27 January 2010

Correction Notice

Economic and Labour Market Review
Vol 4 No 1 January 2010

Financial crisis and recession: how ONS has addressed the statistical and analytical challenges

In the article 'Financial crisis and recession: how ONS has addressed the statistical and analytical challenges', published in the Economic and Labour Market Review Vol 4 No 1 on 19 January 2010, Table 2 did not reflect the most up to date information on the percentages of nowcast data in the Gross Domestic Product (Output) and Index of Services preliminary estimates. This has now been corrected.

ONS apologises for any inconvenience caused.

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Office for National Statistics

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In brief

Happy new year, ELMR in 2010

During 2009 a number of articles have been published in the *Economic and Labour Market Review* (ELMR) that have sought to explain recent economic events, including

- Retail sales in the downturn (March 2009),
- The impact of the economic downturn on productivity growth (June 2009),
- Developing financial statistics for policy (special edition, July 2009),
- The impact of the recession on retail sales volumes (August 2009),
- Recent developments in the UK housing market (August 2009),
- The housing market and household balance sheets (September 2009),
- The balance of payments (September 2009),
- Recession and recovery in the OECD (October 2009),
- Unemployment durations (October 2009),
- Patterns of non-employment, and of disadvantage, in a recession (December 2009), and
- The labour market in the recession (January 2010)

ELMR will continue to be the ONS's prime brand for publishing economic analytic material in 2010. Articles planned for the first half of the year, among others, include: explaining recent movements in the international investment position, under-employment in the UK labour market, regional analysis of tourism, tracking current and past recessions in the UK, durations of unemployment, labour market flows, an overview of the construction industry, patterns of pay, multifactor productivity, consumer confidence indicators, the distribution of household expenditure, measuring societal well-being, valuing human capital, China and the UK, and the relationship between unemployment, the claimant count and benefits data.

More information

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Household wealth totals £9 trillion in 2006/08

Private household net-wealth in Great Britain totalled £9 trillion in 2006/08, according to the *Wealth in Great Britain* report published by ONS on 10 December 2009. The report presents results from the new Wealth and Assets survey, which found that wealth held in property and private pensions each account for 39 per cent of the total amount of private net-wealth. Net-financial wealth and physical goods, such as cars and antiques, each accounted for 11 per cent.

The report also shows how wealth was distributed across households. Median household net-wealth was £204,000 in 2006/08. The least wealthy half of households accounted for only 9 per cent of wealth, while the wealthiest 20 per cent of households had 62 per cent of total wealth. The least wealthy 10 per cent of households had negative net-wealth, meaning the value of their liabilities exceeded the value of their assets.

Estimates of wealth varied across the British Isles. The wealthiest area was the South East of England, with a median household wealth of £287,900. The area with the lowest median was Scotland with £150,600.

Of those surveyed, 83 per cent expected to receive a state pension, with 59 per cent expecting to receive an occupational or private pension. However, only 40 per cent of men and 32 per cent of women were contributing to a private pension.

For those households which had a mortgage on their main residence, the median amount owed in 2006/08 was £70,000. Seventy-seven per cent of households had unsecured credit facilities, but only 48 per cent of households were using them. Median household unsecured debt was £2,700. Of the total amount owed by households in unsecured debt, approximately two-thirds was in the form of personal loans, cash loans, credit cards and charge cards. A further fifth was owed on hire purchase agreements.

More information

The report Wealth in Great Britain is available at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=15074

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National Statistician's annual report on UK population statistics

This article, published as part of *Population Trends 138* on 8 December 2009, brings together key population statistics issued during the year, and specifically looks at the impact of EU enlargement, five years on from when ten countries, including eight central and eastern European countries (the A8 accession countries), acceded to the EU in May 2004.

Between 2004 and 2008, the number of people living in the UK who were born in one of the A8 countries increased from 167,000 to 689,000. Of these, the age group that saw the largest increase was those aged 16-29. In 2004 there were 65,000 A8-born people of this age living in the UK, but by 2008 this had increased to 347,000, comprising over 50 per cent of the total. At the same time, the number of A8-born people aged 65 and over and living in the UK fell from 39,000 to 30,000.

A second article in *Population Trends* examines changes over the past twenty years in the living arrangements of young men and women aged 16-34 years, and how the proportions living with their parents differ by geographical region, education and economic activity.

Although there has been little change in the percentage of 16-34 year olds living with their parents in the last twenty years, there have been changes within the patterns of living arrangements among different age groups. For example, living with parents has become less common among those in their early twenties. This may be partly attributable to the increase in access to higher education over the last twenty years. Although increasing numbers of students are staying in the family home, they are still very much a minority, with most moving out to take up study. In contrast, greater numbers in their mid-twenties and early thirties were living with their parents in 2008 than in 1988, with the tendency to do so higher among males than females.

More information

These articles are available for download from the ONS website at www.statistics.gov.uk/StatBase/Product.asp?vlnk=6303

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ONS seeking to reduce business survey burden in 2010

The ONS is on target to cut the cost to businesses of responding to economic surveys by 19 per cent by 2010. As outlined in the annual Simplification Plan, a 16 per cent reduction in the administrative burden ONS places on businesses has been achieved since 2005 by using existing government data where possible, and reducing sample sizes – where this can be achieved without affecting survey quality. The plan, published on the 14 December 2009, also sets out measures for further savings by 2015.

Businesses are required by UK and EU law to provide ONS with a range of data, which form the basis of statistics covering jobs, production and trade. These are used by Government to set policy, but complying places an administrative burden, primarily in staff time spent collecting and providing information. New measures set out in the simplification plan include:

- reducing the number of occasions that ONS re-contacts firms
- analysing the design of some of the major surveys to ensure that the minimum number of firms are contacted to obtain the required statistical outputs and necessary accuracy, and
- extending the use of administrative data that has been collected by other government agencies

More information

The ONS fourth annual Simplification Plan is available at: www.statistics.gov.uk/StatBase/Product.asp?vlnk=14683

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Employer contributions to pensions down in 2008

Although social contributions made by employers to funded pension schemes more than doubled from £21.8 billion in 2001 to £46.1 billion in 2006, the figure fell to £40.6 billion in 2008. Employee contributions in 2008 rose to £42.5 billion, overtaking employer social contributions for the first time since 2002. These figures were published by ONS in *Pension Trends Chapter 14: Pensions and the National Accounts* on 9 December 2009.

This chapter also reports on household assets held in life insurance and pension funds, the value of which fell to £1.8 trillion (128 per cent of GDP) in 2008 from £2.2 trillion in 2007, due primarily to falling stock markets at the start of the recession.

Also published by ONS on this day was *Pension Trends Chapter 4: the labour market and retirement*, which reveals that reduced employment in the 2008-09 recession has affected women less than men, and older people less than younger people. The employment rate for men of State Pension Age (SPA) and over has remained above 10 per cent in 2008-09, while it has continued to rise for women, reaching 13.1 per cent in July-September 2009.

The chapter also presents information on the average age of withdrawal from the labour market as people retire. In the context of the recession, the trends were different for men and women:

- for men the average age peaked at 64.5 years in April-June 2008 and was unchanged in April-June 2009
- for women, the average age has risen from 60.7 years in 1984, when data first became available, to 62.4 years in April-June 2009. There has been a particularly sharp rise over the past decade, which has continued in the recession

More information

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Labour Force Survey – education and training review

ONS and the Department for Business Innovation and Skills (BIS) are currently undertaking a joint programme of work to review the Education and Training section of the Labour Force Survey (LFS). The two main areas of work are:

- a review of the questionnaire, and
- research into the quality of data outputs on educational attainment

The questionnaire review work is well under way. It is intended that a revised Education and Training section will be introduced on the LFS questionnaire in January 2011. The stated goals are to ensure the right education and training data are being captured, improve accuracy and reduce the administrative burden faced by respondents. BIS and ONS have run workshops with users and commissioned research into the survey. Further testing of refinements will be taking place in early 2010 and final proposals for changes to the questionnaire will be signed off by the LFS Steering Group in October 2010.

The second main area of work is a statistical research project to understand the strengths and weaknesses of using the LFS to measure education and training attainment. This is ongoing and a final report will be published in February, setting out the full findings and recommendations. An interim report was published in October 2009.

More information

The interim research report is available at www.thedataservice.org.uk/

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UPDATES

Updates to statistics on www.statistics.gov.uk

8 December

Index of production

October shows 8.4% annual fall
www.statistics.gov.uk/cci/nugget.asp?id=198

9 December

UK Trade

Deficit widened to £3.2 billion in October
www.statistics.gov.uk/cci/nugget.asp?id=199

11 December

Producer prices

Factory gate inflation rises 2.9%
www.statistics.gov.uk/cci/nugget.asp?id=248

15 December

Inflation

CPI inflation 1.9%, RPI inflation 0.3%
www.statistics.gov.uk/cci/nugget.asp?id=19

16 December

Average earnings

Average pay growth unchanged in year to October 2009
www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Rate unchanged at 72.5%
www.statistics.gov.uk/cci/nugget.asp?id=12

Public sector employment

Employment increases in Q3 2009
www.statistics.gov.uk/cci/nugget.asp?id=407

17 December

Travel and tourism

Visits to and from the UK continue to fall
www.statistics.gov.uk/cci/nugget.asp?id=352

Public sector finances

November: £16.2 billion current budget deficit
www.statistics.gov.uk/cci/nugget.asp?id=206

Retail sales

Mixed picture in November
www.statistics.gov.uk/cci/nugget.asp?id=256

18 December

Business investment

0.6% down in third quarter 2009
www.statistics.gov.uk/cci/nugget.asp?id=258

Institutional net investment

Down to £19.4 billion in Q3 2009
www.statistics.gov.uk/cci/nugget.asp?id=396

22 December

Balance of payments

2009 Q3: UK current account remains unchanged as a percentage of GDP
www.statistics.gov.uk/cci/nugget.asp?id=194

GDP growth

Economy contracts by 0.2% in Q3 2009
www.statistics.gov.uk/cci/nugget.asp?id=192

23 December

Productivity measures

Fall in productivity in Q3 2009
www.statistics.gov.uk/cci/nugget.asp?id=133

Index of services

3.7% annual fall into Q3 2009
www.statistics.gov.uk/cci/nugget.asp?id=558

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

6 January

Profitability of UK companies – Q3 2009

Investment by insurance companies, pension funds and trusts – Q3 2009

8 January

Producer price index – December 2009

12 January

UK Trade – November 2009

13 January

Index of production – November 2009

Aerospace and electronic cost indices – October 2009

14 January

New orders in the construction industry – November 2009

Overseas travel and tourism – November 2009

Family spending – A report on the 2008 living costs and food survey

15 January

Financial Statistics – January 2010

18 January

Business spending on capital items – 2008 results

19 January

Consumer price indices – December 2009

20 January

Labour market statistics – January 2010

Average weekly earnings – November 2009

21 January

Public sector finances – December 2009

22 January

Retail sales – December 2009

26 January

Gross domestic product preliminary estimate – Q4 2009

Index of services – November 2009

Economic review

January 2010

Graeme Chamberlin
Office for National Statistics

SUMMARY

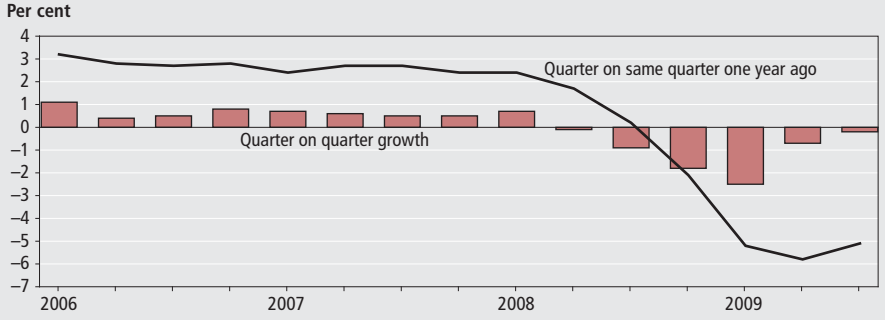
The latest estimate of Gross Domestic Product (GDP) showed the UK economy contracted by 0.2 per cent in GDP in 2009 Q3. Although this marks the sixth successive quarter of recession, the pace of decline continues to ease. And if the oil and gas extraction industry were excluded from output, growth would have been flat in the latest published quarter. The public sector, and repair and maintenance work saw construction output grow in 2009 Q3. Household consumption and gross fixed capital formation also returned to positive growth for the first time since the start of the recession, driven respectively by the purchase of motor vehicles and public sector investment. The household saving ratio continues to rise, and the corporate sector has become an increasing net lending to the rest of the economy. On the other hand, the impact of the recession on the public finances has seen the Central Government sector become a growing net borrower. The current account remained in deficit, but the International Investment Position has strengthened due to revaluations following the depreciation of sterling.

GDP contracts by 0.2 per cent in 2009 Q3

The Quarterly National Accounts, which presents the third estimate of Gross Domestic Product (GDP) for a given quarter, reported that the UK economy shrank by 0.2 per cent in 2009 Q3. This marks a small upward revision from the 0.3 per cent contraction reported in the Output, Income and Expenditure release last month. The Preliminary Estimate, the first estimate of GDP published in October, had reported a fall of 0.4 per cent over the quarter.

Early estimates of GDP are based on the limited information available at the time of their compilation. Consequently, missing and incomplete data need to be imputed in order for a full set of accounts to be presented, but as these are replaced by actual data in later GDP vintages revisions may arise. The most recent upward revisions to GDP in 2009 Q3 primarily reflects an upward revision to construction sector output, as actual data replaces 'nowcasts'. In each of the two previous GDP vintages, this was reported to have fallen by 1.1 per cent, but the most recent estimates report that the sector grew by 1.9 per cent.

Figure 1
GDP growth



Source: ONS Quarterly National Accounts

Although the data for 2009 Q3 have been revised slightly upwards, the overall picture of the UK economy is broadly unchanged. The UK has remained in recession as output fell for a sixth successive quarter, but as **Figure 1** shows, the pace of decline has continued to slow. In the final quarter of 2008, UK GDP fell by 1.9 per cent, which was followed by a further contraction of 2.5 per cent in the first quarter of 2009. In 2009 Q2, the economy contracted by 0.7 per cent.

This deceleration is reflected in the four-quarter growth rates also shown in Figure 1. Output in 2009 Q3 was 5.1 per cent lower than in the same quarter of 2008, compared to a four-quarter output fall of 5.8 per cent in 2009 Q2. The latest data reports the first improvement in the four-quarter growth rate since the second quarter of 2007.

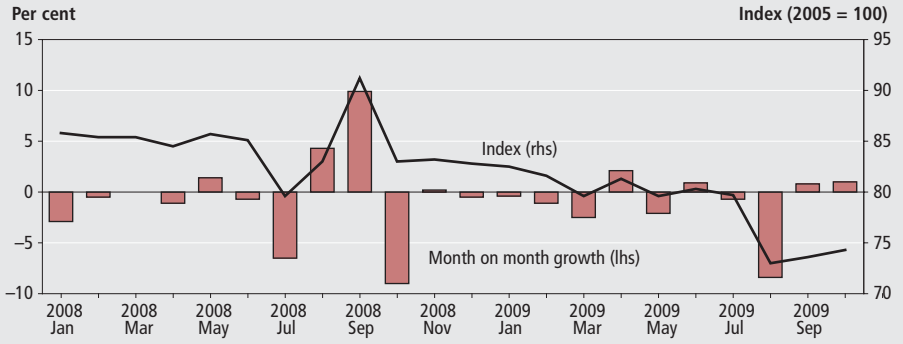
Oil and gas extraction subtracts from growth in 2009 Q3

Based on 2005 weights, the UK oil and gas industry accounts for 2.2 per cent of gross value added (GVA), that is the output measure of GDP. Despite the small share, the contribution to total output growth is often more significant, because of large quarterly changes in industry output. As most oil and gas is extracted from North Sea oil fields, output can be affected by supply shocks such as the weather and the timing of maintenance.

In August 2009 the output of the sector fell by 8.4 per cent on the month. As **Figure 2** shows, these large monthly output changes are not uncommon, for the reasons given. For example, in September 2008, output rose by 9.9 per cent, before falling by 9.0 per cent the month later.

As a result of this large output fall in August, the oil and gas industry contracted by 6.2 per cent in the third quarter of 2009 – which contributed -0.2 percentage points to total GDP growth. Therefore, had it not been for the contribution of this industry,

Figure 2
Output (GVA) of the oil and gas industry



Source: ONS Quarterly National Accounts

GDP growth would have been flat in 2009 Q3.

Some prominent data users have argued that, because the UK oil and gas sector tends to perform in a separate way to the rest of the economy, a better underlying measure of economic activity can be deduced by excluding the industry from GVA. Therefore ONS routinely publishes in each GDP statistical bulletin an estimate of GVA that excludes the oil and gas sector. Comparing the growth of this series with the growth in total GVA confirms the -0.2 percentage point contribution of the oil and gas industry in 2009 Q3. This is the first time that output growth, according to these two measures, has differed by more than 1 decimal place since the start of the recession.

Construction sector output supported by the public sector

According to the Quarterly National Accounts, the output of the construction sector output grew by 1.9 per cent in the third quarter of 2009. ONS also publishes the *Output in the Construction Sector* statistical bulletin which gives a breakdown of the output in the sub-sectors of the industry, including a split between volumes of new work and repair and maintenance work. However, the coverage here is for Great Britain, rather than the UK as a whole, so although the data is similar to that published in the National Accounts, it can differ slightly.

In the third quarter of 2009, total output in the GB construction sector grew by 2.0 per cent. However, the latest rise masks a very mixed picture across the output of the sub-sectors (**Figure 3**).

Output of new work, which usually accounts for between 55 and 60 percent of total output, contracted by 3.9 per cent in 2009 Q3, and by 12.9 compared to the same quarter in 2008. Within this category there were marked differences in the performances of the public and private sectors.

In the private house building sector, new work fell by 11.8 per cent, the eighth successive quarterly fall. Output is now 47.7 per cent lower than the level in 2007 Q3. This is consistent with the sharp slowdown in the UK housing market since late 2007. Although prices have rebounded in 2009, volumes of property transactions remain far below peak levels.

Private commercial new work has also exhibited strong falls during the recession, falling by another 10.7 per cent in 2009 Q3. Although the contraction hasn't been continuous, output is now 31.2 per cent lower than its peak level in 2008 Q1.

In comparison, the 3.9 per cent fall in private industrial new work during the same quarter is more modest. But here output has now been falling for 11 consecutive months and is 52.7 per cent lower than the peak level in 2006 Q4.

Taken together, these three segments reduced construction sector growth by 3.4 percentage points in 2009 Q3.

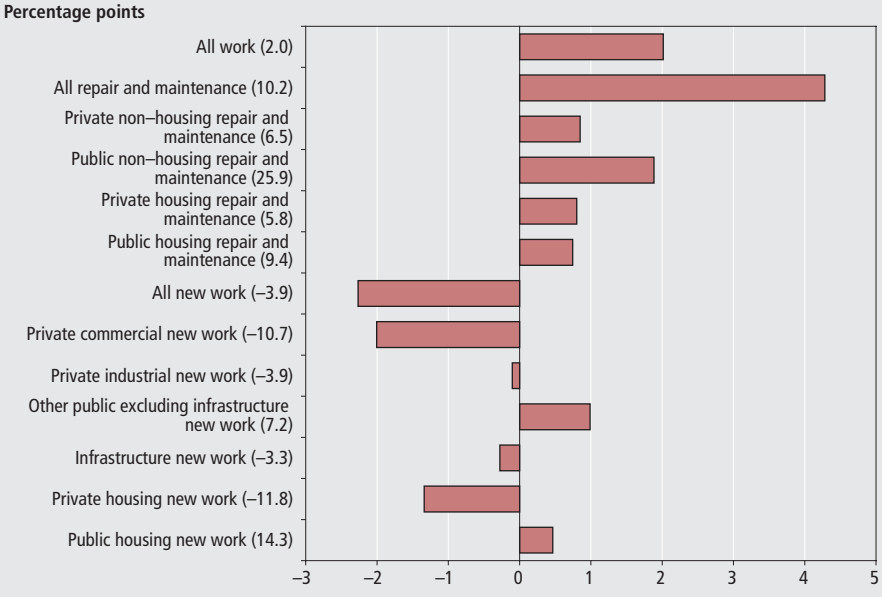
On the other hand, public sector new work has grown significantly in the latest published quarter. Public housing new work rose by 14.3 per cent, and other public sector work (excluding infrastructure) was up by 9.4 per cent. Together, these components contributed about 1.5 percentage points to total construction output growth.

Since the economy entered recession in the second half of 2008, output of repair and maintenance work had also been falling, but in the latest published quarter there was a strong and broad-based increase of 10.2 per cent. This was particularly concentrated in the public sector, where non-housing repair and maintenance work rose by 25.9 per cent. Public sector housing repair and maintenance also grew strongly by 9.4 per cent. In the private sector, housing and non-housing repair and maintenance output grew by 5.8 per cent and 6.5 per cent respectively.

Therefore, the main story emerging from the construction industry in 2009 Q3 is output being driven by public sector work.

The *New Orders in the Construction Industry* statistical bulletin also highlights the recent strong downturn in construction

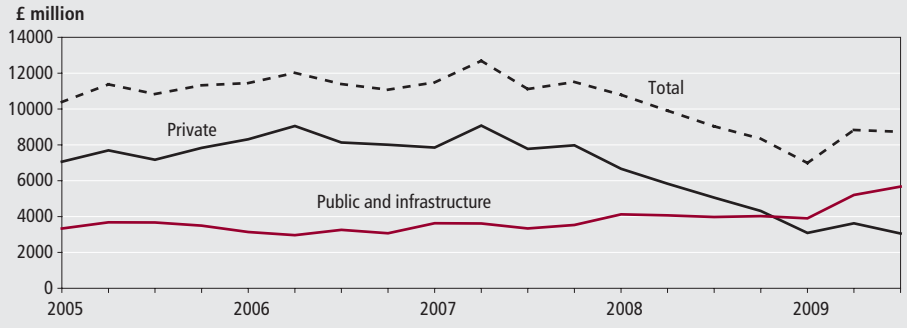
Figure 3
Contributions to construction output growth, 2009 Q3[1]



Note: *Source: ONS Output in the construction sector*

1 Quarterly growth rates for 2009 Q3 in brackets, per cent.

Figure 4
New orders in the GB construction industry[1]



Note:
1 Constant 2005 prices, seasonally adjusted.

Source: ONS New orders in the construction industry

activity. Continuing low levels of new orders point to a pessimistic outlook for future output. The latest data also shows a marked difference in the private and public sectors (see **Figure 4**).

Private sector new orders relating to the housing, industrial and commercial sectors have all fallen considerably since the end of 2007. Private new housing orders in 2009 Q3 were less than a third of the level at the end of 2006. The same is true of commercial new orders, which are also less than a third of the peak level in 2007 Q2. Over the same time period, private industrial new orders have more than halved.

In contrast, new orders in the public sector and infrastructure have been robust, steadily growing throughout the recession, and in the latest two published quarters have shown a marked increase. These are now almost 50 per cent higher in 2009 Q3 than at the start of the year.

Business survey data covering the construction industry report an easing in the downturn, but are yet to signal a return to growth.

The Royal Institute of Chartered Surveyors (RICS), in their *UK construction market survey*, reported that workloads continued to fall, but, the speed of contraction eased considerably in the third quarter. Between 2009 Q2 and 2009 Q3, the balance between firms reporting an increase and decrease in workloads improved from -26 to -6. Behind this statistic, private housing workloads fell, but at the slowest pace since 2007 Q4. Private industrial and commercial workloads also fell, but at the slowest rate since 2008 Q2. Public non-housing works loads though showed a modest increase for the second successive quarter. And although infrastructure workloads were reported as falling, the decline was very modest. Therefore, the survey supports the official data in that improvements are being driven by the public sector.

The RICS 2009 Q3 *Commercial property market survey* reported a small rise in sales and lettings, for the first time in over 2 years. Central London offices were the driver, with tenant demand for offices rising, and a slower pace in the decline of retail letting. However, in line with the official data, commercial new developments have continued to fall. With floor space availability remaining at elevated levels, the immediate outlook for the commercial sector is reported as subdued.

UK house prices continue to rise through 2009

Land Registry house prices are considered to be the most accurate independent house price index available, as they are based on actual sales prices, include whether the property was purchased with a mortgage or not, and use a repeat-sales methodology. However, the coverage only extends to England and Wales rather than the entire UK.

According to the index (see **Figure 5**), average house prices in England and Wales fell by 17 per cent from their peak in January 2008 (£184,023) to a trough in April 2009 (£152.748). However, prices have bounced through the remainder of 2009, rising for 7 consecutive months. Data published in November show average house prices have recovered 5.8 per cent from their trough to £161,554.

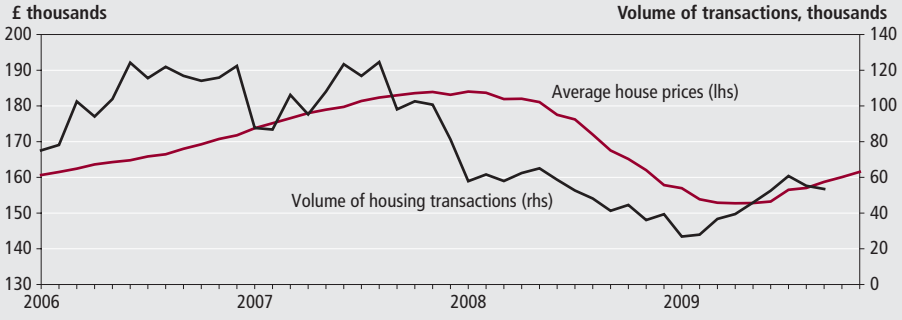
Other house price indices have also reported rising house prices during 2009. The Nationwide index has posted 10 consecutive monthly increases between February and December 2009. A number of factors were identified for the total 9.7 per cent increase in average prices including, record low interest rates supporting affordability, cash buyers re-entering the market, a low supply of new housing instructions, a limited number of distressed sales (due also to low interest rates), a lower than expected increase in unemployment during the recession and the stabilisation of the banking system.

The Halifax house price index has also reported a strong rebound in 2009. Following a 23 per cent peak-to-trough fall, average prices have increased by 9.4 per cent between April and December 2009. Improving affordability, the result of significant cuts in interest rates, was highlighted as the main explanatory factor.

The main conclusion from the latest RICS *Housing market survey* is that rising prices have resulted from buyer interest outstripping the supply of properties coming to the market. New sales instructions have risen for six successive months, but are lagging behind the pick up in buyer interest. As a consequence, sales to stock ratios have been rising.

Demand has been stimulated by low interest rates, with RICS calculating that mortgage payments as a proportion of average gross household incomes fell from 28 per cent in October 2008 to 23 per cent in December 2009. Improving affordability has been greatest for potential first time buyers, not just due to falling mortgage rates but also the general fall in prices. Low supply of properties coming to market

Figure 5
Average house prices and the volume of property transactions



Source: Land Registry

appears to be because potential vendors are reluctant to sell at existing prices, which are yet to recover to previous highs.

Despite improving affordability, credit availability has remained tight. It is estimated by the Council for Mortgage Lenders that 80 per cent of first time buyers are now assisted, either in terms of raising a deposit or covering the mortgage payments. According to RICS, mortgage approvals in November 2009 were more than double the level in November 2008, and were at their highest levels since March 2008, but remain close to half of the peak level in late 2006. This has been reflected in the volume of property transactions. These have picked up since the record lows at the start of the year, but are still half the levels recorded in 2007 (see Figure 5).

Household consumption and fixed investment return to growth

Figure 6 presents the contributions to GDP growth by the main expenditure components during the first three quarters of 2009. The key observations are that household consumption and gross fixed capital formation (GFCF), traditionally the two most important drivers of total expenditure growth, both returned to positive growth for the first time since the recession began.

Household consumption grew by 0.1 per cent, making a modest contribution to total expenditure growth in the third quarter of 2009. This follows contractions of 0.7 per cent and 1.5 per cent respectively in the preceding two quarters.

The contributions to household consumption growth, by each broad category of spending, are shown in **Figure 7**. The biggest positive contributions came from Transport, where household consumption grew by 1.9 per cent, and recreation and culture where household consumption grew by 1.6 per cent. Against this, there were significant falls in miscellaneous goods and services (-1.2 per cent) and restaurants and hotels (-1.3 per cent).

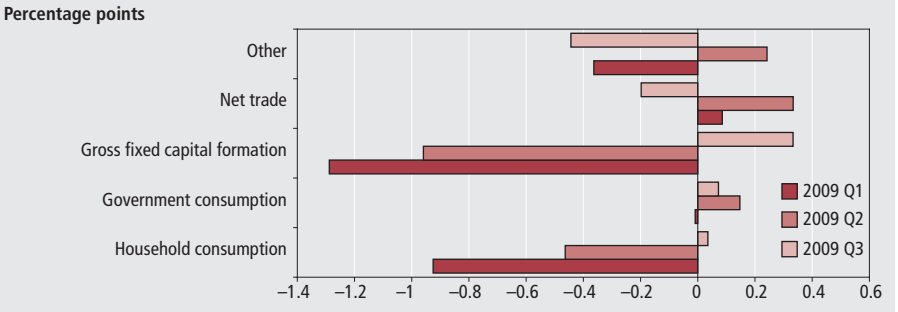
In the Transport sub-category, almost all the growth recorded in 2009 Q3 came from the purchase of motor vehicles. In the final three quarters of 2008, consumption on motor vehicles fell heavily by a total 14.2 per cent – a reflection of tighter consumer credit and a weakening labour market on consumer confidence, especially when it came to spending on big-ticket items. However, after modest growth of less than 1.0 per cent in the first quarter of 2009, household consumption on motor vehicles surged ahead by 5.4 per cent in quarter two and by 6.3 per cent in quarter three.

The pick up in growth has been attributed to the vehicle scrappage scheme, introduced in late April 2009, offering a discount of £2,000 on new cars if a car over ten years of age and registered in the UK for more than a year is traded-in. The scheme, as announced, will last until February 2010. The Society of Motor Manufacturers and Traders (SMMT) has suggested the scheme has accounted for 1 in 5 new car registrations.

Further evidence of the pick up in motor vehicle spending is provided in the December 2009 *Distributive trades survey*, published by the Confederation of British Industry (CBI). Sales volumes in the motor trades sector rose strongly compared to December 2008. Although this was from a low base, it marked the fastest rate of growth (based on a comparison of a month with the same month a year earlier) since April 2002. Also, the three-month moving average of sales turned positive for the first time since June 2008, with sales reported as being well above expectations for the time of year. Although the vehicle scrappage scheme was identified as important, an additional factor driving car sales in late 2009 may have been households looking to take advantage of the lower VAT rate, before it was increased from 15 per cent to 17.5 per cent at the start of January 2010.

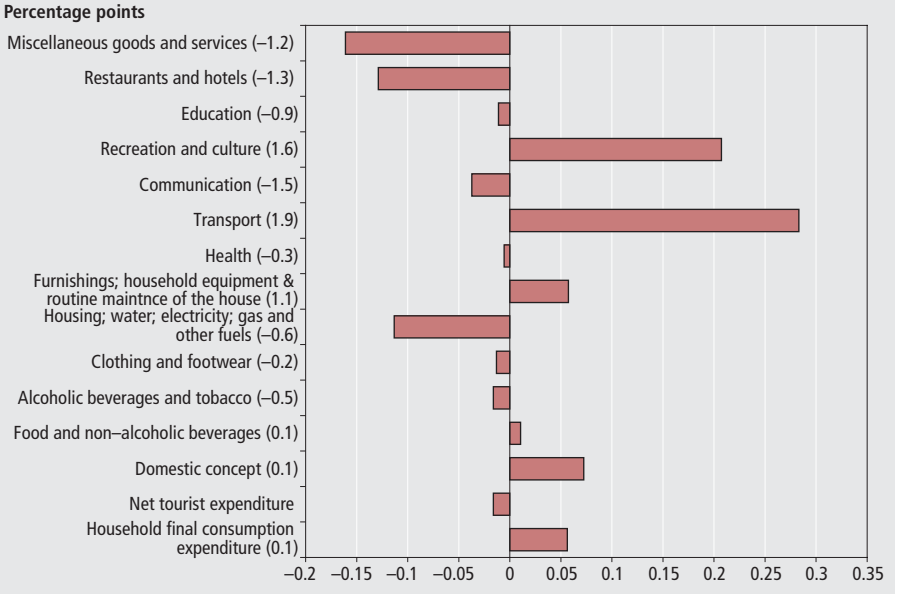
The purchase of motor vehicles category contributed 0.3 percentage points to total household consumption growth in 2009 Q3. Although it is not possible to attribute the exact contribution of the vehicle scrappage scheme, without it household consumption growth might have been weaker and not returned to positive territory in the latest published quarter.

Figure 6
Contributions to GDP growth by main categories of spending, 2009 Q3



Source: ONS Quarterly National Accounts

Figure 7
Contributions to household consumption growth by main category of spending[1]

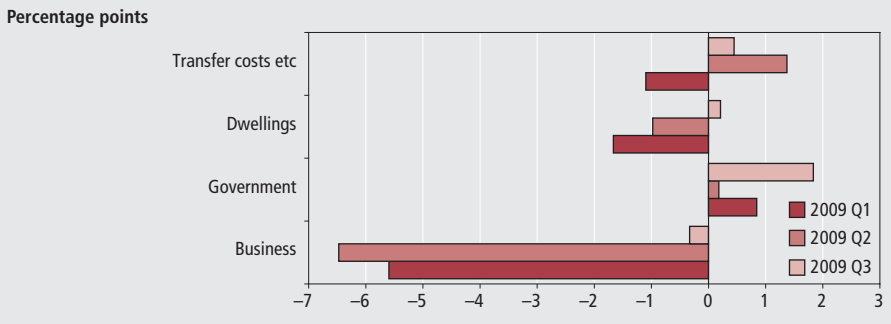


Note:

Source: ONS Quarterly National Accounts

1 Quarterly growth rates in brackets, per cent.

Figure 8
Contributions to GFCF growth by sector in 2009



Source: ONS Quarterly National Accounts

However, even ignoring the contribution of household purchases of motor vehicles, consumption on other categories of spending has continued to improve.

The main sub-categories supporting the stronger growth in recreation and culture consumption were audio visual, photo and information processing which rose by 3.5 per cent, and games of chance where household spending increased by 13.3 per cent.

GFCF, or fixed investment, had contracted sharply in the first half of 2009, by 7.5 per cent in the first quarter and by 5.9 per cent in the second quarter. In quarter three, GFCF expanded by 2.2 per cent, contributing 0.3 percentage points to total GDP growth.

Figure 8 shows the contributions to GFCF in the last three quarters by sector. In recent quarters business investment has been the main driver, falling by 8.8 per cent and 10.3 per cent respectively in the first two quarters of 2009. Although business investment continued to fall in 2009 Q3, the pace of contraction slowed markedly to 0.6 per cent.

The weakness of business investment is reflected in business survey data. The latest CBI *Service sector survey* continued to report negative balances for investment intentions. However, the latest survey did report positive balances for IT investment for the first time since May 2008. During the recession, uncertainty over the strength of demand has generally been the main explanatory factor in accounting for weak investment intentions, with firms unwilling to invest in extra capacity until they are sure a sustained recovery is underway. Therefore, even though credit conditions have been tight, it has been a less significant factor in constraining the capital expenditure of businesses than the immediate business outlook. Paradoxically, this might suggest that the recent increase in the shortage of finance balance statistic as the main factor constraining investment in the latest CBI service sector survey is consistent with improving business confidence, as firms become less concerned about future demand and more concerned about the ability to raise finance.

