local competitiveness captured by the RS component.

Table 3 presents the GVA growth for each industry by NUTS 1 region between 1995 and 2007. Where a region's growth rate for an industry is higher than the UK growth rate for the same industry then this means that the region has a positive RS component for that industry. A positive RS component for an industry can be considered as

Table 3
Change in workplace-based gross value added at current basic prices between 1995 and 2007: by NUTS1 region and by industry

Per cent

	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland	UK
Agriculture, hunting and forestry and fishing	*–13.1*	*–24.2*	*–19.7*	*–35.4*	*–15.2*	*–30.7*	*–20.9*	*–24.1*	*–17.2*	*–78.4*	*4.7*	*–9.4*	***–22.9***
Mining and quarrying	*15.1*	*49.1*	*–9.7*	*60.8*	*–6.7*	*–24.0*	*–30.9*	*18.5*	*89.5*	*–26.0*	*9.8*	*123.6*	***12.6***
Manufacturing	*4.4*	*4.2*	*13.7*	*15.7*	*–7.8*	*21.6*	*7.1*	*22.2*	*31.6*	*4.8*	*11.6*	*43.5*	***11.9***
Electricity, Gas and Water Supply	*40.5*	*17.8*	*35.9*	*100.5*	*30.6*	*48.3*	*14.9*	*6.5*	*59.6*	*–2.8*	*74.6*	*55.9*	***36.9***
Construction	*131.7*	*131.4*	*130.4*	*165.1*	*139.5*	*162.5*	*152.6*	*164.1*	*144.7*	*138.1*	*106.8*	*196.0*	***144.7***
Wholesale and Retail Trade; Repair of Motor Vehicles, Motorcycles and Personal and Household Goods	*80.8*	*75.2*	*80.7*	*85.8*	*75.9*	*115.7*	*74.6*	*109.4*	*96.0*	*95.3*	*83.4*	*128.2*	***89.3***
Hotels and Restaurants	*104.5*	*109.1*	*109.1*	*113.2*	*138.1*	*129.4*	*138.4*	*150.3*	*124.4*	*95.5*	*84.2*	*137.1*	***122.6***
Transport, Storage and Communication	*56.2*	*63.1*	*63.8*	*95.2*	*78.3*	*72.0*	*62.9*	*77.0*	*94.5*	*42.0*	*66.8*	*82.7*	***70.2***
Financial Intermediation	*155.2*	*152.7*	*168.9*	*139.1*	*100.9*	*153.0*	*191.8*	*123.4*	*112.4*	*113.1*	*166.3*	*122.6*	***158.8***
Real Estate, Renting and Business Activities	*130.7*	*142.9*	*137.0*	*164.8*	*135.8*	*158.6*	*168.1*	*162.1*	*160.6*	*127.1*	*143.3*	*246.7*	***155.8***
Public Administration and Defence; Compulsory Social Security	*72.9*	*75.4*	*69.7*	*94.4*	*78.9*	*67.7*	*68.3*	*41.1*	*42.7*	*76.2*	*70.3*	*22.3*	***63.1***
Education	*76.1*	*87.3*	*103.3*	*106.3*	*97.9*	*125.8*	*133.0*	*122.8*	*120.6*	*90.9*	*54.1*	*81.6*	***103.2***
Health and Social Work	*92.3*	*95.8*	*110.6*	*106.3*	*105.1*	*137.2*	*137.7*	*128.7*	*120.8*	*110.7*	*114.2*	*85.6*	***115.6***
Other Community, Social and Personal Service Activities	*71.9*	*96.5*	*103.7*	*158.4*	*166.0*	*148.0*	*141.9*	*202.4*	*135.3*	*128.0*	*117.5*	*115.7*	***138.7***
Private Household with Employed Persons	*–20.1*	*57.8*	*95.0*	*79.6*	*147.2*	*41.1*	*85.1*	*87.3*	*69.7*	*8.9*	*23.5*	*–5.7*	***66.6***

Source: Regional Accounts, Office for National Statistics

Box 1
Shift-share

Shift-share analysis is a sectoral decomposition procedure widely used in regional analysis. Shift-share analysis is a method which examines growth (or decline) rates of a variable such as GVA or employment in a region by splitting it into three additive components:

- a **growth effect** with respect to a reference area, which in regional applications is commonly the national economy (National Share (NS)). It indicates the regional growth that would occur if GVA in all industries within a region grew at the same rate as the growth rate of the national economy overall during the period of analysis. This component describes the change that would be expected due to the fact that a region is part of a dynamic national economy
- a **structural effect** (Industry Mix (IM)) which is measured on the basis of the deviation of each industry's national growth rate from the aggregate growth rate of the economy overall. It is the component of growth that is due to regional specialisation in industries. Thus, a local area, with an above-average share of output from the nation's high growth industries would have grown faster (indicated by a positive IM factor) than a local area with a high share of output from low-growth industries (indicated by a negative IM factor)
- a **competitive effect** (Regional Shift (RS)) which compares a local area's growth rate in an industry sector with the growth rate for that same sector at the national level. The RS is perhaps the most important component. It highlights a local area's economic strengths by identifying its competitive industries. A competitive industry is defined as one that outperforms its counterpart at the national level (indicated by a positive factor). Regions that have positive (negative) regional shift effects have local advantages (disadvantages) for particular activities that affect the performance of particular industries. The advantages could be due to local firms having superior technology, management or market access, higher local labour productivity compared to other regions and/or lower wages. The RS factor does not tell what these advantages or disadvantages are. However, by looking at this factor it can be determined which industries are performing particularly well in the region

The three components sum to the total shift, which is the actual growth or decline in a region's GVA.

It should be born in mind that the shift-share technique is only a descriptive tool and it does not seek to explain the factors that influence the overall changes in local economies. Additionally, shift-share analysis is a 'snapshot' between two particular time periods and is on occasions sensitive to the time period chosen. However, the time period in this article covers a period of economic growth and sensitivity checks did not show significantly different results when the beginning and the end of time periods were changed.

Overall, shift-share analysis offers a simple, straightforward approach to separating out national and industrial contributions to GVA from local growth effects. The ability to separate local growth factors from national growth factors is an important aspect of understanding local economies. In particular, when used in combination with other analysis the technique offers a valuable tool to better understand a region's economic potential.

an indication of a region's competitive advantage for that industry. In general the more industries in which a region has a competitive advantage the more likely the region is to have a positive RS component overall (as shown in Table 2).

Table 3 highlights that each region has its own particular competitive advantage. For example, in the East Midlands the Transport, Storage and Communication sector outperformed its regional counterparts whereas London was the most advantageous region for the Financial Intermediation sector between 1995 and 2007. The table also shows that in the East of England, South West, London and East Midlands the advantages indicated by the overall positive RS factor were spread across almost every sector. The high RS component in Northern Ireland, meanwhile, was dominated by the Real Estate, Renting and Business Activities, Construction, Wholesale and Retail Trade and Manufacturing industries all of which also grew faster than their counterparts in other regions between 1995 and 2007.

Overall, the shift-share analysis shows that while the national economic picture is the most important determinant of regional economic output there still exists significant variation in output across the regions. This variation can be explained in terms of industry mix and regional competitiveness. In London and the South East both these factors made a positive contribution to GVA growth over the 1995 to 2007 period. In the North East, North West, Yorkshire and The Humber, West Midlands, Wales and Scotland, by contrast, both these factors were negative over the same period.

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 4 per cent) between March 2009 and March 2010 , but there were significant differences among regions. Northern Ireland had the largest percentage decline in the value of goods exports (down by 18 per cent)
- the South East had the highest employment rate in the first quarter of 2010, at 76.6 per cent; Northern Ireland had the lowest rate, at 67.9 per cent, compared with the UK employment rate of 72.0 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

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

	UK[1]	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
GVA (£ million)													
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

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 4** shows the regional economic performance in terms of workplace-based GVA and GVA per head and their respective average annual growth over the period 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 the 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

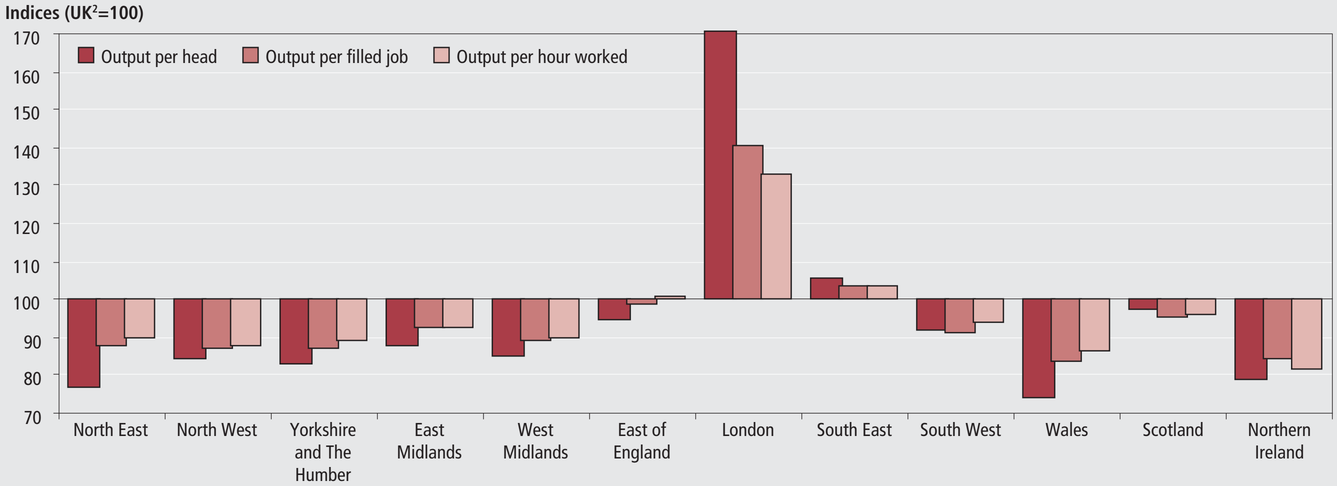
To compare regions in terms of productivity, GVA per hour worked is the preferred indicator. At lower levels of geography, 'hours worked' estimates are not yet available and GVA per filled job should be used. These two measures of productivity divide GVA by the labour input, namely hours worked in all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

