

Economic & Labour Market Review

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The Director of ONS is also the National Statistician and the Registrar General for England and Wales.

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www.statistics.gov.uk/elmr

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A fuller list of contact points can be found on
page 79.

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In brief

Regional statisticians

ONS has established regional statisticians in each of the nine English regions in April. The Allsopp Review (2004) recommended that 'There should be a significant ONS or GSS presence in each English region' to fulfil a role similar to that of statisticians already serving the devolved administrations in Scotland, Wales and Northern Ireland.

Regional development agencies (RDAs) have collectively provided £1 million in funding to provide the resource for ONS regional statisticians in Newcastle, Warrington, Leeds, Birmingham, Nottingham, Cambridge, London, Guildford and Exeter. One regional statistician and one regional analyst will be based in each region where they will provide data, analysis and advice to their specific region, improving the evidence base for regional policymaking and feeding back regional intelligence to ONS. There will be an evaluation during the first year to monitor progress and demonstrate benefits to both ONS and the regions.

The National Statistician, Karen Dunnell, will host a national launch of the regional statistician teams in Birmingham on 14 May, with addresses also by John Healey MP (Financial Secretary), Christopher Allsopp and David Marlow (Chief Executive, East of England Development Agency).

A series of regional articles is being produced for publication at the launch, to provide a statistical picture of the English regions and describe regional trends over recent years. These articles will cover a broad range of topics: economic, demographic, social and the regional policy agenda in both the UK and the European Union (EU), including reference to Structural Funds. New sub-regional productivity analysis for gross value added per filled job based on published data is being introduced and an update is to be provided on the progress of the Allsopp recommendations.

More information

These articles will be available to access at www.statistics.gov.uk/about/data/development/allsopp/articles.asp

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Annual reviews of claimant count and vacancy survey series

ONS has conducted its annual review of both the claimant count and vacancy survey series.

Claimant count

Every year, the seasonal adjustment of the claimant count stock and flows series is reviewed. Each series is reviewed over a period of time (usually ten years' back series) to determine the type of adjustment to be used, identifying the seasonal pattern, and investigating any other effects in the data that are not strictly seasonal. Factors used to adjust for the seasonal pattern are updated monthly by the adjustment program. The program used for seasonal adjustment of the main claimant count series is X11 Arima. An enhanced version, X12 Arima, is used for the seasonal adjustment of the claimant count stock series, by age and duration.

This year's review has resulted in minor modifications to model settings and to Easter priors. The claimant count series were revised back to January 2004 and the revisions to the series are generally small.

The full article on the latest seasonal adjustment review of claimant count series is available on the National Statistics website at the address given below.

Vacancy survey

Every year ONS reviews and updates both the quality of the data and the seasonal adjustment used to produce the vacancy survey series, which comprises monthly and rolling quarterly data.

The non-seasonally adjusted series has been reviewed to incorporate information from late returns, or corrections to earlier returns, into the back series. This year unadjusted figures have been revised back to January 2004.

ONS also reviews the seasonal adjustment on an annual basis. Now that

the data series are over five years old, a comprehensive review of all the seasonally adjusted series has been possible for the first time. This year's review has resulted in modifications to the seasonal adjustment modelling options for the majority of series. Multiplicative decompositions have been adopted for all seasonally adjusted series and ARIMA models have now been introduced (vacancy survey data are seasonally adjusted using X12 Arima). Figures have been revised back to the beginning of the series, April 2001.

Revisions resulting from these reviews have been relatively small and had no impact on the assessment of trends.

The full article on the review of vacancy survey data and seasonal adjustment can be found on the National Statistics website at the address given below.

More information

Claimant count
 ✉ www.statistics.gov.uk/cci/article.asp?id=1771
 Vacancy survey
 ✉ www.statistics.gov.uk/cci/article.asp?id=1775

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Trade union membership 2006

In the quarter ending December 2006, the rate of union membership (union density) for employees in the UK fell by 0.6 percentage points to 28.4 per cent, from 29.0 per cent in autumn 2005. This was the largest annual percentage point decline since 1998. The rate of union membership among all workers was 25.8 per cent, a decrease from 26.2 per cent in autumn 2005.

Union density is higher for women than for men for the third consecutive year, and higher for older employees. More than a third of employees aged 35 and over were union members, compared with a quarter of those aged between 25 and 34. Full-time employees were more likely to be union members than part-time employees, at 31.0 and 21.2 per cent respectively.

There are large differences in union density among employees in the nations: the highest was in Northern Ireland (39.7 per cent) and the lowest was in England (27.0 per cent).

There are also regional differences in the proportion of employees who are union members. Union density ranged from 21.4 per cent in the South East to 38.9 per cent in the North East.

The data are derived from the Trade Union Membership 2006 report published by the Department of Trade and Industry (DTI) on 19 April 2007. The source of the data is the Labour Force Survey, which has collected data from individuals on whether they are trade union members in the autumn quarter since 1992, and previously collected the information in the spring quarter from 1989 to 1991.

The Certification Officer for Trade Unions and Employers' Associations provides a second source of data which goes back to 1975. This is available from the DTI's website.

More information

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

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Public launch of the EUKLEMS analytical database

On 15 March 2007, the University of Groningen released to the public the analytical database of the EUKLEMS project.

Funded by the European Commission and realised by the participation of 16 academic and policy research organisations from across the EU, with support from national statistical offices (including ONS), EUKLEMS is a three-year statistical and analytical research project whose purpose was to create a harmonised database on growth and productivity accounts. The recently released database features industry data (NACE 60+12) for all EU member states in current and constant prices, and a breakdown of industry-level output into contributions from capital (K), labour (L), energy (E), materials (M) and service inputs (S).

From the user's perspective, EUKLEMS pushes the boundaries of standard international statistical coverage on several fronts. It offers:

- systematic adherence to published national accounts and complementary official sources, such as LFS and other surveys
- wide coverage across countries (all EU countries, plus comparisons with the US and Japan) and time (1970 to 2004)
- methodologies on industry classification, measurement of capital and labour input, deflation and aggregation that are harmonised for the whole of the EU
- decomposition of primary inputs into seven asset types and 18 labour categories (three skills, three age groups and gender)
- a wide range of growth-accounting measures including measures of productivity and individual input contributions

This work will provide an important input to academic research and to policy evaluation, in particular for the assessment of the goals concerning competitiveness and economic growth potential as established by the Lisbon and Barcelona summit goals. As for ONS, which has worked closely with the National Institute of Economic and Social Research to produce the UK contribution to the database, the main advantages of the project include:

- linking the KLEMS project with the national accounts re-engineering work to ensure that there is consistency with other countries
- panel data on growth and productivity within Europe
- expertise in linking in new data onto published data
- an avenue for quality assurance of new methods and outputs

More information

✉ www.euklems.net

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UPDATES

Updates to statistics on www.statistics.gov.uk

5 April

Index of production

Manufacturing: 0.2% three-monthly fall to February 2007
www.statistics.gov.uk/cci/nugget.asp?id=198

12 April

UK trade

Deficit widened to £4.3 billion in February 2007
www.statistics.gov.uk/cci/nugget.asp?id=199

16 April

Producer prices

Factory gate inflation rises to 2.7% in March
www.statistics.gov.uk/cci/nugget.asp?id=248

17 April

Inflation

March: CPI up to 3.1%; RPI up to 4.8%
www.statistics.gov.uk/cci/nugget.asp?id=19

18 April

Average earnings

Bonuses increase pay growth in the year to February
www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Rate falls to 74.3% in three months to February 2007
www.statistics.gov.uk/cci/nugget.asp?id=12

19 April

Union membership

Union density down slightly in 2006
www.statistics.gov.uk/cci/nugget.asp?id=4

20 April

Retail sales

Steady underlying sales growth
www.statistics.gov.uk/cci/nugget.asp?id=256

24 April

Public sector

March: £4.6 billion current budget deficit
www.statistics.gov.uk/cci/nugget.asp?id=206

25 April

GDP growth

UK economy up by 0.7% in Q1 2007
www.statistics.gov.uk/cci/nugget.asp?id=192

Index of services

0.8% three-monthly rise into February
www.statistics.gov.uk/cci/nugget.asp?id=558

27 April

Motor vehicles

Production unchanged in three months to March
www.statistics.gov.uk/cci/nugget.asp?id=376

30 April

Local employment

Highest rate of 90.1% in South Northants
www.statistics.gov.uk/cci/nugget.asp?id=252

Local inactivity

Lowest rate of 3.8% in West Oxfordshire
www.statistics.gov.uk/cci/nugget.asp?id=1013

Local unemployment

Lowest rate of 1.8% in Eden, Cumbria
www.statistics.gov.uk/cci/nugget.asp?id=1606

FORTHCOMING RELEASES

Future statistical releases on www.statistics.gov.uk

10 May

Index of production – March 2007
UK trade – March 2007

14 May

Producer prices – April 2007

15 May

Consumer price indices – April 2007
Consumer price indices technical manual 2007
MM24: Monthly review of external trade statistics – March 2007

16 May

Labour market statistics – May 2007
MM19: Aerospace and electronic cost indices – February 2007

17 May

Effect of taxes and benefits on household income
Public and private sector breakdown of labour disputes

18 May

Retail sales – April 2007
SDM28: Retail sales – April 2007

21 May

Focus on consumer price indices – April 2007
Public sector finances – April 2007

22 May

MM22: Producer prices – April 2007

23 May

Average weekly earnings – March 2007

Index of labour costs per hour – Q1 2007

Internet connectivity – Q1 2007

24 May

Business investment provisional results – Q1 2007

Motor vehicle production – April 2007

Public sector finances: supplementary (quarterly) data

25 May

Experimental market sector gross value added (GVA) – Q1 2007
Index of services – March 2007
UK output, income and expenditure – Q1 2007
Monthly digest of statistics – May 2007

31 May

Distributive and services trades – March 2007

1 June

PM 34.10: Motor vehicle production business monitor – April 2007

Economic review

May 2007

Anis Chowdhury

Office for National Statistics

SUMMARY

GDP continued to grow robustly in 2007 quarter one, driven mainly by the services sector, with little contribution from manufacturing output. On the expenditure side in 2006 quarter four, robust business investment continued to drive growth, supported by a pick up in household spending. As a reflection of the UK's dynamic domestic demand profile and unfavourable exchange rate position, the trade deficit widened in 2006 quarter four. The current account deficit also widened. The Labour market shows tentative signs of weakening and average earnings remain subdued. The public sector finances improved in March 2007. Consumer and producer output price inflation rose in March 2007.

GROSS DOMESTIC PRODUCT

First quarter growth of 0.7 per cent

The preliminary GDP growth figure for the first quarter of 2007 is now available and continued to show a relatively robust rate of growth. GDP grew by 0.7 per cent in 2007 quarter one, similar to the rate in the previous quarter. The initial rate for the annual rate of growth rose by 2.8 per cent, a deceleration

from annual growth of 3.0 per cent in the previous quarter. It should be noted that these estimates are based on the output side. The headline figure will be firmed up later as more data becomes available (Figure 1).

The growth rate in the UK economy in 2007 quarter one continues to be led by strong growth in services sector output. Total industrial production growth in contrast was flat but reversed the fall in the previous quarter. The acceleration in production was due to a bounce back in mining and quarrying and energy supply

output. This was offset by a weakening in manufacturing output. Construction output sustained the strong rate of growth from the previous quarter.

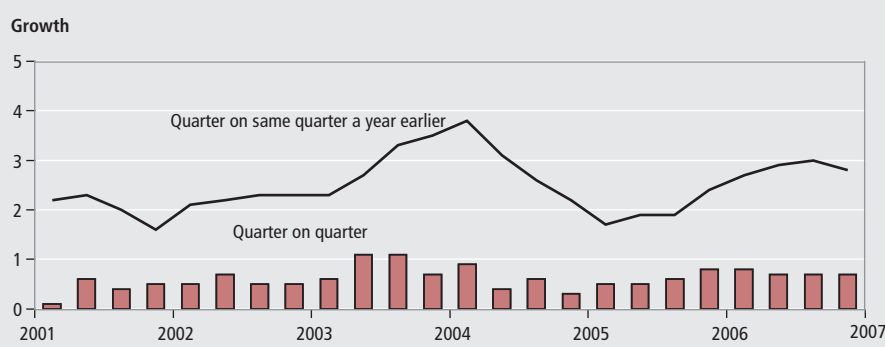
OTHER MAJOR ECONOMIES

Global growth picks up in 2006 quarter four

Data for 2007 quarter one for the other major OECD countries were not yet available at the time of writing this article. Data for 2006 quarter four for the other major OECD countries showed a strengthening picture of the global economy. US GDP data for the fourth quarter showed a slight increase. Growth was 0.6 per cent compared to 0.5 per cent in 2006 quarter three. The higher rate of growth was mainly led by strong household consumption expenditure, which was underpinned by a fairly buoyant labour market together with a fall in energy prices. Government spending growth also made a positive contribution to GDP growth as did net exports which rose faster whilst imports fell. Investment growth in contrast, fell markedly on the quarter. Japan's GDP growth showed a marked improvement in 2006 quarter four. Growth was 1.3 per cent, a sharp increase from the virtually flat growth in quarter three. Growth was primarily led by household consumption expenditure which grew strongly in quarter four, reversing the contraction in quarter three. Growth was also underpinned by an acceleration in private non-residential investment and a bounce back in residential investment. Government spending also made a positive contribution to growth. This was offset by a deceleration in exports growth, which made a muted contribution to GDP growth.