Investment in new dwellings contracted for nine consecutive quarters from 2007 Q1 up to and including 2009 Q2 – a reflection of the sharp downturn in the housing market (Figure 5), and consistent with the falls in construction output and orders during the recession (Figure 3). However, in 2009 Q3, investment in dwellings rose by a modest 0.2 per cent, perhaps reflecting the recent increases in house prices and volume of property transactions.

Spending on transfer costs associated with dwellings and non-produced assets (such as land) relate to the fees and costs involved in the transfer of ownership of existing property structures and land, rather than the purchase of a new dwelling. Again, movements in this component have reflected the state of the housing market, with investment falling for six consecutive quarters between 2007 Q4 and 2009 Q1 as the volume of property transactions fell sharply (see Figure 5). Since then, this category of GFCF has shown a modest improvement, growing by 0.4 per cent in the latest published quarter. This upturn may also be consistent with the recent improvement in the housing market.

The largest positive contribution to GFCF has come from the public sector, which has grown consistently throughout the recession. In 2009 Q1, general government fixed investment expanded by 6.1 per cent, followed by a further 1.1 per cent growth in 2009 Q2. Growth then accelerated in 2009 Q3, with general government investment spending growing by 10.7 per cent, contributing 1.8 percentage points of the total 2.2 per cent growth in GFCF. As part of its fiscal stimulus package the Government has attempted to bring forward investment projects and repair and maintenance work – which might also explain why the public sector appears to be driving new work and repair and maintenance work in the construction sector (see Figure 3).

In a similar vein, general government consumption has been robust throughout the recession and grew by a further 0.3 per cent in 2009 Q3, making a small positive contribution to total expenditure growth. Since the start of the recession in 2008 Q2, general government consumption spending has risen by a total of 2.6 per cent.

Net trade, that is the difference between the exports and imports of goods and services, has generally made a positive contribution to the quarterly change in GDP throughout the recession. However, this is simply because imports have contracted at a faster rate than exports. In 2009 Q3 though, exports expanded by 0.8 per cent as global demand emerges from recession, but because imports surged ahead by 1.5 per cent it meant that net trade made a negative contribution (-0.2 percentage points) to total GDP growth for the first time since 2007 Q4.

The rise in imports is consistent with the return to growth in household consumption and GFCF. Some of the widening trade deficit has been attributed to the vehicle scrappage scheme, by its effect of boosting car imports. In current price terms, the balance of trade in motor vehicles deteriorated by £448 million in the third quarter of 2009, as the deficit in motor vehicle trade increased from £990 million to £1.438 billion. However, the increased deficit accounts for less than 0.1 per cent of GDP (in current prices). Furthermore it is unlikely that the vehicle scrappage scheme alone will account for growing car imports, with the rush to beat the reversal of the VAT cut and the improving economic outlook also supporting demand for new vehicles.

The 'other' component of total expenditure in Figure 6 reflects the consumption of non-profit institutions serving households (NPISH), changes in valuables, stockbuilding (inventories), and a statistical discrepancy that helps to balance the expenditure and output measures of GDP. Together, these components were instrumental in keeping overall growth negative in 2009 Q3 by reducing GDP growth by 0.4 percentage points. NPISH consumption fell by 2.2 per cent on the quarter, and there was also a further increase in the rate that inventories were run down.

Household saving ratio increases to 8.6 per cent

The Quarterly National Accounts present balance sheet information for the main sectors the economy, and an analysis of these can be informative. Firstly, because of the nature of stock-flow relationships in the National Accounts, changes in flows such as consumption, business investment, government spending, exports and imports have effects on the assets and liabilities (stocks) of each sector. Therefore, the Economic Accounts published each quarter by ONS provide a different vantage point from which to view recent developments in the economy. Secondly, they provide information on the underlying financial position of each sector – which may in turn be a factor influencing its recent behaviour.

Gross household saving are the difference between household total resources (which consists primarily of its gross disposable income) and consumption. The saving ratio is then simply the ratio of gross saving to total household resources.

As shown in **Figure 9**, the household saving ratio has increased sharply in the last two years. In 2008 Q1 the saving ratio was actually negative, but since then it has exhibited a consistent rise to 8.6 per cent in 2009 Q3.

It is natural to expect the saving ratio to rise in times of an economic downturn. Consumer spending is cut back, and households engage in precautionary saving in order to build buffer stocks that help protect against adverse shocks to income, such as unemployment. The rise in the savings ratio has generally coincided with falling household consumption during the recession.

However, it might also be expected that gross household disposable incomes would also fall during a recession, perhaps due to lower pay settlements and growing unemployment. So for the saving ratio to increase, consumption spending would, in theory, need to fall faster than disposable incomes. In fact, in the latest published quarter, household consumption increased and the saving ratio also rose from 7.6 per cent to 8.6 per cent, which would imply that household resources actually rose faster (in nominal terms), despite the UK economy still officially being recession.

There have been two important factors at play that have supported household disposable incomes through the recession, which along with falling or low consumption growth have acted to boost the savings ratio. The first is the effect of taxes, social security and benefits payments. These act as automatic stabilisers supporting incomes in a recession. As a result, the net tax and social contributions made by the household sector fell from 10.5 per cent of GDP in 2008 Q1 to 5.4 per cent in 2009 Q3.

The other supporting factor is net property income, which reflects payments to and income received from other sectors of the economy due to the ownership of financial assets and liabilities. As a percentage of GDP this has risen from 7 per cent in 2008 Q3 to 10.3 per cent a year later. This rise reflects the large fall in interest rates, which through lower mortgage rates, has reduced payments primarily associated with secured loans and increased the disposable resources available to the household sector. Lower interest rates should also lower the interest payments received by the household sector, but the sharp rise in property prices over the preceding decade, on which larger and larger mortgages have been secured, have meant that the household sector's interest bearing liabilities now exceed its interest bearing assets. As a result, falling interest rates have had a positive effect in the aggregate.

One of the consequences of the rise in gross household saving is that the household sector has become an increasing net lender to the rest of the economy (also shown in Figure 9). The gross saving of a sector can be thought of as the internally generated funds available for investment spending. If investment spending exceeds these funds then the sector becomes a net borrower, relying on externally generated funds from other sectors. However, if gross saving exceeds investment then the surplus funds can be lent elsewhere, making the sector an overall net lender.

For the household sector, the major class of investment spending is on owner-occupied housing, which is defined as a fixed asset that provides a future flow of housing services. In the National Accounts, owner-occupier households are treated as small businesses, providing housing services to themselves in return for imputed rents, also implicitly paid to themselves. Therefore, the net lending position of households is largely determined, not just by gross saving, but also by the demand for funds for property market transactions.

Generally, the household sector has been a net borrower, with most of that net borrowing reflecting secured borrowing on property (mortgages). However, the significant slowdown in the property market, as evidence by falling prices and lower volumes (and thus mortgage applications) has generated a large fall in household investment. In nominal terms, household investment has fallen by 40.2 per cent from its peak in 2007 Q2, which coincides with the rough halving of property transactions in the same time period. As a result of this, and higher gross saving, the household sector in 2009 Q3 was a net lender to the sum of 2.3 per cent of GDP.

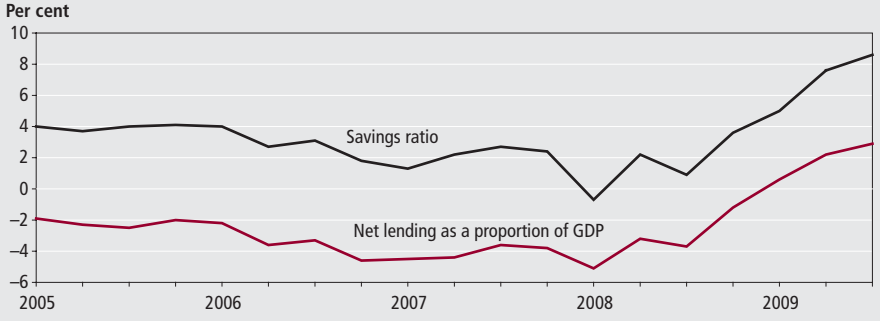
UK corporate sector becomes an increasing net lender

The corporate sector consists of private non-financial corporations, financial corporations (PNFCs), and the relatively small public corporations sectors.

The net lending position of UK private non-financial corporations is summarised in **Figure 10**. During the last two years this sector has become an increasing net lender to the rest of the economy. In 2007 Q3, PNFC net lending was 1.0 per cent of GDP, which had grown to 5.0 per cent in 2009 Q3.

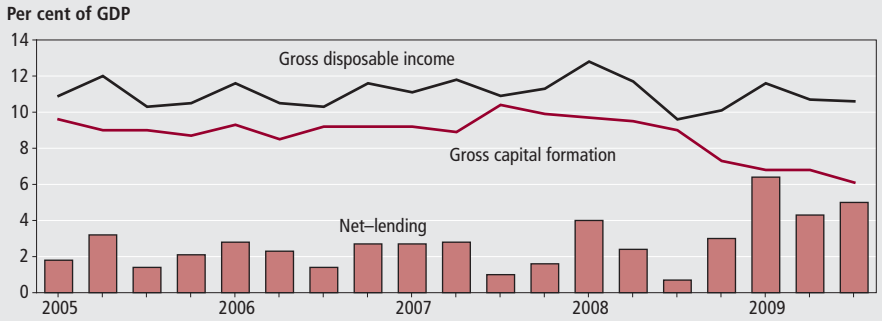
Although prone to some fluctuation,

Figure 9
Household sector saving ratio and net-lending



Source: ONS Economic Accounts

Figure 10
Net lending of non-financial private corporations



Source: Economic Accounts

PNFC gross disposable income (that is the sum of operating surpluses, net social security payments and taxes, and net property income relating to interest and dividend payments) has been relatively stable as a percentage of GDP. In 2007 Q3 it was 10.9 per cent of GDP, compared to 10.6 per cent of GDP in 2009 Q3. In recent quarters, falling profits have been offset by lower interest payments and net social security and tax payments.

The main reason for the rise in PNFC net lending has come from a sharp fall in gross capital formation (GCF). As a proportion of GDP, this fell from 10.4 per cent in 2007 Q3 to 6.1 per cent in 2009 Q3. This is consistent with the sharp fall in business investment observed in the National Accounts (see Figure 8), and also the rapid rate of inventory de-stocking (see Figure 6) which is effectively treated as disinvestment.

The financial corporations sector has been a consistent net lender to the rest of the economy (see **Figure 11**). In 2009 Q3 net lending from this sector was 2.0 per cent of GDP, but while this is above the long-term average, it is much lower than the recent peak of 6.1 per cent of GDP in 2008 Q4.

Because gross capital formation (investment) by financial corporations is a fairly low and stable proportion of GDP, the net lending position of the sector is generally driven by its internally generated resources/gross saving. Here, two elements of the financial crisis have been supportive.

First, the sharp reduction in interest rates, aimed at stimulating the economy, has enabled the financial sector to increase the interest rate spreads on financial assets which has resulted in improving operating surpluses (profits). In 2007 Q3, the gross operating surpluses of financial corporations were 3.2 per cent of GDP, by 2009 Q3 these had risen to 5 per cent.

Second, recapitalisation of the financial sector is designed to strengthen balance sheets, and therefore the capital inflows these entail increase the total resources available to the sector in excess of the net income it generates from business activities. This explains why financial corporation net lending spiked in 2008 Q4, and also how net lending could be greater than the gross savings generated by the sector, due to the large interventions to shore up the UK financial sector at that time.

Central Government net borrowing rises sharply

Although the General Government sector consists of Central Government, Local Government and also public corporations, it is the first of these that carries most of the balance sheet information for the sector as a whole.

The net lending position of UK Central Government is presented in **Figure 12**. Clearly, the sector has become a large and growing net borrower. In 2008 Q1 net borrowing amounted to 2.5 per cent of GDP, but by 2009 Q3 this had risen sharply to 11.0 per cent, consistent with the growing current budget deficits as the recession impacts on the public finances.

Automatic stabilisers in the taxes and benefits system have acted to support the gross disposable incomes of the household and corporate sectors. However, these have the opposite effects on the public finances. The gross disposable income of the Central Government sector, which reflects operating surpluses, net taxes and subsidies, and net taxes on income and wealth, fell significantly from 14.2 per cent of GDP in 2008 Q1 to 6.9 per cent in 2009 Q3. The largest contribution to falling disposable income came from net taxes on income and wealth.

As evidenced in the National Accounts data, government consumption and investment have remained robust throughout the recession, even growing as a proportion of GDP. Between 2008 Q1 and 2009 Q3 government consumption increased from 13.1 per cent of GDP to 14.5 per cent, and government gross capital formation rose from 1.1 per cent to 1.5 per cent. This too has contributed to the growing net borrowing position of the Central Government sector.

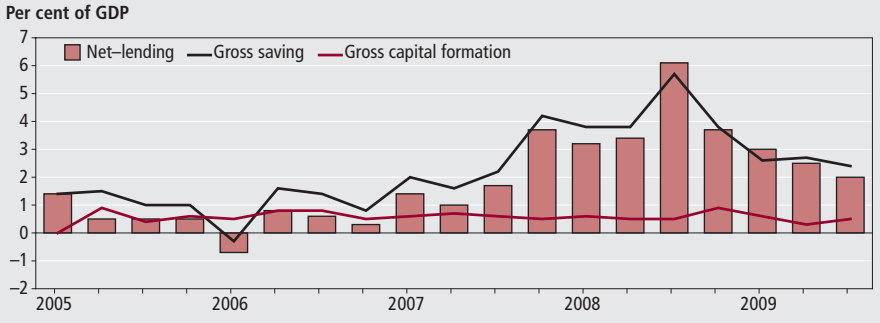
UK current account deficit at 1.3 per cent of GDP

The balance of payments records one country's transactions with the rest of the world. The current account part, consists of the trade in goods and services, income flows (of which most is due to cross-border ownership of financial assets), and current transfers (for example foreign aid and the membership dues to supranational organisations like the European Union and the United Nations).

Figure 13 shows the recent evolution of these four parts of the UK current account. In the latest published quarter, the overall current account was in deficit by 1.3 per cent of GDP.

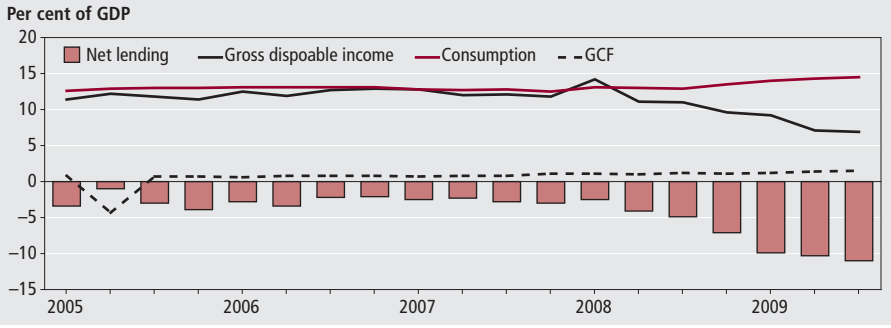
The balance of trade in goods and services recorded a deficit equal to 2.2 per cent of GDP in 2009 Q3. This deficit has narrowed during the recession as the

Figure 11
Net lending of financial corporations



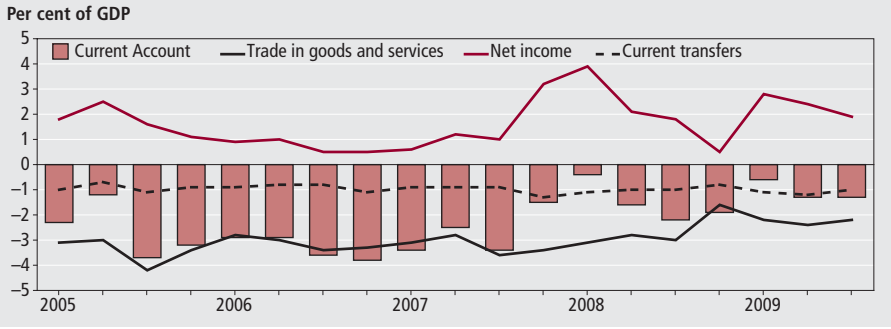
Source: Economic Accounts

Figure 12
Net borrowing of the Central Government sector



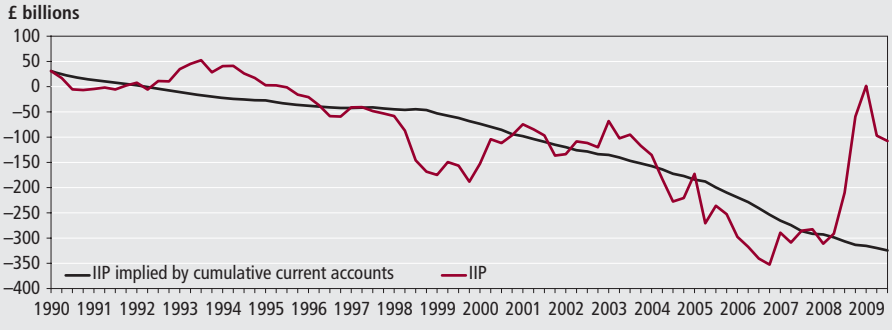
Source: ONS Economic Accounts

Figure 13
UK current account and its main components



Source: ONS Balance of Payments

Figure 14
UK international investment position



Source: ONS Balance of Payments

contraction in imports outstripped the contraction in exports. Before the recession, the deficit in 2007 Q3 was significantly higher at 3.6 per cent of GDP.

Current transfers are a relatively stable part of the current account, with the UK usually recording a deficit close to 1.0 per cent of GDP. In recent years, the UK has consistently generated a positive balance in net income, and this has been significant in offsetting the deficits in trade and current transfers. However, income flows have also been more volatile.

The UK has managed to generate positive investment income, despite being a net debtor to the rest of the world, in the sense that the International Investment Position (IIP), which is the difference between the stocks of foreign assets and liabilities, is negative. The secret of the UK's success appears to be in operating like a venture capitalist. Most of its liabilities are in low interest bearing financial assets, yet the UK retains a surplus in higher yielding foreign direct investments. The recent fall in global interest rates has helped to consolidate this position by reducing the costs of servicing foreign liabilities, despite the global downturn and financial crisis impacting on the profits generated by UK foreign direct investment.

The evolution of the IIP should therefore reflect movements in the current account. A country that runs a persistent current account deficit, like the UK, is effectively living beyond its means, and must fund its position by either increasing its stock of foreign liabilities or reducing its stock of foreign assets. Either way, the net IIP would be expected to deteriorate. These changes in stocks are the exact counterparts of the current account, which are recorded in the financial account of the balance of payments, and explains why the balance of payments (current account plus the financial account) should sum to zero.

Figure 14 plots the UK's IIP since 1990 Q1, and also the imputed IIP if it were to follow the accumulation of current account surpluses and deficits from that date onwards. For the most part, the IIP has generally moved in the same direction as the implied time series, but there have also been positions of significant divergence, none more so than in recent quarters. In 2009 Q1 the UK even saw its IIP briefly return to a net surplus, despite running a current account deficit for most of the preceding 20 years.

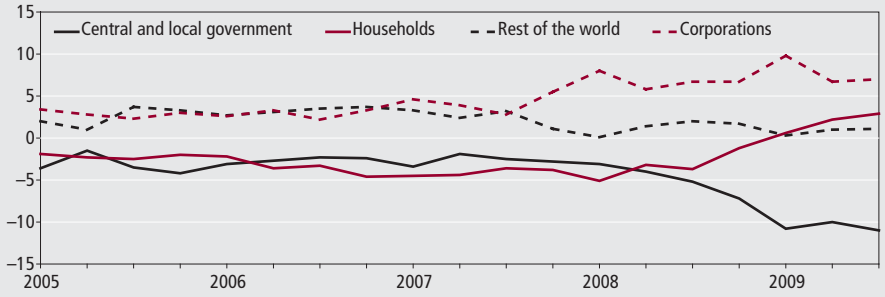
The reason for the volatility in the IIP is because the value of net asset holdings doesn't just reflect the accumulation of assets and liabilities, but also the revaluation of existing holdings, usually due to stock market movements or exchange rates. In the most recent case, the sharp improvement in the UK's IIP has been a consequence of sterling depreciation.

As foreign assets are likely to be valued in foreign currency, a depreciation of sterling against that currency would then increase the sterling value of those foreign assets. However, liabilities to foreigners are likely to be predominately held in sterling, so changes in the exchange rate have a limited effect on the valuation of liabilities. Due to the globalisation of capital markets, the UK's stocks of foreign assets and liabilities are both around five times the level of GDP. This scale means that revaluations from exchange rate movements can have very significant effects. For example, a 2 per cent depreciation would raise the sterling value of foreign assets by around 5*2=10 per cent of GDP.

In the second half of 2008 sterling depreciated by around 25 per cent against both the US dollar and the euro. As a result, the value of foreign assets rose substantially in sterling terms, moving the IIP back into surplus for the first time since 1995 Q2.

To a certain extent this revaluation doesn't mean much in real terms, and just reflects a nominal revaluation rather than the creation of new real wealth. For example, although the sterling value

Figure 15
Net lending by sector



Source: ONS Economic Accounts

of foreign assets has increased due to depreciation, if those foreign assets were then liquidated and the proceeds converted back into sterling it would be found that the same depreciation had reduced the purchasing power of the currency in global trade by a similar factor. Therefore, potential wealth effects could be small.

The overall Economic Accounts position is displayed in **Figure 15** – this records the net lending position of each UK sector. Here, the corporate sector consists of PNFCs, financial corporations and public corporations, which along with the household sector have become increasing net lenders. The government sector consists of both central and local government, and by contrast has become an increasing net borrower.

As this is effectively a closed system, the net lending position of the domestic sectors will be offset by the net lending position of the rest of the world sector. As the net borrowing of the government sector exceeds the net lending of the combined household and corporate sectors, the UK is an overall net borrower – which is reflected in the rest of the world sector being a net lender, it effectively does this through the UK current account deficit. Note as well, that changes in the net lending position of the UK domestic sectors would, in theory, be expected to have an offsetting effect on the current account. For example, if household consumption and business investment were to contract further, increasing the net lending positions of the household and corporate sectors, then holding other things equal, the UK current account deficit would be expected to narrow.

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Independent forecasts

December 2009

UK forecasts

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

2009

	Average	Lowest	Highest
GDP growth (per cent)	*–4.5*	*–4.7*	*–4.1*
Inflation rate (Q4, per cent)			
CPI	*1.8*	*1.2*	*2.2*
RPI	*0.0*	*–2.1*	*1.0*
Claimant count (Q4, million)	1.71	1.60	2.13
Current account (£ billion)	–27.9	–38.9	–15.0
Public Sector Net Borrowing (2009–10, £ billion)	177.4	133.7	220.0

2010

	Average	Lowest	Highest
GDP growth (per cent)	*1.3*	*–0.5*	*2.0*
Inflation rate (Q4, per cent)			
CPI	*1.8*	*1.1*	*3.7*
RPI	*2.8*	*1.6*	*4.7*
Claimant count (Q4, million)	1.89	1.69	2.30
Current account (£ billion)	–23.6	–50.8	–8.0
Public Sector Net Borrowing (2010–11, £ billion)	177.3	71.6	215.0

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	2007	2008	2009 Q1	2009 Q2	2009 Q3	2009 Sep	2009 Oct	2009 Nov
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	2.6	0.5	–2.5	–0.7	–0.2	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	2.6	0.4	–2.3	–0.6	–0.2	..	..	..
Industrial production	CKYW	0.3	–3.1	–5.1	–0.6	–0.9	1.3	0.0	..
Manufacturing	CKYY	0.6	–2.9	–5.3	–0.2	–0.2	1.6	0.0	..
Construction	GDQB	2.7	–0.8	–7.2	0.5	1.9	..	..	..
Services	GDQS	3.5	1.4	–1.9	–0.8	–0.2	..	..	..
Oil and gas extraction	CKZO	–2.2	–4.8	–2.2	–1.0	–6.2	0.8	1.0	..
Electricity, gas and water supply	CKYZ	0.2	0.2	–3.7	–2.9	0.2	0.3	–1.5	..
Business services and finance	GDQN	5.6	2.4	–2.9	–1.2	–0.8	..	..	..
Household demand									
Retail sales volume growth	EAPS	4.2	2.6	0.2	0.9	1.1	0.4	0.6	–0.4
Household final consumption expenditure growth (CVM)	ABJR	2.5	0.9	–1.5	–0.7	0.1	..	..	..
GB new registrations of cars (thousands)[1]	BCGT	..	..	..	..	..	..	..	..
Labour market[2,3]									
Employment: 16 and over (thousands)	MGRZ	29,222	29,443	29,168	28,921	28,927	28,926	..	..
Employment rate: working age (%)	MGSU	74.6	74.5	73.5	72.7	72.5	72.5	..	..
Workforce jobs (thousands)	DYDC	31,471	31,661	31,160	30,987	30,861	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	936.1	940.7	918.1	917.8	910.7	913.5	..	..
Unemployment: 16 and over (thousands)	MGSC	1,653	1,776	2,227	2,432	2,461	2,491	..	..
Unemployment rate: 16 and over (%)	MGSX	5.3	5.7	7.1	7.8	7.8	7.9	..	..
Claimant count (thousands)	BCJD	863.6	905.1	1,366.7	1,533.2	1,605.2	1,626.6	1,632.5	1,626.2
Economically active: 16 and over (thousands)	MGSF	30,875	31,220	31,395	31,353	31,389	31,417	..	..
Economic activity rate: working age (%)	MGSO	78.9	79.1	79.3	79.0	78.9	79.0	..	..
Economically inactive: working age (thousands)	YBSN	7,940	7,872	7,843	7,956	7,997	7,990	..	..
Economic inactivity rate: working age (%)	YBTL	21.1	20.9	20.7	21.0	21.1	21.0	..	..
Vacancies (thousands)	AP2Y	657	618	465	434	431	431	431	432
Redundancies (thousands)	BEAO	127	163	299	267	205	191	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses)[3]	LNNC	..	..	–0.5	2.5	1.4	1.4	1.5	..
GB average earnings (excluding bonuses)[3]	JQDY	..	..	3.0	2.4	1.7	1.7	1.7	..
Whole economy productivity (output per worker)	A4YN	..	..	–4.0	–3.5	–3.1	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	–2.4	–1.5	..
Unit wage costs: whole economy	LOJE	..	..	4.3	5.1	4.1	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	4.0	3.7	..
Business demand									
Business investment growth (CVM)	NPEL	11.9	1.1	–8.8	–10.3	–0.6	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	1.2	2.6	0.0	0.7	0.3	..	..	..
Prices (12-monthly percentage change – except oil prices)[1]									
Consumer prices index	D7G7	2.3	3.6	3.0	2.1	1.5	1.1	1.5	1.9
Retail prices index	CZBH	4.3	4.0	–0.1	–1.3	–1.4	–1.4	–0.8	0.3
Retail prices index (excluding mortgage interest payments)	CDKQ	3.2	4.3	2.4	1.4	1.3	1.3	1.9	2.7
Producer output prices (excluding FBTP)[4,5]	PLLV	1.9	4.7	3.6	1.3	0.7	1.3	2.2	2.0
Producer input prices[5]	RNNK	3.0	21.6	0.7	–8.9	–8.7	–6.2	0.4	4.0
Oil price: sterling (£ per barrel)	ETXR	36.11	52.10	31.33	38.44	42.05	41.81	43.45	46.74
Oil price: dollars ($ per barrel)	ETXQ	72.44	98.37	44.94	59.82	69.02	68.32	70.35	77.58

Seasonally adjusted unless otherwise stated

	Source CDID	2007	2008	2009 Q1	2009 Q2	2009 Q3	2009 Sep	2009 Oct	2009 Nov
Financial markets[1]									
Sterling ERI (January 2005=100)	BK67	103.6	90.8	77.3	80.8	82.5	80.9	79.1	80.7
Average exchange rate /US$	AUSS	2.0018	1.8528	1.4346	1.5503	1.6411	1.6328	1.6199	1.6597
Average exchange rate /Euro	THAP	1.4619	1.2588	1.1010	1.1389	1.1475	1.1212	1.0928	1.1126
3-month inter-bank rate	HSAJ	5.95	2.75	1.60	1.15	0.55	0.55	0.50	0.50
Selected retail banks: base rate	ZCMG						0.50	0.50	..
3-month interest rate on US Treasury bills	LUST	3.29	0.11	0.13	0.20	0.14	0.14	0.07	0.03
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	–89,754	–93,381	–20,855	–19,742	–19,679	–6,939	–7,108	..
Exports of services (£m)	IKBB	150,645	170,758	42,148	39,184	38,634	12,663	12,942	..
Non-EU balance on trade in goods (£m)	LGDT	–47,768	–53,913	–12,496	–10,766	–10,732	–3,774	–3,533	..
Non-EU exports of goods (excl oil & erratics)[6]	SHDJ	98.8	105.8	92.6	92.9	96.5	95.8	101.4	..
Non-EU imports of goods (excl oil & erratics)[6]	SHED	113.3	113.5	100.6	96.2	95.8	96.3	101.2	..
Non-EU import and price index (excl oil)[6]	LKWQ	102.6	115.3	130.9	126.2	122.8	124.0	125.3	..
Non-EU export and price index (excl oil)[6]	LKVX	101.8	109.8	121.5	118.4	116.7	117.4	118.3	..
Monetary conditions/government finances									
Narrow money: notes and coin (year on year percentage growth)[7]	VQUU	5.9	7.3	8.4	8.7	8.7	8.7	7.7	..
M4 (year on year percentage growth)	VQJW	12.9	13.1	17.9	13.6	11.6	11.6	10.8	..
Public sector net borrowing (£m)	–ANNX	33,948	60,943	22,425	40,372	35,517	14,877	10,201	20,315
Net lending to consumers (£m)	RLMH	12,948	11,156	193	411	–1,011	–299	–579	..

External indicators – non-ONS statistics

		2009 May	2009 Jun	2009 Jul	2009 Aug	2009 Sep	2009 Oct	2009 Nov	2009 Dec
Activity and expectations									
CBI output expectations balance[1]	ETCU	–17	–17	–14	–5	–2	4	4	–7
CBI optimism balance[1]	ETBV			–40				–60	
CBI price expectations balance	ETDQ	–14	–8	–13	5	–6	–4	–4	–2

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

The changing nature of the UK's trade deficits, 1985–2008

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SUMMARY

This article considers changes in the nature of the balance of trade between 1985 and 2008. The first section examines the theories behind trade and the position of the UK relative to its trading partners. Periods of deficit and surplus between these dates are then analysed individually, drawing comparisons. Lastly, the composition of the balance of trade in each period and the fundamental reasons driving either the surplus or deficit are discussed. The analysis concludes that there are some fundamental similarities between the causes of each trade deficit, although there have also been large structural changes in the composition of UK exports and imports due to developments in the global economy.

Why do we trade?

The principles underpinning trade arise from the differences in the requirements or wants of individuals, and the resources available to them. These principles can be applied to countries as they differ from one another in terms of quality, quantity and price of resources, as well as the techniques which firms use to produce goods and services.

Economic theories behind international trade originate from David Ricardo's (1817) theory of comparative advantage. His work suggested that there would always be a gain to world output from trading, regardless of whether a country has an absolute productive advantage in any of its trading products. If each country specialises in the production of the goods and services in line with their comparative advantage, total world output can be increased, theoretically benefiting all. The more pronounced the variation in trading countries structures are, the greater the potential economic gain from specialisation and trade.

The Hecksher–Ohlin model (see Heckscher 1919 and Ohlin 1933) builds on the theory of comparative advantage by predicting patterns of production based on the factor endowments (that is natural resources, labour and capital) of a trading region. It suggests that a country will export those products which intensively use factors of production in which it has a relative abundance, and import those products which intensively use factors of production that are relatively scarce.

New Trade Theory challenges some of the assumptions underpinning these traditional models, in particular by looking at trade from the perspective of imperfect competition and increasing returns to scale. Krugman (1979) has been attributed with the early development of this literature, which seeks to explain why there is so much trade between similar countries, with similar factor endowments, which cannot be explained by previous models. Krugman suggested that although the broad pattern of what countries trade is determined by things like resources and climate, there is also specialisation due to economies of scale, network externalities, the possibility of product specialisation and strategic behaviour.

The UK total trade balance since 1985

The balance of trade has traditionally been defined as the difference between the imports and exports of goods across an economic boundary in a given period. However, as services have become increasingly prominent in international trade these too are considered in what is commonly called the balance of total trade. This is particularly significant in the UK, given the importance of the service sector in the UK economy and trade, especially since joining the European Union in 1973. The balance measures the difference between the value of total exports and the value of total imports for a country. It is a significant component of the current account, which makes up part

of the balance of payments. For further information on the construction of the balance of payments see Chamberlin (2009). A trade deficit implies that the value of a country's imports is greater than the value of its exports, and a trade surplus vice versa.

Over the past three decades, there have been some distinct changes in the UK balance of total trade (see **Figure 1**). These have been separated into four periods:

- between Q2 1985 and Q4 1988 the balance deteriorated rapidly, moving from a surplus of £4.1 billion (2.2 per cent of gross domestic product (GDP)) to a deficit of £4.6 billion (also 2.2 per cent of GDP)
- during the late 1980s and the first half of the 1990s, the balance subsequently improved and returned to surplus. In Q1 1995 this surplus stood at £3.3 billion (1.4 per cent of GDP)
- in the late 1990s and for most of the 'noughties', the UK total trade balance has persistently worsened. By the final quarter of 2007 the deficit had reached £12.9 billion (3.9 per cent of GDP)
- however, since then the total trade balance has improved. The most recent data show that in Q3 2009 the deficit had fallen to £7.1 billion (2.2 per cent of GDP)

Table 1 shows the evolution of the UK total trade balance over these four periods in terms of the growth in exports and imports of goods and services. Between Q2 1985 and Q4 1988 the balance moved into deficit as the growth in imports outstripped growth in exports for both goods and services. During the period Q1 1989 to Q1 1995 the total trade balance returned to surplus, as the growth in UK exports increased, and the growth in goods imported fell sharply. From Q2 1995 to Q4 2007 imports grew at a faster rate than exports overall, despite services exports continuing to grow faster than services imports. This was because of a slowdown in the growth of goods exported and a strong pick up in the growth of goods imported. Finally, both exports and imports of goods and services have contracted throughout 2008 but imports have fallen at a faster rate than exports for both goods and services.

The main focus of this paper is to try and offer some economic explanations for the movements in the UK total trade balance during these four periods. Headline indicators relating to the export and import of goods and services are available in constant price terms, which enables analysis of trade volumes for the key aggregates. Unfortunately, published data at a more detailed product level is only available in current prices, which makes it difficult to identify changes in volumes as prices are not necessarily constant. However, it does enable a general idea of the factors determining the UK's trade position to be formed at a lower level.

International comparisons in the total trade balance

Over the same period, the US (in percentage of GDP terms) has been running similar trade positions to that of the UK. In contrast, Germany and Japan have both been running sizeable trade surpluses (see **Figure 2**).

The present US trade deficit, similar to the UK, results from a significant deficit in trade in goods, which is partially offset by a surplus of trade in services. In contrast the positions for Japan and Germany are reversed, generally showing an overall surplus, stemming from a large surplus in goods trade and a relatively smaller deficit in services trade.