Productivity estimates for 2008 and revised estimates for previous years were published in February 2010. 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 1
Comparison of regional economic indicators: by NUTS1 region, 2008[1]

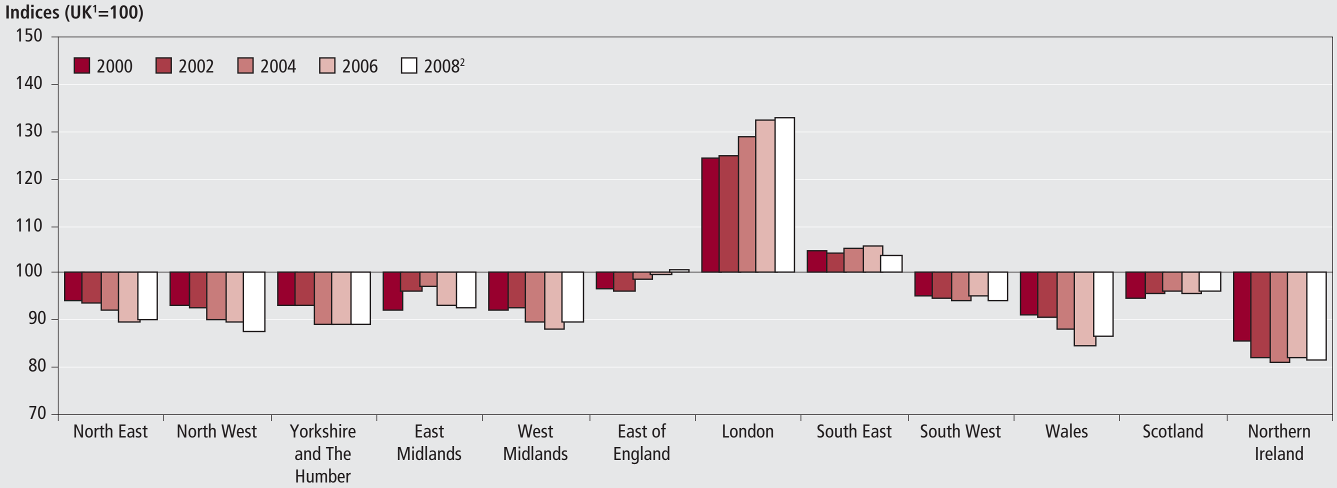


Notes:

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

Source: Office for National Statistics

Figure 2
GVA per hour worked: by NUTS1 region



Notes:

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

Source: Office for National Statistics

Figure 1 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.

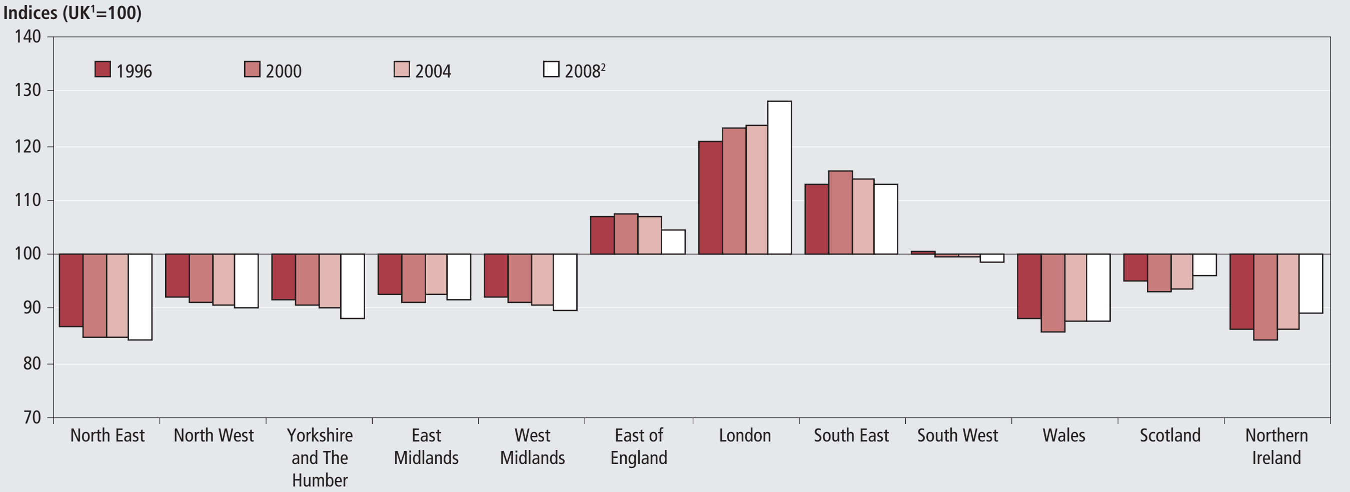
Figure 2 shows the regional GVA per hour worked productivity index on a time series basis from 2000 to 2008. In 2008, London, the South East and the East of England were the only three regions with a productivity performance above the UK average. The East of England saw the strongest improvement in its 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 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

Figure 3 presents indices of GDHI per head for 1996, 2000, 2004 and 2008, 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 1996 and is diverging from the national average. The South East and East of England, on the other hand, are getting closer to the national average as they experienced relatively lower growth

Figure 3

Headline gross disposable household income per head: by NUTS1 region



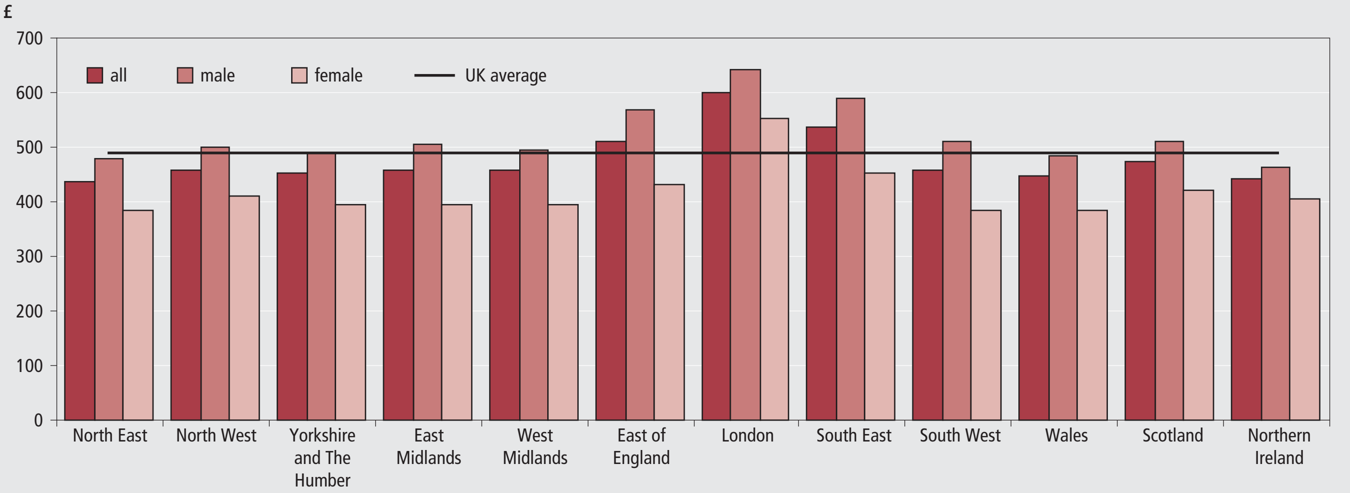
Notes:

1 UK less Extra-regio.
2 Provisional.

Source: Office for National Statistics

Figure 4

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 Statisticss

in household income compared to the national average between 2000 and 2008. Most of the regions with relatively lower household income diverged further from the national average while improvements against national average are evident in the devolved administrations between 2000 and 2008.

Gross median weekly earnings represent another indicator of regional welfare. **Figure 4** 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 male 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 the Department for Business, Innovation and Skills (BIS) 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 5 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.

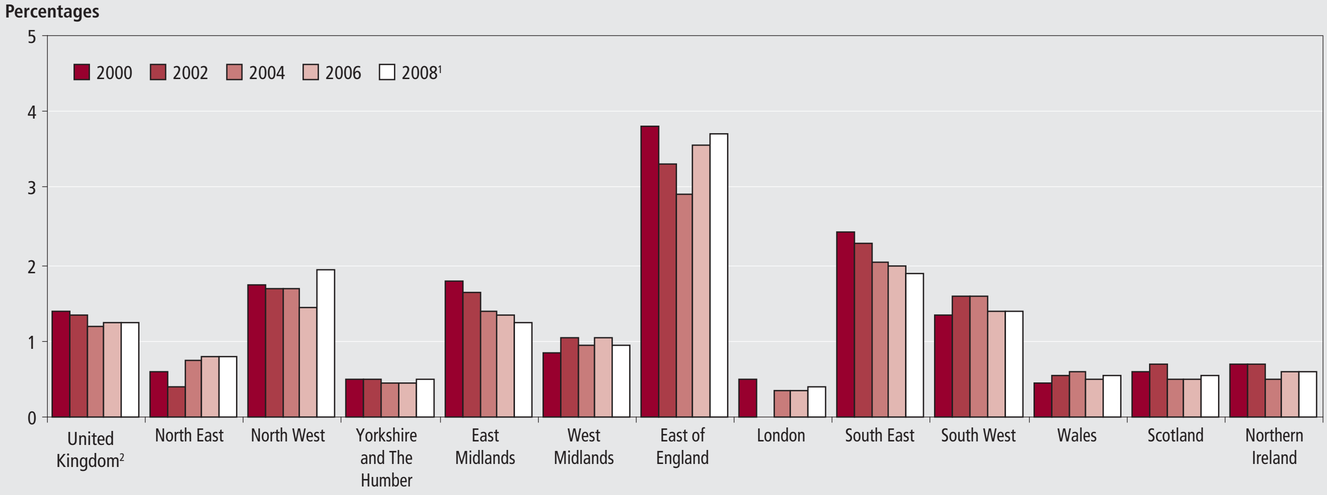
Approximately three–quarters of the R&D expenditure in the UK was made in the manufacturing sector in 2008. **Figure 6** shows that in most regions except in the Greater South East the share of the R&D expenditure on manufacturing was over 80 per cent of their respective expenditure. The figure also 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 of new business opportunities by both start-ups and existing