Growth in the three biggest mainland EU economies – Germany, France and Italy – exhibited a strengthening picture. Euro-area growth overall was 0.9 per cent, up from 0.5 per cent in the previous quarter. German GDP growth was a strong 0.9 per cent in 2006 quarter four, continuing the trend of 0.8 per cent growth in quarter three. German GDP growth was led by a strong net trade position with an acceleration in exports. Investment growth remained buoyant. This was offset by a slowdown in household consumption growth. French GDP growth showed a

Figure 1
Gross Domestic Product



rebound in 2006 quarter four. Growth was 0.6 per cent, compared to flat growth in the previous quarter. French growth was led by an acceleration in business investment and to a lesser extent, by a pick up in household consumption expenditure. Net exports also made a positive contribution to growth. The Italian economy showed a resurgence in the latest quarter. Growth was a strong 1.1 per cent, the highest since 1999 and up considerably from 0.3 per cent growth in the previous quarter. According to the breakdown, growth was led by a bounce back in export growth, which rose strongly in quarter four. Growth was also led by a lesser extent by investment growth, driven by construction output. Household consumption in contrast was subdued.

FINANCIAL MARKETS

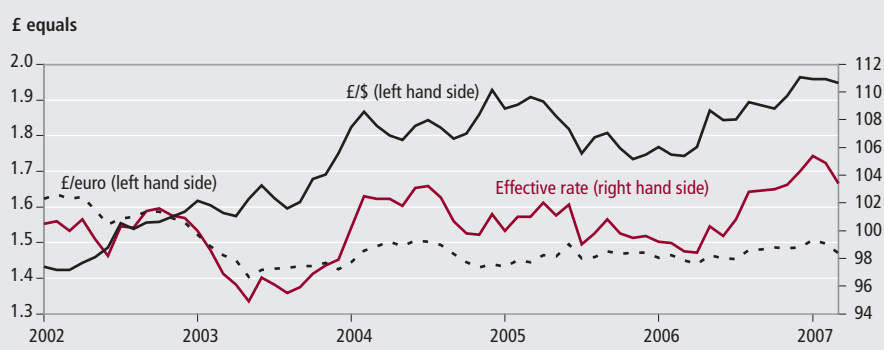
Share prices rise and pound appreciates in 2007 quarter one

Equity performance showed a strong bounce-back in 2007 quarter one, following a weak performance in 2006 quarter four. The FTSE All-Share index rose by 11.0 per cent in 2007 quarter one after falling by 2.0 per cent in 2006 quarter four; this despite some turbulence towards the end of February 2007 where there was a sharp fall in share prices, partly led by rumours of capital gains taxes on shares in China. The rebound in share prices may be due to a number of factors. Firstly, the rise may have been due to recent speculation about merger activity concerning major companies; secondly, business profitability has been relatively high in recent months, which could have induced share purchases and thirdly, share prices may have risen due to the positive outlook on global growth held by investors.

As for currency markets, 2007 quarter one saw sterling's average value appreciating and broadly grow in line with 2006 quarter four. The pound appreciated against the dollar by around 2.0 per cent in 2007 quarter one, similar to the rate in the previous quarter. Against the euro, sterling's values appreciated by around 0.5 per cent compared to growth of 1.0 per cent in the previous quarter. Overall, the quarterly effective exchange rate appreciated by 1.1 per cent in 2007 quarter one, down from 1.3 per cent growth in 2006 quarter four (Figure 2).

The recent movements in the exchange rate might be linked to a number of factors. Firstly, exchange rate movements can be

Figure 2
Exchange rates



related to the perceptions of the relative strengths of the US, the Euro and UK economy. The appreciation of the pound against the both the dollar and euro in 2007 quarter one may be partly linked to perceptions of stronger UK economic growth, leading to greater inflationary pressures and therefore the prospects of higher interest rates in the UK. At the time of writing this article the pound breached the \$2 mark for the first time since 1992, in response to a rise in inflation and therefore inducing higher interest rates. In contrast, there have been particular concerns in recent months regarding the relative weakness of US GDP growth. Furthermore, inflationary pressures have been relatively subdued in the US. This may have lessened the likelihood of further interest rate rises in the US, which currently stand at 5.25 per cent. In the euro-area, the lower rate of appreciation of the pound against the euro in the first quarter of 2007 may have come in response to further monetary tightening, with the European Central Bank (ECB) raising interest rates rising by a further 0.25 percentage points in March 2007, following the 0.25 percentage points rise in December 2006 to leave rates currently standing at 3.75 per cent. The rise in the euro has been further underpinned by robust growth in the euro-zone. However, compared to US and UK rates, euro-zone interest rates still remain moderate and accommodative. In the UK, interest rates were raised by a further 0.25 percentage points in January 2007 following on from the 0.25 percentage point increase in November 2006 to leave interest rates currently standing at 5.25 per cent.

Secondly, another factor for the US depreciation relative to the pound may be due to the current account deficit which is generally seen as a weakness for the US economy. The dollar may have fallen recently in response to a readjustment process, with

the intended consequence of making exports cheaper and imports dearer – thus in theory leading to switch in expenditure to home produced goods and ultimately leading to a narrowing in the deficit.

Thirdly, another factor may be due to a lack of international appetite for dollar denominated assets, particularly from central banks, whom are choosing to mix up their currency assets on their balance sheets (for portfolio and risk management purposes) thereby further undermining the value of the dollar.

OUTPUT

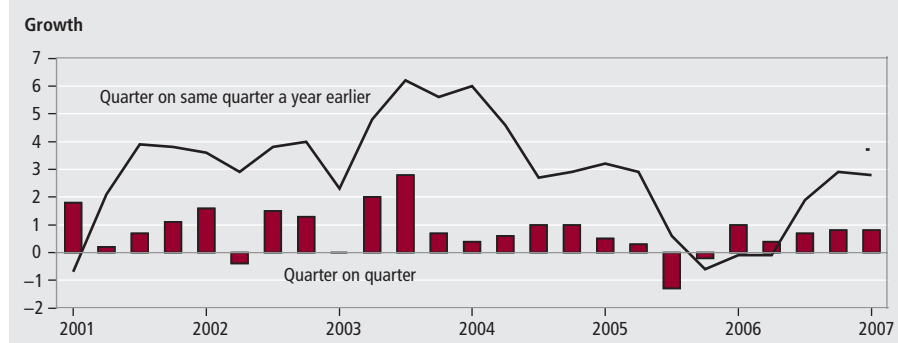
Services sector drives economic growth

GDP growth in 2007 quarter one was estimated at 0.7 per cent, unchanged from the previous quarter. On an annual basis it was 2.8 per cent, down from 3.0 per cent in 2006 quarter four.

Construction activity is estimated to have grown strongly in the first quarter of 2007. Construction output grew by 0.8 per cent in 2007 quarter one, unchanged from the previous quarter. Comparing the quarter on the quarter a year ago, construction output rose by 2.7 per cent following growth of 2.9 per cent in the previous quarter (Figure 3). It should be noted that there are no actual survey responses at this stage for construction. This initial figure is a forecast calculated by the DTI.

As for external surveys of construction, the CIPS survey signalled strengthening activity in 2007 quarter one with the average headline index at 58.0 up from 56.8 in the previous quarter. Stronger activity was driven by a rise in commercial activity. The RICS in its 2007 quarter one construction survey report that growth in construction workloads accelerated further in the first quarter of 2007 and at the fastest pace since 2004 quarter two. The net

Figure 3
Construction output



balance was at 28 per cent, up from 26 per cent in 2006 quarter four.

Total output from the production industries was flat in 2007 quarter one after falling by 0.2 per cent in the previous quarter. On an annual basis it grew by just 0.2 per cent compared to growth of 1.0 per cent in the previous quarter. The main contributions to the acceleration in the latest quarter came from a turnaround in mining & quarrying output (including oil & gas production) which rose by 1.4 per cent in 2007 quarter one after decreasing by 0.6 per cent in the previous quarter. Electricity, gas and water supply output also grew, by 1.4 per cent reversing a fall of 1.6 per cent in the previous quarter. Manufacturing output in contrast fell by 0.3 per cent, a weakening from flat growth in the previous quarter. On an annual basis, manufacturing output also weakened but still showed a fairly robust rate of growth. Growth was 1.4 per cent compared to 2.7 per cent in 2006 quarter four (**Figure 4**). Production growth has generally been weak since the second quarter of 2006 due to weakness in mining and quarrying and utilities output, offset by most of that period by relatively strong manufacturing output. In the latest quarter, the picture has somewhat reversed with manufacturing output weakening. This may be due to the appreciation of sterling which makes British goods expensive to sell overseas; and possibly due to slower US economic growth. The output of the agriculture, forestry and fishing industries rose by 0.6 per cent following a decrease of 0.5 per cent in the previous quarter.

External surveys of manufacturing for 2007 quarter one show a relatively strong picture (**Figure 5**). It is not unusual for the path of business indicators and official data to diverge over the short term. These differences happen partly because the series are not measuring exactly the same thing. External surveys measure the direction rather than the magnitude of a change in

output and often inquire into expectations rather than actual activity.

The CIPS average headline index for manufacturing indicated a strengthening picture in 2007 quarter one. The headline index was 54.4, up from 52.9 in 2006 quarter four, indicative of fairly robust growth. Growth was led by both increases in output and new orders. The CBI in its 2007 quarter one Industrial Trends survey reported growth in manufacturers' level of total orders being the strongest than at any time in the last decade, with the balance at plus 2. The BCC survey reported a weakening, but overall, still a fairly buoyant picture in 2007 quarter one. The net balance for home sales fell to plus 27 from plus 31 in 2006 quarter four.

Overall the service sector, by far the largest part of the UK economy and continues to be the main driver of UK growth. Growth was 0.8 per cent in 2007 quarter one, down from 0.9 per cent growth in the previous quarter (**Figure 6**). On an annual basis, growth was 3.5 per cent. The main contribution to the growth rate came from distribution, hotels and catering, where output accelerated further, to 1.7 per cent from 1.3 per cent in 2006 quarter four. Business services and finance also continued to grow fairly strongly, by 1.1 per cent in 2007 quarter one, up from 1.0 per cent in the previous quarter. However, this was offset by a deceleration in distribution, hotels and catering output, which grew by 0.6 per cent in 2007 quarter one compared to growth of 1.2 per cent in the previous quarter. Government and other services output continues to grow moderately with growth of 0.4 per cent, similar to the rate in 2006 quarter four.

The external surveys on services showed a somewhat weakening picture in 2007 quarter one but overall continued to show a fairly robust picture in line with the official picture. The CIPS average headline index in 2007 quarter one was 58.1, down from 59.9 in the previous quarter and continued to be led by new orders. It should be noted that the CIPS survey has a narrow coverage of

Figure 4
Manufacturing output



Figure 5
External manufacturing indicators

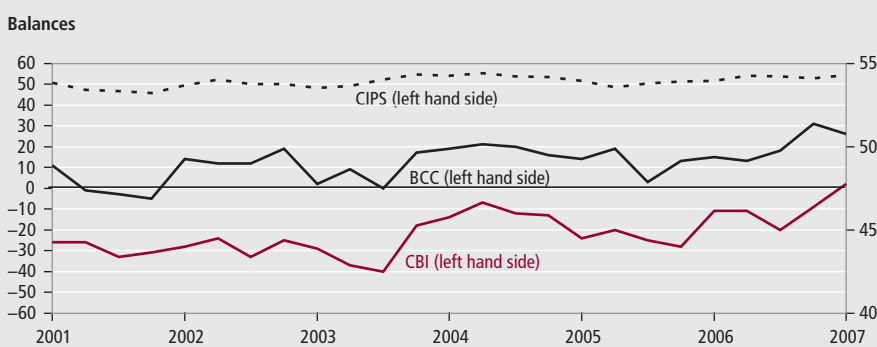
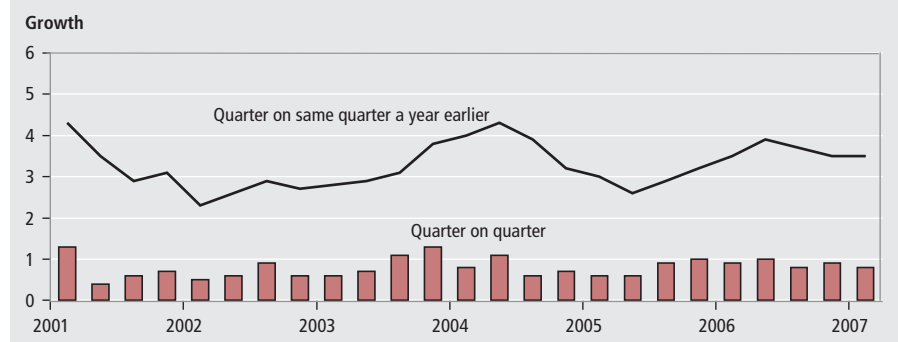


Figure 6
Services output



the distribution and government sectors.