These trends can be partially attributed to differences in the structure of these economies. The UK and the US have large service sectors and consumption (domestic spending) has been the main source of growth, consequently resulting in a large number of imported goods. Conversely, both Germany and Japan have much

Table 1
Average quarterly real growth rates of the exports and imports of goods and services[1]

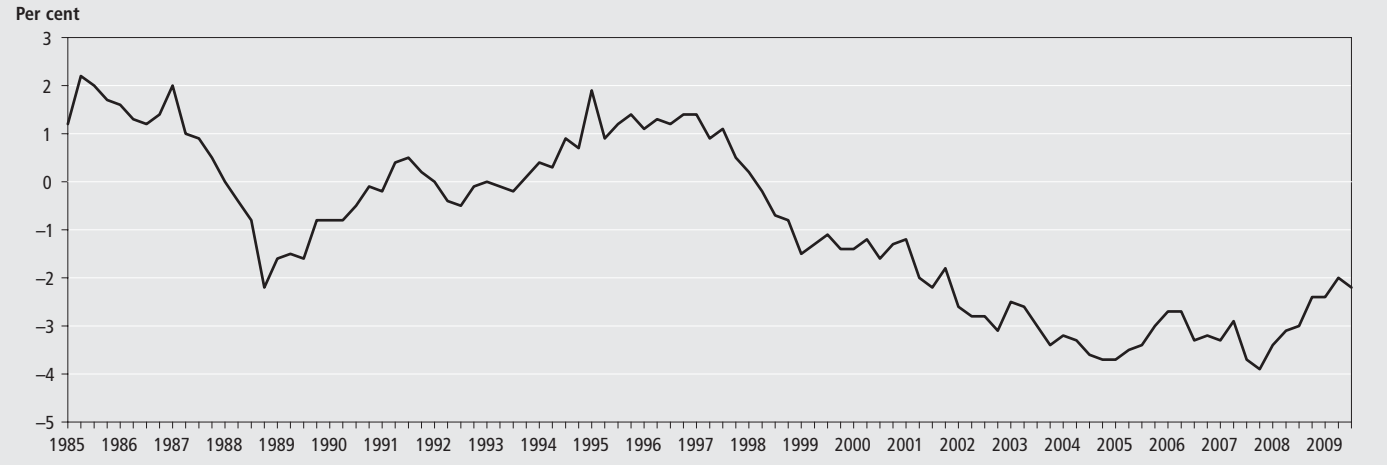
Per cent

	Goods and Services		Services		Goods	
	Exports	Imports	Exports	Imports	Exports	Imports
1985Q2 – 1988Q4	*0.5*	*2.4*	*0.3*	*2.1*	*0.6*	*2.5*
1989Q1 – 1995Q1	*1.3*	*0.5*	*1.2*	*0.7*	*1.3*	*0.5*
1995Q2 – 2007Q4	*1.2*	*1.6*	*1.9*	*1.8*	*0.9*	*1.5*
2008Q1 – 2008Q4	*–2.2*	*–2.8*	*–2.1*	*–2.8*	*–2.3*	*–2.8*

Note: *Source: ONS Quarterly National Accounts*

1 Data is based on the Chained Volume Measures and seasonally adjusted.

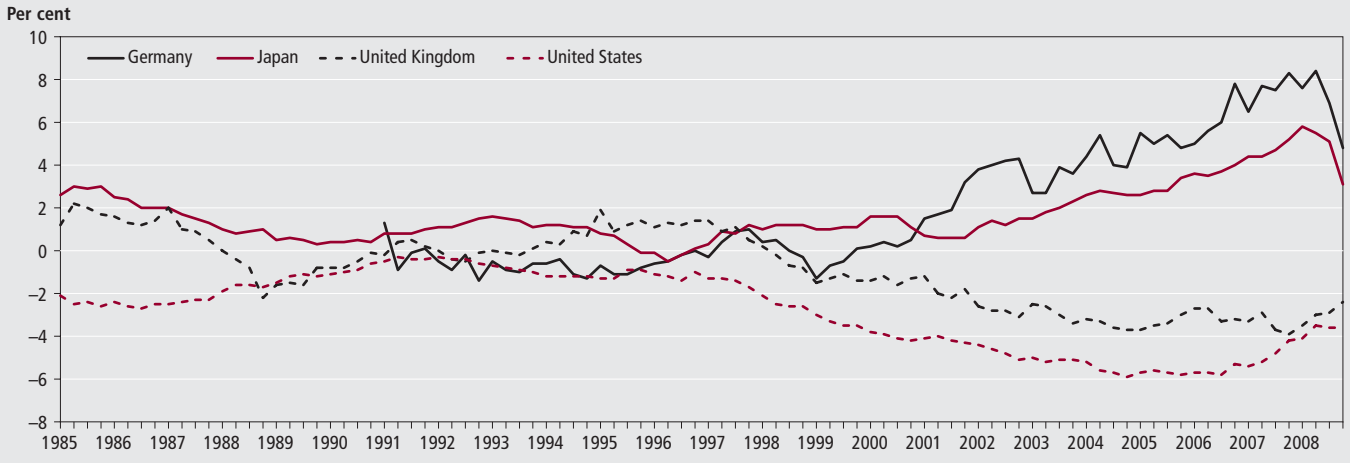
Figure 1
Total trade balance as a percentage of GDP[1]



Note: *Source: ONS Quarterly National Accounts*

1 Data is based on the Chained Volume Measures and seasonally adjusted.

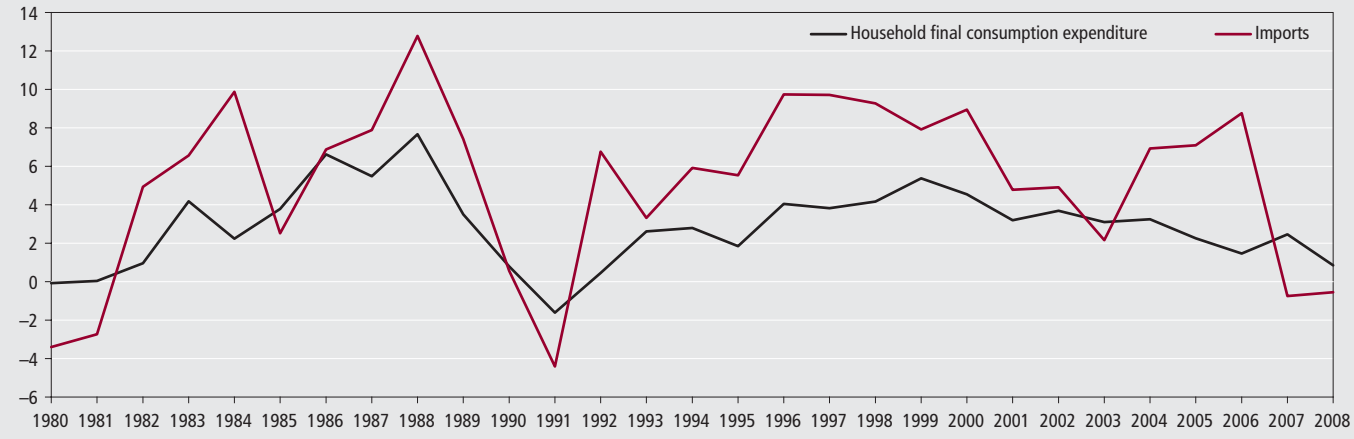
Figure 2
Balance of total trade as a percentage of GDP – international comparisons[1]



Note:
1 Data is based on the Chained Volume Measures and is seasonally adjusted.

Source: OECD Monthly Economic Indicators

Figure 3
Growth in household final consumption expenditure and imports[1]



Note:
1 Data is based on the Chained Volume Measures and is seasonally adjusted.

Source: ONS Quarterly National Accounts

larger manufacturing bases, and growth to a greater extent has been export led due to the weakness of domestic spending. In both Germany and Japan, high saving ratios appear to be the result of ageing populations.

The move to deficit, Q2 1985 to Q4 1988

In Q2 1985 the UK's trade balance recorded the largest surplus, as a percentage of GDP, since the end of 1982. Over the next two-and-a-half years this surplus, representing 2.2 per cent of GDP, swung to a deficit of 2.2 per cent of GDP. This was primarily driven by the trade in goods component. As Table 1 shows, goods imported grew over four-times faster than exports in this period. Although the balance of trade in services also deteriorated, this component only accounted for approximately 20 per cent of the total reversal.

As UK household consumption expenditure has been an important driver of economic growth in recent decades, there have been strong links between the UK's balance of trade and the economic cycle. Growing trade deficits between 1985 and 1988 coincide with a period of strong growth in household final consumption expenditure. As **Figure 3** clearly shows, UK household consumption growth and imports growth have been strongly correlated.

There were a number of factors that may account for the strength of consumption growth in the mid to late 1980s. Stronger economic growth in 1987 and 1988 meant that unemployment, which peaked at around 3 million in 1986, began to fall rapidly. The deregulation of financial markets (in the big bang of 1986) also led to a large expansion in the availability of household consumer and mortgage credit – the latter prompting strong growth in domestic house prices that buoyed the net-worth of home-owners. Reductions in income tax in the budgets of 1987 and 1988 also boosted personal disposable incomes.

Interest rates were also kept low during this period. Between early 1987 and March 1988, the UK Treasury followed a semi-official policy of shadowing the German Deutsche Mark (DM) with the eventual intention of joining the European Exchange Rate Mechanism (ERM). Nigel Lawson, the then Chancellor of the Exchequer, resisted raising interest rates in case it led to sterling appreciation against the DM, thus breaking the unofficial exchange rate target. In addition, in October 1987 global stock markets crashed, falling by 25 per cent in one week. Although there was no obvious economic explanation, Governments worried about

any potential macro consequences, kept interest rates low to avoid any possible downturn. The resulting low interest rates lent support to already strongly growing household borrowing and spending.

However, the deterioration in the UK's total trade balance during this time may also have been structural, as well as cyclical. The early 1980s saw a strong retrenchment in the size of the UK's manufacturing sector, meaning that as household consumption expanded, demand was increasingly met by imports. The substitution of domestic goods with imports may also have been driven by price, and by quality (such as the prestige associated with certain foreign products like German cars and Japanese electricals).

Trade flows can also be heavily influenced by the exchange rate. As a currency appreciates, imports become relatively cheaper and exports become relatively more expensive (holding other things equal). Likewise, exchange rate depreciation would have the opposite effects, making imports more expensive and exports relatively cheaper. Therefore, if the volume of exports and imports are price sensitive, then the competitiveness effects resulting from exchange rate movements can have an important effect on the overall total trade balance.

The decline in the UK manufacturing sector during the early 1980s had been partly blamed on the strength of sterling, which through the development of North Sea oil had been afforded petrocurrency status, but to the competitive detriment of other traded goods. These were primarily manufactures.

Between 1985 and 1987 sterling appreciated strongly against the US dollar. In March 1985 the exchange rate was close to unity, but by the end of 1987 sterling was trading at around $1.80 – representing an 80 per cent appreciation in three years. The sharp fall in the US dollar was attributed to the Plaza Accord in 1985, where France, West Germany, Japan, UK and US agreed to intervene in currency markets to devalue the US dollar. This was considered a necessary step to correct the overvaluation, which had contributed to the US trade deficit growing to 3.5 per cent of GDP, and help the US economy emerge from recession by improving the competitiveness of US exports. If anything, the Plaza Accord was too-successful in devaluing the dollar, leading to the Louvre Accord in February 1987. This attempted to halt the decline, but with limited impact, as the dollar continued to depreciate throughout the rest of 1987. The large fall in the US dollar may explain some of the growth in UK imports between 1985 and 1988, particularly in services, where UK exports grew at an average quarterly rate of 0.3 per cent while imports grew by 2.1 per cent.

Throughout this period of deficit the UK had remained a net exporter of oil, although North Sea oil production had passed its 1986 peak. Oil prices that had peaked at over $40 per barrel following the Iranian Revolution in 1979, fell to below $8 per barrel in 1986, making extraction from and investment in the North Sea fields less profitable.

In conclusion, between 1985 and 1988 the UK's total trade balance experienced a sharp reversal from surplus to deficit. The main cause appears to be a strong pass-through from rapidly growing household consumption to imports. At this time total trade was predominately in goods. UK manufacturing output had undergone a significant contraction in the early 1980s, so growing domestic demand was increasingly satisfied by imports. Exchange rate policy at the time supported these trends. International attempts to devalue the US dollar were aimed at improving the competitiveness of US exports and closing the US trade deficit. Although semi-official action was taken to avoid sterling appreciating against the German DM, this resulted in lower interest rates which further fuelled the growth in household spending.

The return to surplus, Q1 1989 to Q1 1995

As a percentage of GDP, the total trade balance improved from a deficit of 2.2 per cent to a surplus of 1.4 per cent by the first quarter of 1995. Table 1 shows that overall improvement in the total trade balance originated from an improvement in the growth rate of exports and a substantial easing in the growth rate for imports of both goods and services. From the macroeconomic standpoint, the return to surplus possibly reflects the reverse of the factors that caused the previous swing into deficit.

During the early 1990s the UK entered recession. Strong growth at the end of the 1980s had generated double-digit inflation in consumer prices. The subsequent tightening in monetary policy led to a significant fall in house prices, and as repossessions and mortgage arrears spiked consumer confidence plummeted. Even when inflation had started to fall and unemployment had doubled towards 3 million, the UK's membership of the ERM meant that interest rates were maintained at higher rates than they may have been, especially as the UK was in recession and a cut in interest rates was required to stimulate the economy.

Worried about the inflationary consequences of reunification, the German Bundesbank increased interest rates in the early 1990s, meaning that UK rates had to follow suit if the sterling parity against the DM was to be maintained within the ERM. Therefore, as long as the UK monetary authorities were committed to staying in the ERM they faced the inconsistent action of tightening policy at a time when the economy was contracting and unemployment rising quickly. The effect on household consumer spending, feeding through to imports was predictable (see Figure 3). Only when the UK finally suspended its ERM membership, following intense selling of the pound in currency markets in September 1992, were interest rates free to come down.

The recession in the early 1990s was not a global phenomenon. Most of the UK's main trading partners were experiencing moderately strong growth, especially Germany, meaning that UK exports and the economy as a whole were supported by foreign demand. As a result, the rate of growth of UK imports fell but exports growth remained robust. These movements were also reinforced by changes in the value of sterling.

Following the exit from the ERM in September 1992 (Black Wednesday) and the immediate reduction in UK interest rates, the sterling effective exchange rate fell by over 10 per cent between the summer and winter of 1992. It was not until December 1997 that the sterling effective exchange rate recovered to its pre-Black Wednesday level. The sustained low value of sterling provided a strong fillip to the UK total trade balance. Growth in the exports of goods picked up, particularly in capital goods, motor vehicles and other consumer goods. Surpluses in business and financial services also increased markedly.

The return to surplus between 1989 and 1995 therefore reflected a contraction in domestic demand, while foreign demand remained fairly robust. The fall in imports growth and the rise in exports growth was also supported by a substantial and persistent depreciation in sterling. Positive effects from net-trade acted to reduce

the severity of the recession, especially compared to the present and early 1980s recessions when there were synchronised downturns in most of the major economies.

The return to deficit, Q1 1995 to Q4 2007

After recording a surplus equal to 1.9 per cent of GDP in the first quarter of 1995, the UK total trade balance persistently worsened until the final quarter of 2007, when the deficit stood at £12.9 billion, or 3.9 per cent of GDP. The large and prolonged turnaround in the trade balance was driven by a sharp rise in the growth of imports of goods and a fall in the growth of exports of goods. In contrast, exports of services continued to grow faster than imports. Overall, exports of goods and services grew by an average 1.2 per cent each quarter during this period, but imports by a higher rate of 1.6 per cent.

The period between the current and early 1990s recessions marked the longest peacetime expansion on record. The UK economy experienced 64 successive quarters of positive growth while maintaining low inflation – the whole episode has come to be known as the 'Great Moderation'. Given the cyclical nature of the UK's total trade balance, it is perhaps not surprising that such a sustained period of economic growth has resulted in a persistent deterioration of the total trade balance.

However, this period included a number of profound changes in the global economy which may also have been instrumental in accounting for changes in the UK's trade balance, as well as the structure of the UK economy itself. China's open door policy saw it effectively join the global economy, leading to its eventual ascension to the World Trade Organisation in 2001. The fall of the Berlin Wall in 1989 eventually led to the accession of the former Communist countries in Eastern Europe to the European Free Trade Area. Economic liberalisation during the 1990s and 2000s in India saw the economy turn more outwards, looking for export orientated growth rather than import substitution.

Richard Freeman, the Harvard Economist, referred to these three changes, which occurred within a decade, as the 'Great Doubling', calculating that the global labour force increased from 1.46 billion to 2.93 billion. As a result the global capital-labour ratios halved, putting strong downward pressure on wages, especially those in low-skilled occupations. As the Heckscher-Ohlin model predicts, this has led to a dramatic change in the relative prices of traded goods which entail a high degree of relatively unskilled labour, and where these goods are produced.

This has been reflected in the composition of UK goods trade. The UK has seen its share in the exports of lower technology goods fall, but has actually increased its share in global exports of smaller high technology manufactures such as medical and pharmaceuticals, communication equipment, office machinery and computers (see Chamberlin 2009 and MacCoille 2008). Strong growth in imports has also coincided with a shift from the major industrialised countries to emerging markets. During this period, the share of total imports originating from the US, the South East Asian economies, France and Germany declined. In contrast, the share of total imports accounted for by China and the economies that gained accession to the European Union in 2004 rose.

UK export growth, which had been robust until 2003, accelerated between 2004 and 2006. There was also a shift in the countries to which the UK exports its goods and services. The shares accounted for by China, the countries that gained accession to the EU in 2004 and the US increased, while the shares accounted for by more traditional trading partners such as France, Germany and the countries of South East Asia fell.

The improvement in services exports growth has been driven by faster than average growth in financial and other business exports. Financial services accounted for approximately a third of all exports in Q4 2007 compared to just 16 per cent in Q2 1995. Financial services have also shown strong growth in imports, although not to the same degree as exports, explaining the increasing surplus position. Liberalisation of global financial markets has resulted in increased integration of financial services globally. However, much financial market activity has become concentrated in highly developed economies and financial hubs, such as London.

The recent growth in services exports is consistent with the increasing composition of services output in total UK output, a trend that has been ongoing for the past four decades or so. This could be interpreted as further evidence of the continued change in industrial structure of the UK economy. As this change has occurred during a time of fast growth in global trade, it appears that the UK's economic structure has moved in line with its comparative advantage, which has also been reflected in its trade position.

The changing composition of UK trade has coincided with a widening deficit, but also with improving terms of trade. The terms of trade is simply the ratio of export prices to import prices. An influx of cheap imports have depressed the latter, but export prices, which are concentrated in high-technology manufactures and services have been more resilient despite stronger global competition. The improvement in the terms of trade, as discussed in Chamberlin (2008), represents a positive wealth effect, as sterling can command a greater quantity of goods and services in global markets. This may be one of the factors accounting for the rise in consumption growth that started around 1996.

The trade balance in the recession

Following the final quarter of 2007 the trade deficit has narrowed. Both imports and exports of goods have fallen as a result of the global recession, reflecting a contraction in both domestic and foreign demand respectively. However, imports of goods have fallen at a faster pace than exports (see Table 1), and therefore the balance of trade in goods has improved over the period. In fact, net-trade has generally made a positive contribution to UK GDP throughout the recession.

Prior to the global recession and financial crisis the UK ran a persistent trade deficit. Correction would require either a fall in domestic consumption relative to the rest of the world, sterling exchange rate depreciation, or a combination of the two. In fact both of these have occurred. The UK has experienced a more persistent downturn than the majority of OECD economies, and the effective sterling exchange rate fell by around 20 per cent in the second half of 2008. The overall significance of sterling depreciation is hard to gauge. Business surveys report little effect on exports, primarily because any competitiveness effects have been outweighed by a strong contraction in foreign demand. However, it should be noted that the fall in export demand may have been even greater if it were not for the exchange rate.

Issues surrounding the most recent trade deficit

Despite structural differences, there are similarities between the current and previous UK trade deficits. Negative balances have coincided with periods of strong household final consumption expenditure and low private savings compared to income. Such conditions raise issues surrounding the sustainability of these deficits and the financing of excessive consumption.

When a nation runs a current account deficit it is essentially consuming beyond its means, a position it has to fund by either increasing its foreign liabilities or by reducing its foreign assets. These counterparts to the current account are recorded in the financial account of the balance of payments, and because they represent the offsetting financial transactions that fund the current account position, it explains why the overall balance of payments should balance to zero (see Chamberlin 2009).

The stock of foreign assets and liabilities is reflected in the International Investment Position (IIP). Financing a persistent current account (total trade balance) deficit would be expected to see foreign liabilities rise relative to assets, and a long deterioration in the IIP.

Figure 4 plots the UK IIP as a percentage of GDP. For the most part it can be seen that the IIP has moved in line with the total trade balance, with the persistent deficit leading the UK to greater foreign indebtedness. It can also be seen that there was a sharp improvement in the IIP at the end of 2008, which reflects the revaluation of foreign assets following the depreciation of sterling. However this does not change the underlying position. For example, if sterling were to appreciate once again the IIP would decline and once again reflect the build up of previous trade deficits.

A key issue, is how countries like the UK and the US have been able to run persistent deficits for so long, why there was little pressure on their currencies to depreciate during this time, and finally why it was both easy and cheap for these countries to fund their persistent and large deficits? Having been identified as a primary cause of the ensuing financial crisis and global recession, there has been much discussion on how large global imbalances may be avoided in the future.

Over the last decade, high saving rates in Emerging Asia (China) and strong oil prices benefiting oil exporters, have seen these nations run large and persistent trade surpluses and accumulate significant foreign reserves. These have been reinvested in the financial markets of the developed nations, primarily the US, often at very low interest rates. This recycling of surpluses has enabled deficit countries to both cheaply and easily fund their positions over a long period of time. An extension of this has been to reduce global interest rates, encouraging greater and riskier lending in search of higher yields, including the US subprime mortgage market and private equity.

Why might Emerging Asia and oil exporters be prepared to invest their surpluses at such low yields? The major reason is that most have poorly developed financial markets themselves, so literally have little other options. Furthermore, the spate of financial crises in the 1990s, especially in Asia, has encouraged the accumulation of foreign reserves and safe assets such as US Treasury Bills. Although the volumes involved are small compared to the US, the UK - home to the City of London, has also seen large inflows from emerging Asia and OPEC. This too would have strengthened sterling, preventing a correction in the UK trade deficit.

Conclusion

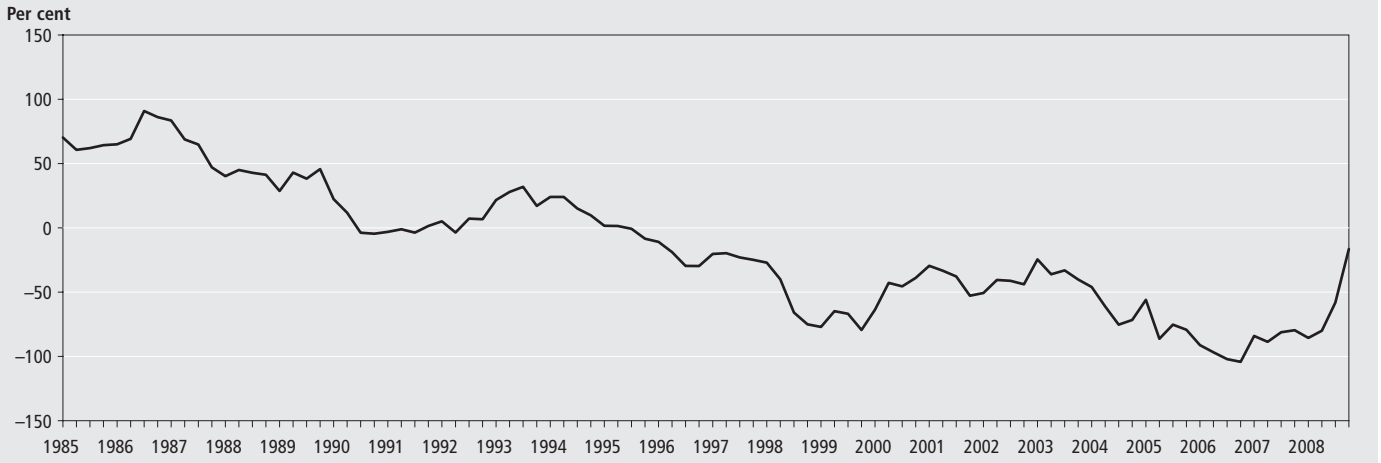
Despite structural changes in the UK economy, and possible effects resulting from movements in sterling, the total trade balance over the last two-and-a-half decades has generally exhibited a strong cyclical pattern. Movements between surplus and deficit have tended to follow the strength of domestic demand.

The UK is an open economy, and there is anecdotal evidence that the structure of the UK economy has moved in line with its comparative advantage. The UK's main export industries are now higher technology manufactures such as pharmaceuticals, communications equipment, office machinery and computers, and business and financial services.

The Great Doubling of the global labour force in the 1990s and 2000s as China, India and Eastern Europe entered global trade have dramatically lowered the prices of many imported goods. The pass-through to lower import prices (and thus interest rates via lower inflation) supported strong consumption growth in the mid to late 1990s, enabling the UK economy to enjoy a record period of economic growth.

However global imbalances have arisen as surplus countries, such as OPEC members and Emerging Asia, invest their surpluses in the financial systems of

Figure 4
Net International Investment Position as a percentage of GDP[1]



Note:

1 Not seasonally adjusted, current prices.

Source: ONS Quarterly National Accounts

deficit countries. This has prevented the adjustment that otherwise might have happened in the exchange rate or domestic demand to correct these imbalances, allowing them to perpetuate and build for over a decade.

One of the consequences of cheap money was a search for yield, prompting greater and riskier lending such as in the US subprime mortgage markets. Global imbalances therefore played a key role in the build up to the financial crisis and global recession, from which the world is just beginning to emerge.

ACKNOWLEDGEMENTS

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ARTICLE

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Implications of the change in female state pension age for labour market statistics

SUMMARY

Between 2010 and 2020, the state pension age for women will gradually increase, by one month every two months, from 60 to 65. At present, the headline employment and inactivity rates from the Labour Force Survey (LFS) are described as working age. They are based on upper age limits of 59 for women and 64 for men to reflect the current state pension ages in the UK. This article describes how these changes will be implemented and impact on key labour market statistics.

Introduction

Currently the headline employment and inactivity rates (and the inactivity level) from the Labour Force Survey (LFS), are based on upper age limits of 59 for women and 64 for men to reflect the current state pension ages in the UK. These headline rates, published in the monthly UK and regional labour market statistical bulletins, are described as working age employment and inactivity rates.

Between 2010 and 2020, the state pension age for women will gradually increase from 60 to 65 resulting in a need for the Office for National Statistics (ONS) to reconsider the current headline rates. Over this ten-year period, the state pension age for women will increase by one month every two months. It is recognised that the state pension age for both men and women is due to rise from 65 in the longer term. However this is a separate issue to be reviewed in the future.

The headline unemployment rate is based on the population aged 16 and over. Therefore, the change to the female state pension age has no implications for the unemployment rate.

Implications for headline employment and inactivity rates

Following a public consultation and extensive discussions with key stakeholders within government, ONS has decided that:

- from August 2010, the current working age employment and inactivity rates in the UK and Regional labour market statistical bulletins will be replaced with headline rates based on those aged from 16 to 64 for both men and women. These will include consistent employment and inactivity rates back to and including 1992 and national rates re-scaled back to 1971
- the existing rates, based on women aged from 16 to 59 and men aged from 16 to 64, will continue to be published every month for a limited period
- ONS will also publish, every quarter, a rate that follows the incremental increases in the female state pension age

The alternative rates referred to in the second and third bullet points, will be published on the ONS website but not in the labour market statistical bulletins. Therefore it will be clear to users that the headline employment and inactivity rates will be for those aged from 16 to 64.

Implications for other Labour Market Statistics

At the same time as the new headline employment and inactivity rates are introduced, based on those aged from 16 to 64, similar changes will be implemented for other estimates in the statistical bulletin, for example the benefit proportions which currently use working age population figures as denominators. This will affect the key out of work benefit proportions published in Table 25 of the UK labour market statistical bulletin, sub-regional claimant count proportions and job density

Table 1
Employment and inactivity rate using the current working age definition and for individuals aged 16 to 64, and the difference between both series for April–June 2009

Per cent, not seasonally adjusted

	Current working age (16–59/64)	New definition (16–64)	Difference, percentage points
Employment rate	*72.4*	*70.6*	*–1.8*
Inactivity rate	*21.3*	*23.4*	*2.1*

Source: Labour Force Survey

estimates in Tables 12-15 of the regional labour market statistical bulletins, and other proportions currently based on working age populations. This will not affect the headline claimant count rates at UK and regional level which use a different denominator and are not dependent on working age definitions.

Impact of the change on labour market statistics

Moving from publishing statistics for those of working age to cover those aged 16 to 64 will impact on both person level and household level statistics. The analysis presented below shows the difference between the current working age definition (men aged 16 to 64 and women aged 16 to 59) and the new definition (everyone aged 16 to 64) for the headline employment and inactivity rates. The impact on person level labour market indicators such as country of birth, nationality and region are also shown. Household indicators presented annually in the work and worklessness statistical bulletin are also affected and these differences are given.

Impact on person level indicators

In order to show the differences between the two age definitions it is necessary to use the LFS microdata. Estimates from the microdata are based on the mid-2007 population estimates. Non-seasonally adjusted estimates available on the ONS website are interim reweighted to the latest population estimates and will therefore differ slightly from the estimates published in this article.

Table 1 shows the employment and inactivity rate using the current working age definition, for individuals aged 16 to 64, and the difference between both series for the three months to June 2009. The employment rate represents the percentage of individuals who are in employment. In the three months to June 2009, the employment rate of working age people was 72.4 per cent, with 27.5 million people of working age in employment. When including women aged 60 to 64, the employment level rises by 642,000 to 28.1 million, with the rate falling to 70.6 per cent. The fall in rate is because the employment rate of women aged 60 to 64 is much smaller than that of the current working age population. For this group the rate in the three months to June 2009, was 34.1 per cent, showing that around one in three of this group was in employment. The difference in the two definitions, which was 1.8 percentage points in the three months to June 2009, is fairly consistent over the period (see **Figure 1**). Between the three months to June 1992 and the same period in 2009, the difference in the two series range from 1.8 percentage points to 2.0 percentage points.

The inactivity rate represents the percentage of individuals who are inactive, that is people who are neither employed nor unemployed. Table 1 also shows the inactivity rate of working age people was 21.3 per cent in the three months to June 2009. In the same period, the inactivity rate of women aged 60 to 64 was 65.1 per cent, showing that around two-thirds of this group were inactive, much higher than that of the current working age population. Therefore, when moving to the new definition to include all those aged 16 to 64, the rate increased to 23.4 per cent, a 2.1 percentage point increase. Over the period, from the three months to June 1992 and the same period in 2009, the differences in the two series fluctuate between 1.9 percentage points and 2.3 percentage points (see **Figure 2**).

Figure 3 shows a comparison of the impact of the changes on the employment rate and inactivity rate for women for the three months to June 1992 to the same period in 2009. In the three months to June 2009, the employment rate of women aged 16 to 59 was 68.9 per cent. When including women aged 60 to 64 the employment rate falls to 65.6 per cent, a difference of 3.3 percentage points. Over the period, the difference in the employment rate of women fluctuates between 3.1 percentage points and 3.5 percentage points.

In the three months to June 2009, the inactivity rate of women aged 16 to 59 was 26.1 per cent. When women aged 60 to 64 are included the rate increases to 29.8 per cent. Over the period, the difference in the inactivity rates of the two series ranges from 3.4 percentage points to 3.8 percentage points.

Employment by country of birth and nationality

Employment rates by country of birth and nationality are published in the UK statistical bulletin. **Figure 4** shows the impact of the changes on the employment rate by country of birth and nationality for the UK and non-UK groups. Around nine out of ten of those employed are UK born or UK nationals, therefore the impact of the changes on these groups are similar to those for the total employment rate shown in Figure 1.

In the three months to June 2009, the employment rate of UK born working age people was 73.4 per cent. When moving to the new definition to include those females aged 60 to 64, the rate decreases to 71.4 per cent. Between the three months to March 1997 and the three months to June 2009, the difference in the two series range from 1.8 percentage points to 2.1 percentage points. For the three months to June 2009, the employment rate of non-UK born working age people was 66.9 per cent decreasing to 66.0 per cent when including all those aged 16 to 64. Over the period the difference in the two measures for the non-UK born employment rate range from 0.9 to 1.7 percentage points.

Figure 4 shows that the difference in the two measures of the employment rates for UK nationals are similar to those for UK born. In the three months to June 2009, the employment rate of non-UK nationals of working age was 66.8 per cent falling to 66.1 per cent when including all non-UK nationals aged 16 to 64. Over the period the difference in the two series range from 0.3 percentage points to 1.2 percentage points.

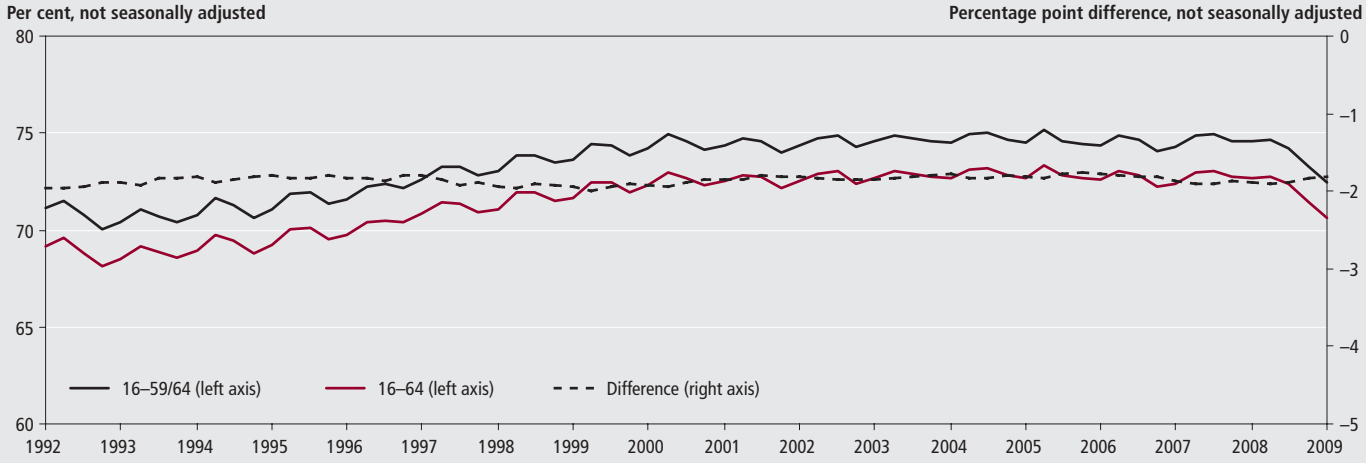
In the three months to June 2009, females aged 60 to 64 accounted for around 2 per cent of non-UK nationals but around 3 per cent of non-UK born. As a result, the change in definition has slightly more impact on the non-UK born series.