Figure 5

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

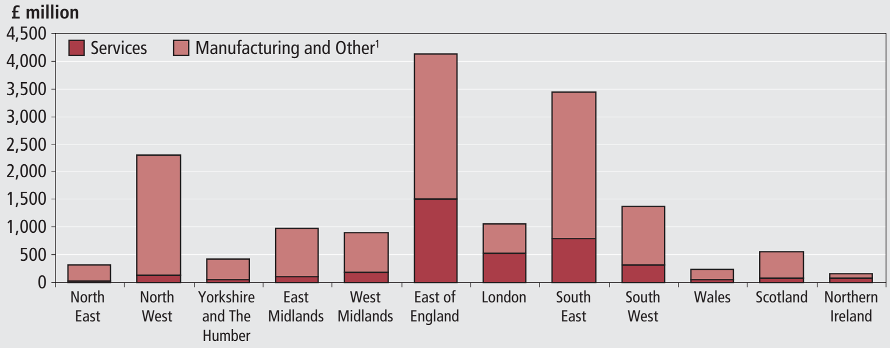


Notes:

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

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

Figure 6
Business expenditure on R&D by NUTS1 region: broad industry groups, 2008

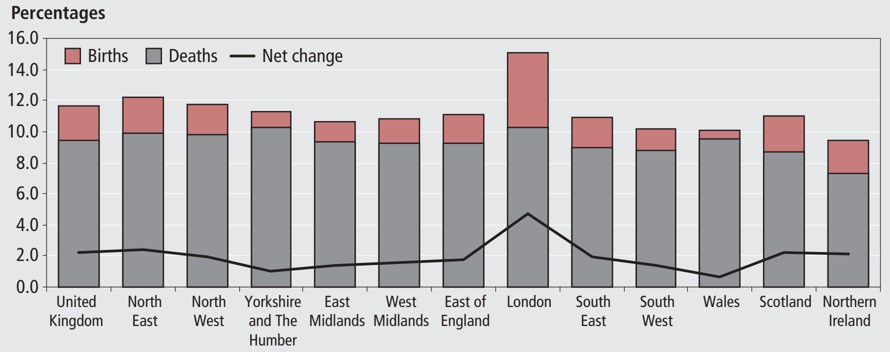


Note:

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

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

Figure 7
Enterprise births, deaths[1] and net change as a percentage of enterprise stock: by NUTS1 region, 2008

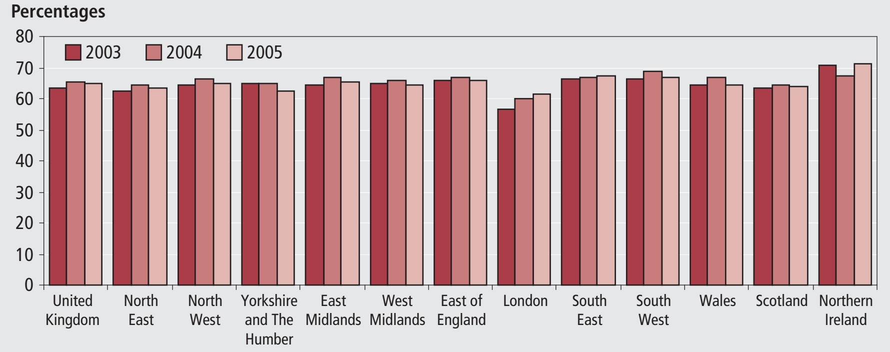


Note:

1 Provisional.

Source: Business Demography, Office for National Statistics

Figure 8
Percentage of units surviving three years: by year of birth and NUTS1 region



Source: Business Demography, Office for National Statistics

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 7 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 percent 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 8 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 7 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

Table 5

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

£ million

Exports	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
EU Exports													
2008 Q2	37,251	1,631	3,362	1,887	2,121	2,506	3,591	2,445	5,354	1,935	1,631	1,491	970
2008 Q3	35,737	1,620	3,282	1,913	2,012	2,138	3,222	2,853	5,102	1,700	1,647	1,534	871
2008 Q4	32,677	1,447	2,861	1,828	1,908	1,996	2,898	2,389	5,171	1,557	1,329	1,512	856
2009 Q1	31,224	1,334	3,094	1,612	1,907	1,798	2,824	2,445	4,910	1,671	1,188	1,331	791
Total to Mar 2009	**136,888**	**6,032**	**12,600**	**7,240**	**7,949**	**8,438**	**12,535**	**10,131**	**20,537**	**6,864**	**5,796**	**5,868**	**3,488**
2009 Q2	29,392	1,311	2,958	1,464	1,802	1,696	2,899	2,397	4,358	1,569	1,179	1,233	763
2009 Q3	30,323	1,352	2,899	1,472	1,702	1,634	2,948	2,806	4,563	1,443	1,163	1,341	717
2009 Q4	32,612	1,488	2,931	1,745	1,822	1,893	3,530	2,530	4,901	1,490	1,258	1,440	769
2010 Q1[2]	33,901	1,526	2,807	1,782	1,781	1,873	3,254	2,947	4,750	1,477	1,140	1,211	726
Total to Mar 2010	**126,228**	**5,676**	**11,596**	**6,464**	**7,107**	**7,096**	**12,631**	**10,680**	**18,573**	**5,979**	**4,741**	**5,225**	**2,975**
Non-EU exports													
2008 Q2	27,803	1,335	2,862	1,712	1,941	1,989	2,509	3,660	4,993	1,178	1,074	2,066	639
2008 Q3	28,265	1,357	2,936	1,707	1,914	2,142	2,267	3,577	5,173	1,373	1,312	2,103	623
2008 Q4	28,181	1,112	2,807	1,522	2,089	1,900	2,252	3,749	5,430	1,306	1,298	2,224	806
2009 Q1	22,909	977	2,766	1,260	1,958	1,209	1,893	2,711	4,090	1,149	1,074	1,978	510
Total to Mar 2009	**107,158**	**4,781**	**11,370**	**6,200**	**7,901**	**7,241**	**8,921**	**13,697**	**19,686**	**5,006**	**4,758**	**8,370**	**2,578**
2009 Q2	24,812	881	2,540	1,263	1,995	1,504	2,001	2,934	4,722	1,164	1,241	2,337	606
2009 Q3	25,051	1,014	3,383	1,365	1,751	1,588	1,954	2,883	4,654	1,078	933	2,502	454
2009 Q4	28,673	1,273	3,271	1,511	1,786	2,268	2,328	3,172	5,910	1,122	968	2,809	525
2010 Q1[2]	26,265	1,014	2,721	1,364	1,701	1,914	1,985	3,934	5,114	1,697	894	1,877	442
Total to Mar 2010	**104,801**	**4,181**	**11,916**	**5,503**	**7,233**	**7,274**	**8,268**	**12,922**	**20,401**	**5,062**	**4,035**	**9,525**	**2,027**
Total Exports													
2008 Q2	65,054	2,966	6,224	3,598	4,061	4,495	6,100	6,106	10,347	3,113	2,706	3,556	1,608
2008 Q3	64,002	2,977	6,218	3,620	3,926	4,280	5,489	6,429	10,275	3,074	2,959	3,637	1,495
2008 Q4	60,857	2,560	5,667	3,351	3,997	3,897	5,150	6,138	10,601	2,863	2,627	3,736	1,661
2009 Q1	54,133	2,311	5,860	2,872	3,865	3,007	4,717	5,155	9,000	2,820	2,262	3,309	1,302
Total to Mar 2009	**244,046**	**10,814**	**23,969**	**13,441**	**15,849**	**15,679**	**21,456**	**23,828**	**40,222**	**11,870**	**10,554**	**14,238**	**6,066**
2009 Q2	54,204	2,191	5,498	2,727	3,797	3,200	4,901	5,331	9,081	2,733	2,420	3,570	1,368
2009 Q3	55,373	2,366	6,282	2,838	3,452	3,222	4,903	5,689	9,217	2,521	2,096	3,843	1,172
2009 Q4	61,285	2,761	6,203	3,256	3,608	4,161	5,857	5,702	10,812	2,612	2,226	4,249	1,294
2010 Q1[2]	60,166	2,540	5,529	3,146	3,482	3,787	5,239	6,881	9,865	3,174	2,034	3,088	1,168
Total to Mar 2010	**231,028**	**9,858**	**23,511**	**11,967**	**14,339**	**14,370**	**20,899**	**23,603**	**38,974**	**11,041**	**8,776**	**14,750**	**5,002**

Notes:

Source: Office for National Statistics

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.

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

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

Table 5 presents the latest quarterly estimates up to the end of March 2010. The total value of UK goods exports to all destinations decreased by 5.3 per cent between March 2009 and March 2010. The total value of goods exports also decreased in all the regions except in Scotland (up by 4 per cent), but there were significant differences among regions. Northern Ireland had the largest percentage decline in the value of goods exports (down by 17.5 per cent), followed by Wales (down by 16.8 per cent) and Yorkshire and the Humber (down by 11.0 per cent).

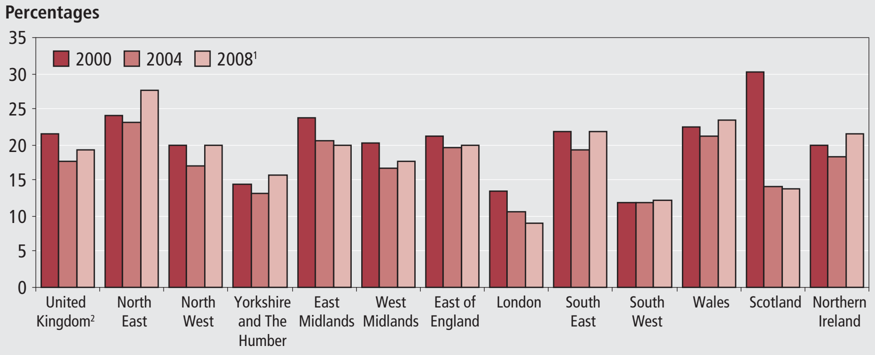
As the European Union (EU) is the main export destination for UK goods, the Table separates exports to EU and non-EU destinations. In the UK as a whole, the value of exports to the EU dropped by 7.8 per cent between March 2009 and March 2010. With the exception of East of England (up by 0.8 per cent) and London (up by 5.4 per cent), all the regions recorded decreases in the value of goods exports to the EU. Wales reported the highest drop, by 18.2 per cent.