The CBI and BCC also report a fairly buoyant picture (**Figure 7**). The CBI in its latest services sector survey in February reported strong growth in business volumes for both consumer and business & professional services firms over the last three months. The consumer services volume balance was at plus 13 and for business & professional services, the balance was at plus 27. The BCC in its 2007 quarter one survey reported a weakening in domestic balances but overall remain relatively strong. The net balance for home sales fell 7 points to plus 27. The net balance for home orders fell 2 points to plus 28 in 2007 quarter one.

EXPENDITURE

Consumers' spending strengthens in quarter four

Household consumption expenditure showed a marked acceleration in 2006 quarter four after fairly modest growth in the previous quarter. Growth achieved a strong 1.0 per cent compared to 0.3 per cent in the previous quarter. Growth compared with the same quarter a year ago also accelerated, to 2.5 per cent, up from 1.9 per cent in the previous quarter (**Figure 8**). In terms of expenditure breakdown, the increase in household consumption growth was broad based with durable and semi-durable goods registering strong growth and to a lesser extent non-durable goods.

Indications of consumer demand for 2007 quarter one appear mixed. One key indicator of household expenditure is retail sales. Retail sales appear to have slowed in 2007 quarter one from the previous quarter. Retail sales grew by 0.4 per cent in the latest quarter, a marked deceleration from growth of 1.4 per cent in the previous quarter. The

drop in retail sales occurred despite heavy discounting in the shops with the price deflator (that is, shop prices) falling on average by 0.4 per cent in the latest quarter. This may suggest a change in underlying fundamentals, particularly in regards to household disposable income and/or, it could be interpreted as a sign of caution on the part of consumers, wishing to retrench given the strong spending undertaken in the previous quarter.

Retail sales figures are published on a monthly basis and the latest available figures for March showed retail sales slowing compared to the previous month (**Figure 9**). According to the latest figures, the volume of retail sales in the three months

to March 2007 was 0.4 per cent higher than the previous three months. This followed growth of 1.2 per cent in the three months to February. On an annual basis however, retail sales continued to grow strongly. Retail sales on the latest three month on the same three months a year ago rose by 4.5 per cent, compared to 4.2 per cent in the three months to February compared to the same period a year ago.

At a disaggregated level, retail sales growth during the three months to the end of March was driven by moderate growth in the 'Predominantly food- stores' sector which grew by 0.4 per cent. Retail sales growth in the 'Predominantly non-food stores' sector in contrast fell sharply in March with growth of just 0.2 per cent, down from 1.2 per cent in the three months to February. This sector appears to have contributed to the overall slowdown in retail sales in 2007 quarter one. Within this sector in the three months to March, growth was led by the 'Non-store retailing and repair' sector (which includes mail order and internet sales) which grew by 2.6 per cent. This was partially offset by a significant fall in 'Household good stores' sector where retail sales registered growth of just 0.5 per cent compared to 4.0 per cent in the three months to February.

Figure 7
External services

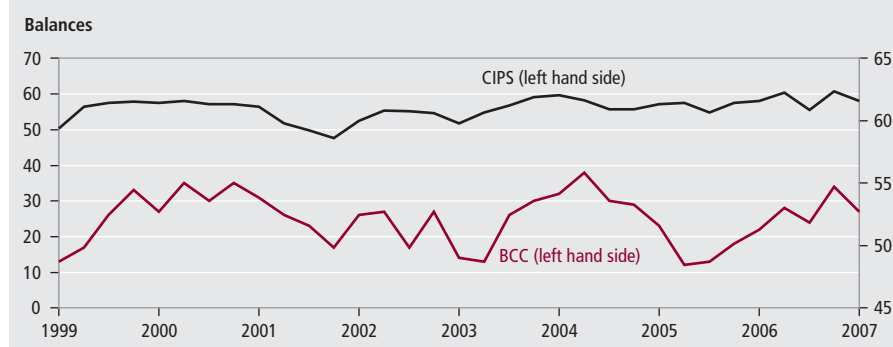


Figure 8
Household demand

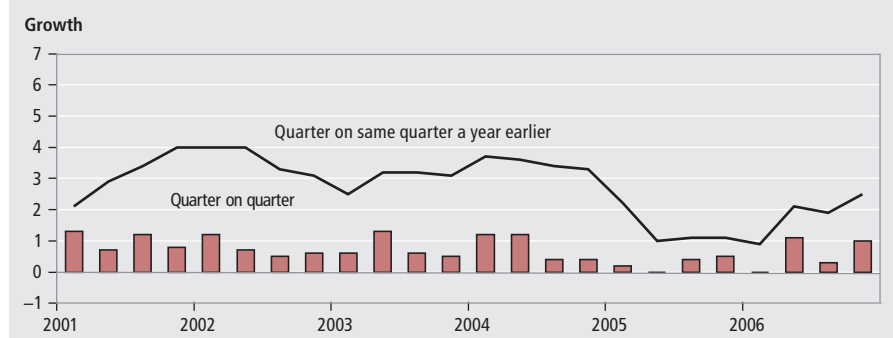
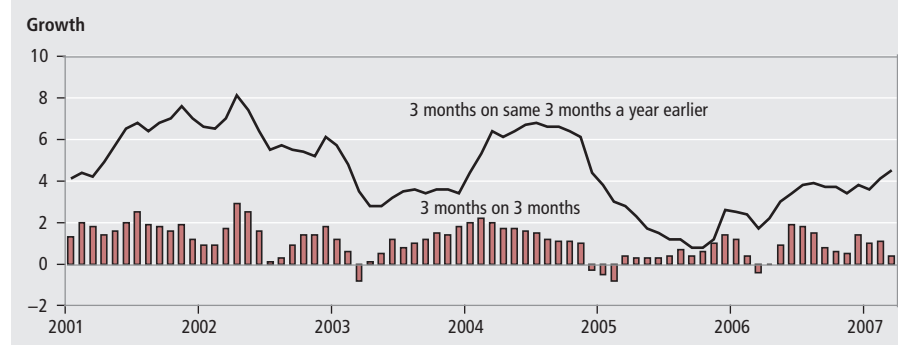


Figure 9
Retail sales



External surveys for retail show a robust picture. The CBI in its monthly Distributive Trades survey report that retail sales volumes grew for the fourth consecutive month with the balance at plus 32 in March. The BRC report that retail sales increased by 3.9 per cent on a like-for-like basis in March, up from 3.3 per cent in the previous month. Both attribute some of the increase to the effects of discounting (**Figure 10**).

Another factor relates to the three interest rate rises seen since August 2006 and the potential for future rate rises, and its likely impact on household borrowing and spending. Interest rate rises didn't seem to have had much discernible impact on borrowing and spending in 2006 quarter four, although some of that spending was based on a draw down in savings.

Household consumption has risen faster than disposable income in recent years as the household sector has become a considerable net borrower and therefore accumulated high debt levels.

There are two channels of lending available to households; i) secured lending, usually on homes; and ii) unsecured lending, that is on credit cards.

According to Bank of England figures, total net lending continued to grow strongly in 2007 quarter one. Total net lending to individuals was £11.2 billion in February, up from £10.5 billion in January. Lending secured on dwellings was £10.3 billion in February, up from £9.5 billion in the previous month. Unsecured lending in contrast slowed to £0.9 billion in February, from £1.0 billion in January. In recent years, secured lending has been generally stronger than unsecured lending. The growth of secured lending may reflect households just choosing to incorporate some of their unsecured debts into their secured borrowing to lower the cost of re-financing. This may provide a fillip for consumption expenditure, in 2007 quarter one.

On the downside, house prices although still growing fairly buoyantly, are beginning to show an underlying picture of slowdown, suggesting the lagged effect of the three interest rate rises may be starting to feed through to housing demand. Nationwide report that annual house price growth was 9.3 per cent in March, down from 10.2 per cent from February. Halifax report that overall, house prices grew by 2.8 per cent in 2007 quarter one, well below the 4.2 per cent rise in 2006 quarter four. The slowdown in house prices could affect household consumption in a number of ways. Firstly, by reducing the feel-good factor; secondly, lower housing demand may lead to lower expenditure on household items; thirdly, one source of expenditure has come through equity release, a lower rate of house price growth may lead to a lower level of borrowing to finance further consumption.

Another factor that may lead to lower household expenditure can be shown in reference to M4 lending (that is, retail deposits and cash). According to the figures in March, M4 lending was £12.7 billion in March, down from £20.6 billion in February.

Another possible downside to consumer expenditure may come from a higher share of taxation on income. Higher inflation

could be another possible factor. Finally, although the labour market appears relatively healthy, wage growth has been weak in real terms recently and this may act to a certain extent as a constraint on expenditure.

BUSINESS DEMAND

Business investment maintains strong momentum in quarter four

Total investment grew relatively strongly in 2006 quarter four. Growth was 2.6 per cent compared to 2.1 per cent in the previous quarter. On an annual basis it grew by 8.2 per cent compared to 5.6 per cent in the previous quarter. Growth on an annual basis was primarily driven by business investment.

Business investment for the fourth quarter of 2006 showed a fairly robust growth of 4.5 per cent, up from 3.1 per cent in the previous quarter. On an annual basis it grew by 13.5 per cent, up from 8.5 per cent in the previous quarter (**Figure 11**). Profitability is one factor determining investment, and this has shown some positive signs in recent quarters. The expectations of future higher profits may also provide an explanation for the increased investment in quarter four. Another factor could be due the existence of low real interest rates. Finally, business investment may have also been encouraged by a positive outlook of the global economy aided by improved export prospects.

Evidence on investment intentions from the latest BCC and CBI surveys showed a mixed picture. According to the quarterly BCC survey, the balance of manufacturing firms planning to increase investment in plant and machinery fell 5 points to plus 18 and in services firms rose by 2 points to plus 20 in 2007 quarter one. The CBI in its 2006 quarter four Industrial Survey reported a subdued investment picture, with the investment balance at minus seven.

Figure 10
External retailing indicators

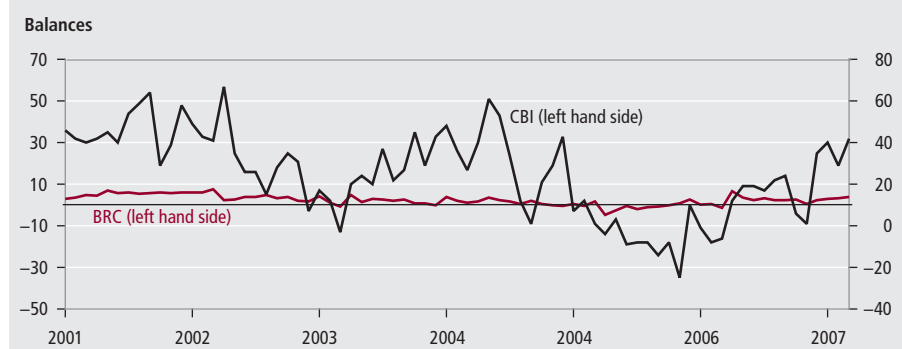
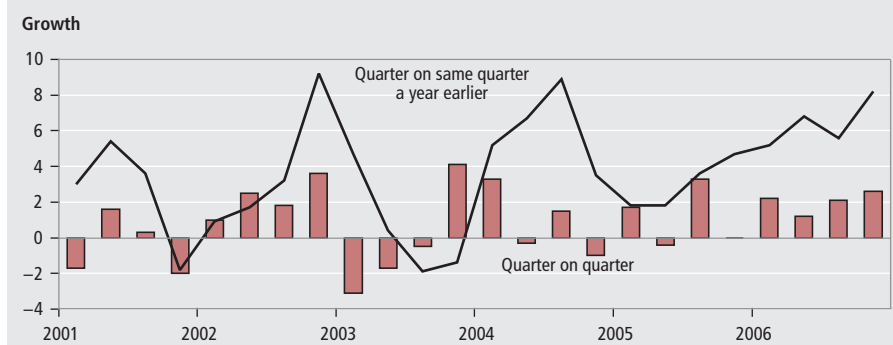


Figure 11
Total fixed investment



GOVERNMENT DEMAND

Government expenditure strengthens

Government final consumption expenditure showed strong growth in 2006 quarter four. Growth was 0.7 per cent in 2006 quarter four, up slightly from growth of 0.6 per cent in the previous quarter. Growth quarter on quarter a year ago was 2.4 per cent, up from 2.0 per cent in the previous quarter (Figure 12).