Regional analysis

Government office region labour market indicators are published in Table 18(1) of the UK statistical bulletin and table

Figure 1

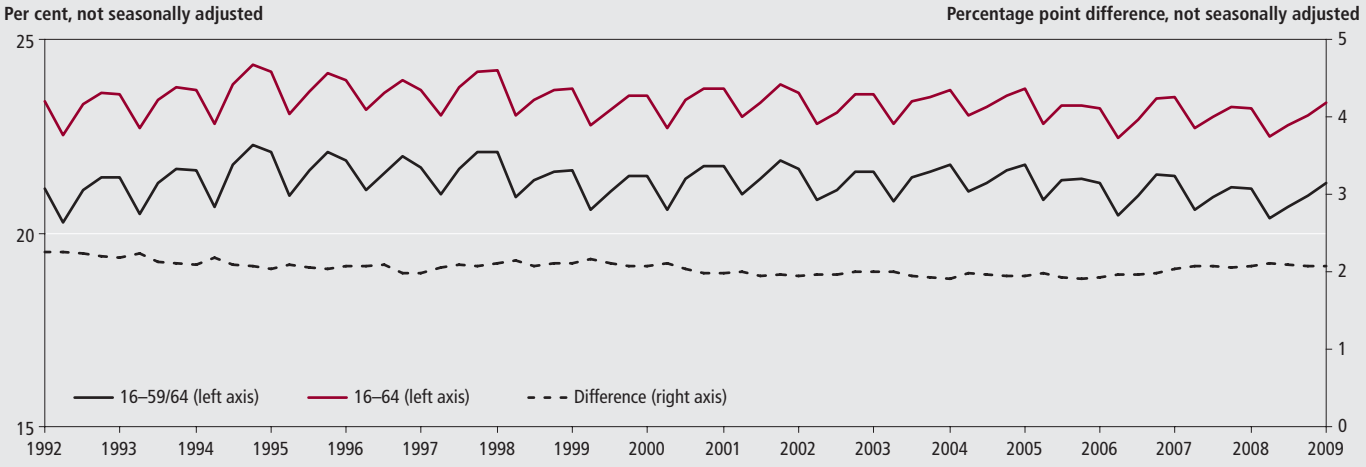
Employment rate for current working age definition and individuals aged 16 to 64 and the difference between the two series: April–June 1992 to April–June 2009



Source: Labour Force Survey

Figure 2

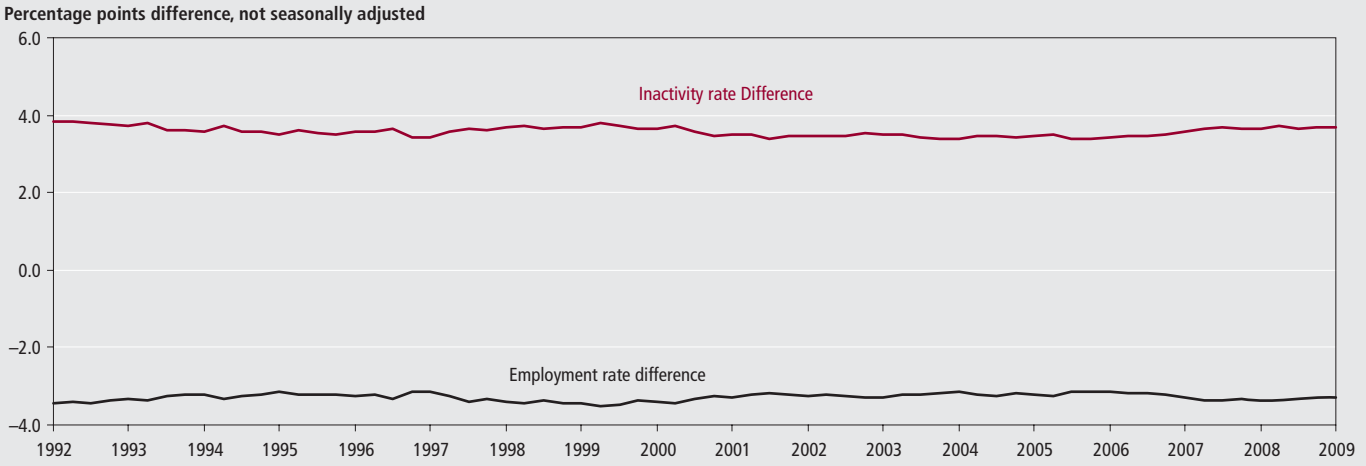
Inactivity rate for current working age definition and individuals aged 16 to 64 and the difference between the two series: April–June 1992 to April–June 2009



Source: Labour Force Survey

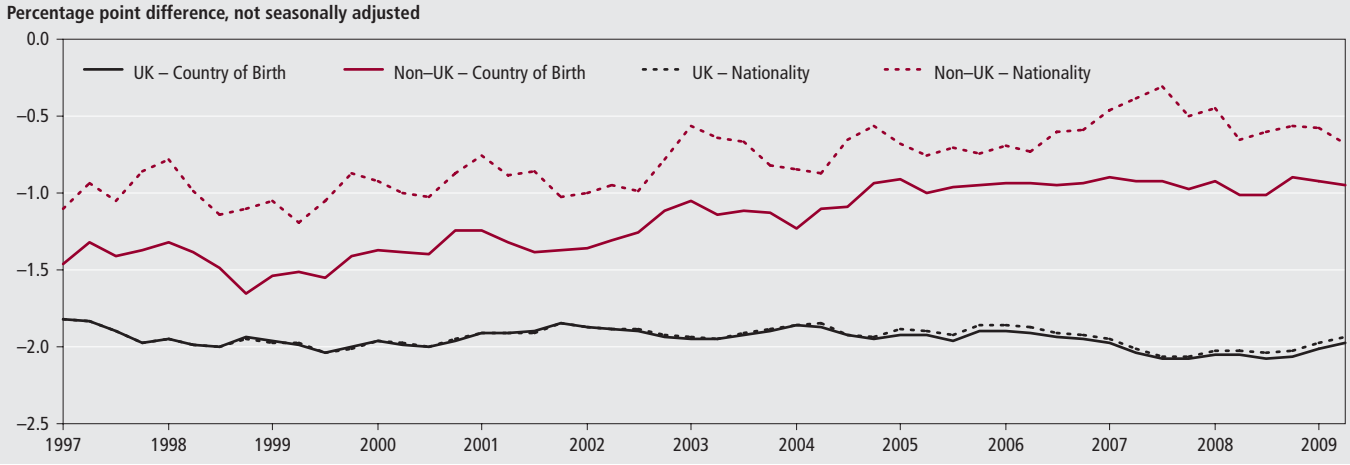
Figure 3

Impact of changes on women's employment and inactivity rate: April–June 1992 to April–June 2009



Source: Labour Force Survey

Figure 4
Impact of the changes on the employment rate: by country of birth and nationality for the UK and Non-UK groups, January–March 1997 to April–June 2009



Source: Labour Force Survey

1 for each regional statistical bulletin. **Table 2** shows the impact of the changes on the employment and inactivity rate by Government office region.

The changes to the employment and inactivity rates have less impact in the London region, where only 3 per cent of the population are women aged 60 to 64, the smallest percentage across the regions. In the period between the three months to March 1993 and the three months to June 2009, the difference in the employment rates in London range from falls of 0.8 to 1.4 percentage points, while the inactivity rates range from rises of 1.0 to 1.8 percentage points.

Impact on household labour market statistics

In August each year, ONS produce a statistical bulletin titled 'Work and worklessness among households'. In this, many of the estimates are restricted to working age households, that is households that include at least one person of working age. The key household labour market indicators describe the adults and children living in working age households by the combined economic status of the household.

In the three months to June 2009 there were 19.5 million working age households. With a change in the definition, to include all households with at least one individual aged 16 to 64, there are an additional 862,000 households. Of these households, around 43.8 per cent are one-person households and an additional 55.6 per cent are those without dependent children, the remainder are those that include dependent children. There are very small numbers of children living in these additional households, therefore the percentage of children in workless households remain unchanged with the change in the definition of working age.

Table 3 shows the percentage of working, mixed and workless households using the current working age definition and the new definition which includes households with at least one person aged 16 to 64. For the three months to June 2009, the percentage of mixed households falls by 0.6 percentage points from 28.4 per cent to 27.8 per cent, while the percentage of working households falls by 1.5 percentage points from 54.7 per cent to 53.2 per cent. The percentage of workless households increases by 2.1 percentage points when applying the new definition from 16.9 per cent to 19.0 per cent. Over the period the difference in the two workless household series fluctuates between 2.1 percentage points to 2.2 percentage points.

The statistical bulletin also presents employment rates of people by parental status. Analysis shows that the employment rates of women aged 16 to 64 with dependent children are very similar to those for women aged 16 to 59 with dependent children, as there are only a small number of women aged 60 to 64 with dependent children. However, the employment rates of men and women without dependent children decrease by 2.7 to 3.0 percentage points using the new definition. This is because women aged 60 to 64 are less likely to be employed than their younger counterparts.

Summary of impact

The tables in the UK statistical bulletin which currently publish estimates on a working age basis are Tables 1, 2, 8(1), 9, 12, 13, 18(1) and 25. The regional summaries in the statistical bulletins for Government office

Table 2
Impact of changes on employment and inactivity rate, by Government office region, January–March 1993 to April–June 2009

Percentage point difference, not seasonally adjusted

	Difference in Employment Rate		Difference in Inactivity Rate	
	Min	Max	Min	Max
North East	*–2.3*	*–1.8*	*2.0*	*2.7*
North West	*–2.1*	*–1.7*	*1.9*	*2.3*
Yorkshire & the Humber	*–2.4*	*–1.8*	*1.9*	*2.5*
East Midlands	*–2.4*	*–1.8*	*2.0*	*2.6*
West Midlands	*–2.1*	*–1.6*	*1.8*	*2.3*
East	*–2.2*	*–1.7*	*1.8*	*2.4*
London	*–1.4*	*–0.8*	*1.0*	*1.8*
South East	*–2.1*	*–1.7*	*1.8*	*2.3*
South West	*–2.5*	*–1.8*	*2.0*	*2.6*
Wales	*–2.3*	*–1.7*	*1.9*	*2.5*
Scotland	*–2.4*	*–1.9*	*2.1*	*2.6*
Northern Ireland	*–2.0*	*–1.4*	*1.6*	*2.1*

Source: Labour Force Survey

Table 3
Households by combined economic activity status of household 1997 to 2009

Per cent, not seasonally adjusted

	Working Households			Mixed Households			Workless Households		
	16 to 59/64	16 to 64	Percentage point difference	16 to 59/64	16 to 64	Percentage point difference	16 to 59/64	16 to 64	Percentage point difference
April–June 1997	*54.5*	*52.9*	*–1.6*	*27.5*	*26.9*	*–0.6*	*18.0*	*20.1*	*2.2*
April–June 1998	*55.1*	*53.5*	*–1.6*	*27.2*	*26.6*	*–0.6*	*17.7*	*19.9*	*2.2*
April–June 1999	*55.8*	*54.2*	*–1.6*	*27.1*	*26.5*	*–0.6*	*17.1*	*19.3*	*2.2*
April–June 2000	*57.2*	*55.5*	*–1.7*	*26.3*	*25.7*	*–0.5*	*16.6*	*18.8*	*2.2*
April–June 2001	*57.3*	*55.7*	*–1.6*	*26.2*	*25.6*	*–0.6*	*16.6*	*18.8*	*2.2*
April–June 2002	*57.3*	*55.7*	*–1.6*	*26.1*	*25.6*	*–0.5*	*16.6*	*18.7*	*2.1*
April–June 2003	*57.4*	*55.8*	*–1.7*	*26.6*	*26.0*	*–0.6*	*16.0*	*18.2*	*2.2*
April–June 2004	*57.4*	*55.8*	*–1.6*	*26.6*	*26.1*	*–0.5*	*16.0*	*18.1*	*2.1*
April–June 2005	*57.5*	*55.8*	*–1.6*	*26.4*	*25.9*	*–0.5*	*16.2*	*18.3*	*2.1*
April–June 2006	*57.3*	*55.7*	*–1.6*	*27.1*	*26.6*	*–0.5*	*15.6*	*17.7*	*2.1*
April–June 2007	*58.1*	*56.5*	*–1.6*	*25.9*	*25.4*	*–0.5*	*16.0*	*18.1*	*2.1*
April–June 2008	*57.2*	*55.6*	*–1.6*	*27.0*	*26.5*	*–0.5*	*15.8*	*17.9*	*2.1*
April–June 2009	*54.7*	*53.2*	*–1.5*	*28.4*	*27.8*	*–0.6*	*16.9*	*19.0*	*2.1*

Source: Labour Force Survey household datasets

regions are also affected, and tables in the regional statistical bulletins. The changes also affect all tables in the work and worklessness among households statistical bulletin.

The change from publishing headline statistics for those of working age to those aged 16 to 64 will impact on both person level and household level statistics. The main changes are:

- a decrease of 1.8 to 2.0 percentage points in the employment rate back to 1971
- an increase of 1.9 to 2.3 percentage points in the inactivity rate back to 1971
- A decrease of 3.1 to 3.5 percentage points in the employment rate for women back to 1971
- an increase of 3.4 to 3.8 percentage points in the inactivity rate for women back to 1971
- an increase of 2.1 to 2.2 percentage points in the percentage of households in which no one works, back to 1997

Production of consistent backdata

From August 2010, National and Government office region employment and inactivity rates will be available back to and including 1992 to ensure consistency with the April-June 2010 estimates and onwards (1992 is as far back as consistently reweighted LFS time series are available).

Labour market time series from 1971 to 1991 are derived from model-based estimates extrapolated from the annual LFS at the national level only. Employment and inactivity rates for this period will be re-scaled using the differentials listed under 'Summary of impact' for the national level only. The series affected are all series shown in Table 1 of the UK statistical bulletin, and total hours worked for people, men and women shown in Table 7.

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Work and worklessness statistical bulletin
www.statistics.gov.uk/StatBase/Product.asp?vlnk=8552&Pos=1&ColRank=1&Rank=224

Public Consultation on the change to female state pension age and the implications for Labour Market Statistics
www.ons.gov.uk/about/consultations/consultation-on-labour-market-statistics

ARTICLE

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Financial crisis and recession: how ONS has addressed the statistical and analytical challenges

SUMMARY

This article explains some particular statistical issues in measuring the economy during a recession and sets out the ways in which ONS has addressed these challenges, including steps to give users good information and analysis about the changing path of the economy.

Introduction

The recession, and its particular causes, have raised a number of challenges and opportunities for ONS in maintaining the statistical quality and improving the relevance of our routine outputs and ad hoc analysis. This paper describes the range of responses, including new projects, rapid response methodological advice, special publications and presentations and joint technical work with other departments.

Economic statistics have been of major interest during the financial crisis and recession, not only to analysts and commentators but also to the wider public. Some of the developments described in this article are about steps to meet the needs of wider users, who are interested in the general message and implications rather than the technical detail. The main issues covered, though, are steps taken to verify and, where needed, improve the statistical base of the main ONS economic indicators, and to provide more analysis and interpretation for interested users.

The challenge for ONS outputs

The recession has affected ONS outputs in a number of ways. The context has been:

- a strong spotlight on all published indicators, with much external economic interpretation of the developing data
- an increased need for ONS to ensure clear presentation of our figures and of the story they tell
- a need to keep a close eye on the technical and methodological basis for economic statistics to ensure they remain valid in changing economic circumstances
- a need for investigation of particular methods and issues, for example on the retail sales index and construction statistics, and work with the Department for Work and Pensions (DWP) on differences between trends in unemployment and the claimant count
- growing recognition that some data sources and analytic approaches, particularly for the financial sector, need improvement in order to understand the mechanics of the credit boom and the securitisation instruments upon which it was built
- increased interest in the extent of revisions to first estimates of key indicators, particularly those relating to GDP
- a strong focus on labour market statistics and interest in extended analyses, for example, of moves in and out of unemployment, analysis by age group and region
- the need for additional work on reclassification of some financial corporations into the public sector, and on the classification of Government financial interventions
- increased focus on the state of the public finances and on public service efficiency/productivity

ONS response

To meet these challenges, ONS put in hand several work streams:

- a programme to improve communication of its published outputs and to increase the focus on topical analysis
- work to review methodology across the production process, to see where issues might need to be addressed
- rapid response capacity and teamwork to investigate specific areas in more depth, where and when it became clear that issues were arising, including those raised by users

The rest of this paper reports progress and achievements on this work.

Clear communication, topical analysis

ONS has improved the coverage of the Economic Review article in the Economic and Labour Market Review (ELMR) to give a monthly overview of recent ONS economic statistics, with economic interpretation and contextual information. This comments on the past rather than making any predictions for the future; the aim is to be helpful to readers in showing the drivers and connections between different sets of statistics and providing some extra analysis. ELMR will continue to be the main ONS mechanism for publishing economic analytic material. Other key articles in the last year which help explain recent economic events have been: Retail sales in the downturn (March 2009); The impact of the economic downturn on productivity growth (June 2009); Developing financial statistics for policy (special edition, July 2009); Recent developments in the UK housing market (August 2009); The housing market and household balance sheets (September 2009); The balance of payments (September 2009); Recession and recovery in the OECD (October 2009); Unemployment durations (October 2009); Patterns of non-employment, and of disadvantage, in a recession (December 2009); and The labour market in the recession (January 2010).

ONS statistical bulletins are being progressively improved to ensure the presentation of key statistical messages is clear. They are adopting a common structure: the front page contains the main messages in words, illustrated by a table and chart(s). This ensures key statistics are presented first, without obscuring the main changes by giving full details and technical notes. Following pages include additional information at a more detailed level, a summary of statistical records and a streamlined notes section. Information previously contained in the separate web briefing has also been streamlined and incorporated into the statistical bulletin. The detailed content and presentation of each bulletin has also been reviewed systematically. The new format has been shared with key stakeholders for each bulletin in advance of the change, with positive responses.

ONS aims to improve the visibility of economic material on its website (pending a major website redesign, now in progress). For example a graph comparing output and unemployment in the current and previous recessions is now available, linked both to the Economy and Labour Market pages and via the UK Snapshot (www.statistics.gov.uk/cci/nugget.asp?id=2294). The website also includes animated maps to show the impact of the recession on the labour market, including the change in the population in each area claiming Jobseeker's Allowance since the start of 2008 (www.statistics.gov.uk/lm-interactive/). In addition to text on the website, ONS is now beginning to make podcasts (see www.palgrave-journals.com/fsp/ons_podcast_archive.html).

ONS has arranged several seminars to present the latest analytic work to invited audiences. Examples in 2009 were two events on the labour market in the current recession: the first emphasised historic comparisons, and the second gave more analysis at the sub-national level. Proposed developments to improve finance statistics were presented at a seminar in July, following the special edition of ELMR on the topic. The new Wealth in Britain survey was presented at a seminar in December, explaining the rich new data source on the distribution of assets amongst households, and savings patterns. Developments described in this article will be presented at a seminar in London on 1 February 2010. Readers who wish to attend the seminar on 1 February, or be informed of future events as they are arranged are invited to email Nathanael Jones (nathanael.jones@ons.gsi.gov.uk).

Robust statistical methodology during changes in economic cycle

ONS has systematically assessed the robustness of our statistical methodology, to ensure that the quality of key indicators does not deteriorate. This has involved review of each stage of the Statistical Value Chain (SVC; www.statistics.gov.uk/downloads/theme_other/Guidelines_Subject.pdf, p11) and identified priorities for investigative work to ensure that the quality of UK economic statistics is maintained at a critical time.

The SVC is a simple sequential list of the steps in creating a survey-based statistical output, starting with the decision to undertake a statistical collection or statistical analysis, through to archiving, which ends the cycle. The **Annex** sets out briefly the 15 stages of the SVC and ONS' scoping of potential effects due to the recession. These are largely, but not exclusively, related to business surveys and economic statistics.

The Annex shows that many of the statistical challenges from the recession are being dealt with effectively by statistical processes ONS follows as a routine. However, the scale and importance of the issues is larger than usual. It would have been unwise to presume that there would be no methodological issues arising from the turbulence in the economy, following a prolonged period of relatively stable growth. Accordingly, an early internal review of the potential impact of the recession led to agreement on 13 key tasks, related to the issues shown at different stages of the SVC. Work was also initiated on financial statistics and public sector classification, covered later in this article. Progress on the tasks is set out below. Some have been completed, others will be completed later in 2010.

Task 1 – Identify issues for a methodology research programme into producing statistics during major economic change

A scoping paper set out what research was necessary and how it might be taken forward, leading to the other work set out below.

Task 2 – Identify and plan work needed relating to large sector reclassifications of UK banks and also business failures

Work has been carried out to develop and document a consistent approach across the Office to providing and using data affected by the reclassifications. This maintained the ability to include public sector units in outputs consistently and appropriately. The work covered issues of timing, backcasting (including discontinuity measurement), disclosure, and consultation with key stakeholders. It reinforced existing procedures relating to business failures. This work is largely complete.

Task 3 - Analyse the impact of the annual (January) update of business register for classification and other changes

Most ONS business surveys experience register changes at the January update. Our aim is to ensure early warning of potential large scale changes in the register that have the potential to introduce disturbances in survey outputs, for example if decreases in employment move current sample members to a lower sizeband.

Task 4 - Review automated imputation, editing and outlier identification parameters

ONS uses imputation and editing where necessary in producing estimates from survey responses. Methodology Directorate identified the need to review imputation and editing methodology in the context of change in direction of period on period movements, and possible reduction in response rates. The methods continue to perform satisfactorily, and it has not been necessary to make any methodological changes in imputation and editing.

Task 5 - Analyse assumptions underpinning standard estimation (particularly deaths and births) and potential impact on survey outputs

For larger companies, changes to the business register (including deaths and births) are generally recorded quickly and so standard estimation automatically handles these appropriately. For smaller companies, in sampled strata only, register changes (including reclassifications, changes in employment and turnover, deaths and births) rely primarily on VAT and PAYE administrative sources which take some time to become available. An issue arises in estimation for smaller companies, since sample 'deaths' are immediately known but no corresponding immediate information on 'births' is available. If no adjustment is made for unknown births then a downward bias is created, although the effect is mitigated in the next period when any sample death is replaced by another sampled company. Therefore ONS has for many years routinely adjusted its estimates very slightly upwards using a standard assumption that the net change in smaller companies each period is zero. In a recession, with presumably more deaths than births, then the validity of this assumption is more questionable and could in theory lead to a slight upward bias, via the sampled strata. ONS is considering whether variation of the standard assumption would improve estimation and how to work out when the assumption should change and change back in practice.

Task 6 - Review population estimation methodology to assess the potential for changes in migration patterns, as a result of rapid economic decline, to impact on population estimation and thus household survey weights

The recession is clearly having an effect on migration and ONS needs to ensure this is taken into account in population estimates. Before the recession began, ONS was already leading a large programme of work to improve migration estimates. Elements of this programme are associated with improving methods, sources and timeliness of the statistics to ensure they are appropriate and capable of detecting and measuring changes in patterns quickly.

Task 7 - Check effect of changes to weights on index number movements

Some outputs combine their components using weights which are updated annually, and which therefore do not immediately react to widespread business failures and reclassifications but may be subject to large changes at the annual update. A theoretical study concluded that any effect should be no greater than 0.1-0.2 per cent per annum, which is well within the bounds of sampling and other errors. This conclusion was confirmed by an empirical analysis of the Index of Production.

Task 8 - Review seasonal adjustment and forecasting

ONS Methodology Directorate provides support for survey output areas on validation checks to apply to seasonally adjusted series, so that irregular events are identified and dealt with appropriately. Methodology Directorate is also investigating how best to handle sharp turning points in forecasting. In advance of the completion of these investigations, rapid response methodological support is provided to business areas regarding a sensible balance of mathematical and judgemental forecasts. More detail on this topic is given below.

Task 9 – Test and produce the 'economic story'

Recent circumstances have increased the premium on ensuring that ONS economic outputs are broadly coherent and make economic sense, with additional analysis and explanation of any divergences. Accordingly, we have made increasing use of specialist economist skills, not only to interpret the statistics and tell their story, but also to stress test statistical outputs, reviewing data to be published on a hypothesis driven approach. Enhanced interpretation and analysis has been underpinned by economists' closer engagement with the production of economic statistics and with key stakeholders.

Task 10 - Consult other National Statistical Institutions (NSIs)

Martin Brand, Deputy Director of Methodology in ONS gave a presentation on the approach in this article at a European meeting on business statistics in Stockholm in September 2009. Work was also reported to an OECD working party on finance statistics in November 2009. Other countries have commented favourably on the ONS approach.

Task 11 - Document methods and systems

Internal documentation is maintained on adjustments.

Task 12 - Consider effect on non-response

Response rates are monitored continually. Initially there were concerns that the recession might increase non-response by businesses. ONS has a comprehensive response targeting process, where dedicated teams ensure key respondents are contacted regularly. **Table 1** shows that response rates for all major economic surveys have continued to meet or exceed targets, ensuring quality estimates are still being produced.

Task 13 - Analyse assumptions underlying short-term GDP statistics

Short-term early estimates for GDP necessarily involve a range of assumptions. For example that turnover is a good proxy for value added. The economic underpinning of such assumptions, and their implications for interpretation, are kept under review.

Examples of checks on methods in recession: seasonal adjustment and nowcasting

Seasonal adjustment (using X -11-ARIMA and X-12-ARIMA software) is used widely across the ONS. Seasonal variation may change gradually over time: for example different patterns of shopping before Christmas, or price discounting practices by stores, and this is identified in regular

Table 1
Business survey response rates 2008–2009

Per cent

Survey	Response rate target (by no. of questionnaires)	Mar 2008	Jun 2008	Sep 2008	Dec 2008	Mar 2009	Jun 2009	Sep 2009	Nov 2009
MIDSS	*75*	*73*	*76*	*75*	*77*	*75*	*77*	*78*	*79*
MPI	*75*	*75*	*76*	*78*	*78*	*80*	*79*	*80*	*82*
MWSS	*83*	*83*	*85*	*84*	*85*	*85*	*87*	*86*	*83*
PPI (first stage)	*82*	*82*	*84*	*85*	*85*	*85*	*85*	*85*	*88*
RSI	*60*	*60*	*60*	*61*	*63*	*61*	*62*	*64*	*63*

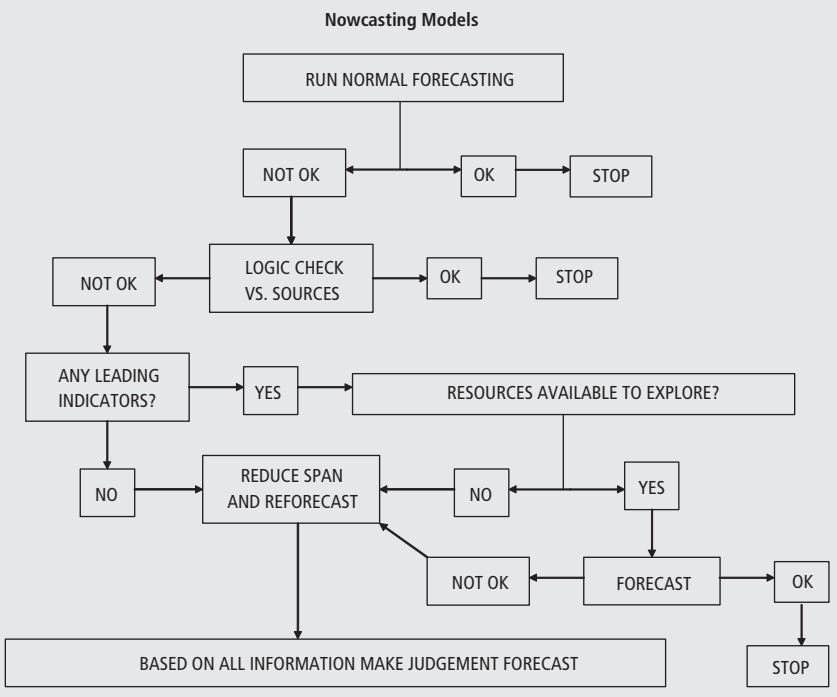
Source: ONS Methodology Directorate

Table 2
Review of nowcasts used in estimates of quarterly GDP

Output	Extent of Nowcasting	Reviews
GDP(O)	M1 60% is nowcasted M2 23% is nowcasted M3 8% is nowcasted	The indices are nowcasted at a very low level, meaning thousands of nowcasts. Attention has been focused on the nowcasts that fail validation checks.
IOP	IOP do a nowcast for M1 release of GDP, only 2 months of data are available so 3rd month is nowcasted. IOP publications do not include nowcasts.	ONS use a modified Holt Winters nowcast methodology, by nowcasting based on different lengths of historical data and then using an appropriate forecast based on expert knowledge of particular sectors
IOS	M1 63% is nowcasted M2 23% is nowcasted M3 11% is nowcasted	The indices are nowcasted at a very low level, meaning thousands of nowcasts. Attention has been focused on those nowcasts that fail validation checks.

Source: ONS Methodology Directorate

Figure 1
ONS best practice for dealing with turning point issues



Source: ONS Methodology Directorate

reviews of seasonal adjustment parameters. Although the seasonal adjustment process can also involve the use of forecasting methods in order to produce high quality estimates at the current end of the time series, the seasonal factors based on these forecasts have remained robust during the economic downturn.

While ONS does not make forecasts for future dates, it is sometimes necessary to 'nowcast' up to the current period, to estimate missing data needed for part of a published estimate. As nowcasting methods use past data to predict current data, there was an issue during 2009 when the fairly recent past generally showed growth, but the most recent period showed decline. At some date, the pattern may be expected to reverse, with the most recent period beginning to show growth but the data used in nowcasting still including a period of decline. It follows that, without statistical validity checks, nowcasts (generated by mathematical models from past data) could potentially understate the decline in economic output in the relatively early part of a recession, or potentially understate growth in the relatively early stage of recovery. A key issue affecting the speed of response of the nowcast to economic changes is the length of the period of historic data used in estimation.

Nowcasting models are mainly limited to use in the month one GDP estimate (M1), and some of the data sources that feed into the M1 estimate. M1 is affected more than month 2 or month 3 as more of M1 is nowcasted. A comprehensive framework has been used internally to quality assure estimates, based on use of the structured decision tree shown in **Figure 1**.

Table 2 gives more details of nowcasts used in the estimates of quarterly GDP. In practice, nowcasts involve some degree of statistical judgement. Judgements can be tested by rigorous review of revisions: an article on GDP revisions (www.statistics.gov.uk/elmr/12_09/downloads/ELMR_Dec09_Brown.pdf) demonstrated that the revision of GDP results from first estimate to month 3 remain within historical bounds. For example, revisions triangles released with the Gross Domestic Product Preliminary estimate third quarter GDP show that revisions to early estimates are on average: 0.03 percentage points between the month 1 and month 2 estimates, 0.08 between the month 2 and month 3 estimates, and 0.21 between the month 3 estimate and the equivalent estimate 3 years later (see GDP Preliminary Estimate, 2009 Q3, available at www.statistics.gov.uk/pdfdir/gdp1009.pdf). Detailed revision analysis of all economic statistics is published regularly.

Case studies: particular examples during 2009

ONS statisticians and economists regularly review various aspects of the sources and methods of each economic output, as part of our commitment to quality (www.ons.gov.uk/about-statistics/methodology-and-quality/quality/quality-strategy/index.html). In addition, each month's results are scrutinised for coherence with other statistics, and concerns may be identified – either within ONS teams, through

dialogue with colleagues in bodies such as the Bank of England, Treasury and research bodies, or by monitoring public reaction and concerns. The aim is to quickly deploy project teams to investigate and resolve issues. This may lead to specific improvements in the method, or to a better understanding of the relevant issues. Proposals for significant changes in methods are discussed with users and will be explained in articles in ELMR or on the ONS website. Analytical articles explaining drivers of change in particular sets of economic statistics also result from these projects.

Retail sales index

One recent example is the change in the retail sales index, where McLaren (2009) explained that a new chain linked series was being introduced, with other changes in methods. This was a planned improvement (unrelated to the recession) which ensured the most up to date methodology was used to derive the Retail Sales estimates. During this period, supplementary notes published alongside the monthly releases explored topical issues such as differences between the official estimates and those published by alternative sources, and differences in trends in retail sales between smaller and larger companies. This work was summarised in Anagboso (2009). This example shows ONS's concern to explain the story of the statistics, in the current economic context, as well as improving our consistency with recognised international best practice for deriving retail sales estimates.

Construction

Another example of project work in 2009 was exploration of the figures for construction output and construction workforce. The project examined recent trends, which were more robust for workforce than the corresponding output figures, and sought explanations. This includes considering the aspects of current sources and methods which are relevant to interpreting the trends.

Measuring construction output and employment is difficult because of the complexity (size and breadth of activity) of the industry and difficulties measuring construction employment. The current methodology for measuring construction employment differs from that for other industries. Generally, Workforce Jobs are constructed as the sum of employee jobs (derived mainly from employer-based surveys) and self-employment jobs (derived from the Labour Force Survey (LFS)). In the construction industry, the LFS, which is a household survey, is used in the short term to estimate construction employee jobs, with the result then benchmarked to the Business Register & Employment Survey (formerly ABI1). The Workforce Jobs figures give a better industrial breakdown in classification but have the disadvantage of adding employment components from different sources, which can lead to double counting or under enumeration.

There are plans to move to a new monthly survey of construction output from January 2010, with first results of the monthly survey to be published in July 2010 (www.ons.gov.uk/about/consultations/consultation-on-construction-statistics/index.html). Construction output is currently only measured quarterly, with GDP month 1 and 2 estimates based on an Experian forecast. From January 2010, 2 months' construction survey data in the relevant quarter will be available for use in the GDP Month 1 estimate, and all the relevant quarter's construction survey data will be available for use in the Month 2 GDP estimate. This will reduce uncertainties in the month 1 and month 2 GDP estimates. The survey will also collect employment data on a quarterly basis, which could in future be used as a measure of Workforce Jobs. Pending improvements to data sources, the output and workforce time series for construction can be used as a cross check on each other to help interpretation.

There are several factors that explain why there has not been a fall off in construction employment of the same order as for output. One possibility is greater flexibility in the construction labour market, compared with other sectors of the economy, given the extent of self employment and the possibility of becoming, or remaining, self employed rather than becoming unemployed or economically inactive. Other factors that potentially explain the divergence between construction output and employment figures include lag effects, and structural changes in the UK economy such as changes in the numbers of small construction businesses and migrant workers. These issues will be explained in detail in an ELMR article in early 2010.

Household expenditure

Another current project is exploring the differences in recent trends between figures for household expenditure, in the sector accounts, and the retail sales index. There are well documented reasons why these series will be different, including the conceptual basis of what is being measured. For example, retail sales figures include purchases made by visitors to the UK, while household expenditure estimates include only those goods purchased for consumption in the UK. Goods purchased by businesses from retail stores are included in retail sales, but not in household expenditure. However, it is important to be able to demonstrate the extent to which these and other differences affect the published estimates, in current economic circumstances. The current project is exploring the specific reasons for recent divergence between the series. Results will be reported in ELMR.

Labour market analysis

Since the onset of the recession, ONS has undertaken a range of analytical work to assess the impact on the UK labour market. In May 2009, ONS published an analytical report that examined the state of the labour market up to Q1 2009 (see Barham et al 2009). This showed how the main labour market indicators had changed direction after the sustained period of economic growth. It compared the recent changes with the two previous recessions and also looked at the differences by region, sex, age group and the impact on households. The report was presented at a seminar in London on 14 May 2009, to analysts from across central government. Professor Alan Manning, London School of Economics and Nigel Meager, Director of the Institute of Employment Studies gave commentary. Other analysis has looked at how the recession has affected workless household rates (see ONS 2009) and also the factors that affect durations of unemployment (see Long 2009).