The total value of the UK exports to the rest of the world declined by 2.2 per cent from March 2009 to March 2010, with the highest drop occurring in Northern Ireland (down by 21.4 per cent). North West, West Midlands, South East, South West and Scotland had an increase in the value of their goods exports to the rest of the world.

The number of exporters in the UK for the March 2010 quarter compared with the same quarter last year, decreased by 4.0 per cent to 47,327. The North West region had the largest decrease of 5.7 per cent to 4,358[1]. There were no regions where the number of exporters increased.

Figure 9

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

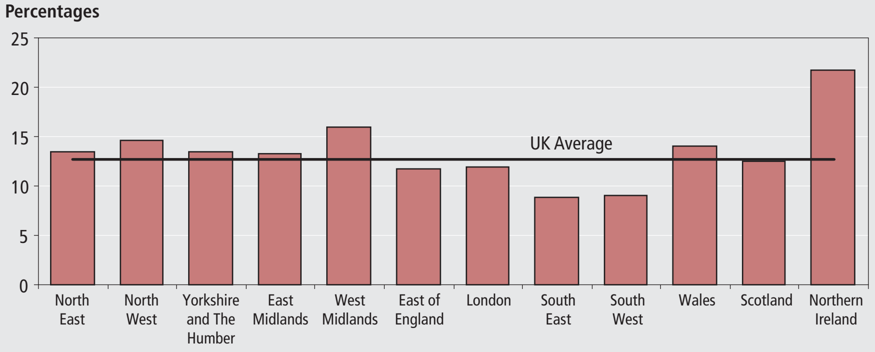


Notes: *Source: HM Revenue & Customs, Regional Trade Statistics and Office for National Statistics*

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

Figure 10

Working-age population with no qualifications:¹ 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 9 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 four years to 2008. The 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 10 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 also aim to give regions the flexibility to tackle their own individual challenges and priorities.

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

In order to assess the future capabilities of the labour force, the percentage of pupils achieving five or more grades A* to C at GCSE level or equivalent in each English region can be used as an indicator[2]. Recent focus on literacy and numeracy has led to a new measure being published, of five or more GCSEs grade A* to C in subjects

Table 6
Regional Skills Partnerships core indicators: by NUTS1 region

Percentages

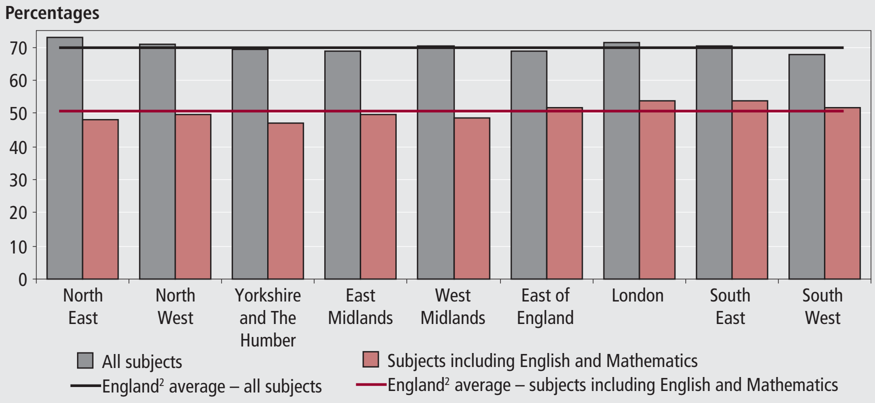
Skills outcome indicators	Time period	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England
Percentage of employers with business or training plan, or budget for training	2007	*70.6*	*69.2*	*69.6*	*67.9*	*67.5*	*67.3*	*70.0*	*70.6*	*68.4*	*69.1*
Percentage of staff with skill gaps	2007	*6.3*	*5.3*	*4.8*	*6.8*	*5.4*	*7.8*	*6.7*	*5.8*	*6.2*	*6.1*
Skill shortage vacancies (SSVI) as percentage of all vacancies	2007	*18.8*	*17.6*	*20.1*	*20.2*	*15.5*	*19.6*	*26.1*	*22.5*	*20.9*	*20.9*
Percentage of KS4 pupils achieving 5+ A* to C GCSE (inc Maths and English)	2008/09	*48.1*	*49.9*	*47.3*	*49.9*	*48.5*	*51.9*	*54.0*	*53.7*	*51.8*	*49.8*
Percentage of 19 year olds qualified to Level 2 or above1	2008	*75.9*	*74.3*	*73.2*	*73.1*	*74.9*	*77.0*	*77.0*	*79.6*	*77.0*	*76.7*
Percentage of 19 year olds qualified to Level 3 or above1	2008	*43.7*	*46.1*	*44.4*	*46.0*	*46.9*	*52.4*	*51.9*	*56.9*	*51.0*	*49.8*
Percentage of 19 to state pension age with Level 2+	2008	*69.3*	*68.1*	*67.6*	*67.0*	*65.8*	*67.6*	*71.0*	*73.1*	*72.2*	*69.4*
Percentage of 19 to state pension age with Level 3+	2008	*46.9*	*47.1*	*47.1*	*46.3*	*45.2*	*46.5*	*55.0*	*53.7*	*51.7*	*49.5*
Percentage of 19 to state pension age with Level 4+	2008	*25.4*	*27.4*	*26.6*	*27.0*	*26.2*	*27.8*	*40.6*	*33.6*	*30.2*	*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	2008	*80.0*	*80.0*	*76.0*	*77.0*	*80.0*	*79.0*	*89.0*	*79.0*	*79.0*	*80.0*

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.

Figure 11
Pupils achieving five or more grades A* to C at GCSE level or equivalent in (i) all subjects and (ii) subjects including English and Mathematics: by NUTS1 region, 2008/09[1]



Notes:

Source: Department for Children, Schools and Families

1 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.

including English and Mathematics. **Figure 11** 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 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

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

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2007	Jan-Mar	74.3	70.9	72.4	72.9	76.0	72.5	77.4	70.0	78.2	78.0	74.3	71.6	76.6	70.7
	Apr-Jun	74.5	71.6	72.6	73.3	76.0	72.7	77.4	69.9	78.7	78.1	74.5	71.9	77.1	70.7
	Jul-Sep	74.6	72.0	72.4	73.2	75.7	73.1	77.3	70.8	78.9	78.7	74.7	71.5	76.4	70.0
	Oct-Dec	74.8	71.5	72.9	73.7	75.7	73.2	78.2	70.3	79.0	79.3	75.0	71.7	76.6	69.6
2008	Jan-Mar	74.8	70.1	72.3	73.9	76.4	73.3	77.8	71.1	79.5	78.9	75.0	71.9	76.4	69.8
	Apr-Jun	74.8	70.4	72.2	73.3	75.8	72.5	77.7	71.9	79.5	78.8	74.9	72.3	76.5	70.4
	Jul-Sep	74.4	70.4	71.8	73.3	76.1	71.8	77.4	71.1	79.1	78.8	74.6	70.4	76.0	69.9
	Oct-Dec	74.0	69.9	71.2	72.4	76.2	71.5	77.7	71.4	78.6	78.0	74.3	70.6	75.3	68.5
2009	Jan-Mar	73.5	69.6	71.5	71.7	75.5	70.2	77.8	70.2	78.1	77.7	73.8	70.3	74.9	66.8
	Apr-Jun	72.7	67.4	71.0	71.3	75.3	70.2	77.1	68.8	77.3	76.6	73.0	69.5	74.0	65.8
	Jul-Sep	72.5	68.2	70.7	71.2	74.9	70.0	77.1	68.6	77.1	75.7	72.8	69.0	73.9	66.3
	Oct-Dec	72.4	69.0	70.4	70.7	74.6	70.5	76.2	68.7	77.0	75.5	72.6	68.9	73.5	67.3
2010	Jan-Mar	72.0	68.8	70.9	70.5	73.3	70.6	75.7	68.5	76.6	75.0	72.4	68.6	72.0	67.9

Note:

Source: Labour Force Survey, Office for National Statistics

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

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

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2007	Jan-Mar	5.5	6.9	5.8	6.3	5.4	6.4	4.8	7.1	4.7	4.0	5.6	5.6	5.0	4.0
	Apr-Jun	5.4	6.3	5.8	5.5	4.9	6.6	4.6	7.2	4.3	4.0	5.5	5.8	4.6	3.8
	Jul-Sep	5.3	6.1	6.0	5.4	5.7	6.4	5.1	6.1	4.5	4.0	5.4	5.2	5.0	3.9
	Oct-Dec	5.2	5.8	5.8	5.4	5.3	5.9	4.4	6.6	4.5	3.7	5.3	5.0	4.9	4.2
2008	Jan-Mar	5.2	6.6	6.0	5.1	5.3	6.2	4.5	6.9	3.9	3.7	5.3	5.3	4.7	4.5
	Apr-Jun	5.3	7.4	6.4	6.0	5.6	6.1	4.6	6.7	4.1	3.8	5.5	5.2	4.2	4.1
	Jul-Sep	5.9	8.1	6.8	6.9	5.9	6.6	4.8	7.4	4.5	4.2	6.0	6.6	4.8	4.1
	Oct-Dec	6.4	8.4	7.9	6.7	6.3	8.0	5.6	7.3	5.0	4.8	6.5	7.0	5.3	5.3
2009	Jan-Mar	7.1	8.4	7.9	8.0	7.1	9.3	6.0	8.2	5.4	5.8	7.2	7.7	6.0	6.2
	Apr-Jun	7.8	9.8	8.5	8.8	7.2	10.5	6.4	8.9	5.9	6.4	7.9	7.7	7.1	6.7
	Jul-Sep	7.8	9.4	8.6	8.7	7.4	10.0	6.4	9.1	6.0	6.6	7.9	8.7	7.3	7.1
	Oct-Dec	7.8	9.3	8.5	9.1	7.2	9.4	6.5	9.1	6.2	6.4	7.9	8.6	7.6	6.0
2010	Jan-Mar	8.0	9.6	8.7	9.7	7.3	9.3	6.6	9.1	6.4	6.3	8.0	9.3	8.1	6.7

Source: Labour Force Survey

in a region and there is no requirement to notify UK Trade & Investment when undertaking FDI.