Public sector finances improve

The latest figures on the public sector finances report in the current financial year to March 2007 and illustrated a positive picture. Overall, it showed the government continue to operate a financial deficit, with government expenditure continuing to exceed revenues. Over the financial year April to March 2006/07, the current budget was in deficit by £8.8 billion, a lower deficit compared to £15.3 billion for financial year April to March 2005/06. Net borrowing (which includes capital investment) also fell, to £33.6 billion in the financial year April to March 2006/07 from £38.0 billion in the financial year April to March 2005/06. The positive picture mainly reflected strong growth in income and capital gains tax paid by households and corporations. This has led to a lower current budget deficit in the current financial year. However, this continues to be exceeded by central government net borrowing, albeit at a lower rate in the current financial period, partly to fund capital spending.

Since net borrowing became positive in 2002, following the current budget moving from surplus into deficit, net debt as a proportion of annual GDP has risen steadily. Public sector net debt by the end of March 2007 was 37.4 per cent of GDP,

up from 36.2 per cent of GDP from the previous month and up from 36.4 per cent of GDP over the financial year 2005/06.

TRADE AND THE BALANCE OF PAYMENTS

Current account deficit widens; goods deficit widens in quarter four

The publication of the latest quarterly Balance of Payments shows that the current account deficit widened in 2006 quarter four to £12.7 billion (the highest deficit on record), from a deficit of £10.5 billion in the previous quarter (Figure 13). As a proportion of GDP, the

deficit rose to 3.8 per cent of GDP (the highest since 1990 quarter two) from 3.2 per cent in 2006 quarter three.

The widening current account deficit in 2006 quarter four was due to a lower surplus on investment income and higher deficits on trade in goods and current transfers, partially offset by a higher surplus on trade in services.

The current account for the year 2006 was in deficit by £43.4 billion (–3.4 per cent of GDP), compared with a revised deficit of £29.2 billion in 2005 (–2.4 per cent of GDP).

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

Data for 2006 quarter four showed the UK continuing to have a large trade deficit in goods with levels of imports rising faster than exports. This has provided a negative contribution towards GDP growth in the fourth quarter. The deficit on trade in goods in 2006 quarter four was £20.2 billion, compared with a deficit of £19.8 billion in the previous quarter.

According to the latest trade figures in February, the UK's deficit on trade in goods

Figure 12
Government spending

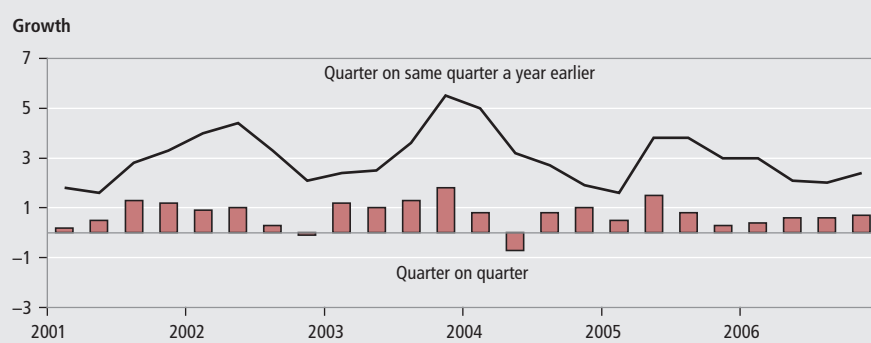
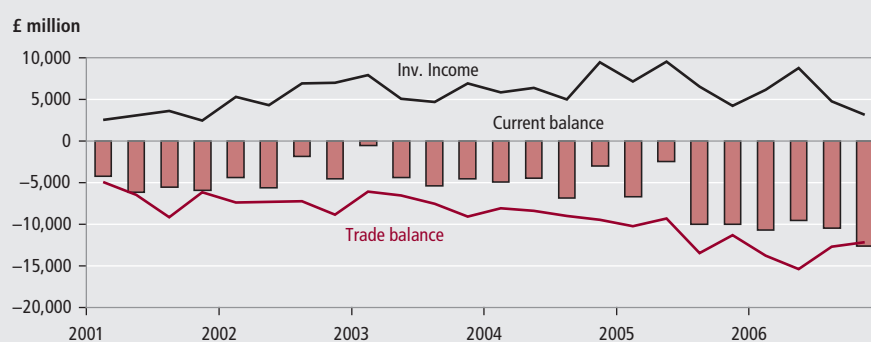


Figure 13
Balance of payments



and services is estimated at £4.3 billion, down from £4.0 billion in January. Total imports of goods rose by 1.7 per cent whilst total exports fell by 0.4 per cent on the month. In the three months ended February, the deficit on trade in goods and services widened to £12.6 billion from a £11.9 billion deficit in the previous three months. In terms of rates, exports of goods fell by 0.7 per cent whilst imports of goods were flat. Exports to EU countries rose by 0.6 per cent and exports to non-EU countries fell by 3.4 per cent. Imports from EU countries rose by 1.8 per cent and from non-EU countries, imports fell by 2.6 per cent.

However, these figures are distorted by volatility in VAT Missing Trader Intra-Community (MTIC) Fraud and therefore need to be treated with caution. According to the latest figures, the level of estimated fraud excluding MTIC fell to £0.1 billion in February 2007.

The appreciation of the pound recently may have been a factor for the relatively high trade deficit, as a higher pound makes imports cheaper and exports more expensive.

External surveys on exports show a mixed picture. The BCC reported that the export sales net balance rose by 1 point to plus 21 per cent and the export orders balance fell 1 point to plus 20, in 2007 quarter one. The CBI in its 2007 quarter one Industrial Trends Survey reported that both export sales and orders were flat at zero balances.

LABOUR MARKET

Labour market activity weakens

The Labour market in the latest reference period showed a mixed picture, but overall, there appears to be signs of weakening, somewhat reversing the recent trend of fairly strong growth in labour market activity; as a result of a feeding through of fairly strong demand conditions from the beginning of 2006 into a strengthened labour market picture. Whether this downturn is a temporary blip or signals something much more significant remains to be seen.

The latest figures from the Labour Force Survey (LFS) pertains to the three-month period up to February 2007 and mostly shows a negative picture. The number of people in employment fell as did the employment rate. The number of unemployed people and the unemployment rate increased. On the upside, the claimant count fell. Job vacancies increased. Average earnings, excluding bonuses remained

unchanged, while average earnings including bonuses rose; but overall, average earnings remain subdued with weak real wage growth.

Looking at a detailed level, the fall in the employment level appears to be mainly driven by a fall in employees, offset by an increase in the number of people in self-employment.

The current working age employment rate was 74.3 per cent, in the three months to February 2007, down 0.2 percentage points from the three months to November 2006 and from a year earlier. The number of people in employment fell by 47,000 over the quarter, but was up 147,000 over the year, to leave the employment level standing at 28.98 million in the three months to February 2007. The unemployment rate was 5.5 per cent, in the three months to February 2007, up 0.1 percentage point from the three months to November 2006 and up 0.3 percentage points from a year earlier (Figure 14). The number of unemployed people rose by 21,000, from the three months to November, and increased by 120,000 from a year earlier, leaving the unemployment level standing at 1.69 million.

According to the LFS, in the period December to February 2007, the number of people in employment fell by 47,000. The decrease was led by a fall in employees of 69,000 offset by an increase in self-employment of 30,000. From another perspective, the number of full-time employees fell by 11,000, whilst part-time employees fell by 36,000, the latter reversing the recent trend of increases in part-time employees.

Workforce jobs rises

According to employer surveys, there was an increase of 88,000 jobs in the three months to December 2006. Most sectors showed increases in jobs over the quarter and year. The largest

quarterly contribution came from an increase in finance & business services jobs at 51,000 followed by construction at 21,000 and distribution, hotels & restaurants at 19,000. Two sectors recorded a fall in jobs. Manufacturing continues to shed jobs, with a decrease of 23,000 in the latest period followed by other services at 4,000. Over the year, education, health and public administration saw the largest increase in jobs at 96,000 followed by finance & business services at 95,000. The manufacturing sector in contrast lost over 53,000 jobs on the year, followed by distribution hotels & restaurants at 8,000.

Claimant count falls

The claimant count measures the number of people claiming the Jobseekers Allowance. The latest figures for March showed the claimant count level at 910,800, down 9,200 on the month and down 28,000 on a year earlier. The claimant count rate in March 2007 was 2.9 per cent, unchanged from the previous month and down 0.1 percentage point from a year earlier.

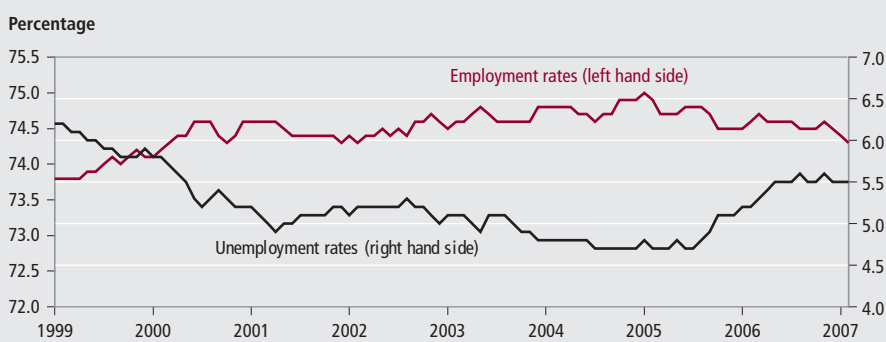
Vacancies rise

There were 635,500 job vacancies on average in the three months to March 2007, up 33,500 from the previous three months and up 45,800 from the same period a year earlier.

Inactivity level rises

The working age inactivity rate was 21.2 per cent in the three months to February 2007, up 0.2 percentage point from the three months to November but down 0.1 percentage points from a year earlier. In level terms, the number of economically inactive people of working age was up 76,000 over the quarter to leave the level standing at 7.93 million in the three months to February 2007. There were

Figure 14
Employment and unemployment



inactivity increases amongst most categories over the quarter. The largest increase in inactivity level occurred amongst those categorised as 'student' which increased by 58,000, followed by the 'long-term sick' category up 20,000 and the 'temp-sick' category up 13,000. This was partially offset by a fall in those categorised as 'other' up 24,000. On an annual basis, inactivity rose by 17,000, with the largest rise being amongst those categorised as 'student' up 28,000, followed by the 'discouraged workers' category up 13,000. This was partially offset by inactivity falling amongst those categorised as 'looking after family/home' down 35,000.

Average earnings remain subdued

Average earnings growth showed a mixed picture in February 2007, but the underlying picture is still that of relative weakness. Average earnings (including bonuses) increased in the latest reference period. It rose by 0.4 percentage points to 4.6 per cent. This can mainly be attributed to the timing of bonuses payments, coinciding in the latest reference period. Average earnings growth (excluding bonuses) in contrast remained unchanged from the previous month at 3.6 per cent.

Despite the weakening in labour market activity in the latest period, overall, the numbers still point to a fairly buoyant labour market, although it is still loose compared to previous years, with employment levels at relatively high levels and unemployment at a fairly stable level. This is consistent with higher workforce participation rates, underpinned by robust GDP growth. Average earnings show stable but fairly modest growth, consistent with increase supply in the labour force.

PRICES

Producer output and input prices rise

Industrial input and output prices are an indication of inflationary pressures in the economy. In 2007 quarter one, output prices exhibited signs of further acceleration of growth from 2006 quarter four and therefore signs of greater inflationary pressures. However, input prices fell on average in the first quarter of 2007 in contrast to an increase in the previous quarter. This may suggest that firms to some extent have attempted to rebuild their profit

margins by passing on the higher price of their products to customers, after facing profit squeeze of earlier quarters.

Input prices rose by 0.7 per cent in the year to March 2007, reversing the fall of 1.2 per cent in February. However, input prices on average fell by 0.9 per cent in 2007 quarter one, on the back of lower oil prices. This contrasts with 2006 quarter four where prices on average increased by 3.5 per cent. The main contribution to the increase in March came from metal imports with prices increasing by around 18.0 per cent on the year, which coincided with an annual fall in crude oil prices of around 10.0 per cent. The core input price index, excluding food, beverages, tobacco and petroleum rose by 1.7 per cent in 2007 quarter one compared to growth of 4.9 per cent in 2006 quarter four. The slower growth in input prices was to some extent helped by the appreciation of the pound relative to the dollar and euro, which had the effect of making exports dearer but imports cheaper. The fall in input prices may have had little impact on output prices in the latest quarter.