In November 2009, ONS produced another major report on the labour market in recession, updating the previous analysis to Q3 2009. It gave more information about the sub-national picture, to show how the labour market has been affected in different parts of the UK. This report also looked at the differences in urban and rural areas and by deprivation level (see Jenkins and Leaker 2009). This report was also presented at a seminar in London to central and local government analysts; Professor Paul Gregg, University of Bristol also presented.

Working with DWP, ONS contributed to a review of the differences in trend between unemployment figures and the claimant count. This work was undertaken to look at reasons for the apparent divergence between the changes in these measures. There are

a number of reasons for the differences between these estimates but in essence it is because they measure different things; the claimant count the number of people claiming unemployment related benefit and unemployment the number of people actively seeking work and available to start work. Once put onto a more comparable basis, the changes in the two measures have been similar over the recession, although at times the two measures have diverged slightly, for example between October 2008 and March 2009 the claimant count rose faster than unemployment. Overall, these small differences in the trend appear to be mainly down to methodological differences between the two sources. Further work on this topic may be published by DWP; ONS also plans to publish relevant statistical analysis.

Improving financial statistics for policy

In common with National Statistical Institutes around the world, ONS has been considering whether recent economic and financial events have revealed deficiencies in the available statistics, or alternatively whether messages from those statistics which were available were not given enough prominence. Such discussions are taking place under the auspices of the International Monetary Fund (IMF), OECD and other international bodies, and ONS is playing a full part in them.

In this regard, ONS has several roles:

- To provide the tools to help policy-makers and analysts to understand the mechanics of the credit boom, and asset and debt inflation more generally
- To keep pace with financial innovation in our measurement of gross value added by the financial sector, and in our measurement of sectoral balance sheets
- To contribute to a fuller understanding of the public sector balance sheet so that all of the main actual and contingent liabilities are shown clearly and transparently.

To work towards these objectives, ONS launched a project in the autumn of 2008. A series of articles reporting progress were published in the July edition of ELMR. These set out planned actions, which are now being taken forward.

A major focus of the project is on financial balance sheets. UK macroeconomic policy in recent years, with its emphasis on promoting growth within a stable macroeconomic environment, has been supported by measures of output (GDP) and productivity. There has been less policy focus on sectoral balance sheets (financial and non-financial). This project points to ways in which balance sheets, using the best available data and analysis, could be helpful in analysing current economic conditions and in anticipating future pressures.

A seminar was held with key stakeholders (HM Treasury, Bank of England, Financial Services Authority (FSA), members of the Financial and Economic Statistics User Group) to present the issues raised in the papers in the July ELMR and to discuss ways forward. The session was well attended and the papers well received. Collaboration with many of these stakeholders will be an essential ingredient of good progress, both in terms of accessing additional data sources and the availability of specialist expertise. We are now building these partnerships.

Since the seminar, ONS has been addressing each of the 14 recommendations and the ELMR article. A more detailed progress report will be published in ELMR in the spring. The work was also recently presented to a meeting of the OECD Working Party on Financial Statistics; feedback was generally positive, with the issues being similar across member countries.

Public finance and public service efficiency

The path of the financial crisis has led to new financial interventions which have caused a major increase in public sector net debt while at the same time the recession has led to increased public sector borrowing. This requires ONS to determine whether particular bodies (for example Lloyds and Royal Bank of Scotland) have moved into the public sector and to classify the schemes and the transactions involved in them. ONS makes decisions based on international guidance, careful use of precedents and detailed study of legal documents for particular government interventions. The process has to be well documented and transparent. An outline of key issues on classification was included as part of the ELMR special edition on 'Developing financial statistics for policy' (see O'Donoghue (2009) and Maitland-Smith (2009)). A fuller article, explaining the ONS decisions on the National Accounts classification of the financial crisis interventions by public sector authorities between 2007 and August 2009, was published on the ONS website in November 2009 (see Kellaway 2009). Work continues, in particular to measure the assets and liabilities of the main new public sector bodies, as required as part of our public finance statistics. This is being taken forward jointly with the Bank of England and HM Treasury.

ONS public finance statistics show an increase in public borrowing and debt, issues of importance for future policy. ONS has implemented new measures of Public Sector Net Debt and Public Sector Net Borrowing into Public Sector Finance statistics, with definitions which exclude the temporary effects of the financial interventions. The PSNB ex measure will allow progress to be assessed against the Financial Consolidation Plan announced in the Pre-Budget Report.

Public spending is also a component of ONS work on measurement of public service productivity. The latest estimates for public service productivity change, between 1998 and 2007, can be found in Munro and Phelps (2009); Patterson (2009) provides an update on progress in implementing the recommendations made by the Atkinson Review (2005) on measurement of public service costs, output and productivity. An international conference, hosted by ONS and the National Institute of Economic and Social Research (NIESR) in Cardiff in November 2009, discussed measurement of public service output in the national accounts, including theoretic and practical approaches to measuring the quality of public services as part of the quantitative measures of public service output.

Conclusion

ONS statistics are produced in ways which ensure risks to statistical quality are identified and addressed systematically. Particular issues are identified and explored in project work, aiming for transparent communications about method changes or developments. Extra steps have been taken to promote economic statistics and analysis effectively to different audiences.

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ANNEX

Table A1
Potential impact of recession on statistical quality at different parts of the statistical value chain

SVC Step	Potential Effect of Recession and Financial Crisis	Impact on Statistical Data Quality	Likelihood of significant effect	Existing robustness
1. Decision to undertake a collection or analysis	a. Data availability weak in areas of current economic importance	Finance sector not covered adequately by surveys, particularly affecting balance sheets	High – **Project on improving financial statistics for policy**	Known gaps were seen to have greater relevance in current conditions
	b. Changes in boundary of public sector may require additional data provision, to meet requirements on public finance	Public sector borrowing and deficit not fully estimated until data available from all bodies with relevant classification	High – **work with Bank of England to access relevant data for public sector banks**	
2. Collection design		No impacts identified		
3. Accessing administrative data	c. Lags in administrative data may mean that differences between them and the current reality are larger than under normal conditions	Bias where administrative data used directly Additional administrative data may be needed to meet gaps, for example on financial sector	Low – few economic outputs use unadjusted administrative data	Most administrative data is used in conjunction with up–to–date survey information
4. Sample design	d. Various industries affected differently by recession	Sample designs less optimal (increased sampling variance)	Low	sample design optima are robust to changes; sample designs are reviewed regularly
5. Implementing design	e. More deaths and fewer births	Smaller responding sample sizes	High – **Task 5**	
	f. Large companies more likely to be in administration	Harder to collect information, need coherent approach across surveys	High – **Task 2**	
	g. Changes in industry classification or size–band more likely [as businesses adjust to changing conditions?].	Increased variance; more changes of stratum when register "frozen" fields are updated in January	High – **Task 3**	
6. Implementing collection	h. Higher rates of non–response	More follow–up (costs) Increased sample to maintain responding sample sizes (costs) Increased sample and increased deaths implies more churn and therefore increased variance of changes	Medium – **Task 12**	Monitor response rates
	i. Poorer quality of responses	Increased validation failures, therefore increased follow–up costs	Medium – Task 4	
7. Editing and validation, derivation and coding	h. Higher rates of non–response	Fewer units in imputation classes leads to increased variance	High – **Task 12**	
	i. Poorer quality of responses	Bias in estimates	Low – Task 4	Validation methods already in place
	j. Assumptions behind imputation and construction methods violated	Bias in imputation/ construction	High –**Task 4**	
8. Weighting and estimation	e. More deaths and fewer births	Over–estimation through assumptions about balance of births and deaths	High – **Task 5**	Systems already include a way to adjust for the balance of births and deaths, though more research is needed on how best to use it

Table A1 – continued

SVC Step	Potential Effect of Recession and Financial Crisis	Impact on Statistical Data Quality	Likelihood of significant effect	Existing robustness
	c. Lags in administrative data may mean that differences between them and the current reality are larger than under normal conditions	Poor relationship between response variables and auxiliary variables leading to increased variance	Low	Estimation method already compensates for changes in relationship between response and auxiliary variables
	k. More or more extreme outliers	Increased variance	Low – Task 4	Outlier detection and adjustment procedures already in place
	e. More deaths and fewer births	Smaller responding sample sizes leading to increased variance	Medium	
	l. Changed migration patterns mean population estimates don't reflect actual composition	Weighting totals for social surveys don't reflect actual population	Low on national estimates	Annual updating using migration patterns measured by International Passenger Survey (IPS)
9. Analysis of primary outputs	m. More unusual movements	Explanations for movements in series based on fewer historically similar periods, therefore less reliable	Certain – a recession is an unusual movement	
	c. Lags in administrative data may mean that differences between them and the current reality are larger than under normal conditions	Bigger differences between administrative sources and survey estimates than under normal conditions	Medium – Task 9	Commentary and briefing already provided
10. Index number construction	n. Major revisions to index when rebasing to or from a recession year		Low – recession does not fall in rebasing year	Chainlinking protects against revisions from rebasing
	f. Large companies more likely to be in administration	Large business failures mean index weights are out of date	Medium – **Task 7**	
	r. PRODCOM product breakdowns change quickly	Weights for PPIs, based on previous year's PRODCOM, are out of date	Medium	
11. Time series analysis	o. Change in seasonal pattern (particularly moving seasonality, level shifts)	Increased uncertainty about seasonal adjustment until enough data points for new pattern to become established; more revisions	High – **Task 8**	Regular seasonal adjustment reviews keep models up to date
	p. Forecasts continue to increases after series turn down	Forecasts not credible	High – **Task 8** This is a natural consequence of using long filters to remove noise	Forecasts are reviewed for credibility before use
	k. More or more extreme outliers	Increased uncertainty about seasonal adjustment; more revisions	Low	Outlier detection and adjustment procedures already in place; regular seasonal adjustment reviews keep outlier assessments up to date
12. Further analysis (across datasets)	q. Reduced accuracy of short–term output indicators as measures of GVA	Increased bias in estimation of GVA	Medium – **Task 13**	
	s. Major revisions to GDP when supply–use balancing applied for a recession year (bias)	When input–output tables available for weights for recession year, balance of activity between industries shifts and causes revisions to GDP	High, but impact only quantifiable when input–output tables available (currently several years after the event)	
	l. Major changes in inputs (specifically migration) may impact on accuracy of analytical outputs (population estimates)		High – **Task 6**	
13. Confidentiality and disclosure	e. More deaths and fewer births	Smaller responding sample sizes, so more outputs might be disclosive	High	Disclosure control mechanisms already in place to maintain confidentiality
14. Dissemination of data and metadata	t. Greater uncertainty in estimates near turning points (covers several other factors above)	Interpretation more difficult at just the moment users want more certainty	Task 9	Provide commentary and briefing to indicate quality and set outputs in proper economic context
	t. Greater uncertainty in estimates near turning points (covers several other factors above)	Need to justify and document procedure changes and use of judgement	Task 11	
15. Data archiving and ongoing management		No impacts identified		

Source: ONS Methodology Directorate

ARTICLE

The labour market across the UK in the current recession

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SUMMARY

This article considers labour market performance from April 2008 to September 2009, covering eighteen months of the recent recession, for the UK as a whole, the devolved countries of the UK and Government Office Regions within England. The main findings are:

- employment rates have fallen for the UK and across the country, with Northern Ireland and Wales having the largest falls
- the number of jobs in the UK has fallen, with 'Manufacturing' and 'Construction' industries having the largest percentage falls
- redundancy levels increased through the recession to a peak in the three months to March 2009, before falling over the next six months to September 2009
- unemployment and the claimant count have increased in all regions
- the inactivity rate has increased slightly in the UK, but there are large variations in changes in inactivity across the UK
- since the onset of the current recession, there has been a sharp increase in the flow of individuals from employment to unemployment,
- earnings growth has been relatively weak in comparison with periods before the recession

The full version of this article was published on 18 November 2009 and is available at www.statistics.gov.uk/CCI/article.asp?ID=2310.

This article considers the labour market in the current recession for the UK as a whole, the devolved countries of the UK and Government Office Regions within England. Firstly, it looks at employment trends, showing how employment levels and rates have changed across the UK since the onset of the current recession. It then shows quarterly differences in employment rates by sex and age group for the UK as a whole. It looks at jobs, and how these have varied over the recession, before looking at redundancies. It then shows how unemployment rates have changed across the UK since the start of the recession, before giving quarterly changes in the unemployment rate by sex and age group for the UK as a whole. It then describes changes in the claimant count, looks at changes in vacancies and how the number of claimants for each vacancy has changed, as well as looking at inactivity levels and rates. It will then use Labour Force Survey (LFS) longitudinal datasets to show movements between employment, unemployment and inactivity for individuals who are in two consecutive quarters of the survey. Finally it will look at average earnings over the recession and changes by occupation, industrial groupings for the UK, and by regions across the UK, comparing April 2008 and April 2009.

Employment

Table 1 shows the employment level and rate for the UK, Government Office Regions in England, Wales, Scotland and Northern Ireland in the three months to April 2008 and the three months to September 2009. Over this period, the employment level fell by 2.1 per cent for the UK as a whole, to stand at 28.9 million in the three months to September 2009. In England the level fell by 1.8 per cent, while in Wales it fell by 4.2 per cent and in Scotland by 2.1 per cent. Northern Ireland had the biggest fall in the employment level at 5.1 per cent. Within England the largest fall in the employment level was in the West Midlands (2.9 per cent) followed by the North East (2.8 per cent). The smallest fall was in the East Midlands region, where the employment level fell by just 0.1 per cent.

Increases in employment levels can result from increases in the population levels for regions, so comparing the employment rate is a more useful indicator of change. For the UK, there was a 2.3 percentage point fall in the employment rate over the period, to the three months to September 2009. Of the countries, Northern Ireland had the largest fall, 4.2 percentage points, while the rate fell by 3.1 percentage points in Wales, 2.7 percentage points in Scotland, and 2.1 percentage points for England. Within England the South West had the largest fall in the employment rate (3.0 percentage points) followed by London at 2.9 percentage points.

Just considering the change in employment for the start of the recession with the latest period does not show changes in employment rates over the period of the recession. **Table 2** shows the quarterly change in the employment rate for the six quarters of the recession. When

Table 1
Employment level[1] and rate[2] by region, April–June 2008 and July–September 2009

Seasonally adjusted

	Level (thousands)			Rate (percentage)		
	2008	2009	Percentage change	2008	2009	Percentage point change
United Kingdom	**29,534**	**28,927**	**–2.1**	**74.8**	**72.5**	**–2.3**
Great Britain	**28,743**	**28,188**	**–1.9**	**74.9**	**72.8**	**–2.2**
England	**24,824**	**24,381**	**–1.8**	**74.9**	**72.8**	**–2.1**
North East	1,162	1,130	–2.8	70.5	68.0	–2.4
North West	3,162	3,116	–1.5	72.1	70.8	–1.4
Yorkshire and The Humber	2,461	2,399	–2.5	73.3	71.2	–2.1
East Midlands	2,151	2,148	–0.1	75.8	74.9	–0.9
West Midlands	2,486	2,414	–2.9	72.5	70.0	–2.5
East	2,830	2,811	–0.7	77.7	77.2	–0.6
London	3,768	3,720	–1.3	71.8	69.0	–2.9
South East	4,246	4,150	–2.3	79.4	77.0	–2.4
South West	2,559	2,493	–2.6	78.8	75.7	–3.0
Wales	**1,364**	**1,306**	**–4.2**	**72.4**	**69.2**	**–3.1**
Scotland	**2,555**	**2,500**	**–2.1**	**76.6**	**73.9**	**–2.7**
Northern Ireland	**791**	**751**	**–5.1**	**70.3**	**66.1**	**–4.2**

Notes: *Source: Labour Force Survey*

1 Levels are for those aged 16 and over.
2 The employment rate is for men aged 16 to 64 and women aged 16 to 59.

Table 2
Quarterly change in employment rates[1] by region, April–June 2008 to July–September 2009

Percentage point change, seasonally adjusted

	Change on quarter					
	Three months to June 2008	Three months to September 2008	Three months to December 2008	Three months to March 2009	Three months to June 2009	Three months to September 2009
United Kingdom	**0.0**	**–0.4**	**–0.4**	**–0.5**	**–0.8**	**–0.1**
Great Britain	**0.0**	**–0.4**	**–0.4**	**–0.5**	**–0.8**	**–0.2**
England	**–0.1**	**–0.3**	**–0.3**	**–0.5**	**–0.8**	**–0.1**
North East	0.3	–0.2	–0.3	–0.4	–2.3	0.8
North West	–0.2	–0.4	–0.8	0.5	–0.4	–0.3
Yorkshire and The Humber	–0.6	–0.1	–1.1	–0.5	–0.5	0.1
East Midlands	–0.6	0.4	0.0	–0.7	–0.3	–0.3
West Midlands	–0.8	–0.7	–0.2	–1.3	–0.1	–0.2
East	0.1	–0.3	0.2	0.0	–0.7	0.2
London	0.8	–0.7	0.4	–1.2	–1.3	0.0
South East	0.0	–0.4	–0.5	–0.5	–0.8	–0.3
South West	–0.1	0.1	–0.8	–0.2	–1.2	–0.8
Wales	**0.4**	**–1.8**	**–0.1**	**–0.2**	**–0.8**	**–0.3**
Scotland	**0.1**	**–0.3**	**–0.9**	**–0.5**	**–0.9**	**–0.1**
Northern Ireland	**0.5**	**–0.6**	**–1.2**	**–1.8**	**–1.1**	**0.4**

Note: *Source: Labour Force Survey*

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

noting quarter on quarter changes at a regional level, they are particularly subject to sampling variability and should be interpreted in the context of changes over several quarters. However, they are useful in displaying at which point employment rates changed markedly over the period across the UK.

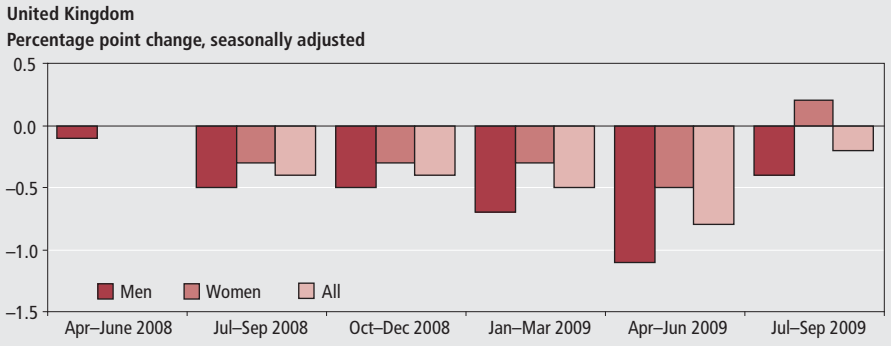
For the UK, there have been five consecutive quarterly falls in the employment rate, with no change in the first quarter of the recession. The largest fall occurred in the three months to June 2009, at 0.8 percentage points. Between the four countries of the UK, England has had six consecutive quarterly falls in the employment rate, and as for the UK as a whole, the largest fall in the three months to June 2009, at 0.8 percentage points. In Wales there was an increase in the first quarter of the recession, of 0.4 percentage points, before a sharp decline in the three months to September 2008 of 1.8 percentage points, which was the start of five consecutive falls in the employment rate. Following a small increase (0.1 percentage points) in the employment rate in the first quarter, Scotland has had five consecutive falls, with the two largest, of 0.9 percentage points, in the three months to December 2008 and the three months to June 2009. In Northern Ireland there was an increase of 0.5 percentage points in the employment rate in the three months to June 2008, with four consecutive falls following this, with the largest of 1.8 percentage points in the three months to March 2009. In the most recent period, covering the three months to September 2009, for the UK and each of the four UK countries, there has been a slowdown in the quarterly fall in employment rates, with Northern Ireland experiencing an increase of 0.4 percentage points.

Within England, in the first two quarters of the recession, the West Midlands had the largest fall in the employment rate, down 0.8 percentage points and 0.7 percentage points respectively. While in the East Midlands, there was an increase of 0.4 percentage points in the employment rate in the three months to September 2008. London had an increase in the employment rate in the first quarter of the recession, of 0.8 percentage points, followed by a decrease of 0.7 percentage points in the three months to September 2008. In the final quarter of the year it then went up by 0.4 percentage points, with two sharp falls, of 1.2 percentage points and 1.3 percentage points in the first six months of 2009. Over the period of the recession, the largest quarter on quarter fall was in the North East, at 2.3 percentage points, in the three months to June 2009. For the latest period, the South West has had the largest fall in the employment rate, down 0.8 percentage points in the three months to September 2009. However, as for the countries of the UK, there has been a slowdown in the fall in the employment rate across the regions of England, with the exception of the West Midlands, where it increased marginally more than the previous quarter, although this increase is not statistically significant.

As mentioned, there have been consecutive falls in the employment rate for the UK, with differences in changes in employment rate by region. There are also differences by sex and by age group. **Figure 1** shows the quarterly change in the employment rate by sex for the UK since the onset of the current recession, with men having larger falls than women for each quarter.

The largest fall for men and women both occurred in the three months to June 2009, at 1.1 percentage points and 0.5 percentage

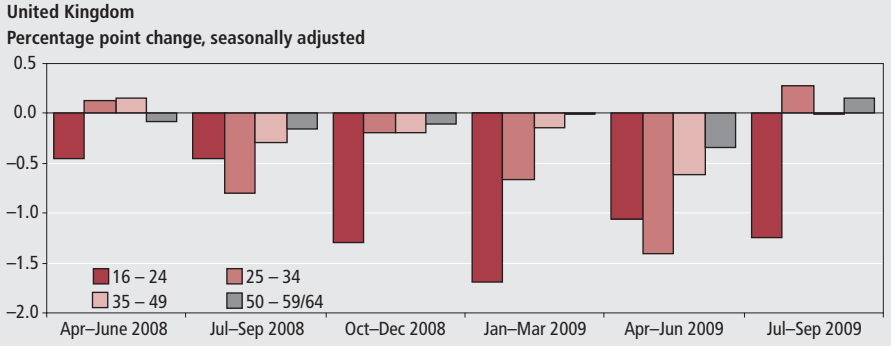
Figure 1
Quarterly change in employment rate[1] by sex



Note: *Source: Labour Force Survey*

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

Figure 2
Quarterly change in employment rate by age group



Source: Labour Force Survey

Table 3
Quarterly change in workforce jobs[1] by industry[2], April–June 2008 to April–June 2009

Per cent, seasonally adjusted

	Change on quarter				
	Jun–08	Sep–08	Dec–08	Mar–09	Jun–09
All Jobs	***0.1***	***–0.5***	***–0.7***	***–0.4***	***–0.5***
Agriculture & Fishing	*3.1*	*–3.4*	*0.1*	*2.3*	*–1.1*
Energy & Water	*0.1*	*–0.4*	*–0.1*	*–0.1*	*–3.0*
Manufacturing	*–0.5*	*–1.7*	*–2.1*	*–2.8*	*–1.6*
Construction	*0.0*	*1.3*	*–0.1*	*–2.1*	*–2.7*
Total Services	*0.1*	*–0.4*	*–0.6*	*–0.0*	*–0.2*
Distribution, Hotels & Restaurants	*–0.2*	*–0.9*	*–1.2*	*–0.6*	*–0.5*
Transport & Comms.	*0.3*	*–0.5*	*–0.5*	*–0.2*	*0.3*
Finance & Business Services	*0.0*	*–1.3*	*–1.6*	*–0.1*	*–1.0*
Public Admin, Education & Health	*0.4*	*0.5*	*0.2*	*1.1*	*0.5*
Other Services	*–0.1*	*0.5*	*1.3*	*–2.1*	*0.6*

Notes: *Source: 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 2003.

points respectively. In the most recent quarter, for the three months to September 2009, the employment rate for men fell by 0.4 percentage points, but the employment rate for women increased by 0.2 percentage points.

Figure 2 shows the quarterly change in the employment rate by age group. The largest quarter on quarter fall in the employment rate was for the 16 to 24 age group, where it fell by 1.7 percentage points in the three months to March 2009. The same age group has the largest fall throughout four of the six quarters of the current recession, and in the most recent quarter, covering the three months to September 2009, it fell by 1.2 percentage points. The second largest fall in the employment rate over the period was for the 25 to 34 age group, where it fell by 1.4 percentage points in the three months to June 2009. Following this sharp decline, there was an increase of 0.3 percentage points in the employment rate in the three months to September 2009 for those aged 25 to 34. The fall in employment rates for individuals aged over 50 and below state pension age has been smaller than that of all the other age groups over the period. There were marginal falls in the first three quarters of the current recession, with a larger fall in the three months to June 2009, of 0.3 percentage points. In the most recent period, the employment rate for the older workers, aged 50 to state pension age, has increased by 0.2 percentage points.

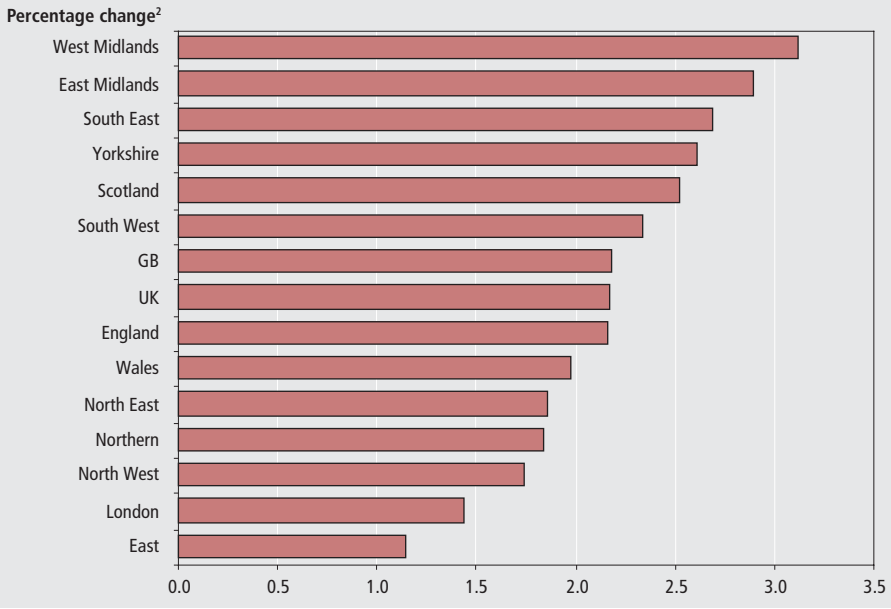
Jobs

The number of jobs in the economy indicates if employers are cutting back on offering employment opportunities, which in turn will impact on employment levels. Estimates of workforce jobs provide the level of jobs by industry and region, with estimates primarily provided by employers. This is different to the Labour Force Survey, 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.

Table 3 shows the quarterly percentage change in the level of workforce jobs by industry since the onset of the current recession up until June 2009, which is the latest period in the series. For each quarter throughout the current recession, there have been falls in the number of workforce jobs in 'Manufacturing', with the largest fall in the first part of 2009, where it fell by 2.8 per cent in the quarter to March 2009. For the 'Construction' industry, at the start of the recession there was no change in the number of workforce jobs, followed by an increase over the summer of 2008 of 1.3 per cent. Since then, there have been three consecutive falls in the number of construction jobs, with the largest fall in the quarter to June 2009 of 2.7 per cent. Within the service sector, there have been falls in each quarter in the number of jobs in the 'Distribution, Hotels & Restaurants' services while increases in the number of jobs each quarter in 'Public Admin, Education & Health' services.

Regionally there are differences in the

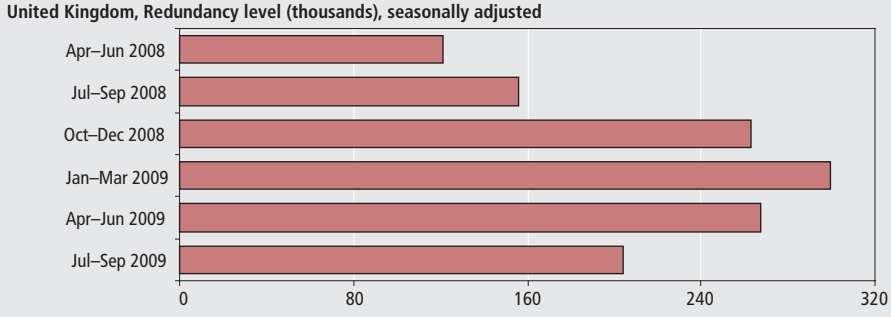
Figure 3
Annual percentage change in workforce jobs[1] by region, April–June 2008 and April–June 2009



Notes: *Source: 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 Percentage change is the percentage fall on the year.

Figure 4
Redundancy level, April–June 2008 to July–September 2009



Source: Labour Force Survey

Table 4
Redundancy rate[1] by industry[2], April–June 2008 to July–September 2009

United Kingdom **Not seasonally adjusted**

	All redundancies	Manufacturing industries	Construction	Distribution, hotels & restaurants	Transport & comms.	Finance & Business Services	Education, health and public admin[3]
		D	F	G–H	I	J–K	L–N
Apr – Jun 08	*4.8*	*7.1*	*9.1*	*5.6*	*7.0*	*5.1*	*1.4*
Jul – Sep 08	*6.1*	*7.9*	*21.3*	*6.0*	*7.7*	*8.4*	*1.5*
Oct – Dec 08	*10.3*	*18.3*	*31.3*	*9.6*	*11.6*	*12.8*	*1.8*
Jan – Mar 09	*11.8*	*21.1*	*32.8*	*14.1*	*13.0*	*15.3*	*1.4*
Apr – Jun 09	*10.7*	*20.1*	*27.9*	*9.9*	*9.1*	*18.1*	*2.1*
Jul – Sep 09	*8.2*	*15.5*	*26.0*	*6.7*	*8.3*	*13.5*	*2.0*

Notes: *Source: Labour Force Survey*

1 The redundancy rate is based on the ratio of the redundancy level for the given quarter to the number of employees in the previous quarter, aged 16 and over, multiplied by 1,000.
2 Standard Industrial Classification 1992.
3 Includes both public and private sectors.
4 Table does not include estimates for 'Agriculture, forest & fishing (A)', 'Mining, energy & water supply industries (B') and 'Other services (O-Q)' as the sample size for these industries is too small for a reliable estimate.

number of workforce jobs. As estimates are not seasonally adjusted at a regional level, **Figure 3** shows the percentage change in workforce jobs over the year, between June 2008 and June 2009. For the UK as a whole, there was a fall of 2.2 per cent in the number of workforce jobs, with the largest fall in the West Midlands at 3.1 per cent. The East of England region has the smallest fall at 1.1 per cent.

Redundancies

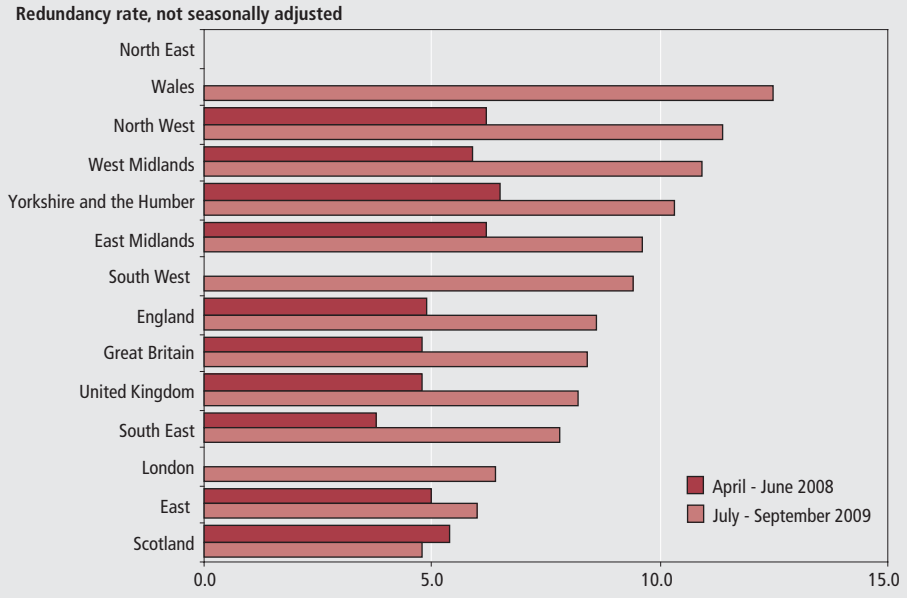
Redundancies are the termination of employment, which occurs in response to business slowdown. The previous article on the impact of the recession on the labour market described how there were record numbers of redundancies, since the series began in the mid 1990s.

Redundancies can be an early indicator of the impact of a recession, and **Figure 4** shows the number of redundancies as reported in the LFS over the current recession. In the three months to April 2008, there were 121,000 redundancies and they rose each quarter to reach a peak of 299,000 in the three months to March 2009. Since then, there have been two consecutive falls in redundancy levels, and in the three months to September 2009, they stood at 205,000.

Increases in redundancies have occurred across the entire economy, with a higher concentration in certain industrial sectors. **Table 4** shows the redundancy rate, which is the number of redundancies per thousand employees, for the UK, by the previous industry an employee worked in. Note the estimates in this table are not directly comparable to the number of redundancies in Figure 4 as they are not seasonally adjusted. However, the differences between the seasonally adjusted and not seasonally adjusted series are small. In the three months to June 2008, the redundancy rate for all industries was 4.8 per thousand employees, increasing to a peak of 11.8 per thousand employees in the three months to March 2009. Over the recession period, the 'construction' industry has had the largest increase in the redundancy rate, with 9.1 per thousand employees in the three months to June 2008, increasing to a peak, of 32.8 per thousand employees in the three months to March 2009, before falling to 26.0 per thousand employees in the three months to September 2009. There were also large increases in the redundancy rates for 'manufacturing' and 'finance & business services' industries.

It is not possible to provide reliable estimates of redundancies for many of the

Figure 5
Redundancy rate[1], July–September 2008 and January–March, 2009



Note: *Source: Labour Force Survey*

1 The redundancy rate is based on the ratio of the redundancy level for the given quarter to the number of employees in the previous quarter, aged 16 and over, multiplied by 1,000.

Table 5
Unemployment[1] level and rate by region, April–June 2008 and July–September 2009

Seasonally adjusted

	Level (thousands)			Rate (percentage)		
	2008	2009	Percentage change	2008	2009	Percentage point change
United Kingdom	**1,670**	**2,461**	***47.4***	***5.4***	***7.8***	***2.5***
Great Britain	**1,635**	**2,403**	***47.0***	***5.4***	***7.9***	***2.5***
England	**1,448**	**2,085**	***44.0***	***5.5***	***7.9***	***2.4***
North East	94	119	*26.7*	*7.5*	*9.5*	*2.1*
North West	216	294	*36.1*	*6.4*	*8.6*	*2.2*
Yorkshire and The Humber	157	227	*44.9*	*6.0*	*8.7*	*2.7*
East Midlands	128	173	*34.8*	*5.6*	*7.5*	*1.8*
West Midlands	163	270	*65.3*	*6.2*	*10.0*	*3.9*
East	135	194	*43.4*	*4.6*	*6.5*	*1.9*
London	270	367	*35.9*	*6.7*	*9.0*	*2.3*
South East	184	265	*44.3*	*4.1*	*6.0*	*1.9*
South West	101	176	*74.3*	*3.8*	*6.6*	*2.8*
Wales	**75**	**125**	***65.9***	***5.2***	***8.7***	***3.5***
Scotland	**111**	**194**	***74.2***	***4.2***	***7.2***	***3.0***
Northern Ireland	**34**	**58**	***70.8***	***4.1***	***7.2***	***3.1***

Note: *Source: Labour Force Survey*

1 Levels and rates are for those aged 16 and over.

Government Office Regions of England, Wales, Scotland and Northern Ireland in all the quarters of the current recession, as there are so few in the survey sample. Generally while redundancies have increased in the UK, this increase has been spread across the UK and **Figure 5** shows the redundancy rate, for the three months to June 2008 and the three months to September 2009. Information is not available for the North East for either period or for the South West, London and Wales in the first period, because of inadequate sample sizes. In the three months to September 2009, Wales had the highest redundancy rate at 12.5 per thousand employees. The lowest redundancy rate was in Scotland at 4.8 per thousand employees. For those areas where data is available for both periods, the largest increase in the redundancy rate over the period was in the North West, up from 6.2 per thousand employees to 11.4 per thousand employees. As Table 4 showed, redundancies vary by industry and so the industrial breakdown of each region affects redundancy rates. Estimates of employee jobs for June 2009 suggest around 1 in 6 jobs in Wales are in manufacturing and construction industries, the region with the highest redundancies.