The labour market

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

In quarter one (January to March) of 2010, the UK employment rate was 72.0 per cent, down 1.5 percentage points from a year ago and down 0.3 percentage points from quarter four (October to December) of 2009. Regional rates varied from 76.6 per cent in the South East to 67.9 per cent in Northern Ireland.

All UK regions except the West Midlands and Northern Ireland experienced annual falls in the employment rate. The largest fall was in Scotland at 2.9 percentage points followed by the South West at 2.8 percentage points. The West Midlands and Northern Ireland increased by 0.4 and 1.1 percentage points respectively.

Table 8 shows the unemployment rate (according to the internationally-consistent International Labour Organisation definition) for persons aged 16 and over from the LFS. The UK rate in the first quarter of 2010 was 8.0 per cent, up 0.9 percentage points from a year ago and up 0.2 percentage points from the last quarter. Regionally, the rates ranged from 9.7 per cent in Yorkshire and The Humber to 6.3 per cent in the South West.

Over the year the unemployment rate rose in most regions. The West Midlands was the only exception where the rate was unchanged at 9.3 per cent. Scotland had the largest increase at 2.1 percentage points followed by Yorkshire and The Humber at 1.7 percentage points.

Table 9 shows economic inactivity rates for persons of working age from the LFS. The UK rate in the first quarter of 2010 was 21.5 per cent, up 0.2 percentage points from the previous quarter and up 0.8 percentage point on a year earlier. Across the regions, rates varied from 18.0 per cent in the South East to 27.1 per cent in Northern Ireland.

Compared with a year earlier, four regions had a decrease in the inactivity rate,

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

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2007	Jan-Mar	*21.2*	*23.7*	*23.0*	*22.1*	*19.6*	*22.4*	*18.5*	*24.5*	*17.8*	*18.6*	*21.1*	*24.0*	*19.3*	*26.3*
	Apr-Jun	*21.2*	*23.5*	*22.8*	*22.4*	*20.0*	*22.0*	*18.7*	*24.6*	*17.7*	*18.5*	*21.1*	*23.5*	*19.1*	*26.5*
	Jul-Sep	*21.1*	*23.3*	*22.9*	*22.5*	*19.6*	*21.7*	*18.4*	*24.6*	*17.2*	*18.0*	*20.9*	*24.5*	*19.5*	*27.1*
	Oct-Dec	*21.0*	*24.0*	*22.4*	*21.9*	*19.9*	*22.0*	*18.0*	*24.5*	*17.2*	*17.5*	*20.7*	*24.4*	*19.4*	*27.2*
2008	Jan-Mar	*20.9*	*24.9*	*22.9*	*22.0*	*19.2*	*21.7*	*18.4*	*23.5*	*17.2*	*18.0*	*20.7*	*24.0*	*19.7*	*26.8*
	Apr-Jun	*20.8*	*23.8*	*22.7*	*21.9*	*19.5*	*22.6*	*18.5*	*22.9*	*17.0*	*18.0*	*20.6*	*23.5*	*20.1*	*26.5*
	Jul-Sep	*20.8*	*23.2*	*22.9*	*21.1*	*18.9*	*22.9*	*18.5*	*23.1*	*17.1*	*17.6*	*20.5*	*24.4*	*20.0*	*27.1*
	Oct-Dec	*20.7*	*23.5*	*22.5*	*22.3*	*18.5*	*22.0*	*17.6*	*22.9*	*17.1*	*17.9*	*20.4*	*23.8*	*20.3*	*27.7*
2009	Jan-Mar	*20.7*	*23.8*	*22.2*	*21.8*	*18.6*	*22.3*	*17.2*	*23.4*	*17.2*	*17.3*	*20.3*	*23.6*	*20.2*	*28.7*
	Apr-Jun	*21.0*	*25.1*	*22.2*	*21.6*	*18.6*	*21.2*	*17.5*	*24.3*	*17.7*	*18.0*	*20.6*	*24.4*	*20.2*	*29.4*
	Jul-Sep	*21.1*	*24.5*	*22.4*	*21.7*	*18.9*	*21.9*	*17.4*	*24.3*	*17.9*	*18.8*	*20.8*	*24.1*	*20.1*	*28.6*
	Oct-Dec	*21.3*	*23.7*	*22.8*	*21.9*	*19.4*	*21.9*	*18.4*	*24.2*	*17.7*	*19.1*	*21.0*	*24.3*	*20.2*	*28.3*
2010	Jan-Mar	*21.5*	*23.8*	*22.1*	*21.5*	*20.8*	*21.9*	*18.8*	*24.5*	*18.0*	*19.8*	*21.1*	*24.0*	*21.4*	*27.1*

Source: Labour Force Survey

Table 10
Employee jobs:[1] by NUTS1 region

Thousands, not seasonally adjusted

	United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
Mar 08	27,353	1,035	3,016	2,218	1,896	2,373	2,377	4,129	3,741	2,217	23,002	1,181	2,397	773
Mar 09	26,836	1,056	2,980	2,189	1,815	2,303	2,356	4,142	3,631	2,218	22,690	1,157	2,276	713
Jun 09	26,571	1,048	2,951	2,163	1,806	2,283	2,350	4,095	3,599	2,198	22,493	1,138	2,232	708
Sep 09	26,402	1,041	2,917	2,143	1,828	2,256	2,347	4,039	3,575	2,192	22,338	1,131	2,229	704
Dec 09	26,285	1,041	2,904	2,135	1,809	2,236	2,351	4,036	3,554	2,158	22,224	1,137	2,223	701
Mar 10	26,238	1,039	2,904	2,134	1,813	2,226	2,360	4,030	3,539	2,133	22,178	1,159	2,201	700

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 11
Claimant count rates:[1] by NUTS1 region

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2009	Jun	*4.8*	*7.0*	*5.5*	*5.8*	*5.0*	*6.4*	*4.1*	*4.4*	*3.4*	*3.5*	*4.8*	*5.6*	*4.6*	*5.5*
	Jul	*4.9*	*7.1*	*5.6*	*5.9*	*5.0*	*6.5*	*4.1*	*4.5*	*3.5*	*3.5*	*4.8*	*5.6*	*4.7*	*5.7*
	Aug	*4.9*	*7.1*	*5.7*	*6.0*	*5.1*	*6.6*	*4.2*	*4.6*	*3.5*	*3.5*	*4.9*	*5.7*	*4.7*	*5.8*
	Sep	*5.0*	*7.1*	*5.7*	*6.0*	*5.1*	*6.7*	*4.2*	*4.6*	*3.5*	*3.5*	*4.9*	*5.7*	*4.8*	*6.0*
	Oct	*5.0*	*7.2*	*5.7*	*6.1*	*5.2*	*6.7*	*4.2*	*4.7*	*3.6*	*3.5*	*5.0*	*5.7*	*4.8*	*6.0*
	Nov	*5.0*	*7.1*	*5.7*	*6.0*	*5.1*	*6.6*	*4.2*	*4.7*	*3.6*	*3.5*	*4.9*	*5.7*	*4.9*	*6.0*
	Dec	*4.9*	*7.1*	*5.6*	*6.0*	*5.1*	*6.5*	*4.1*	*4.6*	*3.5*	*3.4*	*4.9*	*5.6*	*4.9*	*6.1*
2010	Jan	*5.0*	*7.2*	*5.7*	*6.1*	*5.1*	*6.5*	*4.2*	*4.7*	*3.5*	*3.4*	*4.9*	*5.6*	*5.0*	*6.2*
	Feb	*4.9*	*7.0*	*5.5*	*5.9*	*4.9*	*6.3*	*4.0*	*4.6*	*3.4*	*3.3*	*4.8*	*5.5*	*4.9*	*6.2*
	Mar	*4.8*	*6.8*	*5.3*	*5.8*	*4.8*	*6.2*	*4.0*	*4.5*	*3.3*	*3.2*	*4.7*	*5.4*	*4.9*	*6.2*
	Apr	*4.7*	*6.7*	*5.2*	*5.7*	*4.7*	*6.0*	*3.9*	*4.5*	*3.2*	*3.1*	*4.6*	*5.2*	*4.8*	*6.2*
	May	*4.6*	*6.5*	*5.1*	*5.6*	*4.5*	*5.9*	*3.8*	*4.4*	*3.1*	*3.0*	*4.5*	*5.1*	*4.8*	*6.2*
	Jun	*4.5*	*6.6*	*5.1*	*5.4*	*4.5*	*5.8*	*3.7*	*4.4*	*3.0*	*3.0*	*4.4*	*5.0*	*4.8*	*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.

and thus a corresponding increase in the working-age activity rate. Northern Ireland had the largest annual fall of 1.6 percentage points. Seven regions had an increase in the economic inactivity rate over the year. The largest annual rise was in the South West at 2.5 percentage points. The North East's rate was unchanged on the year.

Table 10 shows the number of employee jobs, not seasonally adjusted, from the Employers Surveys. The number of UK employee jobs was 26,238,000 a decrease of 598,000 over the year since March 2009. In percentage terms, this was a 2.2 per cent decrease.

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

Both the East and Wales saw small increases (up by 0.2 per cent for both regions).

Table 11 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 4.5 per cent in June 2010, down 0.1 percentage point since May 2010, and down 0.3 percentage points on a year earlier. This national rate masks large variations between regions and component countries of the UK. For June 2010, the North East had the highest claimant count rate in the UK at 6.6 per cent. The North East was followed by Northern Ireland (6.3 per cent) and the West Midlands (5.8 per cent). The lowest claimant count was measured in the South East and South West at 3.0 per cent.

Scotland and Northern Ireland (up by 0.2 and 0.8 percentage points respectively) are the only two regions showing a percentage increase in the claimant count rate compared with a year ago. The largest decreases were in Wales and West Midlands both down by 0.6 percentage points.