The output price index jumped to 2.7 per cent in March from 2.3 per cent in February. The average increase in 2007 quarter one was 2.4 per cent, a significant strengthening from growth of 1.9 per cent in the previous quarter and as mentioned earlier may be an attempt by firms to re-build their profit margins. The underlying picture also suggests greater inflationary pressures. On the core measure which excludes food, beverages, tobacco and petroleum, producer output prices rose by 2.9 per cent in the year to March 2007, up from growth of 2.4 per cent in the year to February 2007. This was the strongest rise since June 2006. The average increase in 2007 quarter one was 2.7 per cent compared to 2.5 per cent in 2006 quarter four. The increase in March 2007 was driven by a rise

in scrap metal prices of around 36.0 per cent on the year.

Consumer prices rise

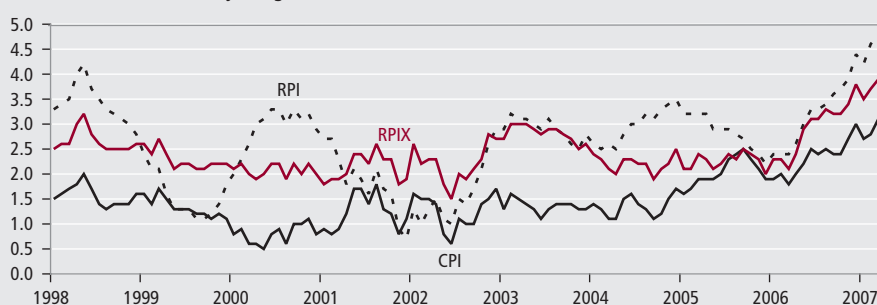
Growth in the consumer price index (CPI) – the Government's target measure of inflation – was 3.1 per cent in March 2007; a significant jump from growth of 2.8 per cent in February; continuing to exceed the Government's 2.0 per cent inflation target. The Retail Price Index (RPI) a broader measure of inflation also rose, to 4.8 per cent from 4.6 per cent in February. The Retail Price Index, excluding mortgage interest payments (RPIX) was also up, to 3.9 per cent in March, from 3.7 per cent in February 2007 (Figure 15).

The largest upward effect on the CPI annual rate came from food and non-alcoholic beverages. Shop-bought milk prices increased by over 2.0 per cent in March, compared with a fall of around 8.0 per cent last year when widespread reductions were led by supermarket chains. Small upward effects came from bread and cereals and meat, where prices rose in March but fell a year ago. Further large upward effects came from furniture, where prices rose by more than year ago, showing a record monthly increase of nearly 10 per cent in the lead up to special offers. There was also large upward effect from major household appliances, where prices rose in March but fell a year ago; prices of computer games which rose this year but fell a year ago and petrol prices, which increased by nearly 2.5 pence per litre in March compared with little change a year ago.

A large downward effect on the CPI annual rate came from housing and household services, mainly due to gas and, to a lesser extent, electricity. Some new reductions in gas tariffs recorded in March offset the continued phasing in of increases in others, leading gas prices to fall over the month.

Figure 15
Inflation

Growth, month on month a year ago



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	2005	2006	2006 Q3	2006 Q4	2007 Q1	2007 Jan	2007 Feb	2007 Mar
GDP growth – chained volume measures (CVM)									
Gross domestic product at market prices	ABMI	1.9	2.8	0.7	0.7	0.7	..	..	..
Output growth – chained volume measures (CVM)									
Gross value added (GVA) at basic prices	ABMM	2.0	2.7	0.7	0.7	0.7	..	..	..
Industrial production	CKYW	-1.9	0.1	0.2	-0.2	0.1	0.0	-0.2	..
Manufacturing	CKYY	-1.0	1.5	0.7	0.1	-0.3	-0.2	-0.6	..
Construction	GDQB	1.5	1.1	0.7	0.8	0.8	..	..	..
Services	GDQS	2.9	3.6	0.7	0.9	0.9	..	..	..
Oil and gas extraction	CKZO	-10.8	-8.8	-3.2	-0.7	..	2.7	2.8	..
Electricity, gas and water supply	CKYZ	-0.2	-2.8	-0.2	-1.6	1.4	0.5	0.2	..
Business services and finance	GDQN	4.2	5.4	1.4	1.0	1.0	..	..	..
Household demand									
Retail sales volume growth	EAPS	2.0	3.3	0.8	1.4	0.4	-1.5	1.6	0.3
Household final consumption expenditure growth (CVM)	ABJR	1.4	1.9	0.3	1.0	..	..	..	..
GB new registrations of cars (thousands) ¹	BCGT	2,444	2,340	662	446	..	161	72	..
Labour market^{2,3}									
Employment: 16 and over (thousands)	MGRZ	28,674	28,895	28,986	29,036	..	28,982	..	..
Employment rate: working age (%)	MGSU	74.7	74.6	74.5	74.5	..	74.3	..	..
Workforce jobs (thousands)	DYDC	31,042	31,409	31,494	31,583	..	..	..	..
Total actual weekly hours of work: all workers (millions)	YBUS	918.6	923.7	925.4	925.8	..	928.0	..	..
Unemployment: 16 and over (thousands)	MGSC	1,426	1,657	1,711	1,687	..	1,694	..	..
Unemployment rate: 16 and over (%)	MGSX	4.7	5.4	5.6	5.5	..	5.5	..	..
Claimant count (thousands)	BCJD	861.7	944.7	955.0	947.1	918.0	923.1	920.0	910.8
Economically active: 16 and over (thousands)	MGSF	30,100	30,552	30,696	30,723	..	30,677	..	..
Economic activity rate: working age (%)	MGSO	78.5	78.9	79.0	79.0	..	78.8	..	..
Economically inactive: working age (thousands)	YBSN	7,933	7,843	7,835	7,854	..	7,929	..	..
Economic inactivity rate: working age (%)	YBTL	21.5	21.1	21.0	21.0	..	21.2	..	..
Vacancies (thousands)	AP2Y	616.8	594.9	598.9	602.0	635.5	607.8	619.7	635.5
Redundancies (thousands)	BEAO	126	145	141	130	..	145	..	..
Productivity and earnings annual growth									
GB average earnings (including bonuses) ³	LNNC	..	..	3.9	4.0	..	4.2	4.6	..
GB average earnings (excluding bonuses) ³	JQDY	..	..	3.5	3.7	..	3.6	3.6	..
Whole economy productivity (output per worker)	A4YN	..	..	2.3	1.9	..	..	..	..
Manufacturing productivity (output per job)	LOUV	..	..	..	..	..	4.5	4.1	..
Unit wage costs: whole economy	LOJE	..	..	2.0	1.9	..	..	..	..
Unit wage costs: manufacturing	LOJF	..	..	..	..	..	-0.4	-0.6	..
Business demand									
Business investment growth (CVM)	NPEL	17.2	-4.7	3.1	4.5	..	..	..	..
Government demand									
Government final consumption expenditure growth	NMRY	3.0	2.4	0.6	0.7	..	..	..	..
Prices (12-monthly percentage change – except oil prices)									
Consumer prices index ¹	D7G7	2.1	2.3	2.4	2.7	2.9	2.7	2.8	3.1
Retail prices index ¹	CZBH	2.8	3.2	3.5	4.0	4.5	4.2	4.6	4.8
Retail prices index (excluding mortgage interest payments)	CDKQ	2.3	2.9	3.2	3.5	3.7	3.5	3.7	3.9
Producer output prices (excluding FBTP) ⁴	EUAA	2.1	2.3	2.3	2.6	2.7	2.6	2.7	2.9
Producer input prices	EUAB	11.7	9.5	7.9	3.4	-0.8	-2.1	-0.9	0.7
Oil price: sterling (£ per barrel)	ETXR	30.358	35.929	37.748	31.637	29.946	27.944	29.829	32.065
Oil price: dollars (\$ per barrel)	ETXQ	55.046	66.107	70.675	60.633	58.527	54.714	58.411	62.455

	Source CDID	2005	2006	2006 Q3	2006 Q4	2007 Q1	2007 Jan	2007 Feb	2007 Mar
Financial markets									
Sterling ERI (January 2005=100)	BK67	100.5	101.0	102.2	103.5	104.6	105.4	104.9	103.4
Average exchange rate /US\$	AUSS	1.820	1.843	1.875	1.915	1.955	1.959	1.958	1.947
Average exchange rate /Euro	THAP	1.463	1.467	1.471	1.485	1.492	1.508	1.497	1.470
3-month inter-bank rate	HSAJ	4.57	5.26	5.02	5.26	5.56	5.54	5.48	5.56
Selected retail banks: base rate	ZCMG						5.25	5.25	5.25
3-month interest rate on US Treasury bills	LUST	3.92	4.89	4.77	4.89	4.91	4.99	5.01	4.91
Trade and the balance of payments									
UK balance on trade in goods (£m)	BOKI	-68,783	-83,691	-19,818	-20,191	..	-6,402	-6,791	..
Exports of services (£m)	IKBB	114,330	125,561	31,214	31,742	..	10,379	10,473	..
Non-EU balance on trade in goods (£m)	LGDT	-31,912	-46,105	-12,415	-12,724	..	-3,764	-4,068	..
Non-EU exports of goods (excl oil & erratics) ⁵	SHDJ	119.8	117.8	111.7	112.6	..	115.5	113.3	..
Non-EU imports of goods (excl oil & erratics) ⁵	SHED	116.8	124.5	123.0	127.4	..	121.9	127.1	..
Non-EU import and price index (excl oil) ⁵	LKWQ	101.2	103.9	103.4	103.1	..	103.7	104.0	..
Non-EU export and price index (excl oil) ⁵	LKVX	100.6	102.0	101.7	100.7	..	101.3	101.7	..
Monetary conditions/government finances									
M0 (year on year percentage growth)	VQMX	5.1	..	..	..	..	..	..	..
M4 (year on year percentage growth)	VQJW	11.4	13.3	14.3	12.7	..	12.9	12.7	..
Public sector net borrowing (£m)	-ANNX	40,998	33,149	6,138	13,086	-2,105	-11,160	572	8,483
Net lending to consumers (£m)	RLMH	19,693	12,305	2,733	3,070	..	1,022	919	..

External indicators – non-ONS statistics

		2006 Sep	2006 Oct	2006 Nov	2006 Dec	2006 Jan	2007 Feb	2007 Mar	2007 Apr
Activity and expectations									
CBI output expectations balance	ETCU	14	9	5	11	12	28	21	18
CBI optimism balance	ETBV		-10			-7			16
CBI price expectations balance	ETDQ	12	11	23	8	11	16	20	14

Notes:

1 Not seasonally adjusted.

2 Annual data are for April except for workforce jobs (June), claimant count (average of the twelve months) and vacancies (average of the four quarters).

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

4 FBTP: food, beverages, tobacco and petroleum.

5 Volumes, 2003 = 100.

For further explanatory notes, see Notes to tables on page 75.

Independent forecasts

April 2007

The tables below supplement the Economic review by providing a forward-looking view of the UK and world economy.

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 2007 and 2008 and are extracted from HM Treasury's Forecasts for the UK Economy.

2007

	Average	Lowest	Highest
GDP growth (per cent)	2.6	1.3	3.0
Inflation rate (Q4, per cent)			
CPI	1.9	1.4	2.4
RPI	3.2	2.5	3.9
Claimant unemployment (Q4, million)	0.94	0.82	1.15
Current account (£ billion)	-37.4	-50.0	-7.2
Public Sector Net Borrowing (2007/08, £ billion)	36.1	28.0	44.0

2008

	Average	Lowest	Highest
GDP growth (per cent)	2.4	-0.3	2.9
Inflation rate (Q4, per cent)			
CPI	2.0	1.5	2.4
RPI	2.5	1.8	3.2
Claimant unemployment (Q4, million)	0.98	0.71	1.25
Current account (£ billion)	-38.4	-66.3	-11.4
Public Sector Net Borrowing (2008/09, £ billion)	34.2	22.6	43.2

Notes

Forecasts for the UK economy gives more detailed forecasts, covering 27 variables, and is published monthly by HM Treasury. It is available on the Treasury's website at www.hm-treasury.gov.uk/economic_data_and_tools/data_index.cfm

Selected world forecasts

The world tables show forecasts for a range of economic indicators taken from *Economic Outlook (preliminary edition)*, published by OECD (Organisation for Economic Co-operation and Development).