Unemployment

Unemployment levels and rates vary in line with the economic cycle and the levels reached peaks of around 3 million during the recessions of the mid-1980s and 1990s. **Table 5** shows the unemployment level and rate for the UK, Government Office Regions in England, Wales, Scotland and Northern Ireland in the three months to April 2008 and the three months to September 2009. The rate is the proportion of the economically active population who are unemployed. Over this period, the unemployment level for the UK increased by 47.4 per cent from 1.67 million to 2.46 million, while the percentage increase for England was 44.0 per cent. Of the other countries, Scotland had the largest increase in the unemployment level, up by 74.2 per cent to reach 194,000 unemployed individuals in the three months to September 2009. For Northern Ireland the level increased by 70.8 per cent to stand at 58,000, while in Wales, unemployment increased by 65.9 per cent over the period to stand at 125,000. Within England, the South West had the largest percentage increase (74.3 per cent) in the unemployment level to stand at 176,000 in the three months to September 2009. All regions had increases in the number of people unemployed with the smallest, of 26.7 per cent in the North East.

Allowing for population changes, by using the unemployment rate, UK unemployment increased by 2.5 percentage points over the period to stand at 7.8 per cent in the three months to September 2009. There was an increase of 2.4 percentage points in the rate for England, in Scotland an increase of 3.0 percentage points, in Northern Ireland an increase of 3.1 percentage points and in Wales, the largest increase, at 3.5 percentage points.

Within England, the West Midlands had the biggest increase in the unemployment rate. At 10.0 per cent, in the three months to September 2009, the rate was 3.9 percentage points higher than in the three months to June 2008. The East Midlands (1.8 percentage points) had the smallest increase in the unemployment rate.

As with employment, considering the change in unemployment for the start of the recession with the latest period does not show changes in unemployment rates

Table 6
Quarterly change in unemployment rates[1] by region, April–June 2008 to July–September 2009

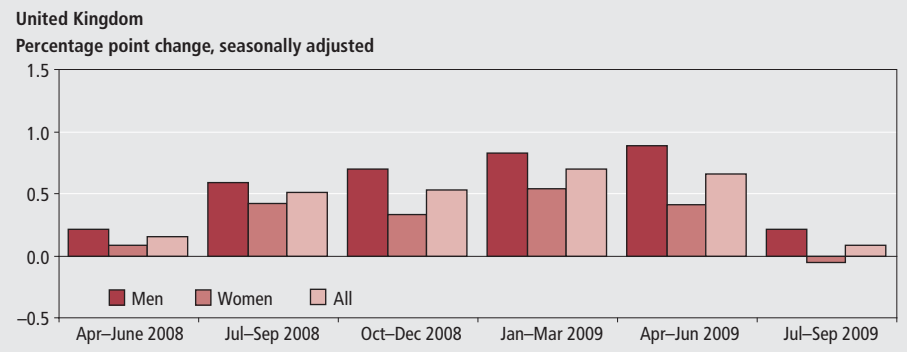
Percentage point change, seasonally adjusted

	Change on quarter					
	Three months to June 2008	Three months to September 2008	Three months to December 2008	Three months to March 2009	Three months to June 2009	Three months to September 2009
United Kingdom	***0.2***	***0.5***	***0.5***	***0.7***	***0.7***	***0.1***
Great Britain	***0.2***	***0.5***	***0.5***	***0.7***	***0.7***	***0.1***
England	***0.2***	***0.5***	***0.5***	***0.7***	***0.7***	***0.0***
North East	*0.9*	*0.5*	*0.4*	*0.0*	*1.4*	*–0.3*
North West	*0.4*	*0.4*	*1.0*	*0.1*	*0.6*	*0.1*
Yorkshire and The Humber	*0.9*	*0.8*	*–0.1*	*1.3*	*0.8*	*–0.2*
East Midlands	*0.3*	*0.3*	*0.4*	*0.8*	*0.2*	*0.2*
West Midlands	*0.0*	*0.5*	*1.2*	*1.4*	*1.3*	*–0.5*
East	*0.1*	*0.3*	*0.7*	*0.4*	*0.5*	*0.0*
London	*–0.2*	*0.7*	*–0.1*	*0.9*	*0.6*	*0.2*
South East	*0.2*	*0.4*	*0.5*	*0.4*	*0.5*	*0.1*
South West	*0.1*	*0.5*	*0.6*	*1.0*	*0.5*	*0.2*
Wales	***–0.1***	***1.3***	***0.5***	***0.7***	***0.0***	***1.0***
Scotland	***–0.5***	***0.5***	***0.6***	***0.7***	***1.0***	***0.2***
Northern Ireland	***–0.3***	***0.1***	***1.0***	***0.9***	***0.7***	***0.4***

Note: *Source: Labour Force Survey*

1 Unemployment rate is for all aged 16 and over.

Figure 6
Quarterly change in unemployment rate[1] by sex



Note: *Source: Labour Force Survey*

1 Unemployment rate is for all aged 16 and over.

going through the period of the recession. **Table 6** shows the quarterly change in the unemployment rate for the six quarters covering the recent recession, although as with employment, they are subject to sampling variability. For the UK, there have been six consecutive increases in the unemployment rate, with the largest increases in the three months to March 2009 and the three months to June 2009, at 0.7 percentage points. Of the four countries of the UK, there is a similar story for England. However, for Wales there was a small fall of 0.1 percentage points, in the unemployment rate in the first quarter of the current recession, followed by a large increase in the following quarter, of 1.3 percentage points. In the three months to June 2009, the unemployment rate remained the same as the previous quarter, but in the most recent period, covering the three months to September 2009, Wales had a sharp increase in the unemployment rate, up 1.0 percentage points. For Scotland, there was a fall in the unemployment rate in the first quarter of the recession, followed by five consecutive increases, the largest in the three months to June 2009, at 1.0 percentage points. In Northern Ireland, for the first quarter of the recession, the unemployment rate fell, followed by five consecutive increases. The largest increase in the unemployment rate was in the three months to December 2008, at 1.0 percentage points.

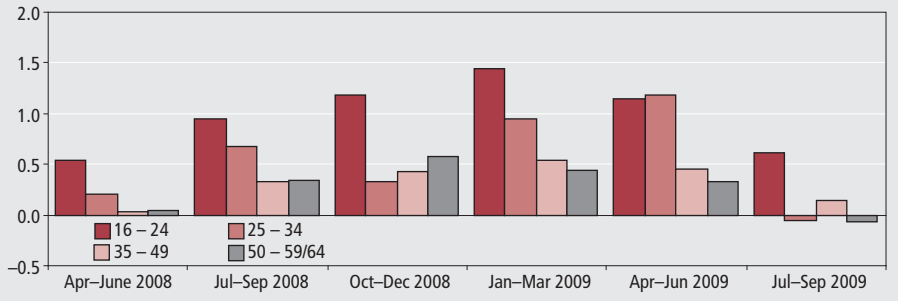
Within England, in the first two quarters of the recession, Yorkshire and the Humber had the largest increase in the unemployment rate, up 0.9 percentage points and 0.8 percentage points respectively, with the North East sharing the highest increase in the first quarter. Following the two large increases, Yorkshire and the Humber had a small fall, with London, in the unemployment rate in the three months to December 2008. Over the same quarter, the West Midlands had the largest increase in the unemployment rate of 1.2 percentage points. For the next two quarters the large increases in the unemployment rate in the West Midlands continued, up 1.4 percentage points in the three months to March 2009 (the largest increase), and 1.3 percentage points in the three months to June 2009. In the most recent period, three regions in England have experienced a fall in the unemployment rate, with the largest fall in the West Midlands, at 0.5 percentage points.

Figure 6 shows the quarterly change in the unemployment rate by sex for the UK since the onset of the current recession, with men having larger increases than women for each quarter.

The largest increase for men occurred in the three months to June 2009, at 0.9 percentage points. For women the largest increase was in the three months to March 2009 at 0.5 percentage points. In the most recent quarter, for the three months to September 2009, the unemployment rate for men increased by the lowest amount since the start of the recession at 0.2 percentage points, while for women the unemployment rate decreased by 0.1 percentage points.

Figure 7 shows the quarterly changes in the unemployment rate by age group. The largest quarter on quarter increase in the unemployment rate was for the 16 to 24 age group, where it rose by 1.4 percentage points in the three months to March 2009. The same age group has the largest increase throughout five of the six quarters of the current recession, and in the most recent quarter, covering the three months to September 2009, it rose by 0.6 percentage points. The second largest increase in unemployment rates over the period was for the 25 to 34 age group, where it rose by 1.2 percentage points in the three months to June 2009. Following this sharp increase, there was a small fall in the unemployment rate, of 0.1 percentage points, in the three months to September 2009 for those aged 25 to 34. For most of the period, the rise in the unemployment rate for individuals aged over 50 and below state pension age has been smaller than that of all the other age groups. In the three months to December 2008 it was the second lowest increase, but largest increase for this age group since the start of the recession, at 0.6 percentage

Figure 7
Quarterly change in unemployment rate[1] by age group



Note: *Source: Labour Force Survey*

1 Men aged 16 to 64 and Women aged 16 to 59.

Table 7
Claimant count[1] level and rate[2] by region, April 2008 and September 2009

Seasonally adjusted

	Level (thousands)			Rate (percentage)		
	2008	2009	Percentage change	2008	2009	Percentage point change
United Kingdom	**802**	**1,627**	***102.7***	***2.1***	***5.0***	***2.9***
Great Britain	**778**	**1,573**	***102.1***	***2.1***	***5.0***	***2.9***
England	**668**	**1,359**	***103.3***	***2.1***	***5.0***	***2.9***
North East	48	88	*82.3*	*3.0*	*7.3*	*4.3*
North West	107	204	*89.5*	*2.5*	*5.8*	*3.3*
Yorkshire and The Humber	77	159	*107.0*	*2.4*	*6.1*	*3.7*
East Midlands	54	115	*113.2*	*2.0*	*5.1*	*3.1*
West Midlands	96	185	*94.0*	*2.9*	*6.7*	*3.8*
East	55	124	*126.0*	*1.6*	*4.3*	*2.7*
London	128	228	*77.4*	*2.5*	*4.7*	*2.2*
South East	66	160	*143.0*	*1.3*	*3.5*	*2.2*
South West	38	97	*157.1*	*1.2*	*3.5*	*2.3*
Wales	**40**	**81**	***104.8***	***2.2***	***5.8***	***3.6***
Scotland	**70**	**133**	***89.7***	***2.2***	***4.7***	***2.5***
Northern Ireland	**24**	**54**	***121.9***	***2.2***	***6.2***	***4.0***

Notes: *Source: Jobcentre Plus administrative system*

1 All claimants aged 18 and over.
2 The number of claimants resident in an area as a percentage of claimants and workforce jobs in the area.

points. In the most recent period, covering the three months to September 2009, the unemployment rate for the older workers, aged 50 to state pension age, fell slightly by 0.1 percentage points.

Claimant count

The claimant count is a count of claimants of Jobseeker's Allowance and is based on the administrative records of people claiming this benefit. Generally, the claimant count series follows the unemployment series, but at a lower level. There are periods of divergence and convergence. During a time of an economic recession the claimant count tends to converge to unemployment, as happened during the recession of the early 1990s. Over the last decade the claimant count has fallen more sharply than the survey measure of unemployment.

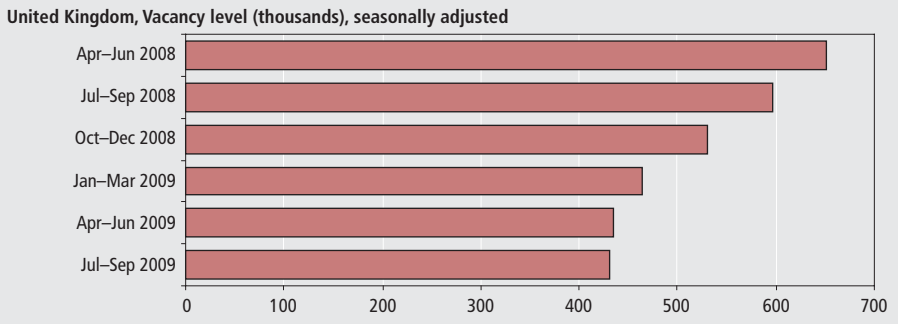
Table 7 shows the claimant count level and rate for the UK, Government Office Regions in England, Wales, Scotland and Northern Ireland at the start of the recession in April 2008 and for September 2009. In September 2009, the claimant count for the UK stood at 1.63 million, more than double (102.7 per cent) that of the level in April 2008. Between the countries of the UK, the count increased by the largest percentage in Northern Ireland at 121.9 per cent. The claimant count also more than doubled in both England (103.3 per cent) and Wales (104.8 per cent). In Scotland the claimant count increased by 89.7 per cent over the period. Within England there were five regions where the claimant count more than doubled. The South West had the largest increase over the period at 157.1 per cent, followed by the South East at 143.0 per cent, and the East of England at 126.0 per cent. Despite being the region with the largest number of claimants, through its large population size, the smallest increase occurred in London at 77.4 per cent.

Allowing for population changes, the claimant count rate for the UK increased by 2.9 percentage points to 5.0 per cent in September 2009. The rate is the number of claimants resident in an area as a percentage of the sum of claimants and workforce jobs in the area. There was a similar increase in the rate for England. As for the claimant level, Northern Ireland had the largest increase (4.0 percentage points) in the rate and Scotland the lowest (2.5 percentage points). For Wales the rate increased by 3.6 percentage points over the year. Within England, the North East had the largest percentage point increase at 4.3 percentage points to stand at 7.3 per cent in September 2009. The West Midlands had the next highest increase at 3.8 percentage points, with London and the South East (both 2.2 percentage points) the lowest.

Vacancies

Statistics on job vacancies provide important information about the demand for labour and how this is changing. **Figure 8** shows vacancy levels using the ONS Vacancy Survey, covering an average for April to June 2008 and July to September 2009. In the first quarter of the recession there were 652,000 vacancies, and the level of vacancies fell for the next four quarters, to stand at 434,000 in the April to June quarter of 2009. Over these four quarters, the quarter on quarter percentage fall in vacancies was highest between the last quarter of 2008 and the first quarter of 2009, at 12.4 per cent. Following this, there has been a slowdown in the fall in vacancies and in the most recent three month period, covering July to September 2009, vacancies fell by just 0.9 per cent on the previous quarter, to stand at 430,000. The ONS vacancy survey provides the most comprehensive estimates on the number of job vacancies in the UK. However the survey does not provide regional estimates. Statistics of Jobcentre Plus vacancies, which are job openings reported by employers to Jobcentre Plus, provide estimates of vacancies at a regional level. They do not cover all vacancies as some are filled without reference to Jobcentre Plus. Typically, Jobcentre vacancies account for around a half of all vacancies. Some regions advertise a higher proportion of vacancies with Jobcentre Plus than others.

Figure 8
Vacancy level,[1,2] April–June 2008 to July–September, 2009



Notes: *Source: ONS Vacancy Survey*

1 Vacancy levels are three month averages.
2 Excludes Agriculture, Forestry and Fishing.

Table 8
Vacancy rate[1] and claimants per vacancy[2] by region, April 2008 and September 2009

Not seasonally adjusted

	Vacancy rate			Claimants per vacancy		
	April 2008	September 2009	Difference	April 2008	September 2009	Difference
Great Britain	***104***	***62***	***–42***	***2.1***	***6.7***	***4.6***
England	***105***	***62***	***–42***	***2.1***	***6.7***	***4.6***
North East	*103*	*65*	*–39*	*3.0*	*8.2*	*5.2*
North West	*109*	*68*	*–41*	*2.4*	*6.9*	*4.5*
Yorkshire and The Humber	*108*	*69*	*–38*	*2.3*	*6.9*	*4.6*
East Midlands[3]	*101*	*74*	*–27*	*2.0*	*5.5*	*3.5*
West Midlands	*111*	*65*	*–46*	*2.7*	*8.6*	*5.9*
East	*83*	*62*	*–20*	*2.0*	*5.5*	*3.5*
London	*63*	*38*	*–25*	*4.0*	*11.8*	*7.7*
South East	*83*	*57*	*–25*	*1.6*	*5.3*	*3.6*
South West	*102*	*73*	*–28*	*1.3*	*4.1*	*2.8*
Wales	***107***	***72***	***–35***	***2.2***	***6.1***	***3.9***
Scotland	***98***	***54***	***–44***	***2.3***	***7.4***	***5.1***

Notes: *Source: Jobcentre Plus administrative system and ONS mid-year population estimates*

1 Total number of Jobcentre Plus advertised vacancies per ten thousand resident population of men aged 16 to 64 and women aged 16 to 59.
2 The ratio of the number of Jobseeker Allowance claimants resident in an area to the number of Jobcentre plus vacancies in the area.
3 Estimates for the East Midlands exclude UK armed forces vacancies (SOC 1171, 2444 and 3311). These are allocated to Lincoln Orchard Street Jobcentre although the vacancies are available nationally.

Table 8 shows the number of Jobcentre Plus vacancies per ten thousand resident population of men aged 16 to 64 and women aged 16 to 59 (the vacancy rate) for Great Britain, Government Office Regions in England, Wales and Scotland in April 2008 and September 2009. Information for Northern Ireland is not available. For Great Britain the vacancy rate fell from 104 to 62 vacancies per ten thousand resident population. In April 2008, the West Midlands had the highest vacancy rate, at 111 vacancies per ten thousand resident population, but over the period it had the largest fall, of 46, to 65 vacancies per ten thousand resident population in September 2009. The smallest fall was in the East of England, down from 83 to 62 vacancies per ten thousand resident population. Of the remaining regions, the East Midlands had the highest vacancy rate in September 2009, at 74 vacancies per ten thousand resident population. The lowest vacancy rate was in London where there were 38 vacancies per ten thousand resident population.

Table 8 also shows the ratio of the number of Jobseeker's Allowance claimants per Jobcentre Plus vacancy. This is a useful indicator of regions where it is becoming more difficult for individuals to find a job. In April 2008 there were 2.1 claimants for each vacancy in Great Britain as a whole, and over the period the ratio increased by 4.6 to 6.7 claimants for each vacancy. This shows there were more than three times as many claimants chasing each job vacancy in September 2009 than at the start of the recession in April 2008.

In September 2009 the highest ratio was in London where there were 11.8 claimants for each vacancy, and this region also had the largest increase over the period. With 7.7 more claimants per vacancy than in April 2008, there are now almost three times as many claimants chasing each vacancy than a year earlier. The lowest ratio was in the South West at 4.1 claimants for each vacancy.

Inactivity

So far this chapter has commented on patterns of employment and unemployment. Individuals who are neither in employment nor unemployment are inactive. Individuals who are inactive include those who are students, those looking after the family or home and many who are retired. When considering inactivity levels and rates, only men aged 16 to 64 and women aged 16 to 59 are considered, which excludes many of those inactive because of retirement.

Table 9 shows the inactivity level and rate for the UK, Government Office Regions in England, Wales, Scotland and Northern Ireland in the three months to April 2008 and the three months to September 2009. For the UK as a whole, the number of individuals who are economically inactive has increased by 1.7 per cent, from 7.86 million to 8.0 million in the three months to September 2009. For Great Britain and in England, the percentage increase was 1.3 per cent, while for Scotland it increased by 1.6 per cent and in Wales by 1.7 per cent. There was a larger increase in Northern Ireland, at 8.8 per cent, although the Northern Ireland estimate was the lowest starting estimate in the three months to June 2008. Within England, four regions had falls in inactivity levels, with the remaining five having increases. The largest decrease was in the East of England, down 5.4 per cent to 600,000 in the three months to September 2009. The largest increase was in London, up 7.0 per cent to 1.24 million in the three months to September 2009.

Allowing for population changes, the inactivity rate for the UK increased by 0.2 percentage points over the period, to 21.1 per cent in the three months to September 2009. The inactivity rate also increased by 0.1 percentage points in England, while it increased by 0.2 percentage points in Scotland, 0.4 percentage points in Wales and 2.1 percentage points in Northern Ireland. Within England the largest increase in the inactivity rate was in London at 1.1 percentage points, with the largest decrease in the East of England, at 1.1 percentage points.

Table 9
Inactivity[1] level and rate by region, April–June 2008 and July–September 2009

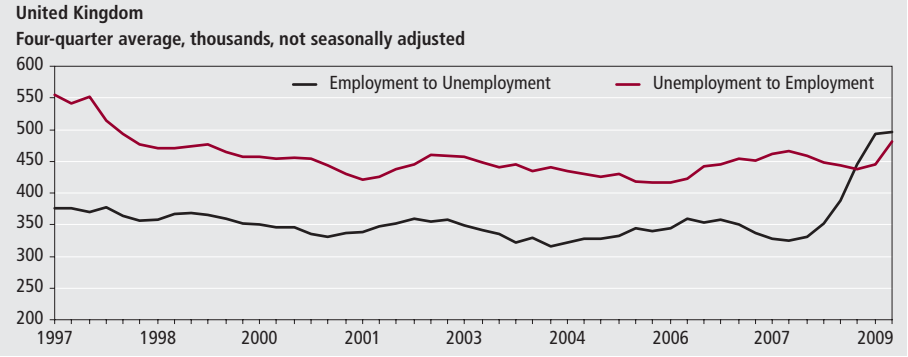
Seasonally adjusted

	Level (thousands)			Rate (percentage)		
	2008	2009	Per cent change	2008	2009	Percentage point change
United Kingdom	**7,861**	**7,997**	***1.7***	***20.8***	***21.1***	***0.2***
Great Britain	**7,572**	**7,673**	***1.3***	***20.7***	***20.8***	***0.1***
England	**6,510**	**6,593**	***1.3***	***20.6***	***20.7***	***0.1***
North East	375	391	*4.2*	*23.7*	*24.5*	*0.9*
North West	958	940	*–1.8*	*22.8*	*22.3*	*–0.4*
Yorkshire and The Humber	702	703	*0.1*	*21.8*	*21.8*	*–0.1*
East Midlands	530	516	*–2.8*	*19.5*	*18.9*	*–0.6*
West Midlands	735	714	*–2.9*	*22.5*	*21.8*	*–0.7*
East	635	600	*–5.4*	*18.4*	*17.3*	*–1.1*
London	1,158	1,239	*7.0*	*22.9*	*24.0*	*1.1*
South East	862	911	*5.7*	*17.0*	*17.9*	*0.9*
South West	554	578	*4.3*	*18.0*	*18.7*	*0.7*
Wales	**420**	**428**	***1.7***	***23.5***	***23.9***	***0.4***
Scotland	**642**	**653**	***1.6***	***20.0***	***20.2***	***0.2***
Northern Ireland	**289**	**314**	***8.8***	***26.5***	***28.7***	***2.1***

Note: *Source: Labour Force Survey*

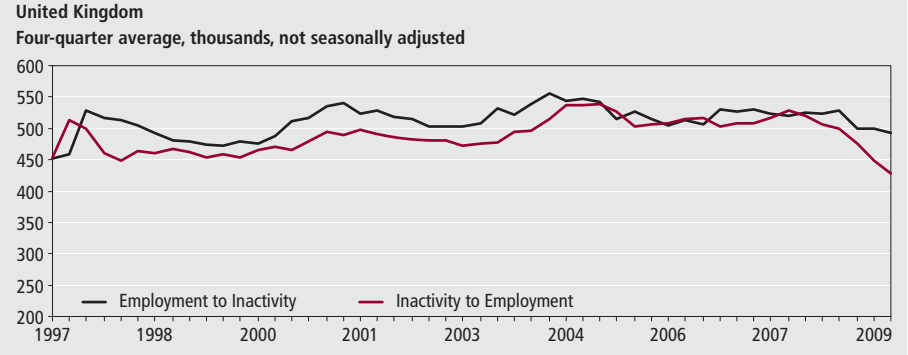
1 Levels and rates are for men aged 16 to 64 and women aged 16 to 59.

Figure 9
Gross flows between employment and unemployment, July 1997–June 1998 to October 2008–September 2009



Source: Labour Force Survey and longitudinal datasets

Figure 10
Gross flows between employment and inactivity, July 1997–June 1998 to October 2008–September 2009



Source: Labour Force Survey and longitudinal datasets

Labour market flows

The LFS contains a sample of the same households for five quarters, using a rotating panel of households, with replacement of one-fifth of the sample each quarter. Accompanying the main LFS datasets are longitudinal datasets, restricted to working age (men aged 16 to 64 and women aged 16 to 59) individuals. The datasets include flow variables, which allow estimates of the movements of individuals between the three main labour market statuses of employment, unemployment and economic inactivity.

Seasonally adjusted estimates are not available and so to overcome seasonality in the data, an average of four quarters is shown. **Figures 9**, **10** and **11** show the four quarter average of the labour market flows of individuals between the three economic statuses, from an average of July 1997 to June 1998, the earliest point a consistent time series is available, to October 2008 to September 2009.

Since the start of the series, the flow from unemployment to employment has been larger than the flow from employment to unemployment, until more recent times. Flows from unemployment to employment have fluctuated at around 450,000, with a high of 556,000 and a low of 417,000 (Figure 9). Through the current recession, the level of flow has remained similar to that over the last ten years. Flows in the other direction, from employment to unemployment, have fluctuated around 350,000, until the onset of the current recession.

Since the twelve months to March 2008, there have been consecutive increases in the flow from employment to unemployment, with sharp rises from the twelve months to September 2008. For the latest two periods, more people have moved from employment to unemployment than from unemployment to employment.

Figure 10 shows the flow between employment and inactivity, with a slight net flow for most of the period from employment to inactivity. The two series track each other, with both series fluctuating between 450,000 to 550,000 individuals. However, since the onset of the recession, there has been a sharper fall in the flow from inactivity to employment, although this is of similar magnitude to the increase during 2003 and 2005.

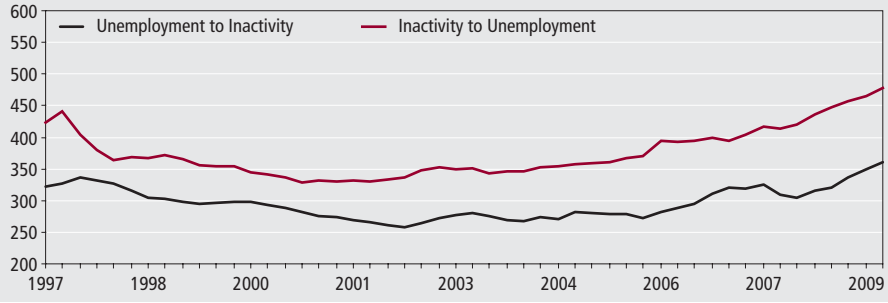
Figure 11 shows the flows between unemployment and inactivity, with a net flow across the period from inactivity to unemployment. The flow from inactivity to unemployment has been rising since 2003, with the flow in the other direction rising from around 2005. There was a small dip before the current continued to rise since then.

Earnings

Looking at earnings is one way of identifying the effects of the recession on individuals. Businesses have three options to reduce their wage bill in a recession,

Figure 11
Gross flows between unemployment and inactivity, July 1997–June 1998 to October 2008–September 2009

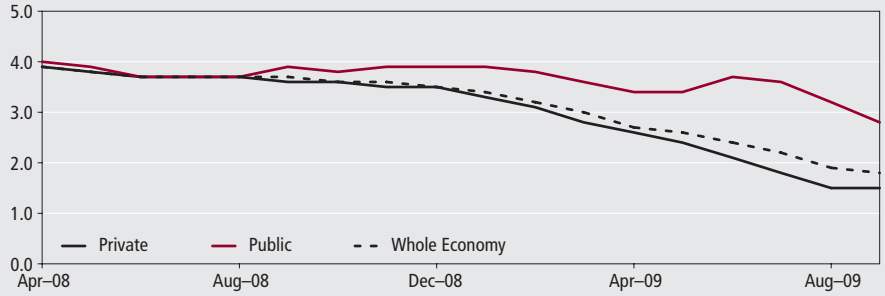
United Kingdom
Four-quarter average, thousands, not seasonally adjusted



Source: Labour Force Survey and longitudinal datasets

Figure 12
Average earnings[1] excluding bonuses by public and private sector, April 2008 to September 2009

United Kingdom
Three month averages, per cent change on year, seasonally adjusted

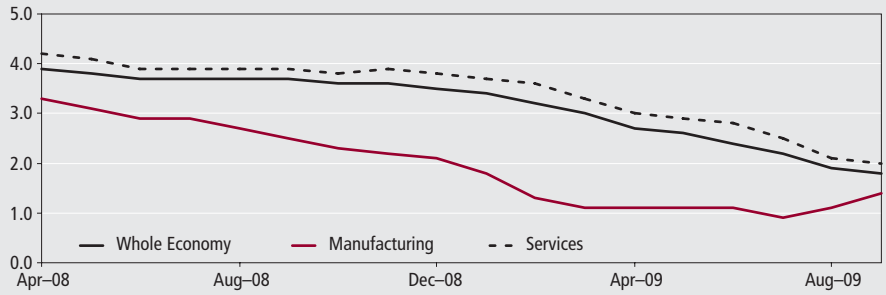


Note: *Source: Monthly Wages and Salaries Survey*

1 Earnings measure money received for work done, gross of tax. They include salaries, but not unearned income, benefits in kind or arrears of pay..

Figure 13
Average earnings[1] excluding bonuses by industrial sector, April 2008 to September 2009

United Kingdom
Three month averages, per cent change on year, seasonally adjusted



Note: *Source: Monthly Wages and Salaries Survey*

1 Earnings measure money received for work done, gross of tax. They include salaries, but not unearned income, benefits in kind or arrears of pay..

through job cuts, through pay cuts, or offering reduced paid hours. **Figure 12** shows the annual average earnings growth (excluding bonuses), using a three month average, from the Average Earnings Index (AEI), in both the public and private sector from April 2008 to September 2009.

Earnings growth over the year to April 2008 for the whole economy was 3.9 per cent and it remained at 3.5 per cent and above, until January 2009. Annual earnings growth was 3.4 per cent in January 2009, and it then started to fall, reaching a low of 1.8 per cent in September 2009.

There are marked differences in earnings growth between the public and private sector. Annual earnings growth in the public sector was higher than that of the private sector in every month except June to August 2008, where earnings growth was the same in both sectors. Since then, the gap between annual earnings growth between the public and private sector has grown markedly. The largest gap was in July 2009, where public sector earnings rose by 3.6 per cent over the year, and in the private sector by just 1.8 per cent, a difference of 1.8 percentage points.

As well as differences in earnings growth between the public and private sectors, there are also large differences between different industrial sectors. **Figure 13** shows the annual average earnings growth, for 'Manufacturing' and 'Service' industries from April 2008 to September 2009. The whole economy series is the same as shown in Figure 12. Since the start of the current recession, annual earnings growth has been lower in 'Manufacturing' industries and from July 2008 to March 2009 there was a sharp decline, from 2.9 per cent to 1.1 per cent. Since then it has remained at around 1.0 per cent, with an increase to 1.4 per cent in September 2009. Average earnings for 'Service' industries have also fallen over the period since April 2008. The sharpest decline has occurred since November 2008, where it stood at 3.9 per cent, to stand at 2.0 per cent in September 2009.

As well as looking at earnings growth from the AEI, there is the Annual Survey of Hours and Earnings, which is a sample survey of employees, with information collected direct from employers, covering a pay period in April of each year. Employers are asked about more detailed information than that supplied in the Monthly Wages and Salaries Survey, of which the AEI is based. **Table 10** shows the average earnings, for both the median and the mean, by industry, in April 2008 and 2009. The median is the most common measure used to summarise average earnings. It is the middle point of the earnings distribution, with exactly the same number of people earning below this amount as above. In some instances it is more suitable than the mean, as the latter can be influenced by the relatively few extreme values in the pay distribution. Between the two periods, median earnings increased by 2.2 per cent for all employees. Across the industrial groups, the largest fall in median earnings was in 'Electricity, Gas and Water Supply', at 4.3 per cent, followed by Hotels and Restaurants', at 1.2 per cent, and 'Manufacturing' industries, at 0.3 per cent.

Table 10
Gross Weekly Pay for all employee[1] jobs by industry[2], April 2008 and 2009

£

	Median			Mean		
	2008	2009	Per cent change	2008	2009	Per cent change
All employees	**388.8**	**397.3**	***2.2***	**473.2**	**480.9**	***1.6***
Agriculture, Hunting and Forestry	320.0	338.6	*5.8*	375.8	396.6	*5.5*
Manufacturing	470.5	469.0	*–0.3*	542.1	542.1	*0.0*
Electricity, Gas and Water Supply	587.7	562.2	*–4.3*	670.5	639.0	*–4.7*
Construction	498.0	498.3	*0.1*	563.7	568.7	*0.9*
Distribution	281.5	288.1	*2.4*	359.1	361.6	*0.7*
Hotels and Restaurants	202.9	200.6	*–1.2*	249.5	240.7	*–3.5*
Transport & Communications	467.0	472.1	*1.1*	537.3	548.0	*2.0*
Finance	536.6	564.4	*5.2*	745.8	755.6	*1.3*
Business Services	434.2	442.1	*1.8*	559.8	564.1	*0.8*
Public Admin	487.1	502.7	*3.2*	531.5	545.8	*2.7*
Education	369.8	389.2	*5.2*	416.7	434.1	*4.2*
Health	344.6	352.9	*2.4*	426.8	442.4	*3.7*
Other Services	334.0	338.1	*1.2*	408.1	419.1	*2.7*

Notes: *Source: Annual Survey of Hours and Earnings*

1 Employees on adult rates whose pay for the survey pay-period was not affected by absence.
2 Standard Industrial Classification 2003. Estimates for Fishing, Mining and Quarrying have not been shown as they are based on small samples.

Table 11
Gross Weekly Pay for all employee[1] jobs by occupation[2], April 2008 and 2009

£

	Median			Mean		
	2008	2009	Per cent change	2008	2009	Per cent change
All employees	**388.8**	**397.3**	***2.2***	**473.2**	**480.9**	***1.6***
Managers and senior officials	670.8	680.7	*1.5*	817.6	818.9	*0.2*
Professional occupations	637.0	651.6	*2.3*	690.8	709.9	*2.8*
Professional and technical occupations	496.0	505.3	*1.9*	538.0	542.8	*0.9*
Administrative and secretarial occupations	308.4	318.2	*3.2*	326.5	335.8	*2.8*
Skilled trades occupations	435.5	435.5	*0.0*	461.1	458.6	*–0.5*
Personal service occupations	233.5	242.0	*3.7*	248.8	257.4	*3.5*
Sales and customer service occupations	180.0	180.6	*0.3*	204.0	206.0	*1.0*
Process, plant and machine operatives	396.3	396.0	*–0.1*	422.3	417.5	*–1.1*
Elementary occupations	225.3	226.2	*0.4*	238.8	236.6	*–0.9*

Notes: *Source: Annual Survey of Hours and Earnings*

1 Employees on adult rates whose pay for the survey pay-period was not affected by absence.
2 Standard Occupation Classification 2000.