Notes

1. UK Regional Trade in Goods Statistics, Quarter 1 2010, 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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Key time series

1 National accounts aggregates

Last updated: 23/07/10

Seasonally adjusted

	£ million		Indices (2006 = 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
2005	1,254,058	1,116,648	94.4	94.3	98.3	97.3	97.2	97.0	97.1
2006	1,328,363	1,183,704	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2007	1,404,845	1,251,704	105.8	105.7	103.8	102.7	102.8	103.0	102.9
2008	1,445,580	1,295,663	108.8	109.5	104.3	102.6	102.7	106.0	106.6
2009	1,392,705	1,255,724	104.8	106.1	99.0	97.6	97.9	107.4	108.4
2005 Q1	308,723	274,756	93.0	92.8	97.9	96.3	96.2	96.6	96.6
2005 Q2	313,479	279,258	94.4	94.4	99.4	97.0	96.9	97.4	97.4
2005 Q3	313,378	278,669	94.4	94.2	97.5	97.6	97.4	96.7	96.6
2005 Q4	318,478	283,965	95.9	96.0	98.4	98.3	98.2	97.5	97.7
2006 Q1	325,441	290,247	98.0	98.1	99.5	99.3	99.3	98.7	98.8
2006 Q2	328,359	292,548	98.9	98.9	99.9	99.6	99.6	99.3	99.2
2006 Q3	334,828	298,407	100.8	100.8	100.1	100.1	100.1	100.7	100.7
2006 Q4	339,735	302,502	102.3	102.2	100.6	100.9	100.9	101.4	101.3
2007 Q1	345,283	306,935	104.0	103.7	102.2	101.9	101.9	102.0	101.7
2007 Q2	349,523	311,380	105.2	105.2	103.0	102.5	102.5	102.7	102.6
2007 Q3	352,830	314,503	106.2	106.3	103.5	103.0	103.2	103.1	103.0
2007 Q4	357,209	318,886	107.6	107.8	106.5	103.3	103.5	104.1	104.2
2008 Q1	362,002	322,934	109.0	109.1	107.1	103.8	104.0	105.0	104.9
2008 Q2	363,264	323,679	109.4	109.4	105.2	103.5	103.7	105.6	105.5
2008 Q3	361,466	325,041	108.8	109.8	103.8	102.6	102.6	106.1	107.1
2008 Q4	358,848	324,009	108.1	109.5	100.9	100.5	100.5	107.5	108.9
2009 Q1	349,356	316,459	105.2	106.9	99.7	98.1	98.3	107.2	108.8
2009 Q2	344,583	311,246	103.8	105.2	97.1	97.4	97.7	106.5	107.7
2009 Q3	347,413	312,607	104.6	105.6	98.8	97.2	97.5	107.6	108.3
2009 Q4	351,353	315,412	105.8	106.6	100.4	97.6	98.1	108.4	108.7
2010 Q1	358,649	319,942	108.0	108.1	98.8	97.9	98.4	110.3	109.9
2010 Q2						99.0	99.4		

Percentage change, quarter on corresponding quarter of previous year

			IHYO	ABML[4]	YBGO[4]	IHYR	ABMM[4]	IHYU	ABML/ABMM[4]
2005 Q1	5.0	5.2	5.0	5.2	1.8	1.8	2.1	3.1	3.0
2005 Q2	4.8	5.0	4.8	5.0	3.2	2.0	2.2	2.8	2.8
2005 Q3	3.7	3.4	3.7	3.4	1.4	2.5	2.6	1.2	0.7
2005 Q4	3.5	3.6	3.5	3.6	0.1	2.4	2.6	1.1	1.0
2006 Q1	5.4	5.6	5.3	5.6	1.6	3.2	3.2	2.1	2.4
2006 Q2	4.7	4.8	4.7	4.8	0.5	2.7	2.8	1.9	1.9
2006 Q3	6.8	7.1	6.9	7.1	2.6	2.6	2.8	4.2	4.2
2006 Q4	6.7	6.5	6.8	6.5	2.2	2.7	2.8	4.0	3.6
2007 Q1	6.1	5.7	6.1	5.7	2.8	2.6	2.7	3.4	3.0
2007 Q2	6.4	6.4	6.4	6.4	3.2	2.9	2.9	3.5	3.4
2007 Q3	5.4	5.4	5.4	5.4	3.4	2.9	3.0	2.4	2.3
2007 Q4	5.1	5.4	5.1	5.4	5.9	2.4	2.5	2.7	2.9
2008 Q1	4.8	5.2	4.8	5.2	4.8	1.9	2.0	2.9	3.1
2008 Q2	3.9	3.9	3.9	3.9	2.1	1.0	1.1	2.9	2.8
2008 Q3	2.4	3.4	2.4	3.4	0.3	–0.4	–0.6	2.9	4.0
2008 Q4	0.5	1.6	0.5	1.6	–5.2	–2.7	–2.8	3.3	4.6
2009 Q1	–3.5	–2.0	–3.5	–2.0	–6.9	–5.5	–5.5	2.1	3.7
2009 Q2	–5.1	–3.8	–5.1	–3.8	–7.8	–5.9	–5.8	0.8	2.1
2009 Q3	–3.9	–3.8	–3.9	–3.8	–4.8	–5.3	–4.9	1.5	1.1
2009 Q4	–2.1	–2.7	–2.1	–2.7	–0.5	–2.9	–2.4	0.8	–0.2
2010 Q1	2.7	1.1	2.7	1.1	–0.9	–0.2	0.0	2.9	1.1
2010 Q2						1.6	1.8		

Notes:

Source: Office for National Statistics

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

2 Gross domestic product: by category of expenditure

Last updated: 23/07/10

£ million, chained volume measures, reference year 2006, seasonally adjusted

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								
	Households	Non-profit institutions[1]	General government	Gross fixed capital formation	Changes in inventories[2]	Acquisitions less disposals of valuables	Total	Exports of goods and services	Gross final expenditure	*less* imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic product at market prices
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2005	805,273	31,288	281,331	213,576	4,963	–354	1,336,580	340,308	1,676,849	384,537	0	1,292,335
2006	819,610	32,408	285,151	227,234	5,212	285	1,369,900	378,026	1,747,926	419,563	0	1,328,363
2007	837,417	33,373	288,797	245,053	6,837	547	1,412,024	368,314	1,780,338	416,309	0	1,364,029
2008	842,174	32,338	293,464	232,777	130	1,290	1,402,173	372,104	1,774,277	411,138	0	1,363,139
2009	813,167	32,224	297,095	197,849	–15,411	1,222	1,326,146	332,672	1,658,818	360,188	–2,240	1,296,390
2005 Q1	199,359	7,820	69,678	52,022	3,275	–42	331,828	79,998	411,778	91,963	0	319,777
2005 Q2	200,701	7,805	70,273	52,206	2,269	84	333,432	83,154	416,562	94,479	0	322,081
2005 Q3	201,736	7,834	70,587	54,946	–222	–274	334,988	86,673	421,659	97,596	0	324,089
2005 Q4	203,477	7,829	70,793	54,402	–359	–122	336,332	90,483	426,850	100,499	0	326,388
2006 Q1	202,773	7,968	71,344	53,735	3,010	120	339,238	98,213	437,474	107,606	0	329,881
2006 Q2	205,540	8,048	71,047	56,179	–968	201	340,077	100,272	440,370	109,550	0	330,819
2006 Q3	205,116	8,136	71,279	58,090	1,396	–24	343,838	89,129	432,945	100,467	0	332,474
2006 Q4	206,181	8,256	71,481	59,230	1,774	–12	346,747	90,412	437,137	101,940	0	335,189
2007 Q1	207,128	8,286	71,529	60,775	2,634	72	350,424	90,528	440,952	102,512	0	338,439
2007 Q2	208,687	8,304	71,966	60,639	–1	353	349,949	91,770	441,718	101,383	0	340,335
2007 Q3	210,053	8,359	72,593	60,900	2,620	40	354,566	93,454	448,020	105,867	0	342,153
2007 Q4	211,549	8,424	72,709	62,738	1,584	82	357,085	92,562	449,648	106,547	0	343,102
2008 Q1	213,214	8,292	72,104	59,619	3,228	206	356,664	93,858	450,522	105,712	0	344,809
2008 Q2	211,525	8,183	73,334	59,779	872	440	354,134	94,284	448,418	104,550	0	343,868
2008 Q3	210,330	8,018	73,473	57,254	645	367	350,088	93,918	444,005	103,226	0	340,780
2008 Q4	207,105	7,845	74,553	56,125	–4,615	277	341,287	90,044	431,332	97,650	0	333,682
2009 Q1	203,894	8,125	74,088	51,504	–4,557	420	333,474	83,070	416,544	90,203	–454	325,887
2009 Q2	203,052	8,072	73,993	48,122	–3,125	239	330,354	81,730	412,084	87,942	–529	323,613
2009 Q3	202,485	8,029	74,470	49,542	–4,612	212	330,127	82,294	412,422	89,049	–596	322,776
2009 Q4	203,736	7,998	74,544	48,681	–3,117	351	332,191	85,578	417,768	92,994	–661	324,114
2010 Q1	203,474	7,981	75,681	50,870	–2,183	267	336,090	84,126	420,216	94,512	–515	325,189
2010 Q2												328,766