2007

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	2.4	2.0	2.2	2.5
Consumer price (percentage change from previous year)	2.6	0.2	2.0	2.2
Unemployment rate (per cent of the labour force)	4.8	3.9	7.4	5.8
Current account (as a percentage of GDP)	-6.5	4.5	-0.1	-1.9
Fiscal balance (as a percentage of GDP)	-2.8	-4.2	-1.1	-2.1

2008

	US	Japan	Euro area	Total OECD
Real GDP growth (per cent)	2.7	2.0	2.3	2.7
Consumer price (percentage change from previous year)	2.6	0.6	2.0	2.1
Unemployment rate (per cent of the labour force)	5.1	3.6	7.1	5.7
Current account (as a percentage of GDP)	-6.6	5.3	-0.1	-1.8
Fiscal balance (as a percentage of GDP)	-2.9	-4.1	-1.2	-2.2

Notes

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

FEATURE

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New measures of UK private sector software investment

SUMMARY

This article updates previous work undertaken by the Office for National Statistics to improve estimates of software investment in the UK. The methodology recommended by the 2002 OECD Software Taskforce has been applied to produce new measures of own-account software investment. These results are presently being considered as part of the revisions process for *Blue Book 2007*. New work on measuring purchased software investment from firm-level microdata sources generates estimates closer to those published in the National Accounts.

In February 2006, the Office for National Statistics (ONS) published work outlining new methodologies for measuring own-account and purchased software investment in the UK along with some preliminary estimates (see Chamberlin, Chesson, Clayton and Farooqui (2006)). Since then these new approaches and their application have been subject to review and the estimates quality assured. The purpose of this article is simply to provide an update on this previous work and indicate how the new measures relate to the National Accounts.

For own-account software the main updates are:

- a refinement of the methodology including an update of some of the assumptions and a wider consideration of labour market sources
- the new methodology is to be applied only to the private sector
- new estimates are to be incorporated into the National Accounts in the reduced *Blue Book 2007* (see Beadle (2007))

Work on measuring purchased software investment has concluded that the alternative methodology now generates estimates closer to those already published in the National Accounts. This was aided by upward revisions to software investment in *Blue Book 2006*.

ONS has been criticised in recent years by external sources including the Bank of England (Oulton (2001)) and the OECD (Ahmed (2003)) for under-recording

software investment in the National Accounts. The advances outlined in this article have improved the ability to correctly capture both the own-account and purchased components of software investment.

New measures of own-account software investment

Own-account software refers to software that firms produce in-house and is not destined for final sale. Importantly, it also includes the creation of software originals intended for subsequent reproduction. Because own-account software is not sold, it does not have a market price, so is difficult to value explicitly. Furthermore, experience suggests that firms have struggled to identify and capitalise it in their survey returns. Rizki (1995) reports the results from a telephone survey of Capex (Capital Expenditure) respondents which discovered firms were only capitalising around 20 per cent of their own-account software expenditures.

The low rate of capitalisation might reflect the different treatment of software expenditure in company financial accounts and the National Accounts. The tax system gives companies an incentive to treat software expenditures as intermediate inputs. Conversely, the latest System of National Accounts (SNA93) recognises software as having asset properties and states that it should be treated as investment.

Failure to accurately measure own-account software expenditures creates an inconsistency in the National Accounts. Firm expenditures on software and associated consultancy from specialist firms in the software industry constitute investment

and are more likely to be capitalised in firm survey returns. However, if the firm were to achieve the same ends, but through in-house means, it is likely that this would be treated as intermediate consumption. This inconsistency has become more acute in recent years as the trend towards own-account production has gathered pace. Evidence from labour market surveys indicates that more software professionals are being employed outside the software industry. As the adoption of Information and Communication Technology (ICT) becomes widespread throughout the UK, firms have increasingly moved to develop their own in-house capabilities.

Recognising the growing importance of own-account software and the difficulty in measuring it, the 2002 OECD and Eurostat Software Taskforces were established with the aim of devising a common methodology to be implemented across National Statistics Institutions. Ahmed (2003) gives an overview of the issues motivating this work and outlines the agreed methodology. Due to the deficiencies in collecting the relevant information from surveys, the recommended approach was to estimate own-account software investment using supply-side data. Specifically, own-account creation is valued according to its costs of production as:

$$\begin{aligned}
 &\text{Wage costs of labour creating own-account} \\
 &\quad \text{software production} \\
 &+ \\
 &\quad \text{Non-wage labour compensation} \\
 &+ \\
 &\quad \text{Non labour costs} \\
 &- \\
 &\quad \text{Adjustment for time spent on other} \\
 &\quad \text{activities} \\
 &- \\
 &\quad \text{Adjustment for own-account software} \\
 &\quad \text{subsequently sold} \\
 &= \\
 &\quad \text{Value of own-account software}
 \end{aligned}$$

There is a strong economic argument supporting this approach. Most in-house software is a 'one-off' and specific to the company that created it. Hence production is unlikely to benefit from scale economies, implying a close relationship between output and input costs.

The previous article (Chesson and Chamberlin (2006)) described how ONS had applied the OECD's recommended methodology. The purpose of this article is to refine the approach and present updated figures that are to be incorporated into the National Accounts in the reduced *Blue Book* 2007.

In applying the methodology, ONS consulted representatives of the software industry through its trade association Intellect UK and sought the advice of other National Statistics Institutions. According to HM Treasury, own-account expenditures are already recorded in public sector figures; proposed revisions are therefore only to apply to the private sector.

Wage costs of labour working on own-account software production

The first step is to identify which occupations are typically involved in developing own-account software. The OECD methodology suggests these should cover Standard Occupational Classification (SOC) 2000 groups 2131 (IT strategy and planning professionals) and 2132 (software professionals). Following consultation with Intellect UK and a number of major companies from the software industry, it was concluded that the OECD approach was too narrow in its focus and a wider array of occupation groups should be considered. These occupations, and descriptions of each, are represented in

Table 1. The wider classification was also supported by Statistics Canada.

There are a number of reasons that justify a broader interpretation of the OECD methodology.

First, the creation of own-account software should be viewed as a package. Although occupation classes 2131 and 2132 may represent the main software writing components, the expenditure on supporting and managing these employees is also part of that package. As such it should be included in the cost of creating software.

Second, although routine maintenance work is regarded as an intermediate input, any work that leads to an improvement should be capitalised. Other occupations are likely to undertake lower level work such as writing patches or updating databases.

Finally, Ahmed (2003) shows that the distribution of software-related workers across the occupational classes differs internationally. This could reflect different industrial structures or skill levels, but might also reflect differences in classifications. A broader definition is therefore more likely to produce internationally-consistent results.

Table 1

Software-related occupations involved in creating own-account software, based on SOC 2000

Occupation code	Responsibilities	Related job titles
1136: Information and communication technology managers	Planning, organising and directing work necessary to operate and provide ICT services, maintaining and develop associated network facilities and providing software and hardware support.	Computer manager, computer operations manager, data processing manager, IT manager, systems manager, telecom manager.
2131: IT strategy and planning professionals	Providing advice on the effective utilisation of information technology in order to solve business problems or to enhance the effectiveness of business functions.	Computer consultant, software consultant.
2132: Software professionals	All aspects of the design, application and development and operation of software systems.	Analyst-programmer, computer programmer, software engineer, systems analyst, systems designer.
3131: IT operations technicians	The day-to-day running of computer systems and networks, including the preparation of back-up systems, and performing regular checks to ensure the smooth functioning of such systems.	Computer operator, database manager, IT technician, network technician, systems administrator, web master.
3132: IT user support technicians	Providing technical support, advice and guidance for customers or IT users within an organisation, either directly or by telephone, e-mail or other network interaction.	Helpdesk operator, helpline operator (computing), IT helpline support officer, support technician (computing), systems support officer.
4136: Database assistant/clerks	Creating, maintaining, preserving and updating information held in electronic databases, computer files, voice mailboxes and e-mail systems.	Computer clerk, data entry clerk, data processor, VDU operator.
5245: Computer engineers, installation and maintenance	Installing, maintaining and repairing personal computers, mainframe and other computer hardware.	Computer engineer, computer maintenance manager, computer service engineer, computer service technician.

ONS administers two labour market surveys that provide an industry by occupation breakdown of the labour force: the Annual Survey of Hours and Earnings (ASHE) and the Labour Force Survey (LFS). Following the reasoning laid out in Chamberlin et al (2006), ASHE remains the preferred data source. It has two distinct advantages over the LFS. As a source of wage data it is superior and, because it is an employer-based survey, the distribution of workers across occupations and industry is deemed to be more reliable. As a worker-based survey, the LFS may be subject to self-reporting biases and proxy responses.

ASHE is not designed as an employment survey and LFS is regarded as a better measure of total employment counts. Quality assurance of the preliminary data suggested that, relative to gross value added (GVA) and other industries, own-account software investment in the manufacturing and distribution sectors was too high. A downward adjustment to these industries would be supported by LFS employment data. Appendix A compares employment data for the software-related classifications identified in Table 1 in the ASHE and LFS surveys.

A time series for own-account software investment will largely reflect movements in the employment and wage compensation of the software-related occupations. Appendix B gives further details on these trends.

Non-wage labour compensation

The two main non-wage elements to labour compensation are employers' National Insurance contributions and employers' pension fund contributions. The methodology here, in line with the OECD-recommended approach, is to use the ratio prevailing in the software supply industry (SIC 72.2) as representative of all software writers regardless of the industry in which they work. **Table 2** displays data from the Annual Business Inquiry (ABI) breaking down total employment costs into its constituent parts.

Table 2

Employment costs in industry 72.2

Year	Gross wages and salaries	Employers' National Insurance contributions	Percentage of wages and salaries	Employers' pension contributions	Percentage of wages and salaries	£ million
						Non-wage: wage ratio (per cent)
1998	5,692	556	9.8	326	5.7	15.5
1999	7,107	703	9.9	422	5.9	15.8
2000	8,095	923	11.4	525	6.5	17.9
2001	9,705	963	9.9	512	5.3	15.2
2002	9,626	974	10.1	615	6.4	16.5
2003	11,056	1,098	9.9	869	7.9	17.8
2004	11,255	1,215	10.8	1,033	9.2	20.0

Table 3

Whole economy employment costs

Year	Gross wages and salaries	Employers' National Insurance contributions	Percentage of wages and salaries	Employers' pension contributions	Percentage of wages and salaries	£ million
						Non-wage: wage ratio (per cent)
1999	280,807	23,877	8.5	11,990	4.3	12.8
2000	295,346	25,479	8.6	12,502	4.2	12.9
2001	315,845	26,497	8.4	13,751	4.4	12.7
2002	326,185	26,929	8.3	15,369	4.7	13.0
2003	334,453	29,047	8.7	17,460	5.2	13.9
2004	347,430	31,138	9.0	20,102	5.8	14.7

Employers' National Insurance contributions have generally been a fairly stable proportion of wages and salaries. There was a slight peak in 2000 when fringe benefits or 'payments in kind' became liable for National Insurance, but this was partly offset the following year by a 0.5 per cent fall in the contribution rate.

Employers' pension contributions have been less stable in recent years, with a clear upward trend emerging as firms make larger payments to try and fund existing pension schemes and fill deficits. As this practice becomes more prevalent, the 2005 and 2006 ABI results are likely to see this ratio rise further. It is not clear how these increased contributions should impact on the costs of own-account software investment. Is it the case that the last two years represent a unique period in dealing with pension fund finances, or were contributions in earlier years too low and the new levels are more representative of the actual long-term costs of funding pension liabilities?

In line with the generally conservative approach taken, the increased payments to pension funds in recent years are excluded from the cost of writing own-account software. The average ratio of non-wage to wage costs between 1998 and 2002 is 16.2 per cent, close to the ratio applied in other National Statistics Institutions. Previously this ratio was calculated at 35 per cent, mainly due to an error in the

double counting of some social security payments, but also because of the inclusion of redundancy and severance payments.

Table 3 shows that the corresponding whole economy ratios are generally smaller than for industry 72.2. This implies that the average employee in industry 72.2 is higher paid, and of a higher professional status, than the average worker in the economy as a whole. As a result, these workers will probably have greater access to company pension schemes, and also a larger proportion of them will earn over the threshold where employer National Insurance contributions at 12.2 per cent become liable.