Table 12
Gross Weekly Pay for all employee[1] jobs by region, April 2008 and 2009

£

	Median			Mean		
	2008	2009	Per cent change	2008	2009	Per cent change
United Kingdom	**388.8**	**397.3**	***2.2***	**473.2**	**480.9**	***1.6***
Great Britain	**390.5**	**398.6**	***2.1***	**475.2**	**482.5**	***1.5***
England	**395.4**	**402.5**	***1.8***	**482.4**	**488.9**	***1.3***
North East	346.4	359.3	*3.7*	406.1	418.2	*3.0*
North West	371.7	372.9	*0.3*	436.9	440.2	*0.7*
Yorkshire and The Humber	360.9	364.1	*0.9*	423.0	427.3	*1.0*
East Midlands	365.5	375.4	*2.7*	431.5	444.7	*3.1*
West Midlands	362.2	373.6	*3.2*	426.9	438.9	*2.8*
East	375.4	385.3	*2.6*	455.1	459.3	*0.9*
London	537.6	551.1	*2.5*	669.9	677.8	*1.2*
South East	409.7	415.8	*1.5*	490.8	499.3	*1.7*
South West	362.8	367.7	*1.3*	428.9	431.1	*0.5*
Wales	**342.5**	**354.7**	***3.6***	**405.2**	**414.2**	***2.2***
Scotland	**375.0**	**385.4**	***2.8***	**441.4**	**455.5**	***3.2***
Northern Ireland	**345.0**	**356.7**	***3.4***	**406.4**	**424.6**	***4.5***

Notes: *Source: Annual Survey of Hours and Earnings*

1 Employees on adult rates whose pay for the survey pay-period was not affected by absence.

Over the same period, the largest increase in median earnings was in 'Agriculture, Hunting and Forestry, at 5.8 per cent, followed by both 'Finance' and 'Education' industries, at 5.2 per cent.

As well as providing information on earnings for different industries, ASHE also provides average earnings for occupations. **Table 11** shows the average earnings, for both the median and the mean, by occupation, in April 2008 and 2009. There was earnings growth across all bar two occupational groups, with a fall of 0.1 per cent for occupations grouped as 'Process, plant and machine operatives', which includes a number of occupations in manufacturing, and no change in earnings in occupations grouped as 'Skilled Trade'. Between the two periods, the largest growth in median earnings was in occupations grouped as 'Personal Service', at 3.7 per cent, which includes occupations in healthcare and childcare.

Finally, **Table 12** shows the average earnings, for both the median and the mean, for the UK, Government Office Regions in England, Wales, Scotland and Northern Ireland in April 2008 and 2009. Across the UK there has been earnings growth, with the largest increase in median earnings in the North East, at 3.7 per cent, followed by Wales, at 3.6 per cent, and Northern Ireland, at 3.4 per cent. However, the North East, Wales and Northern Ireland have the lowest median earnings across the UK. Earnings growth was lowest in the North West, at 0.3 per cent, followed by Yorkshire and the Humber, at 0.9 per cent.

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ARTICLE

Using the OECD equivalence scale in taxes and benefits analysis

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SUMMARY

Equivalence scales make adjustments to the incomes of households so that households with different compositions can be analysed. The effects of taxes and benefits on household income (ETB) analysis uses the McClements equivalence scale to examine how taxes and benefits redistribute income between households in the UK. However, many other household income statistics, including indicators published by the Department for Work and Pensions and the European Union (EU), use the Organisation for Economic Cooperation and Development (OECD) equivalence scale. Thus, estimates produced in the ETB analysis cannot be easily compared with other key income statistics. This article seeks to outline the effects of switching to the OECD equivalence scale on the effects of taxes and benefits on household income analysis.

Introduction

The McClements equivalence scale has been used by researchers and government departments in the UK to take account of the differing needs and economies of scale of households. This makes larger households better off than single adult households. However, many organisations have shifted toward using the OECD (Organisation for Economic Cooperation and Development) equivalence scale in their analysis. For example, the Statistical Office of the European Union (EUROSTAT) opted for the OECD equivalence scale in their analysis of income using EU Survey of Incomes and Living Conditions data. Furthermore, the Department for Work and Pensions (DWP) began to use the OECD equivalence scale from 2005/06 in their Households Below Average Income (HBAI) publication[1].

The ETB is a long-standing analysis published every year in *Economic & Labour Market Review* (see Barnard 2009). It is based on income and expenditure data from the Living Costs and Food Survey[2] (LCF), which was previously known as the Expenditure and Food Survey.

The analysis has used the McClements equivalence scales since 1977 giving a long, consistent series but with a lack of comparability between the estimates produced in ETB and other household income statistics. This article seeks to outline the effects of moving the ETB analysis from the McClements scale to the OECD scale and also present the timetable for the move to the OECD scale.

The article shows that:

- Using the OECD equivalence scale, compared with the McClements scale, gives more weight to the first adult in any household than second and subsequent adults. This has the effect of giving single adult households a smaller equivalised income relative to couple households than the McClements scale
- Changing equivalence scales (equivalisation and equivalence are terms that are used interchangeably) makes little difference to the estimated Gini coefficient for disposable income, but has a bigger effect on the Gini coefficients for the original, gross and post-tax income
- The effect of a change in equivalence scales increases income inequality for retired households and reduces inequality for non-retired households, as measured by disposable income
- The OECD equivalence scale cause estimates of disposable income to fall for the lower income decile groups, and to increase for higher income decile groups. This means that the gap between the bottom and top decile will widen slightly using the OECD scale

Effects of taxes and benefits on household income (ETB) analysis

ETB analysis shows how Government intervention, through the tax and benefit system, affects the income of households. It covers the whole income distribution and includes the effects of indirect taxes, such

as VAT and duty on alcoholic beverages, as well as estimating the cash value of free or subsidised services (for example, government spending on education and healthcare). It also shows where different types of households are in the income distribution and looks at the changing levels of income inequality over time. ETB results are designed to show the position for a particular year rather than trends in income levels over time, although trends in the distribution of income are given.

Income equivalisation

The process of income equivalisation involves adjusting a household's income based on its size and composition. The income adjustment is done using an equivalence scale to obtain the equivalised household income for each household. An equivalence scale is the ratio of the amount of income needed by a household to achieve a particular standard of living, given the household composition, to the amount of income needed by a 'reference' household achieving the same standard of living. The household equivalence value is calculated by summing the appropriate equivalence scales for each household member. Equivalised household income is then calculated by dividing total household income by the household equivalence value.

For example, if the reference household is taken as a childless couple and the equivalence scale for a couple with children is estimated at 1.5, it means that a couple with children need one and a half times as much income as a childless couple to reach a particular standard of living. The simplest method of adjusting for differences in household size is to divide the income of households by the number of people in it, so that household income is presented on a per capita basis. This method assumes that all individuals have the same resource needs if they are to enjoy the same standard of living, and that there are no economies of scale obtained from living together. Therefore, equivalence scales have been devised to take these factors into account. However, it is difficult to define and estimate equivalence scales that take all relevant factors into account and which can be used for different analyses. As a result, analysts tend to use simple equivalence scales which are chosen subjectively but are nevertheless consistent with the quantitative research that has been undertaken.

Equivalence scales

Different equivalence scales have been developed to make adjustments to the actual incomes of households and these scales differ in their detail and methodology. In many scales, the household size is the only factor used in calculating the equivalence value, while in those scales with other factors like differences in geographic areas, expenditure patterns and transport costs, the size of the household has the greatest weight (see Chanfreau and Buchardt 2008 and OECD 2009 for more information on equivalence scales).

Some of the most commonly used equivalence scales include: The OECD 'Oxford' scales, the OECD-modified scale (referred to as the OECD scales for simplicity), the McClements scale and the square root scale. The McClements scale was developed in the mid-1970s specifically for use in the UK to take account of the effects of the number of children, and ages of children, on the living standards of the household. The McClements scale assumes the equivalised income of a cohabiting couple living on their own is equal to their actual income. The equivalised income of larger households is less than their actual household income, and the equivalised income of a single-person household is greater than the person's actual income. The scale takes into account both the greater income needs of larger families and economies of scale achieved when people live together. Economies of scale arise when households with multiple members share resources like water and electricity, making larger households better off due to lower per person costs.

The OECD scale, on the other hand, was proposed by Hagenaars, De Vos and Zaidi in 1994, for use across the world. This scale assigns a weight of 1.0 for the first adult in a household, 0.5 for each additional adult and a weight of 0.3 for each child (aged 0–14 years). It differs from the McClements scale, which assigns specific weights based on the type of household members and the ages of the child. In this analysis, the OECD scale has been rescaled so that the couple household equivalence value is 1.0, to make it easier to compare with the McClements scale. The OECD scale assumes that single adults need a higher proportion of a couple's income to maintain the same standard of living. Households with spouses and additional adults need the addition of a lower proportion of a couple's income to maintain the same standard of living. The scale also assumes that households with children aged 0 to 4 years and young teenagers aged 14 and 15 years need the addition of a higher proportion of a couple's income to main the same standard of living. Households with children aged 5 to 13 years and teenagers aged 16 years and over need the addition of a lower proportion of a couple's income to maintain the same standard of living. The McClements and re-scaled OECD equivalence scales are presented in **Table 1**.

Table 1
Equivalence scales (before housing costs)

	McClements Scale	OECD-modified Scale
First adult	0.61	0.67
Spouse	0.39	0.33
Other second adult	0.46	0.33
Third adult	0.42	0.33
Subsequent adults	0.36	0.33
Each dependent aged:		
0 to 1	0.09	0.20
2 to 4	0.18	0.20
5 to 7	0.21	0.20
8 to 10	0.23	0.20
11 to 12	0.25	0.20
13	0.27	0.20
14	0.27	0.33
15	0.27	0.33
16 or over	0.36	0.33

Effects of using OECD equivalence scales in ETB analysis

The ETB analysis presents households' original income, gross income, disposable income, post-tax income and final income. Original income is income received from employment, occupational pensions, investments and other non-government sources. Gross income is calculated by adding cash benefits (for example, state pensions and widow's benefits) to original income. Subtracting direct taxes from gross income gives the household's disposable income. Households pay indirect taxes like VAT and other duties from the purchase of

Table 2
Households in each income quintile group by household type

Percentages

Household type	Quintile groups of ALL households[1] Bottom	2nd	3rd	4th	Top	All households
Retired						
1 adult						
McClements scale	20	22	17	8	4	14
OECD-modified scale	23	24	16	6	2	14
Difference	3	2	–1	–2	–2	0
2 or more adults						
McClements scale	19	19	12	7	4	12
OECD-modified scale	17	19	13	7	4	12
Difference	–2	0	1	0	0	0
Non-retired						
1 adult						
McClements scale	16	9	10	14	21	14
OECD-modified scale	17	10	11	13	18	14
Difference	1	1	1	–1	–3	0
1 adult with children						
McClements scale	12	8	5	3	1	6
OECD-modified scale	13	7	5	2	1	6
Difference	1	–1	0	–1	0	0
2 adults						
McClements scale	11	14	19	29	43	23
OECD-modified scale	10	14	18	30	44	23
Difference	–1	0	–1	1	1	0
2 adults with 1 child						
McClements scale	4	6	8	9	8	7
OECD-modified scale	5	5	9	9	8	7
Difference	1	–1	1	0	0	0
2 adults with 2 children						
McClements scale	5	8	10	10	9	9
OECD-modified scale	5	8	10	11	9	9
Difference	0	0	0	1	0	0
2 adults with 3 or more children						
McClements scale	5	4	3	2	2	3
OECD-modified scale	4	4	3	2	2	3
Difference	–1	0	0	0	0	0
3 or more adults						
McClements scale	4	6	9	12	7	8
OECD-modified scale	3	5	9	14	8	8
Difference	–1	–1	0	2	1	0
3 or more adults with children						
McClements scale	4	5	6	5	2	4
OECD-modified scale	4	4	6	5	3	4
Difference	0	–1	0	0	1	0

Note: *Source: Office for National Statistics*

1 All households are ranked by disposable income.

goods and services. These indirect taxes are subtracted from disposable income to give an estimate of post-tax income. Households are also assigned nominal incomes to reflect the receipt of non-cash benefits provided by the state, which are based on the cost of providing the services. These non-cash benefits include Government spending on healthcare and concessionary transport fares. These are added to post-tax income to give a measure of final income.

The income distribution in the ETB analysis is based on a ranking of households by equivalised disposable income into five or ten equally sized groups, that is, quintile or decile groups. The bottom quintile or decile group has the lowest equivalised disposable incomes, while the top quintile or decile group has the highest. Therefore any differences in equivalised disposable income, caused by changing the equivalence scale, will have an effect on the ranking of households and subsequently on the composition of the decile and quintile groups used in presenting data in the ETB analysis. **Table 2** compares the percentage of households in each income quintile group by household type and composition using both scales.

Table 2 shows that the bottom quintile group had a greater percentage of one-adult retired households using the OECD scale than those that used the McClements scale. However, the lower quintile groups had similar percentages of two or more adult retired households across scales, though the bottom quintile group calculated using the McClements based estimates had more households for this household type. The lower income quintile groups also had greater percentages of one-adult non-retired households and three or more adult households using the OECD compared with those using the McClements scale. In addition, the bottom quintile calculated using the OECD scale had a greater percentage of one-adult with children (lone parent) households than those that used the McClements scale. This is because the OECD scale has a greater equivalence value for the first adult than the McClements' and also assigns higher equivalence values to children aged 0–4 years. Thus, the overall equivalence value for lone parent households using the OECD scale is greater than the equivalence value for the same households using the McClements scale. The percentage of two adult households with two children was similar across the two scales.

ETB analysis also calculates Gini coefficients to measure inequality for each measure of income. The Gini coefficient is the most widely used summary measure of the degree of inequality in an income distribution. It takes values from 0 to 100 per cent, where a value of zero would indicate that each household had an equal share of income, while higher values indicate greater inequality. As shown in **Table 3**, the Gini coefficients for equivalised original and post-tax income reduced slightly using the OECD scale, while Gini coefficients for gross income increased slightly, compared with the McClements scale. However, the most commonly reported measure, the Gini coefficient for household disposable income, remained unchanged.

Table 3
Gini coefficients for ALL households, 2007/08

	Gini coefficients for ALL households			
Equivalisation Scale	Original income	Gross income	Disposable income	Post-tax income
McClements Scale	51.7	37.5	34.2	38.1
OECD-modified Scale	51.6	37.7	34.2	38.0
Difference	–0.1	0.2	0.0	–0.1

Source: Office for National Statistics

Table 4
Gini coefficients for NON-RETIRED households, 2007/08

	Gini coefficients for NON-RETIRED households			
Equivalisation Scale	Original income	Gross income	Disposable income	Post-tax income
McClements Scale	44.1	36.8	34.2	38.1
OECD-modified Scale	43.8	36.6	33.8	37.7
Difference	–0.4	–0.2	–0.3	–0.4

Source: Office for National Statistics

Table 5
Gini coefficients for RETIRED households, 2007/08

	Gini coefficients for RETIRED households			
Equivalisation Scale	Original income	Gross income	Disposable income	Post-tax income
McClements Scale	63.8	29.2	26.9	31.2
OECD-modified Scale	64.0	29.4	27.0	31.1
Difference	0.2	0.2	0.1	–0.1

Source: Office for National Statistics

Table 6
P90/P10 ratio for ALL households, 2007/08

	P90/P10 ratio for ALL households		
Equivalisation Scale	Gross income	Disposable income	Post-tax income
McClements Scale	5.5	4.4	5.5
OECD-modified Scale	5.6	4.6	5.6
Difference	0.2	0.2	0.1

Source: Office for National Statistics

The effect of changing the equivalence scale was larger for non-retired households than for all households. **Table 4** shows that the Gini coefficients decreased for all equivalised incomes. This implies that the ETB analysis will report a smaller degree of inequality for non-retired households using the OECD scale than the McClements scale. This may be because the McClements scale gives more weight to the spouse in any household and second and subsequent adults. This has the effect of giving non-retired households a smaller equivalised income under the McClements scale than when using the OECD scales. Thus, the overall equivalence value for non-retired households is greater using the McClements scale than when using the OECD scale.

The Gini coefficient for retired households' equivalised original, gross and disposable incomes increased when the OECD scale was used, although there was a slight reduction in equivalised post-tax income (**Table 5**). The increase in the Gini coefficients for retired households may be largely because these households are mostly made up of one-adult households (see Table 2). These households would therefore have a larger overall equivalence value for each household when using the OECD scale compared with the McClements scale.

ETB analysis also presents the P90/P10 ratio as an alternative measure of inequality. The P90/P10 ratio is the ratio of the 90th and the 10th percentile in the distribution and shows the distance between the top and bottom of the income distribution. The greater the difference between these two incomes, that is the larger the P90/P10 ratio, the greater the degree of inequality. The P90/P10 ratios calculated for disposable and gross income using the OECD scale was 0.2 percentage points higher than those created using the McClements scale (see **Table 6**). This means that the OECD scale produces a higher degree of inequality for disposable and gross income, as measured by the P90/P10 ratio. The P90/P10 ratios for post-tax income were very similar using the alternative equivalence scales.

Cash benefits assist in providing a reasonable standard of living to households, particularly those that have little or no income. There are two broad types of cash benefit: contributory benefits, which are paid from the National Insurance Fund, to which individuals and their employers make contributions while working; and non-contributory benefits, many of which are means tested. Contributory benefits include the state retirement pension, incapacity benefit, jobseekers allowance, and widows' benefits. Non-contributory benefits include housing benefit, income support, pension credit, child benefit, various disability and carer's benefits and tax credits.

Table 7 gives a summary of the distribution of cash benefits between quintile groups by household type. It shows that the average cash benefits going to the bottom income quintile for both household types is greater using the McClements scale than when using the OECD scale. This is due to a higher number of single pensioners in the bottom quintile, whose unequivalised incomes are increased by more through equivalisation by the McClements scale than by the OECD scale. Average cash benefits were larger for households in the fourth income quintile using the OECD scale compared with the results using McClements scales. Similarly, for non-retired households, cash benefits provided a greater proportion of gross income for households at the lower end of the income distribution when the OECD scale was used.

In ETB analysis, direct taxes consist of income tax, national insurance contributions and local taxes. ETB analysis also includes analysis of the impact of indirect taxes on household income. Indirect taxes are those incurred by

Table 7
Cash benefits received in each quintile groups by household type, 2007/08

£ and percentages

	Quintile groups of households[1]					All households
	Bottom	2nd	3rd	4th	Top	
Retired households						
McClements scale	6,853	9,008	9,743	9,802	9,320	8,945
OECD-modified scale	6,549	8,796	9,813	10,296	9,272	8,945
Difference	–304	–212	70	494	–48	0
Cash benefits as a percentage of gross income						
McClements scale	*82*	*74*	*65*	*53*	*27*	*50*
OECD-modified scale	*82*	*74*	*67*	*55*	*26*	*50*
Non-retired households						
McClements scale	5,984	4,816	2,759	1,768	1,113	3,288
OECD-modified scale	5,927	4,833	2,755	1,818	1,107	3,288
Difference	–57	17	–4	50	–6	0
Cash benefits as a percentage of gross income						
McClements scale	*44*	*18*	*8*	*4*	*1*	*8*
OECD-modified scale	*46*	*19*	*8*	*4*	*1*	*8*

Note: *Source: Office for National Statistics*

1 Households are ranked by equivalised disposable income.

Table 8
Taxes as a percentage of gross income for ALL households by quintile groups, 2007/08

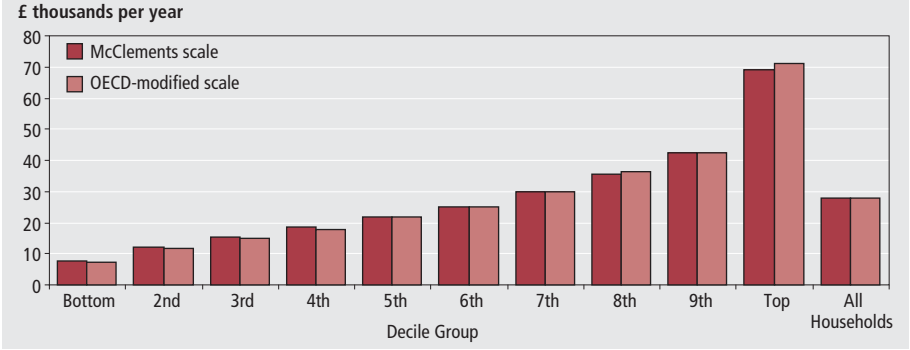
Percentages

	Quintile groups of ALL households[1]					All households
	Bottom	2nd	3rd	4th	Top	
Direct taxes						
McClements scale	*10.7*	*13.9*	*18.3*	*21.3*	*24.1*	*20.5*
OECD-modified scale	*10.3*	*13.6*	*18.4*	*21.8*	*24.9*	*21.0*
Difference	*–0.4*	*–0.3*	*0.1*	*0.5*	*0.8*	*0.5*
Indirect taxes						
McClements scale	*27.9*	*18.6*	*15.9*	*13.7*	*10.0*	*13.9*
OECD-modified scale	*27.8*	*18.8*	*16.1*	*13.8*	*10.1*	*13.9*
Difference	*–0.1*	*0.2*	*0.2*	*0.1*	*0.1*	*0.0*
All taxes						
McClements scale	*38.6*	*32.5*	*34.2*	*35.0*	*34.1*	*34.4*
OECD-modified scale	*38.1*	*32.5*	*34.5*	*35.6*	*35.0*	*35.0*
Difference	*–0.5*	*0.0*	*0.3*	*0.6*	*0.9*	*0.6*

Note: *Source: Office for National Statistics*

1 Households are ranked by equivalised disposable income.

Figure 1
Disposable income for ALL households[1] by decile groups, 2007/08



Note: *Source: Office for National Statistics*

1 Households are ranked throughout by their grossed equivalised disposable incomes.

households when they purchase goods and services. Indirect taxes also include an estimate for payment of intermediate taxes, that is indirect taxes incurred by business which are deemed to be passed onto consumers through the prices that they pay for goods and services. **Table 8** presents the effect of changing the equivalence scales on the tax burdens upon each quintile group. In general, the distribution of direct and indirect taxes are very similar using both scales. However, households in the lower end of the income distribution have a higher tax burden when the McClements scale is used compared with the OECD scale. As a result, households at the top of the income distribution were observed to pay more of their income in taxes when the OECD scale was used.

Figure 1 presents the average household annual disposable income for decile groups ranked by equalised disposable income, calculated using both the McClements scale and the OECD scale. This figure is similar for both retired and non-retired households.

Households at the lower end of the income distribution were observed to have slightly higher average disposable household incomes when the McClements scale was used, compared with the OECD scale. Households in the bottom decile in the McClements scale had a disposable income of £7,790 per year, compared with £7,180 when the OECD scale was used. Households in the top three deciles of the income distribution had a slightly higher disposable income when it was calculated using the OECD scale. For instance, households in the top decile had an average disposable income of £71,280 per year using the OECD scale, compared with £69,210 using the McClements scale. This means that when the OECD scale is used, households in the top decile were ten times as well-off as households in the bottom decile, while when the McClements scale were used they were only nine times as well-off.

Timetable

The timetable for the move to the OECD scale has been phased in three parts:

Spring 2010

The 2008/09 ETB article will be published using the McClements scale. However, Tables 3, 14, 14A, 16 and 18 will be published in the appendix using the OECD scale to enable comparison. Full results using the OECD scale will be available on request.

Spring 2011

The 2009/10 ETB article will be published using the OECD scale with tables created with the McClements scale attached as an appendix.

Spring 2012

The 2010/2011 publication will only publish results using the OECD scale. Results using the McClements scale will be available on request.

Notes

1. HBAI changed to mainly producing results on the modified OECD scale in the 2005/06 publication, published in 2007. The change to mainly using the OECD scale followed a consultation with key users on which scale the HBAI publication should use.
2. As the LCF is a sample survey, data from it will differ in varying degrees from those of all households in the UK. Using equivalence scales is an arithmetic operation applied to survey data. Estimates after the scale has been applied are therefore still subject to the same degree of sampling variability.

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ARTICLE

Education productivity

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SUMMARY

This article is a summary of the third Office for National Statistics (ONS) education productivity article and supporting papers published in December 2009, which extended the analysis of output and the triangulation of outcome measures.

Background

This article continues work to incorporate recommendations of the Atkinson (2005) and subsequent methodological developments endorsed in ONS (2007a). While the methods and data for this article are based on the National Accounts, there are a few differences which are explained in this article.

Education is a complex product with several outcomes related to wider social and economic aims as well as to immediate academic attainment (for example United Nations 1989). It is therefore important to interpret any single measure carefully and alongside other measures such as inspection data on teaching standards, indicators of well-being and research on class size and inclusion.

This article presents estimates of multi-factor productivity growth. This is defined as the growth in the ratio of the volume of output to the volume of inputs (see **Figure 1**).

The estimates presented in this article are constructed in the same way as those presented in ONS (2009a) from 1997 to 2007. However, this article presents more detailed analysis and provides estimates from 1996 to 2008 using the latest data.

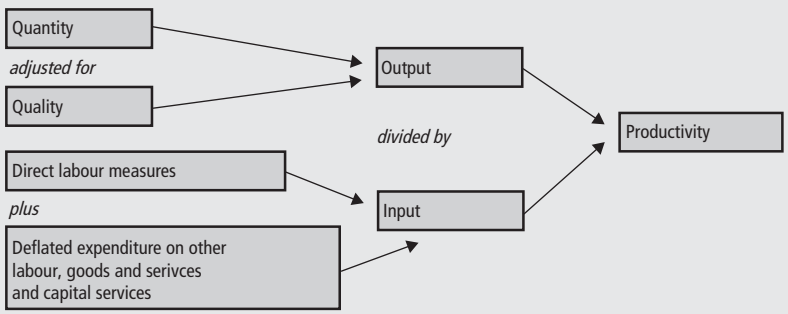
Productivity of education in the UK

Latest estimates of productivity show that productivity was the same in 2008 as in 1996 (**Figure 2**). This is because over the whole period output grew by 33.4 per cent, with an annual average increase of 2.4 per cent and inputs grew by 33.3 per cent, with an annual average increase of 2.4 per cent.

However, within the whole period there were three distinct periods of productivity change:

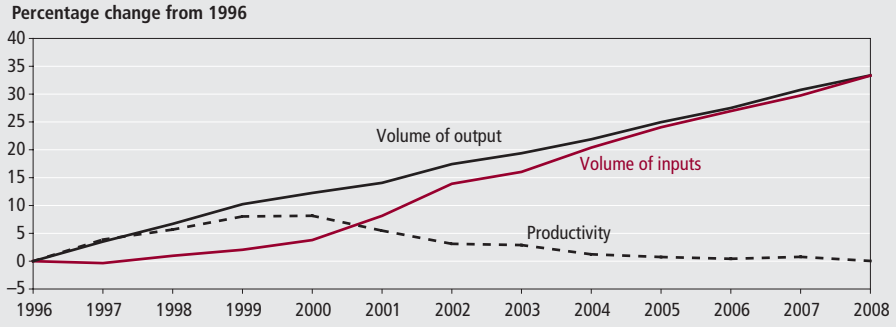
- from 1996 to 2000, productivity grew by 8.1 per cent, with an annual average increase of 2.0 per cent, driven by

Figure 1
Productivity measurement framework



Source: Office for National Statistics

Figure 2
Growth in education output, inputs and productivity estimates, 1996–2008



Source: Office for National Statistics

relatively strong growth in the school age population coupled to relatively weak growth in inputs

- from 2000 to 2005 productivity fell by 6.8 per cent, an annual average fall of 1.4 per cent. This resulted from a steady rise in the number of pupils attending school, once adjusted for quality, being outstripped by a sharp rise in inputs, mainly through the employment of more school support staff
- from 2005 to 2008, productivity was fairly flat and fell on average by 0.2 per cent, as output and inputs grew at a similar pace

In the most recent year between 2007 and 2008, output grew by 2.0 per cent and inputs grew by 2.7 per cent causing productivity to fall by 0.7 per cent.

Changes in England dominate the pattern of education productivity change in the UK. The pattern reflects four key changes in the data behind this measure: decreasing school pupil numbers, improving school attendance and attainment, extra support staff and expansion in nursery and health professional provision.

The secondary-school-age population in the UK increased from 1996 to 2004 then declined from 2005 to 2008. The primary school population fell sharply from 1998 to 2008. These demographic changes reduced education quantity. Measured productivity falls if fixed and semi-fixed costs are spread over fewer pupils, for example, where pupil numbers fall and it is not locally feasible to close schools or reduce the number of classes. Attendance rates, GCSE and equivalent and Standard Grades improved in the UK from 1996 to 2008. These changes increased education output as they more than offset the decline in the school age population. However, the improvements have required some targeted resources.

Between 1996 and 2008 there was a large increase in the number of support staff, which caused inputs to rise. These increases were intended to reduce teacher workload and unpaid overtime, as agreed by a work reform package in 2003. During this period, there was also a rapid expansion in nursery provision and health professional students. Publicly funded nursery places increased following the introduction of a policy to provide a number of hours of free childcare per week for three- and four-year-olds, while an increase in trainee nurses, particularly at degree level, has driven the rise in health professional students.

Three further areas to consider are:

- unmeasured improvements in the quality of education
- expenditure on initiatives, and
- time lags between investment and attainment measured at the end of compulsory schooling

For example, increases in support staff numbers have helped integrate pupils with special needs into mainstream education. The outcomes from expenditure on initiatives such as *Every Child Matters* (Treasury 2003) and *Narrowing the Gap in Outcomes* (Local Government Association 2007) are not currently captured in the output measure, but the expenditure increases the volume of inputs. The expansion in pre-school education will not yet have had an impact on the current quality measure.

Output of education in the UK

Latest estimates of output show that between 1996 and 2008 output grew by 33.4 per cent with an average annual increase of 2.4 per cent and output grew in every year (Figure 2). Growth was strongest from 1996 to 1998, averaging 3.3 per cent annually. Only growth in England (37.1 per cent) was stronger than that in the UK as a whole (see **Table 1**). Education output grew in Wales by 21.5 per cent, in Scotland by 10.6 per cent and in Northern Ireland by 26.3 per cent.

Education output is quantity adjusted for quality. Education quantity includes attendance-adjusted pupil numbers at government-maintained schools; full-time equivalent places in pre-school education (including publicly funded places provided by the private, voluntary and independent sector) and the number of students on initial teacher training and health professional courses funded directly by government.

Those aged under 19 on publicly funded further education courses, for example in sixth form colleges, are also included. This makes sense in a productivity measure specific to education, but differs from the National Accounts where further education is included in the Non-Profit Institutions Serving Households (NPISH) sector as public sector funding comes indirectly via grants.

As recommended by Eurostat (2001), pupil numbers in primary, secondary and special schools throughout the UK, and city technology colleges (CTCs) and academies in England are adjusted for attendance in order to reflect more accurately the quantity of education services delivered. As attendance at these institutions is compulsory, changes over time are largely driven by demographic patterns. A fall in the number of live births throughout the 1990s has led to falling pupil numbers, though an increase in the number of live births from 2003 is just beginning to affect pre-school pupil numbers and will lead to rising primary school pupil numbers in future years.

Currently no attendance adjustments are made to the quantity of UK pre-school education, initial teacher training (ITT), health professional training and further education (FE) as these are not part of compulsory education. This follows Eurostat guidance that in further and higher education the number of students is a better reflection of output.

Education quantity grew by 4.6 per cent between 1996 and 2008 (see **Table 2**), with an average annual increase of 0.4 per cent. The largest observed increase in CTCs and academies was due to a rapid policy-driven expansion in academies since 2000 although most of this increase came from the conversion of existing secondary schools. Health professional training and pre-school education grew rapidly. Further education for under 19s also grew over the

Table 1
Education output in the United Kingdom by country, 1996-2008

Index (1996=100)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average annual percentage change 1996-2008
United Kingdom	100.0	103.5	106.7	110.2	112.2	114.1	117.4	119.4	121.9	125.0	127.5	130.8	133.4	*2.4*
England	100.0	103.8	107.0	110.4	112.4	114.3	118.2	120.4	123.3	127.0	130.0	134.1	137.1	*2.7*
Wales	100.0	105.0	107.9	112.1	115.1	117.0	118.5	119.5	120.6	120.9	121.4	121.1	121.5	*1.6*
Scotland	100.0	100.9	103.6	108.5	110.9	111.9	112.0	112.4	112.3	111.4	111.6	110.2	110.6	*0.8*
Northern Ireland	100.0	102.9	105.9	108.5	109.5	110.5	112.6	114.1	116.3	119.1	120.8	123.5	126.3	*2.0*

Source: Office for National Statistics

Table 2
Quantity measure of education, 1996–2008

United Kingdom

Index (1996=100)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Average annual percentage change
Pre–schools	100.0	102.2	108.7	121.7	140.3	153.9	161.8	165.9	161.2	161.8	166.4	169.9	170.8	*4.6*
Primary Schools	100.0	101.0	101.1	101.3	100.5	99.6	98.8	97.5	96.7	95.2	94.0	93.5	92.7	*–0.6*
Secondary Schools	100.0	101.3	102.1	104.1	105.7	106.6	108.2	109.7	110.0	109.5	108.7	107.7	106.1	*0.5*
Special Schools	100.0	100.5	101.0	101.1	99.9	98.5	98.1	96.7	94.8	93.2	92.5	92.3	92.0	*–0.7*
CTC / Academies	100.0	107.1	109.2	112.7	114.2	115.2	125.0	157.7	198.2	229.3	292.3	433.2	663.4	*17.1*
Initial Teacher Training	100.0	95.1	89.0	82.3	79.8	83.0	85.1	90.0	92.2	91.5	93.3	90.5	86.1	*–1.2*
Health Professional Training	100.0	108.4	119.2	131.2	142.1	153.4	169.1	192.2	213.8	229.6	233.2	227.8	214.3	*6.6*
Further Education for U19s	100.0	103.2	99.9	98.1	98.4	99.0	104.9	109.6	113.8	119.1	124.7	125.9	124.4	*1.8*
Total	100.0	101.3	101.7	102.7	103.4	103.8	105.0	105.8	105.9	105.6	105.4	105.2	104.6	*0.4*

Source: Office for National Statistics

Table 3
Expenditure-based education weights, 1996–2008

United Kingdom

Per cent

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Pre-schools	*1.9*	*2.0*	*1.9*	*2.3*	*3.1*	*4.1*	*4.2*	*5.3*	*5.1*	*5.4*	*6.0*	*6.1*	*6.1*
Primary Schools	*43.0*	*42.3*	*43.3*	*41.4*	*40.3*	*40.3*	*39.7*	*39.2*	*38.2*	*37.7*	*37.2*	*37.1*	*37.1*
Secondary Schools	*36.4*	*36.5*	*35.9*	*38.6*	*40.3*	*40.5*	*40.5*	*40.6*	*40.4*	*39.9*	*39.6*	*39.4*	*39.4*
Special Schools	*7.2*	*7.5*	*7.5*	*7.6*	*6.7*	*5.7*	*5.9*	*5.1*	*5.7*	*6.2*	*6.0*	*6.1*	*6.1*
CTC / Academies	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.2*	*0.3*	*0.4*	*0.4*	*0.6*	*0.9*	*0.9*
Initial Teacher Training	*1.3*	*1.2*	*1.1*	*0.9*	*0.8*	*0.7*	*0.7*	*0.6*	*0.6*	*0.6*	*0.6*	*0.5*	*0.5*
Health Professional Training	*1.8*	*1.9*	*2.0*	*2.0*	*1.9*	*1.9*	*1.9*	*1.9*	*2.2*	*2.2*	*2.2*	*2.0*	*2.0*
Further Education for U19s	*8.2*	*8.3*	*7.9*	*7.1*	*6.8*	*6.7*	*6.9*	*6.9*	*7.3*	*7.5*	*7.9*	*7.9*	*7.9*
Total	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*

Source: Office for National Statistics

period, with much of the rise coming from students taking qualifications suitable for entry into higher education.