Percentage change, quarter on corresponding quarter of previous year

												IHYR
2005 Q1	*2.6*	*–1.3*	*1.2*	*0.8*			*2.3*	*4.5*	*2.7*	*6.0*		*1.8*
2005 Q2	*2.0*	*0.8*	*2.5*	*–0.8*			*2.1*	*6.3*	*3.0*	*6.6*		*2.0*
2005 Q3	*2.0*	*2.4*	*2.3*	*5.1*			*2.3*	*9.6*	*3.7*	*8.0*		*2.5*
2005 Q4	*2.5*	*3.4*	*1.9*	*4.7*			*1.8*	*11.0*	*3.6*	*7.8*		*2.4*
2006 Q1	*1.7*	*1.9*	*2.4*	*3.3*			*2.2*	*22.8*	*6.2*	*17.0*		*3.2*
2006 Q2	*2.4*	*3.1*	*1.1*	*7.6*			*2.0*	*20.6*	*5.7*	*16.0*		*2.7*
2006 Q3	*1.7*	*3.9*	*1.0*	*5.7*			*2.6*	*2.8*	*2.7*	*2.9*		*2.6*
2006 Q4	*1.3*	*5.5*	*1.0*	*8.9*			*3.1*	*–0.1*	*2.4*	*1.4*		*2.7*
2007 Q1	*2.1*	*4.0*	*0.3*	*13.1*			*3.3*	*–7.8*	*0.8*	*–4.7*		*2.6*
2007 Q2	*1.5*	*3.2*	*1.3*	*7.9*			*2.9*	*–8.5*	*0.3*	*–7.5*		*2.9*
2007 Q3	*2.4*	*2.7*	*1.8*	*4.8*			*3.1*	*4.9*	*3.5*	*5.4*		*2.9*
2007 Q4	*2.6*	*2.0*	*1.7*	*5.9*			*3.0*	*2.4*	*2.9*	*4.5*		*2.4*
2008 Q1	*2.9*	*0.1*	*0.8*	*–1.9*			*1.8*	*3.7*	*2.2*	*3.1*		*1.9*
2008 Q2	*1.4*	*–1.5*	*1.9*	*–1.4*			*1.2*	*2.7*	*1.5*	*3.1*		*1.0*
2008 Q3	*0.1*	*–4.1*	*1.2*	*–6.0*			*–1.3*	*0.5*	*–0.9*	*–2.5*		*–0.4*
2008 Q4	*–2.1*	*–6.9*	*2.5*	*–10.5*			*–4.4*	*–2.7*	*–4.1*	*–8.4*		*–2.7*
2009 Q1	*–4.4*	*–2.0*	*2.8*	*–13.6*			*–6.5*	*–11.5*	*–7.5*	*–14.7*		*–5.5*
2009 Q2	*–4.0*	*–1.4*	*0.9*	*–19.5*			*–6.7*	*–13.3*	*–8.1*	*–15.9*		*–5.9*
2009 Q3	*–3.7*	*0.1*	*1.4*	*–13.5*			*–5.7*	*–12.4*	*–7.1*	*–13.7*		*–5.3*
2009 Q4	*–1.6*	*2.0*	*0.0*	*–13.3*			*–2.7*	*–5.0*	*–3.1*	*–4.8*		*–2.9*
2010 Q1	*–0.2*	*–1.8*	*2.2*	*–1.2*			*0.8*	*1.3*	*0.9*	*4.8*		*–0.2*
2010 Q2												*1.6*

Notes:

Source: Office for National Statistics

1 Non-profit institutions serving households (NPISH).

2 This series includes a quarterly alignment adjustment.

3 Labour market summary

Last updated: 14/07/10

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
Mar–May 2008	49,005	31,174	29,564	1,611	17,831	*63.6*	*60.3*	*5.2*	*36.4*
Mar–May 2009	49,387	31,365	28,989	2,376	18,022	*63.5*	*58.7*	*7.6*	*36.5*
Jun–Aug 2009	49,482	31,396	28,930	2,466	18,087	*63.4*	*58.5*	*7.9*	*36.6*
Sep–Nov 2009	49,580	31,373	28,914	2,459	18,208	*63.3*	*58.3*	*7.8*	*36.7*
Dec–Feb 2010	49,679	31,326	28,824	2,502	18,353	*63.1*	*58.0*	*8.0*	*36.9*
Mar–May 2010	49,777	31,452	28,984	2,468	18,324	*63.2*	*58.2*	*7.8*	*36.8*
Male	MGSM	MGSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Mar–May 2008	23,852	16,908	15,972	936	6,944	*70.9*	*67.0*	*5.5*	*29.1*
Mar–May 2009	24,059	17,004	15,550	1,454	7,055	*70.7*	*64.6*	*8.6*	*29.3*
Jun–Aug 2009	24,111	16,980	15,451	1,529	7,131	*70.4*	*64.1*	*9.0*	*29.6*
Sep–Nov 2009	24,166	16,908	15,400	1,508	7,257	*70.0*	*63.7*	*8.9*	*30.0*
Dec–Feb 2010	24,220	16,880	15,348	1,531	7,341	*69.7*	*63.4*	*9.1*	*30.3*
Mar–May 2010	24,275	16,976	15,483	1,493	7,299	*69.9*	*63.8*	*8.8*	*30.1*
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Mar–May 2008	25,153	14,266	13,592	674	10,886	*56.7*	*54.0*	*4.7*	*43.3*
Mar–May 2009	25,328	14,361	13,439	922	10,967	*56.7*	*53.1*	*6.4*	*43.3*
Jun–Aug 2009	25,371	14,415	13,479	936	10,956	*56.8*	*53.1*	*6.5*	*43.2*
Sep–Nov 2009	25,415	14,464	13,514	951	10,950	*56.9*	*53.2*	*6.6*	*43.1*
Dec–Feb 2010	25,459	14,446	13,476	970	11,012	*56.7*	*52.9*	*6.7*	*43.3*
Mar–May 2010	25,502	14,476	13,501	975	11,026	*56.8*	*52.9*	*6.7*	*43.2*

All aged 16 to 59/64

	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	10	11	12	13	14	15	16	17	18
All persons	YBTF	YBSK	YBSE	YBSH	YBSN	MGSO	MGSU	YBTI	YBTL
Mar–May 2008	37,699	29,835	28,248	1,587	7,864	*79.1*	*74.9*	*5.3*	*20.9*
Mar–May 2009	37,885	29,968	27,625	2,344	7,917	*79.1*	*72.9*	*7.8*	*20.9*
Jun–Aug 2009	37,931	29,961	27,529	2,432	7,971	*79.0*	*72.6*	*8.1*	*21.0*
Sep–Nov 2009	37,976	29,927	27,504	2,423	8,049	*78.8*	*72.4*	*8.1*	*21.2*
Dec–Feb 2010	38,021	29,862	27,404	2,459	8,159	*78.5*	*72.1*	*8.2*	*21.5*
Mar–May 2010	38,065	29,969	27,536	2,433	8,097	*78.7*	*72.3*	*8.1*	*21.3*
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Mar–May 2008	19,666	16,454	15,529	925	3,212	*83.7*	*79.0*	*5.6*	*16.3*
Mar–May 2009	19,784	16,552	15,110	1,442	3,232	*83.7*	*76.4*	*8.7*	*16.3*
Jun–Aug 2009	19,813	16,516	15,002	1,514	3,297	*83.4*	*75.7*	*9.2*	*16.6*
Sep–Nov 2009	19,839	16,437	14,948	1,490	3,402	*82.9*	*75.3*	*9.1*	*17.1*
Dec–Feb 2010	19,866	16,390	14,878	1,512	3,476	*82.5*	*74.9*	*9.2*	*17.5*
Mar–May 2010	19,893	16,490	15,014	1,476	3,404	*82.9*	*75.5*	*8.9*	*17.1*
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Mar–May 2008	18,033	13,381	12,719	662	4,652	*74.2*	*70.5*	*4.9*	*25.8*
Mar–May 2009	18,101	13,416	12,515	901	4,684	*74.1*	*69.1*	*6.7*	*25.9*
Jun–Aug 2009	18,119	13,445	12,526	919	4,674	*74.2*	*69.1*	*6.8*	*25.8*
Sep–Nov 2009	18,136	13,490	12,556	934	4,646	*74.4*	*69.2*	*6.9*	*25.6*
Dec–Feb 2010	18,154	13,472	12,525	947	4,682	*74.2*	*69.0*	*7.0*	*25.8*
Mar–May 2010	18,172	13,479	12,522	957	4,693	*74.2*	*68.9*	*7.1*	*25.8*

Notes:

Relationship between columns: 1 = 2 + 5; 2 = 3 + 4; 6 = 2/1; 7 = 3/1; 8 = 4/2; 9 = 5/1; 10 = 11 + 14; 11 = 12 + 13; 15 = 11/10; 16 = 12/10; 17 = 13/11; 18 = 14/10

The Labour Force Survey is a survey of the population of private households, student halls of residence and NHS accommodation.