Non-labour costs

When capitalising own-account software expenditure, the intermediate consumption of goods and services should also be included. The basic approach to calculating the ratio of non-labour to labour costs is also based on ABI data, using industry 72.2 as representative of software-writers throughout the economy. **Table 4** presents data on the cost structure for this industry and the relevant costs associated with own-account writers are calculated as:

Total purchases of goods and services	–
Purchases of goods and services for resale without further processing	–
Road transport	–
Computer services	–
Advertising and marketing costs	+
Total taxes and levies	+
Total depreciation	–
Depreciation of vehicles	=
Non-wage costs of own-account software creation	

Table 4
ABI non-labour costs in industry 72.2

	£ million									
Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Total purchases of goods and services	7,013	6,008	6,449	7,889	10,167	11,045	11,572	11,739	14,764	14,537
Energy and water	..	338	632	252	226	212	218	128	188	218
Goods and materials	..	..	..	1,008	1,783	1,249	841	1,026	1,471	1,304
Goods for resale without processing	2,789	1,665	1,276	1,295	1,502	1,475	1,845	2,683	2,525	2,564
Hiring, renting, leasing of machinery	..	233	192	279	342	358	440	344	342	338
Insurance premiums	..	71	78	79	98	128	108	120	162	131
Road transport	..	62	76	89	86	107	107	76	86	123
Telecommunications	..	232	246	301	328	371	576	505	543	462
Computer-related services	..	592	618	552	998	607	663	816	830	800
Advertising and marketing	..	329	379	359	473	532	546	718	505	605
Subcontractors	..	..	..	..	..	..	1,668	1,616	1,873	1,978
Other services	..	2,486	2,951	3,675	4,331	6,005	4,560	3,707	6,239	6,014
Total taxes and levies	..	91	147	170	175	231	252	241	250	265
Business rates	..	81	131	125	145	154	185	169	216	165
Other taxes and levies	..	10	17	45	30	76	67	72	33	100
Depreciation	110	123	125	121	138	132	128	153	179	198
Buildings	1	2	3	3	4	5	6	7	7	8
Plant and machinery	59	68	74	73	92	90	89	118	146	169
Vehicles	50	53	48	45	42	37	33	28	26	21

A number of deductions are made from total purchases of goods and services. Goods and services for resale without internal processing are simply goods and services that pass through the company so will not be consumed in developing own-account software. Road transport and advertising and marketing costs are excluded on the basis that these are unlikely to be inputs into the creation of software produced in-house.

A little more contentious is the removal of computer-related services. There is a strong argument that these should be capitalised as inputs into the creation of own-account software. The reason for exclusion is simply caution, that is to avoid the possibility of double-counting if firms capitalise these expenditures elsewhere.

Adding taxes, levies and relevant depreciation costs is in line with the OECD taskforce recommendations. An estimate of the rate of return on capital should also be included, but this is something that is very difficult to measure and, like most National Statistics Institutions, it is something that is excluded.

Table 5 summarises the calculations for the non-labour to labour cost ratio both including and excluding the purchases of computer-related services.

Table 5 highlights that the ratio of non-labour to labour costs has been unstable over time but there is no discernable trend in the series. Taking an average of the ratio for the sample 1998 to 2004 gives an estimate of 84 per cent.

Table 5
Calculating the non-labour to labour cost ratio for industry 72.2

	Non-labour costs 1 (£m)	Non-labour costs 2 (£m)	Labour costs (£m)	Ratio 1	Ratio 2
	(1)	(2)	(3)	(4)	(5)
1998	6,392	5,840	6,613	0.97	0.88
1999	8,377	7,379	8,257	1.01	0.89
2000	9,257	8,650	9,405	0.98	0.92
2001	9,421	8,758	11,275	0.84	0.78
2002	8,628	7,812	11,184	0.77	0.70
2003	12,051	11,221	12,844	0.94	0.87
2004	11,687	10,887	13,076	0.89	0.83
Average	-	-	-	0.91	0.84

(1) calculated as above but including purchases of computer services

(2) calculated as above

(3) equal to total wages and salaries * 1.162

(4) equals (1)/(3)

(5) equals (2)/(3)

There is little international consensus on the appropriate size of this ratio or which non-labour costs should be treated as intermediate inputs. Neither does the OECD Software Taskforce provide much guidance on this issue. A ratio of 84 per cent sits close to the middle of the range. Statistics Canada were an outlier towards the bottom of the range, but have recently raised their ratio from 46 per cent to 68 per cent.

Adjustment for time spent on other activities

Despite taking a broader view of the occupations involved in writing own-account software, it would be incorrect

to assume that all contribute to the same extent. Time will also be spent on other tasks such as maintenance, administration and management.

Consultation with Intellect UK and representatives from the software industry advised that software professionals would spend the majority of their time creating software, while managerial and administrative occupations would contribute indirectly and to a lesser extent. The results of the consultation on appropriate time adjustments for each occupation are shown in **Table 6**.

Table 6

The approximate percentage of time spent on software development or related activities

SOC	Occupation	Proportion (per cent)
1136	Information and communication technology managers	15
2131	IT strategy and planning professionals	35
2132	Software professionals	70 (50)
3131	IT operations technicians	20
3132	IT user support technicians	15
4136	Database assistants/clerks	5
5245	Computer engineers, installation and maintenance	5

These estimates have been accepted with one exception. Software professionals (2132) were reported to spend around 70 per cent of their time on software development work. While this may be a true reflection for software professionals in the software industry, it might be an overestimate for those employed in other industries. Therefore, a more conservative figure of 50 per cent, the ratio generally used by other National Statistics Institutions, was applied in this case.

Sales adjustment

The definition of own-account software makes clear that it is developed in-house for in-house use. Purchased software, either packaged or custom-made, is categorised separately. Double-counting might arise if software classified as own-account is subsequently sold and then picked up in surveys of software purchases. The issue of possible double-counting has proved to be one of the trickiest areas in devising own-account software measures.

A conventional approach is to apply a sales adjustment to industries if the proportion of software writers in total employment is above a certain threshold. The 2 per cent threshold previously used in the US was based on examination of the share of labour income attributable to computer programmers and systems analysts in industries that were deemed neither to produce software for sale nor embed it in their products. This ad-hoc procedure produces a number of problems when applied to the UK.

First, a large sales adjustment is generally applied to the financial sector which exhibits a strong concentration of software writers in total employment. Consultation with Intellect UK advised this as highly dubious, noting that IT systems and software contributes to product

differentiation in the financial services sector. Therefore, firms are likely to be very proprietary about their in-house software development and unlikely to sell it commercially.

Second, the mechanical nature of the adjustment can lead to conceptual issues as to where the implied sales from certain industries actually go. For example, there are a number of industries such as tobacco manufacture (SIC 16), and the manufacture of coke, refined petroleum products and nuclear fuel (SIC 23) which have a surprisingly high concentration of software writers in their UK labour force. It is likely that, for certain industries, the UK is an administrative hub for multinational firms whereas the bulk of actual production is carried out overseas. Raising the threshold above 2 per cent would effectively deal with these problem industries, but is not supported by ASHE data on the proportion of computer programmers and systems analysts outside the software and software-embedding industries.

In refining the methodology, the intuitive approach suggested by Statistics Canada has been adopted. Here, a sales adjustment is also based on the proportion of software writers in total employment, but it is only applied to industries where there is some justification for own-account being sold. There are two broad categories of industries where the sales adjustment will apply. First, and obviously, is the software industry itself. The second is what is known as 'embedded' industries, where it is likely that own-account software will be embedded in the output of the industry. Although this means that own-account may not be capitalised as such, it will at least prevent the double-counting of some expenditure.

Table 7 reports the sales adjustment for the embedded industries (SIC 29 to 33) and the computer-related activities industry (SIC 72) for the years 2002 to 2004, and the corresponding averages. For the embedded

industries, 49 per cent of own-account is excluded, and for the software industry 93 per cent is excluded, on the basis that it is capitalised elsewhere in the National Accounts. This compares with 58.5 per cent and 83.1 per cent, respectively, in Statistics Canada's methodology.

Compared with the previous methodology, the overall impact of these changes would be to raise the economy-wide sales ratio from 0.60 to 0.66, meaning that the amount of own-account software excluded falls from 40 to 34 per cent. Overall, Statistics Canada excludes 42.6 per cent of the wage bill connected to own-account, implying a whole economy sales ratio of 0.574.

Estimates of own-account software investment for the private sector

Using the updated methodology, new estimates of own-account software have been produced for the UK private sector. These are available on an industry and sector basis and are set to be incorporated into the National Accounts with the *Blue Book* 2007 revisions.

ONS is currently engaged in a major programme of modernising its statistical systems. The aim is to produce the UK National Accounts *Blue Book* in September 2008 using the modernised systems and methods (Beadle (2007)). Therefore, *Blue Book* 2007 will be 'transitional', and reduced in scope, with supply and use balancing and benchmarking to annual surveys postponed until 2008. A simplified approach to implementing the own-account software revisions will be adopted, assuming a rise in profits and gross fixed capital formation (GFCF) equal to the change in own-account software investment. As a result, revisions to the household and non-profit sector (which are relatively small) will be delayed until 2008. This is more fully described by Beadle (2007) in Box 1.

Table 7

Sales adjustments for 'embedded' and the software industries (percentage of own-account software not sold)

Industry	SIC	2002	2003	2004	Average
Machine and equipment manufacture	29	0.96	0.81	0.81	0.86
Office machinery and computer manufacture	30	0.30	0.28	0.21	0.26
Electrical machinery and equipment manufacture	31	0.82	0.66	0.56	0.68
Radio, TV and communications equipment manufacture	32	0.37	0.29	0.27	0.31
Medical, precision and optical equipment manufacture	33	0.36	0.31	0.32	0.33
Total embedded industries	29-33	0.58	0.49	0.47	0.51
Computer-related activities	72	0.07	0.07	0.07	0.07
Total (whole economy)	1-93	0.67	0.64	0.68	0.66

Figure 1
Private sector own-account software investment: by industry

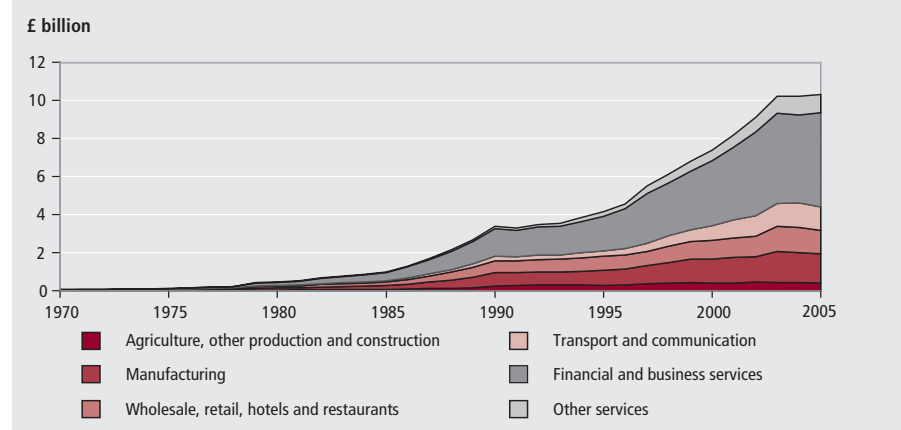


Figure 1 presents the estimates by the main A6 industry breakdown. It is evident that own-account software investment has grown strongly in recent years, and is valued at £10.3 billion in 2005. Within this, the financial and business services industries are responsible for almost half of the total. **Table 8** presents a further breakdown of the 2005 totals and an indication of the relative size of own-account investment compared with current industry GFCF. This also highlights

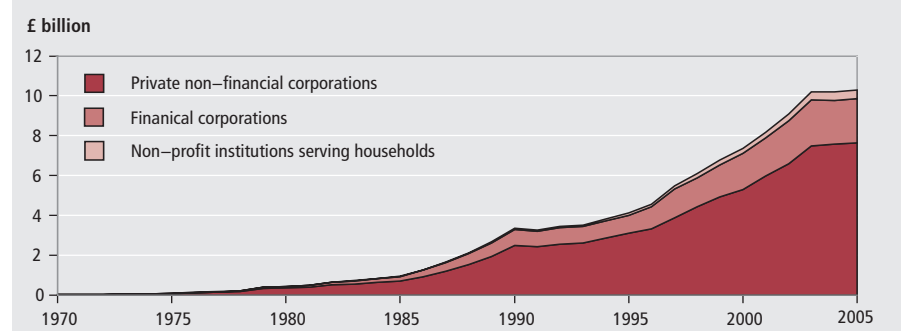
the relative importance of own-account software investment in the financial and business services.

A breakdown is also available for the three components of the private sector: private non-financial corporations (PNFC), financial corporations (FC) and non-profit institutions serving households (NPISH). This is presented in **Figure 2**. Note that the financial corporations sector (FC) corresponds to the financial services industry (J).