A decrease in the five- to eleven-year-old population led to a fall in the quantity of primary school output. Special schools quantity reduced due to the integration of many children with special needs into mainstream schools. The quantity of ITT also fell, primarily due to a shift in demand from three- to one-year courses, which reduced the number of students.

Primary and secondary schools constitute the largest proportion of expenditure, accounting for around 77 per cent of the total in 2008 (see **Table 3**).

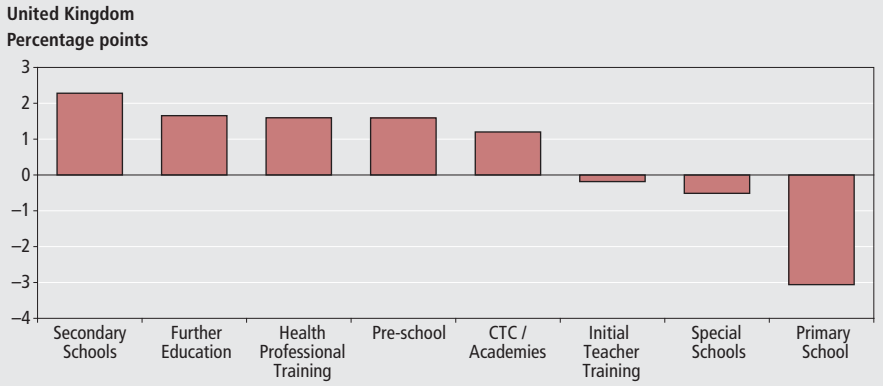
Between 1996 and 2008, the proportion of expenditure on primary and special schools fell as the school-age population decreased. Conversely, the proportion of expenditure on pre-schools, secondary schools and CTCs and academies rose, as the number of children attending increased. The relative proportions of expenditure on other components remained largely unchanged.

Between 1997 and 2008 education quantity grew by 4.6 per cent. This growth was driven by positive contributions of 2.3 percentage points from secondary schools, 1.7 percentage points from further education for under-19s, 1.6 percentage points from health professional training 1.6 percentage points from pre-schools and 1.2 percentage points from CTCs and academies (see **Figure 3**). These were partially offset by negative contributions of 3.1 percentage points from primary schools, 0.5 percentage points from special schools and 0.2 percentage points from ITT.

Eurostat (2001) and Atkinson (2005) recommend measuring public service output in a way that adjusts for quality change. Currently, primary and secondary schools and ITT are quality adjusted. At present there are no quality adjustments applied to further education, health professional training, special schools and pre-schools.

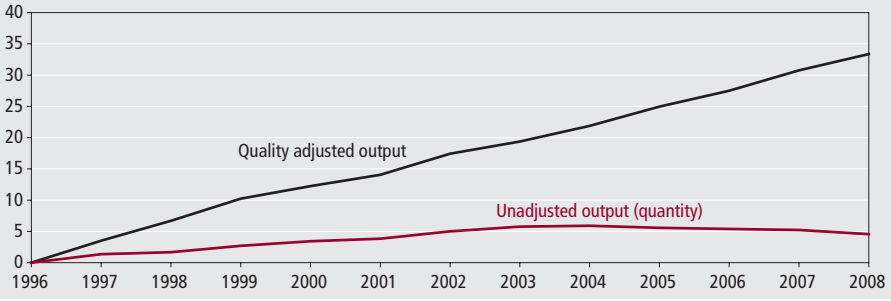
The current schools adjustment uses the change in the uncapped average points score (APS) of GCSE and equivalent qualifications in England and Wales and Standard Grades and equivalent qualifications in Scotland to estimate quality change for government-maintained primary and secondary schools and CTCs

Figure 3
Contributions to education quantity growth, 1997–2008



Source: Office for National Statistics

Figure 4
Impact of quality-adjustments on education quantity, 1996–2008



Source: Office for National Statistics

and academies. These qualifications relate to the attainment of pupils at the end of Year 11 (pupils aged 15–16). A time series of GCSE scores for Northern Ireland was not available so the change in APS in England was used as a proxy. This quality method uses an additive model, which assumes that attainment is the sum of prior attainment and the amount of education received.

This methodology assumes that the change in the APS:

- should be applied to all pupils in primary and secondary schools (from reception class to the end of the sixth form) in the UK and CTCs and academies in England
- is an adequate approximation for all education outcomes, for example attainment after 16 and development of wider outcomes such as citizenship
- is the best measure for the annual change in the quality of output, based on current research

In addition to compulsory schooling, ITT is also adjusted for quality using the change in the proportion of final-year students who attain Qualified Teacher Status (QTS) in England. Data are available from 2001/02 and these have been used to construct a quality adjustment that is applied to the whole of the UK.

The impact of the quality adjustments on education quantity is to increase total growth over the period 1996 to 2008 from 4.6 to 33.4 per cent, with the average annual percentage change increasing from 0.4 to 2.4 per cent (**Figure 4**). This difference illustrates the importance of applying measures that capture quality change fully.

Inputs to education in the UK

Latest estimates of the volume of inputs show that between 1996 and 2008, inputs grew by 33.3 per cent, with an annual average increase of 2.4 per cent (Figure 2). Between 1996 and 1997, inputs fell by 0.3 per cent but grew in all other years. In particular between 2000 and 2002, inputs grew strongly, by 9.7 per cent.

Data for 2008 uses provisional estimates. Education expenditure used in the inputs calculations totalled just under £64 billion in 2008 (**Table 4**), including approximately £4 billion on further education for those aged under 19. In 2008 education was the second largest component of General Government Final Consumption Expenditure (GGFCE) after healthcare. Total education input as defined here is around 4 per cent of the expenditure measure of Gross Domestic Product.

Education input comprises three components: labour (for example teaching staff), goods and services (such as learning materials and electricity), and capital services (for example the flow of services provided by a vehicle or building in a given period). Expenditure on labour and goods and services in current prices measure what was actually paid. They are based on GGFCE estimates for education expenditure in the National Accounts and estimates of expenditure on further education for young people (those aged under 19) from the Learning and Skills Council and the devolved administrations. Figures for capital services are estimates of the value of the flow of services from education capital. While not explicitly part of publicly funded education expenditure, they represent the annual input provided by capital assets owned and so are included alongside actual current expenditure. Estimates are calculated as part of the experimental Volume Index of Capital Services (VICS) developed by ONS; see ONS (2009d).

Labour costs are the largest component of education expenditure. In 2008, at current prices, labour expenditure was £41 billion, about two-thirds of the total that year. Teachers' pay is the largest element of labour costs. Teacher numbers were relatively stable from 1996 to 2008 but expenditure on support staff, particularly teaching assistants, has increased sharply as support staff numbers more than doubled over the same period. Labour costs also include expenditure on indirect support services, such as staff time on policy development, standards setting, finance and training.

In 2008, £16 billion was spent on goods and services, about a quarter of all the expenditure on education inputs. This component consists of the goods and services procured from the market sector consumed in the production of education services in any given year. This includes items or services such as teaching aids, electricity, building maintenance and transport. Government purchases of ITT, health professional courses and private nursery places are part of the goods and services component.

The smallest component of education inputs is capital services, estimated at approximately £7 billion in 2008, about a

Table 4
Education input components from 1996–2008, current prices

United Kingdom £ billions

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual average percentage change
Labour	19.5	20.1	20.8	22.0	23.8	26.6	29.0	31.2	33.3	35.5	37.6	39.7	40.7	*6.3*
Goods and Services	6.4	6.3	6.6	7.6	7.9	8.3	9.6	10.5	11.7	12.8	14.0	15.0	16.4	*8.1*
Capital Services	3.0	2.8	3.3	3.4	3.5	4.1	4.2	3.8	3.4	4.4	4.1	4.2	6.8	*6.9*
Total	29.0	29.2	30.6	33.0	35.3	38.9	42.9	45.5	48.4	52.7	55.7	58.9	63.9	*6.8*

Source: Office for National Statistics

Table 5
Volume of education inputs by component, 1996–2008

United Kingdom Index (1996=100)

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	Annual average percentage change
Labour	100.0	100.8	101.9	99.4	101.0	106.2	109.2	109.6	112.1	113.5	115.0	115.8	119.0	*1.5*
Goods and Services	100.0	96.2	98.4	110.2	112.8	114.7	130.7	138.1	149.9	160.5	167.1	174.7	178.6	*4.9*
Capital Services	100.0	99.7	100.4	101.8	102.9	106.3	110.1	114.0	117.6	125.4	132.1	143.0	148.8	*3.4*
Total	100.0	99.7	101.0	102.0	103.8	108.1	113.9	116.0	120.4	124.0	127.0	129.8	133.3	*2.4*

Source: Office for National Statistics

tenth of the total. Goods such as IT equipment and buildings are medium- to long-term investments used for several years, so they are classified as capital items.

In current prices, total expenditure on education inputs increased by just over 120 per cent between 1996 and 2008. As this includes effects caused by pay and price changes, education inputs are also measured in volume terms. Inputs can be measured directly, for example, using hours worked or a measure of staff numbers in the case of labour inputs. Where data do not allow for a direct measure of inputs, a volume measure can be derived by dividing current price spending figures by an appropriate estimate of price (the deflator). The volume of UK education inputs grew by 33.3 per cent between 1996 and 2008. The volume of labour, the largest inputs component, grew by 19.0 per cent. The other two components grew faster than total volume of inputs: goods and services by 78.6 per cent and capital services by 48.8 per cent (see **Table 5**).

OECD (2001) recommends measuring labour inputs directly and 94 per cent of education labour inputs in the UK are measured directly in these estimates. The calculation method uses a breakdown of full-time-equivalent teaching and support staff numbers and weights them together by average salary. Teachers are also adjusted for actual hours worked using data from the Office of Manpower Economics. The remaining 6 per cent of labour inputs are measured indirectly, by dividing current price expenditure by an appropriate pay deflator. As this small part is a measure of the inputs of central government staff working in education, the most appropriate pay deflator is the public sector Average Earnings Index (AEI) including bonuses.

Goods and services inputs are measured indirectly, using appropriate deflators to remove the effect of price changes. Expenditure on goods and services in the UK can be split into expenditure on both local authorities (around four-fifths) and central government (around a fifth). Specific price deflators have been derived for each component using ONS producer, retail and service sector price data.

The capital component is measured using the VICS for local authority and central government education.

Further developments

Jointly with parents, guardians and other institutions, schools have responsibilities towards pupils that extend beyond academic outcomes. These wider concerns include physical and mental health, safety and the transfer of social knowledge and skills. If possible, quality adjustment improvements will take into account research into quantifying attribution and correlation in these wider outcomes relating to children, for example the five outcomes of the *Every Child Matters* agenda in England. There is a supporting triangulation article ONS (2009f) which presents further discussion on each source of evidence.

ONS will continue to work with DCSF; the Department for Business, Innovation and Skills (BIS); the devolved administrations and others on developing the measures of inputs and the quality and quantity components of output.

Development work on output quantity will aim to extend the coverage of the further education quantity measure to cover students of all ages and identify publicly funded output from higher education institutions. This will need to account for the fee and transfer arrangements in each of the devolved administrations and the research work that universities undertake, as well as the number of students they teach. Future work will also look into the development of a quality measure for health professional courses and for further education, for example using student retention and achievement data.

Work is ongoing to develop a quality measure for pre-school places. The National Institute of Economic and Social Research (NIESR) is currently investigating the relationship between outcomes and quality in early years education as part of the Quality Measurement Framework project which is funded by Treasury under the *Invest to Save Budget*. ONS will be working with NIESR to create a quality adjustment based on the results of this research.

As well as periodical review and improvement of the inputs measures ONS will aim to improve the inputs measure of further education for those aged under 19, for example by investigating whether expenditure data are available for the three components of further education inputs, which deflators may be appropriate and whether a direct labour measure could be calculated.

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ARTICLE

Services Producer Price Indices (experimental) – Third quarter 2009

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SUMMARY

The experimental Services Producer Price Indices (SPPI) are primarily a suite of individual price indices that provide information on price change for a limited range of service industries. Each SPPI captures quarterly changes in the price received for services provided by UK businesses to other UK businesses and Government. These individual price indices are also aggregated together to create a service industry (top-level) SPPI with limited coverage. This article shows the effects some industries are having on the top-level SPPI. The data produced are used internally by the Office for National Statistics (ONS) as a deflator for the Index of Services and the quarterly measurement of gross domestic product. The index is also used by HM Treasury and the Bank of England to help monitor inflation in the economy.

Prices of business-to-business services fell 0.9 per cent in the 12 months to the third quarter of 2009. This is based on a comparison of the change in the top-level SPPI on the net sector basis.

Figure 1 shows how the percentage change for the top-level SPPI (net sector) compares with the producer price index (PPI) for all manufactured goods (net sector).

The top-level results, on both gross and net sector bases, are shown in **Table 1**. In the third quarter of 2009, the top-level SPPI (net sector) was unchanged from the previous quarter.

Figure 2 depicts the SPPI annual percentage change for both the net and gross sector time series. The 12 month net SPPI fell 0.9 per cent in the third quarter of 2009, compared with a fall of 0.4 per cent in the second quarter of 2009. The gross SPPI fell 0.2 per cent in the third quarter, compared with a fall of 0.1 per cent in the previous quarter.

Industry-specific indices

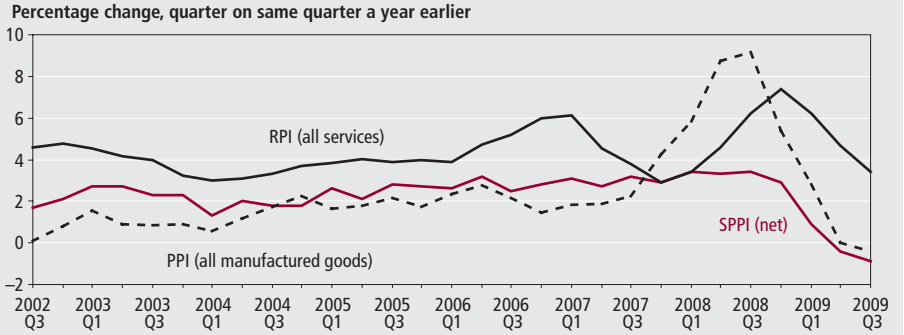
Tables available on the ONS website contain data for the 31 industries for which indices of services producer prices are currently available. The weights for each industry index are shown at both gross and net sector levels. The largest downward effect to the net sector SPPI over the past 12 months came from Freight Forwarding, which fell 7.9 per cent, largely due to a fall in fuel cost compared to 12 months ago. However, quarter on quarter Freight Forwarding had the largest upward effect on the net sector SPPI.

Other notable downward contributions came from Freight Transport by Road and Property Rentals.

These downward movements were partially offset by upward contributions,

Figure 1
Experimental top-level SPPI compared with the PPI

Percentage change, quarter on same quarter a year earlier



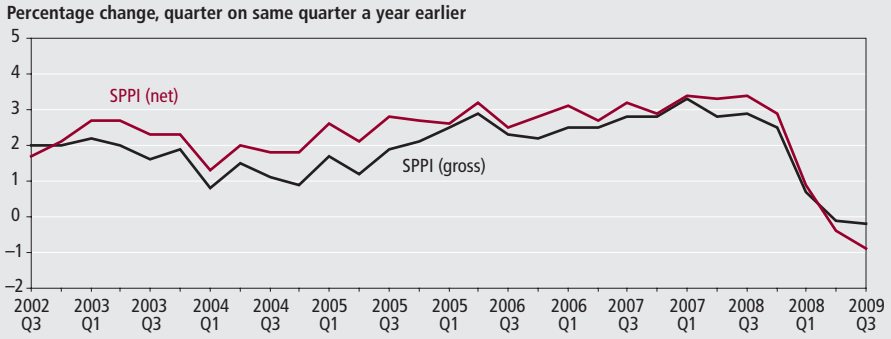
Source: Office for National Statistics

Table 1
SPPI results

	SPPI quarterly index values, 2005=100		Percentage change, quarter on same quarter a year earlier	
	Gross sector	Net sector	Gross sector	Net sector
2000 Q1	91.6	89.3	*-0.9*	1.0
2000 Q2	91.4	89.4	*-0.1*	1.4
2000 Q3	91.5	89.7	*0.4*	1.8
2000 Q4	91.6	90.0	*0.4*	1.6
2001 Q1	92.1	90.8	*0.5*	1.7
2001 Q2	93.6	92.2	*2.4*	3.1
2001 Q3	94.0	92.3	*2.7*	2.9
2001 Q4	94.2	92.5	*2.8*	2.8
2002 Q1	94.3	92.5	*2.4*	1.9
2002 Q2	95.2	93.3	*1.7*	1.2
2002 Q3	95.9	93.9	*2.0*	1.7
2002 Q4	96.1	94.4	*2.0*	2.1
2003 Q1	96.4	95.0	*2.2*	2.7
2003 Q2	97.1	95.8	*2.0*	2.7
2003 Q3	97.4	96.1	*1.6*	2.3
2003 Q4	97.9	96.6	*1.9*	2.3
2004 Q1	97.2	96.2	*0.8*	1.3
2004 Q2	98.6	97.7	*1.5*	2.0
2004 Q3	98.5	97.8	*1.1*	1.8
2004 Q4	98.8	98.3	*0.9*	1.8
2005 Q1	98.9	98.7	*1.7*	2.6
2005 Q2	99.8	99.8	*1.2*	2.1
2005 Q3	100.4	100.5	*1.9*	2.8
2005 Q4	100.9	101.0	*2.1*	2.7
2006 Q1	101.4	101.3	*2.5*	2.6
2006 Q2	102.7	103.0	*2.9*	3.2
2006 Q3	102.7	103.0	*2.3*	2.5
2006 Q4	103.1	103.8	*2.2*	2.8
2007 Q1	103.9	104.4	*2.5*	3.1
2007 Q2	105.3	105.8	*2.5*	2.7
2007 Q3	105.6	106.3	*2.8*	3.2
2007 Q4	106.0	106.8	*2.8*	2.9
2008 Q1	107.3	107.9	*3.3*	3.4
2008 Q2	108.3	109.3	*2.8*	3.3
2008 Q3	108.7	109.9	*2.9*	3.4
2008 Q4	108.7	109.9	*2.5*	*2.9*
2009 Q1	108.1	108.9	*0.7*	*0.9*
2009 Q2	108.2	108.9	*-0.1*	*-0.4*
2009 Q3	108.5	108.9	*-0.2*	*-0.9*

Source: Office for National Statistics

Figure 2
Experimental top-level SPPI



Source: Office for National Statistics

especially from Sewerage Services as reported by the Office of Water Services (Ofwat), Maintenance of Motor Vehicles and Adult Education.

Next results

The next set of SPPI results will be published on 24 February 2010 on the National Statistics website at www.statistics.gov.uk/sppi

Further information

All SPPI tables and articles on the methodology and impact of rebasing the SPPI and the re-development of an index for business telecommunications (together with more general information on the SPPI) are available at www.statistics.gov.uk/sppi.

A Summary Quality Report for the SPPI can be found at: www.statistics.gov.uk/about/data/methodology/quality/information_business_statistics.asp

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TECHNICAL NOTE

1 The experimental Services Producer Price Indices (SPPI) replaced the former Corporate Services Price Index (CSPI). The SPPIs are primarily a suite of individual price indices that provide information on price change for a limited range of service industries. Each SPPI captures quarterly changes in the price received for services provided by UK businesses to other UK businesses and Government. These individual price indices are also aggregated together to create a 'service industry' SPPI with limited coverage. It is not classified as a National Statistic.

2 Unless otherwise stated, index numbers shown in the main text are on a net sector basis. These relate only to transactions between the corporate services sector and other sectors. Detailed tables available on the ONS website also contain gross sector indices which include transactions within the corporate services sector.

3 Indices relate to average prices per quarter. The full effect of a price change occurring within a quarter will only be reflected in the index for the following quarter. All index numbers exclude VAT and are not seasonally adjusted.

4 SPPI inflation is the percentage change in the net sector index for the latest quarter compared with the corresponding quarter in the previous year.

5 Grants from the European Commission helped ONS to begin developing the SPPI. Funding of approximately 600,000 euros was awarded between 2002 and 2005. This has now ceased.

6 A number of external data sources are currently used in the compilation of the SPPI, as follows:

Investment Property Database (IPD) – property rental payments
Office of Communications (Ofcom) – business telecommunications
Office of Water Services (OFWAT) – sewerage services (prices are updated annually at quarter 2)
Parcelforce – national post parcels (prices are updated annually at quarter 2)
Office of Rail Regulation (ORR) – business rail fares (prices are updated annually at quarter 1)
Bank of England (BOE) – financial intermediation (Banks)

7 Following a quality review by ONS in January 2007 a decision was made to withdraw the Banking SPPI from publication. As a result the index has been re-developed and was re-introduced in Q3 2008. Under the re-development, the quality of the data collection and processing has been improved and the number of products included in the index has increased. However, the new index is not regarded as proxy for all Financial Intermediation services within the Standard Industrial Classification (SIC) 65. It has not therefore been included in the top-level SPPI. The services measured are classified to SIC 65.12/1, and are published as a separate index known as the "SPPI for Financial Intermediation (Banks)".

8 SPPI policy is to show significant revisions, but to suppress minor changes to avoid unnecessary inconvenience to users. Indices for the most recent two quarters are regarded as provisional and can be changed as later data become available. The National Statistics website contains information on the SPPI revisions policy:
www.statistics.gov.uk/about/methodology by theme/revisions policies/default.asp

Key time series

1 National accounts aggregates

Last updated: 22/12/09

Seasonally adjusted

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

Percentage change, quarter on corresponding quarter of previous year

			IHYO	ABML[4]	YBGO4	IHYR	ABMM[4]	IHYU	ABML/ABMM[4]
2004 Q1	*5.7*	*5.4*	*5.7*	*5.4*	*3.0*	*3.6*	*3.4*	*2.0*	*1.9*
2004 Q2	*5.6*	*5.3*	*5.6*	*5.3*	*3.4*	*3.2*	*3.2*	*2.3*	*2.1*
2004 Q3	*5.2*	*5.4*	*5.2*	*5.4*	*2.5*	*2.6*	*2.6*	*2.6*	*2.8*
2004 Q4	*5.7*	*5.9*	*5.7*	*5.9*	*3.0*	*2.4*	*2.4*	*3.1*	*3.4*
2005 Q1	*5.0*	*5.2*	*5.0*	*5.2*	*1.8*	*1.8*	*2.1*	*3.1*	*3.0*
2005 Q2	*4.8*	*5.0*	*4.8*	*5.0*	*3.2*	*2.0*	*2.2*	*2.8*	*2.7*
2005 Q3	*3.7*	*3.4*	*3.7*	*3.4*	*1.4*	*2.5*	*2.6*	*1.2*	*0.7*
2005 Q4	*3.5*	*3.6*	*3.5*	*3.6*	*0.0*	*2.4*	*2.6*	*1.1*	*1.0*
2006 Q1	*5.6*	*5.9*	*5.6*	*5.9*	*1.6*	*3.2*	*3.2*	*2.4*	*2.6*
2006 Q2	*4.6*	*4.5*	*4.6*	*4.5*	*0.4*	*2.8*	*2.9*	*1.7*	*1.5*
2006 Q3	*6.4*	*6.6*	*6.4*	*6.6*	*2.6*	*2.7*	*2.9*	*3.7*	*3.6*
2006 Q4	*6.2*	*6.1*	*6.2*	*6.1*	*2.3*	*2.8*	*2.9*	*3.3*	*3.1*
2007 Q1	*5.6*	*5.2*	*5.6*	*5.2*	*2.3*	*2.4*	*2.5*	*3.1*	*2.7*
2007 Q2	*6.2*	*6.1*	*6.2*	*6.1*	*3.1*	*2.7*	*2.7*	*3.4*	*3.3*
2007 Q3	*5.4*	*5.4*	*5.4*	*5.4*	*3.3*	*2.7*	*2.8*	*2.6*	*2.5*
2007 Q4	*4.9*	*5.2*	*4.9*	*5.2*	*5.6*	*2.4*	*2.6*	*2.5*	*2.6*
2008 Q1	*5.6*	*5.9*	*5.6*	*5.9*	*5.8*	*2.4*	*2.4*	*3.1*	*3.5*
2008 Q2	*4.6*	*4.8*	*4.6*	*4.8*	*3.1*	*1.7*	*1.6*	*2.9*	*3.2*
2008 Q3	*2.9*	*3.9*	*2.9*	*3.9*	*1.0*	*0.2*	*0.1*	*2.6*	*3.8*
2008 Q4	*1.2*	*2.4*	*1.2*	*2.4*	*–3.8*	*–2.1*	*–2.3*	*3.4*	*4.8*
2009 Q1	*–4.0*	*–2.5*	*–4.0*	*–2.5*	*–6.3*	*–5.2*	*–5.0*	*1.3*	*2.7*
2009 Q2	*–4.7*	*–3.4*	*–4.7*	*–3.4*	*–6.4*	*–5.8*	*–5.5*	*1.1*	*2.2*
2009 Q3	*–3.1*	*–2.9*	*–3.1*	*–2.9*	*–5.0*	*–5.1*	*–4.8*	*2.1*	*2.0*

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: 22/12/09

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

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

Percentage change, quarter on corresponding quarter of previous year

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

Notes:

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

Source: Office for National Statistics

3 Labour market summary

Last updated: 16/12/09

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
Aug–Oct 2007	48,758	30,950	29,315	1,635	17,808	*63.5*	*60.1*	*5.3*	*36.5*
Aug–Oct 2008	49,165	31,242	29,359	1,883	17,923	*63.5*	*59.7*	*6.0*	*36.5*
Nov–Jan 2009	49,260	31,395	29,335	2,060	17,865	*63.7*	*59.6*	*6.6*	*36.3*
Feb–Apr 2009	49,355	31,350	29,073	2,277	18,005	*63.5*	*58.9*	*7.3*	*36.5*
May–Jul 2009	49,450	31,344	28,874	2,470	18,106	*63.4*	*58.4*	*7.9*	*36.6*
Aug–Oct 2009	49,548	31,417	28,926	2,491	18,131	*63.4*	*58.4*	*7.9*	*36.6*
Male	MGSM	MGSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Aug–Oct 2007	23,717	16,790	15,864	927	6,927	*70.8*	*66.9*	*5.5*	*29.2*
Aug–Oct 2008	23,941	16,940	15,825	1,115	7,000	*70.8*	*66.1*	*6.6*	*29.2*
Nov–Jan 2009	23,991	17,026	15,788	1,238	6,965	*71.0*	*65.8*	*7.3*	*29.0*
Feb–Apr 2009	24,042	17,004	15,620	1,383	7,038	*70.7*	*65.0*	*8.1*	*29.3*
May–Jul 2009	24,093	16,970	15,445	1,525	7,123	*70.4*	*64.1*	*9.0*	*29.6*
Aug–Oct 2009	24,147	16,964	15,424	1,540	7,184	*70.3*	*63.9*	*9.1*	*29.7*
Female	MGSN	MGSH	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Aug–Oct 2007	25,041	14,160	13,451	709	10,881	*56.5*	*53.7*	*5.0*	*43.5*
Aug–Oct 2008	25,224	14,302	13,534	768	10,923	*56.7*	*53.7*	*5.4*	*43.3*
Nov–Jan 2009	25,268	14,369	13,547	822	10,900	*56.9*	*53.6*	*5.7*	*43.1*
Feb–Apr 2009	25,313	14,347	13,453	894	10,966	*56.7*	*53.1*	*6.2*	*43.3*
May–Jul 2009	25,357	14,373	13,428	945	10,983	*56.7*	*53.0*	*6.6*	*43.3*
Aug–Oct 2009	25,400	14,453	13,503	951	10,947	*56.9*	*53.2*	*6.6*	*43.1*

	All aged 16 to 59/64								
	All	Total economically active	Total in employment	Unemployed	Economically inactive	Economic activity rate (%)	Employment rate (%)	Unemployment rate (%)	Economic inactivity rate (%)
	10	11	12	13	14	15	16	17	18
All persons	YBTF	YBSK	YBSE	YBSH	YBSN	MGSO	MGSU	YBTI	YBTL
Aug–Oct 2007	37,602	29,675	28,064	1,611	7,927	*78.9*	*74.6*	*5.4*	*21.1*
Aug–Oct 2008	37,774	29,881	28,026	1,855	7,893	*79.1*	*74.2*	*6.2*	*20.9*
Nov–Jan 2009	37,822	30,021	27,993	2,028	7,801	*79.4*	*74.0*	*6.8*	*20.6*
Feb–Apr 2009	37,869	29,970	27,725	2,245	7,899	*79.1*	*73.2*	*7.5*	*20.9*
May–Jul 2009	37,916	29,926	27,489	2,436	7,991	*78.9*	*72.5*	*8.1*	*21.1*
Aug–Oct 2009	37,961	29,971	27,519	2,453	7,990	*79.0*	*72.5*	*8.2*	*21.0*
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Aug–Oct 2007	19,582	16,369	15,451	918	3,213	*83.6*	*78.9*	*5.6*	*16.4*
Aug–Oct 2008	19,718	16,487	15,387	1,100	3,231	*83.6*	*78.0*	*6.7*	*16.4*
Nov–Jan 2009	19,746	16,569	15,343	1,227	3,177	*83.9*	*77.7*	*7.4*	*16.1*
Feb–Apr 2009	19,775	16,559	15,188	1,371	3,216	*83.7*	*76.8*	*8.3*	*16.3*
May–Jul 2009	19,803	16,515	15,007	1,508	3,288	*83.4*	*75.8*	*9.1*	*16.6*
Aug–Oct 2009	19,830	16,490	14,969	1,521	3,340	*83.2*	*75.5*	*9.2*	*16.8*
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Aug–Oct 2007	18,019	13,305	12,612	693	4,714	*73.8*	*70.0*	*5.2*	*26.2*
Aug–Oct 2008	18,056	13,394	12,640	754	4,663	*74.2*	*70.0*	*5.6*	*25.8*
Nov–Jan 2009	18,075	13,451	12,650	801	4,624	*74.4*	*70.0*	*6.0*	*25.6*
Feb–Apr 2009	18,094	13,411	12,538	874	4,683	*74.1*	*69.3*	*6.5*	*25.9*
May–Jul 2009	18,113	13,411	12,482	929	4,702	*74.0*	*68.9*	*6.9*	*26.0*
Aug–Oct 2009	18,131	13,481	12,550	932	4,649	*74.4*	*69.2*	*6.9*	*25.6*

Notes:

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

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

4 Prices

Last updated: 15/12/09

Percentage change over 12 months

Not seasonally adjusted

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

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/01_10/data_page.asp

Title	Frequency of update
UK economic accounts	
1.01 National accounts aggregates	M
1.02 Gross domestic product and gross national income	M
1.03 Gross domestic product, by category of expenditure	M
1.04 Gross domestic product, by category of income	M
1.05 Gross domestic product and shares of income and expenditure	M
1.06 Income, product and spending per head	Q
1.07 Households' disposable income and consumption	M
1.08 Household final consumption expenditure	M
1.09 Gross fixed capital formation	M
1.10 Gross value added, by category of output	M
1.11 Gross value added, by category of output: service industries	M
1.12 Summary capital accounts and net lending/net borrowing	Q
1.13 Private non-financial corporations: allocation of primary income account[1]	Q
1.14 Private non-financial corporations: secondary distribution of income account and capital account[1]	Q
1.15 Balance of payments: current account	M
1.16 Trade in goods (on a balance of payments basis)	M
1.17 Measures of variability of selected economic series	Q
1.18 Index of services	M
Selected labour market statistics	
2.01 Summary of Labour Force Survey data	M
2.02 Employment by age	M
2.03 Full-time, part-time and temporary workers	M
2.04 Public and private sector employment	Q
2.05 Workforce jobs	Q
2.06 Workforce jobs by industry	Q
2.07 Actual weekly hours of work	M
2.08 Usual weekly hours of work	M
2.09 Unemployment by age and duration	M
2.10 Claimant count levels and rates	M
2.11 Claimant count by age and duration	M
2.12 Economic activity by age	M
2.13 Economic inactivity by age	M
2.14 Economic inactivity: reasons	M
2.15 Educational status, economic activity and inactivity of young people	M
2.16 Average earnings – including bonuses	M
2.17 Average earnings – excluding bonuses	M
2.18 Productivity and unit wage costs	M
2.19 Regional labour market summary	M

Weblink: www.statistics.gov.uk/elmr/01_10/data_page.asp

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

Prices

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

Selected output and demand indicators

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

Selected financial statistics

5.01	Sterling exchange rates and UK reserves	M
5.02	Monetary aggregates	M
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
6.07	Key productivity measures by industry	M
6.08	Total workforce hours worked per week	Q
6.09	Total workforce hours worked per week by region and industry group	Q
6.10	Job-related training received by employees	Q
6.11	Unemployment rates by previous occupation	Q
6.12	Average Earnings Index by industry: excluding and including bonuses	M

Weblink: www.statistics.gov.uk/elmr/01_10/data_page.asp

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

Notes:

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

More information

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

Contact points

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

Labour Market Statistics Helpline
01633 456901
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Earnings Customer Helpline
01633 819024
earnings@ons.gsi.gov.uk

National Statistics Customer Contact Centre
0845 601 3034
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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
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Employment
Labour Force Survey
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Employee jobs by industry
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Total workforce hours worked per week
01633 456720
productivity@ons.gsi.gov.uk

Workforce jobs series – short-term estimates
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workforce.jobs@ons.gsi.gov.uk

Labour costs
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Labour disputes
01633 456721

Labour Force Survey
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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)
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Redundancy statistics
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Retail Prices Index
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rpi@ons.gsi.gov.uk

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

Skill needs surveys and research into skill shortages
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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
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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)

2007 edition

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

Input-Output analyses for the United Kingdom

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

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2008 edition

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

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2006 edition

www.statistics.gov.uk/StatBase/Product.asp?vlnk=930

United Kingdom Balance of Payments (Pink Book)

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

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

United Kingdom National Accounts (Blue Book)

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

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

Statistical Bulletins

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

QUARTERLY

Consumer Trends

2009 quarter 3

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

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

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

2009 quarter 3

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

Statistical Bulletins

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- GDP preliminary estimate
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- 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

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

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Focus on Consumer Price Indices

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Monthly review of external trade statistics (MM24)

October 2009

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

Producer Price Indices (MM22)

November 2009

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

Statistical Bulletins

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

OTHER

The ONS Productivity Handbook: a statistical overview and guide

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

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

Labour Market Review

2009 edition. Palgrave Macmillan, ISBN 1-4039-9735-7. Price £40.

www.statistics.gov.uk/StatBase/Product.asp?vlnk=14315

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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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