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

4 Prices

Last updated: 13/07/10

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	EL2S	EAD6	CZBH	CDKQ	CBZX	PLLU[3]	PLLV[3,4]	RNNK[3,4]	RNNQ[3,4]
2007 Jan	*2.7*	*2.9*	*2.6*	*4.2*	*3.5*	*3.7*	*1.5*	*1.6*	*–3.4*	*–0.5*
2007 Feb	*2.8*	*2.9*	*2.6*	*4.6*	*3.7*	*3.9*	*1.9*	*2.0*	*–2.1*	*–0.2*
2007 Mar	*3.1*	*3.1*	*2.9*	*4.8*	*3.9*	*4.0*	*2.2*	*2.2*	*–0.3*	*1.0*
2007 Apr	*2.8*	*2.9*	*2.6*	*4.5*	*3.6*	*3.7*	*1.8*	*1.8*	*–1.5*	*0.0*
2007 May	*2.5*	*2.6*	*2.3*	*4.3*	*3.3*	*3.4*	*1.9*	*1.9*	*0.6*	*1.9*
2007 Jun	*2.4*	*2.5*	*2.2*	*4.4*	*3.3*	*3.3*	*1.9*	*1.7*	*1.7*	*2.2*
2007 Jul	*1.9*	*2.0*	*1.7*	*3.8*	*2.7*	*2.6*	*2.0*	*1.8*	*0.3*	*0.6*
2007 Aug	*1.8*	*1.9*	*1.6*	*4.1*	*2.7*	*2.6*	*2.1*	*2.0*	*–0.2*	*1.0*
2007 Sep	*1.8*	*1.7*	*1.6*	*3.9*	*2.8*	*2.8*	*2.6*	*1.9*	*6.0*	*3.6*
2007 Oct	*2.1*	*1.9*	*1.8*	*4.2*	*3.1*	*3.0*	*3.6*	*1.8*	*9.4*	*4.6*
2007 Nov	*2.1*	*1.9*	*1.8*	*4.3*	*3.2*	*3.0*	*4.5*	*1.9*	*12.1*	*5.6*
2007 Dec	*2.1*	*2.0*	*1.9*	*4.0*	*3.1*	*3.1*	*4.7*	*2.2*	*13.2*	*6.9*
2008 Jan	*2.2*	*2.1*	*2.0*	*4.1*	*3.4*	*3.3*	*5.7*	*3.0*	*20.4*	*11.0*
2008 Feb	*2.5*	*2.5*	*2.3*	*4.1*	*3.7*	*3.6*	*5.7*	*2.8*	*20.9*	*11.9*
2008 Mar	*2.5*	*2.6*	*2.3*	*3.8*	*3.5*	*3.6*	*6.2*	*2.9*	*20.8*	*12.7*
2008 Apr	*3.0*	*3.0*	*2.7*	*4.2*	*4.0*	*3.9*	*7.4*	*4.1*	*25.3*	*16.6*
2008 May	*3.3*	*3.3*	*3.1*	*4.3*	*4.4*	*4.4*	*9.1*	*5.6*	*30.2*	*18.9*
2008 Jun	*3.8*	*3.9*	*3.6*	*4.6*	*4.8*	*4.9*	*9.8*	*5.9*	*34.1*	*21.1*
2008 Jul	*4.4*	*4.5*	*4.2*	*5.0*	*5.3*	*5.4*	*10.0*	*6.3*	*31.3*	*21.3*
2008 Aug	*4.7*	*4.9*	*4.5*	*4.8*	*5.2*	*5.4*	*9.1*	*5.7*	*29.0*	*20.8*
2008 Sep	*5.2*	*5.4*	*5.0*	*5.0*	*5.5*	*5.6*	*8.5*	*5.6*	*24.1*	*19.5*
2008 Oct	*4.5*	*4.7*	*4.3*	*4.2*	*4.7*	*4.9*	*6.7*	*5.0*	*16.0*	*16.9*
2008 Nov	*4.1*	*4.3*	*3.9*	*3.0*	*3.9*	*3.9*	*5.0*	*5.0*	*8.1*	*14.1*
2008 Dec	*3.1*	*4.6*	*4.1*	*0.9*	*2.8*	*3.9*	*4.6*	*5.0*	*3.2*	*12.6*
2009 Jan	*3.0*	*4.5*	*4.1*	*0.1*	*2.4*	*3.4*	*3.5*	*4.0*	*1.7*	*10.8*
2009 Feb	*3.2*	*4.6*	*4.2*	*0.0*	*2.5*	*3.5*	*3.0*	*3.7*	*0.8*	*8.9*
2009 Mar	*2.9*	*4.3*	*3.9*	*–0.4*	*2.2*	*3.2*	*2.0*	*3.2*	*–0.4*	*7.5*
2009 Apr	*2.3*	*3.8*	*3.4*	*–1.2*	*1.7*	*2.7*	*1.3*	*2.5*	*–5.8*	*2.6*
2009 May	*2.2*	*3.6*	*3.3*	*–1.1*	*1.6*	*2.6*	*–0.3*	*1.2*	*–8.8*	*0.2*
2009 Jun	*1.8*	*3.1*	*2.9*	*–1.6*	*1.0*	*1.9*	*–1.0*	*0.3*	*–12.0*	*–2.9*
2009 Jul	*1.8*	*3.1*	*2.8*	*–1.4*	*1.2*	*2.1*	*–1.3*	*0.2*	*–12.2*	*–3.4*
2009 Aug	*1.6*	*2.9*	*2.7*	*–1.3*	*1.4*	*2.3*	*–0.3*	*0.8*	*–7.7*	*–2.1*
2009 Sep	*1.1*	*2.2*	*2.1*	*–1.4*	*1.3*	*2.0*	*0.4*	*1.3*	*–6.2*	*–1.2*
2009 Oct	*1.5*	*2.6*	*2.5*	*–0.8*	*1.9*	*2.8*	*1.8*	*2.1*	*0.5*	*0.9*
2009 Nov	*1.9*	*3.0*	*2.9*	*0.3*	*2.7*	*3.5*	*2.9*	*2.0*	*4.2*	*0.8*
2009 Dec	*2.9*	*2.8*	*2.6*	*2.4*	*3.8*	*3.8*	*3.5*	*2.5*	*7.4*	*1.1*
2010 Jan	*3.5*	*1.9*	*1.7*	*3.7*	*4.6*	*3.3*	*3.8*	*2.6*	*7.7*	*1.4*
2010 Feb	*3.0*	*1.4*	*1.2*	*3.7*	*4.2*	*2.9*	*4.2*	*3.0*	*7.8*	*2.4*
2010 Mar	*3.4*	*1.8*	*1.6*	*4.4*	*4.8*	*3.5*	*5.0*	*3.7*	*10.5*	*4.4*
2010 Apr	*3.7*	*2.0*	*1.9*	*5.3*	*5.4*	*3.9*	*5.9*	*4.5*	*13.0*	*6.3*
2010 May	*3.4*	*1.7*	*1.6*	*5.1*	*5.1*	*3.8*	*5.5*	*4.4*	*11.5*	*7.1*
2010 Jun	*3.2*	*1.6*	*1.5*	*5.0*	*5.0*	*3.8*	*5.1*	*4.8*	*10.7*	*7.4*

Notes:

Source: Office for National Statistics

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

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/08_10/data_page.asp

UK economic accounts

Title		Frequency of update
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

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

Weblink: www.statistics.gov.uk/elmr/08_10/data_page.asp

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

Prices

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

Selected output and demand indicators

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

Selected financial statistics

5.01	Sterling exchange rates and UK reserves	M
5.02	Monetary aggregates	M
5.03	Counterparts to changes in money stock M4[1]	M
5.04	Public sector receipts and expenditure	Q
5.05	Public sector key fiscal indicators	M
5.06	Consumer credit and other household sector borrowing	M
5.07	Analysis of bank lending to UK residents	M
5.08	Interest rates and yields	M
5.09	A selection of asset prices	M

Further labour market statistics

6.01	Working-age households	A
6.02	Local labour market indicators by unitary and local authority	Q
6.03	Employment by occupation	Q
6.04	Employee jobs by industry	M
6.05	Employee jobs by industry division, class or group	Q
6.06	Employee jobs by region and industry	Q

Weblink: www.statistics.gov.uk/elmr/08_10/data_page.asp

6.07	Key productivity measures by industry	M
6.08	Total workforce hours worked per week	Q
6.09	Total workforce hours worked per week by region and industry group	Q
6.10	Job-related training received by employees	Q
6.11	Unemployment rates by previous occupation	Q
6.12	Average Earnings Index by industry: excluding and including bonuses	M
6.13	Average Earnings Index: effect of bonus payments by main industrial sector	M
6.14	Median earnings and hours by main industrial sector	A
6.15	Median earnings and hours by industry section	A
6.16	Index of wages per head: international comparisons	M
6.17	Regional Jobseeker's Allowance claimant count rates	M
6.18	Claimant count area statistics: counties, unitary and local authorities	M
6.19	Claimant count area statistics: UK parliamentary constituencies	M
6.20	Claimant count area statistics: constituencies of the Scottish Parliament	M
6.21	Jobseeker's Allowance claimant count flows	M
6.22	Number of previous Jobseeker's Allowance claims	Q
6.23	Interval between Jobseeker's Allowance claims	Q
6.24	Average duration of Jobseeker's Allowance claims by age	Q
6.25	Vacancies and unemployment	M
6.26	Redundancies: re-employment rates	Q
6.27	Redundancies by Government Office Region	Q
6.28	Redundancy rates by industry	Q
6.29	Labour disputes: summary	M
6.30	Labour disputes: stoppages in progress	M

Notes:

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

More information

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

Contact points

Recorded announcement of latest RPI
☎ 01633 456961
✉ rpi@ons.gsi.gov.uk

Labour Market Statistics Helpline
☎ 01633 456901
✉ labour.market@ons.gsi.gov.uk

Earnings Customer Helpline
☎ 01633 819024
✉ earnings@ons.gsi.gov.uk

National Statistics Customer Contact Centre
☎ 0845 601 3034
✉ info@statistics.gsi.gov.uk

Skills and Education Network
☎ 024 7682 3439
✉ senet@lsc.gov.uk

Department for Children, Schools and Families Public Enquiry Unit
☎ 0870 000 2288

For statistical information on

Average Earnings Index (monthly)
☎ 01633 819024

Claimant count
☎ 01633 456901

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

Earnings
Annual Survey of Hours and Earnings
☎ 01633 456120

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

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

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

Economic activity and inactivity
☎ 01633 456901

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

Employee jobs by industry
☎ 01633 456776

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

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

Labour costs
☎ 01633 819024

Labour disputes
☎ 01633 456721

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

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

New Deal
☎ 0114 209 8228

Productivity and unit wage costs
☎ 01633 456720

Public sector employment
General enquiries
☎ 01633 455889

Source and methodology enquiries
☎ 01633 812865

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

Redundancy statistics
☎ 01633 456901

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

Skills (Department for Innovation, Universities & Skills)
☎ 0870 001 0336

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

Small firms (BERR)
Enterprise Directorate
☎ 0114 279 4439

Subregional estimates
☎ 01633 812038

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

Annual Population Survey,
local area statistics
☎ 01633 455070

Trade unions (BERR)
Employment relations
☎ 020 7215 5934

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

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

Travel-to-Work Areas
Composition and review
☎ 01329 813054

Unemployment
☎ 01633 456901

Vacancies
Vacancy Survey:
total stocks of vacancies
☎ 01633 455070

ONS economic and labour market publications

ANNUAL

Financial Statistics Explanatory Handbook

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)

2010 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)

2010 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

2010 quarter 1

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

United Kingdom Economic Accounts

2010 quarter 1. 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)

2010 quarter 1

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

July 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

June 2010

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

Monthly review of external trade statistics (MM24)

May 2010

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

Producer Price Indices (MM22)

June 2010

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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Measuring investment in intangible assets in the UK: results from a new survey
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Developments in Services Producer Price Indices
Kat Pegler, Tracy Jones and Chris Jenkins

Services Producer Price Indices – First quarter 2010
Simon Woodsford

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Hours and employment in the UK economy
Modelling the probability of leaving unemployment into employment or inactivity
Regional Gross Household Disposable Income
Wellbeing – taking forward the Stiglitz recommendations
Measurement of human capital