Table 8
Industrial breakdown of private sector own-account software investment and its size relative to current GFCF

Industry	IO	Percentage of 2005 total	Percentage of current GFCF
Agriculture, forestry and fishing	AB	1–3	0.3
Mining and quarrying	C	4–7	0.3
Manufacturing	D	8–84	1.5
Electricity, gas and water	E	84–87	1.6
Construction	F	88	1.7
Motor vehicles, wholesale and retail trade	G	89–91	11.4
Hotels and restaurants	H	92	0.4
Transport and communications	I	93–99	11.8
Financial services	J	100–102	21.3
Business services	K	103–114	26.9
Other services	L–N	115–123	9.2

Figure 2
Private sector own-account software investment: by sector



Private sector own-account software investment has been steadily rising as a proportion of private sector GVA, from 0.7 per cent in 1989 to 1.1 per cent in 2004. As **Figure 3** shows, own-account software expenditures are relatively more important for the UK's financial sector than for the other parts of the private sector. GVA in the financial services sector has tended to exhibit greater volatility than in the rest of the economy. The recent falls in the proportion of own-account investment as a percentage of GVA for this sector reflect the strong rise in GVA since 2002.

Own-account software investment has also grown relative to GFCF. In **Figure 4**, as a proportion of current GFCF, own-account estimates have risen from 1.7 per cent in 1986 to 4.1 per cent in 2005. However, the private sector average hides sectoral differences in the importance of own-account software investment. While it remains fairly unimportant for NPISHs, as a share of current GFCF it has risen from 2.8 per cent in 1986 to 7.3 per cent in 2005 for private non-financial corporations. The corresponding figures for financial corporations are shown in **Figure 5**. The investment share of own-account software is rather volatile, but this almost entirely reflects the large volatility in the other components of GFCF for this sector.

Recent work jointly undertaken by HM Treasury and ONS has investigated the growing importance of intangible investment in the UK (see Giorgio Marrano and Haskel (2006)). These newly revised figures for own-account software confirm this view. **Figure 6** suggests that these revisions will more than double the share of intangibles in total private sector GFCF.

Deflation of own-account software investment

The deflator for own-account software is based on the average wage index of software-related employees. This index has been weighted according to the time and sales adjustments made previously, and adjusted to take account of productivity improvements in the service sector (see Daffin *et al* (2002) for recent work on measuring service sector productivity). Failing to productivity-adjust the data would simply imply real measures that move in line with the effective labour input into own-account software creation. Nominal and real measures are presented in **Figure 7**.

Figure 3
Own-account software as a percentage of sector GVA

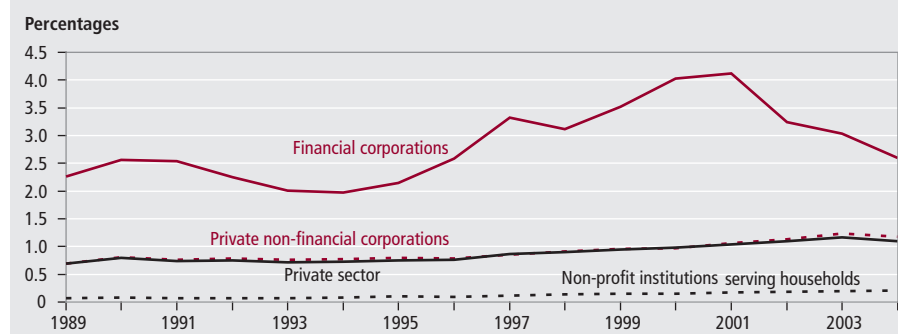


Figure 4
Own-account software investment as a percentage of current private sector GFCF

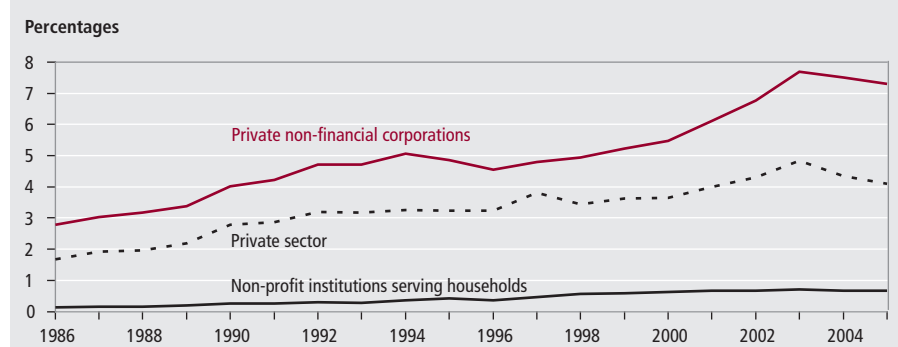


Figure 5
Own-account software investment and total GFCF for financial corporations

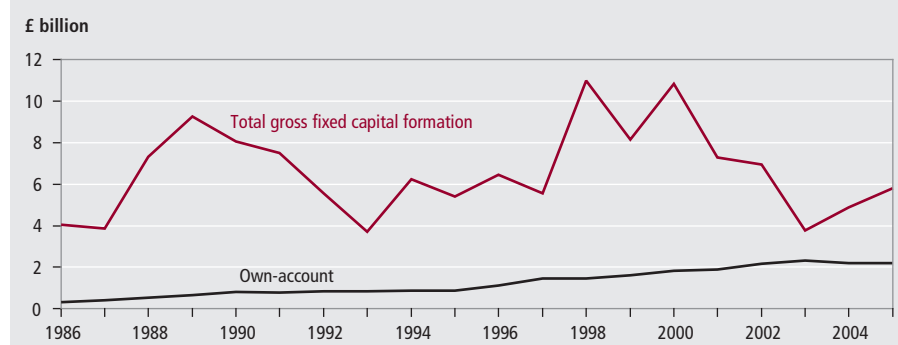
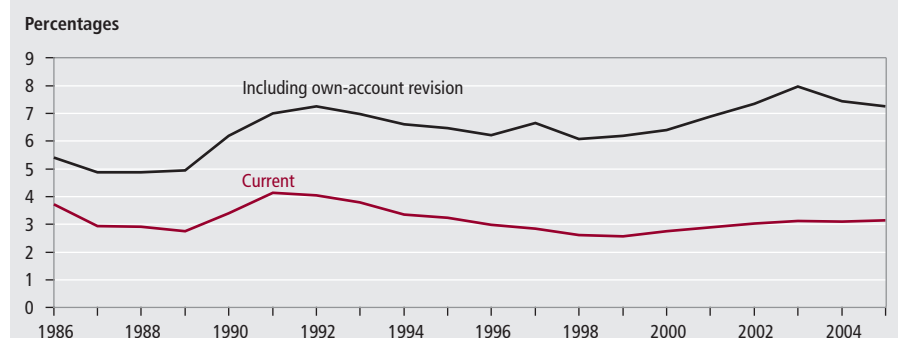


Figure 6
Intangibles as a percentage of private sector investment



Possible revisions to GDP and economic growth

The data presented in this article reflect the final own-account software estimates that, for the PNFC and FC sectors, are due to be incorporated into the National Accounts in *Blue Book 2007* revisions.

The increase in nominal GDP over the period 1970 to 2005 is expected to be around 0.7 per cent, with a similar cumulative effect on real growth. On average, the new method increases the annual real growth in GDP by less than 0.05 percentage points a year, although the effect on growth is not smooth, with increased growth during the late 1990s followed by more variable effects on growth since 2000.

Estimating purchased software investment from firm-level data

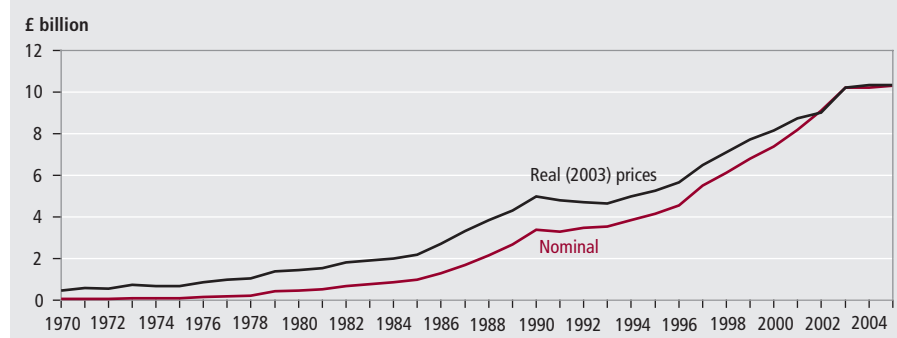
National accountants have, over the years, used a combination of business survey returns, historical proportions and time series trends to measure purchased software investment in the UK. Chamberlin *et al* (2006) presented a new methodology based on combining returns from three different surveys at the firm level, with the results suggesting that purchased software investment was being under-recorded in the National Accounts.

Since then, significant upward revisions to the official data have come some way in bridging the gap between these estimates. The National Accounts have improved estimates of purchased software investment by identifying the proportion of software investment previously attributed to office machinery and computer equipment, due to software bundling, and changing the proportions of hardware and software investment to total investment accordingly.

The large gap between official estimates and those in Chamberlin *et al* (2006) also led to the data being revisited. A better understanding of the survey designs has allowed the methodology used to estimate purchased software from business returns to be significantly improved. The new results suggest a much smaller discrepancy between aggregate purchased software from business returns and the implied purchased software component of aggregate software in the National Accounts.

Table 9 compares purchased software estimates for the private sector published in the National Accounts (*Blue Book 2006*) along with the figures resulting from the methodology defined in Chamberlin *et al* (2006) and this article (Chamberlin *et al* (2007)). The National Accounts row is arrived at by netting out public and

Figure 7

Nominal and real estimates of private sector own-account software investment

financial sector investment as these are not covered by business surveys, and an estimate for all own-account expenditure. The following sections describe the new methodology applied in this article for the interested reader.

Table 9

Estimates of purchased software investment – private sector excluding the financial sector

	£ million				
Estimate of purchased software investment	2000	2001	2002	2003	2004
National Accounts					
(Blue Book 2006)	4,518	4,195	3,863	3,702	3,808
Chamberlin <i>et al</i> (2007)	5,182	5,328	4,173	5,383	
Chamberlin <i>et al</i> (2006)	7,497	7,043	6,338		

An updated methodology for estimating purchased software investment from firm-level data

The OECD Software Taskforce, recognising that many National Statistics Institutions have limited or inadequate survey data, proposed measuring purchased software investment using supply-side data as a proxy. However, survey-based measures were identified as the preferred long-term approach. ONS does well by international standards in the current availability of these sources. Presently there are three data sources from which information on purchased software investment can be drawn: Business Spending on Capitalised Items (BSCI), the Capital Expenditure survey (Capex) and the Annual Business Inquiry (ABI).

The aim has been to combine all the available information contained in these surveys to mitigate any occurrences of under-reporting in any individual survey to arrive at a well-informed software investment total. The methodology described in Chamberlin *et al* (2006) was based on the combined returns from the three different surveys at firm level, that were treated as originating from a single

survey source and then weighted up to a population total. However, this procedure did not fully take into account the varying sampling structures of the different surveys, that is, the intricacies of different regional and employment sampling frames. The impact of this was to overestimate the weight attached to the big spenders and underestimate the weights for smaller spenders. Consequently, purchased software estimates were overestimated. The updated methodology presented here aims to correct for this overestimation.

The first stage is to clean individual survey returns, at firm level, using all the information available from the three surveys. In order to fully account for differences in survey design, each cleaned survey is then individually weighted up to the industry level using its own weights embedded in the survey design.

For every industry there is therefore a value for total investment in purchased software and its variance, from at least one source and at most all three. Finally, the three industry totals are combined together to obtain one overall industry total using a weighted average that makes use of the estimated variances of the survey estimates. For a particular industry, a survey with a lower associated variance is given a higher weight to reflect the precision of estimates. Each of these stages is described in more detail in the following sections.

Table 10

BSCI and Capex software investment totals before and after an adjustment for own-account software

	BSCI			Capex		
	Original	Net of own-account	Difference (per cent)	Original	Net of own-account	Difference (per cent)
2001	6,750	6,380	5	4,911	4,712	4
2002	5,289	4,902	7	4,395	4,225	4
2003	4,219	3,872	8	3,933	3,724	5
2004	5,604	4,907	12	4,451	4,199	6

Cleaning the firm-level data

The cleaning process comprises two steps. The first is to net out own-account software. The second step involves cross-tabulating returns across surveys for those firms that have been sampled by more than one survey and establishing the best return.

Own-account software

All three surveys ask for both purchased and own-account software expenditures. Whereas the ABI splits the two categories out into separate questions, the BSCI and Capex do not. The most tractable way available for splitting out own-account software from total software expenditure in the BSCI and Capex surveys is to use proportions in the ABI returns.

Table 10 presents BSCI and Capex totals before and after estimates of own-account have been deducted. The figures show that, on average, over 90 per cent of firm returns are made up of purchased software, so the impact of deducting own-account software from firm returns is small.

Survey cross-tabulations

Work done on firm-level ICT capital stocks, using the three surveys, has highlighted that, when available, BSCI data is more reliable than Capex data, which in turn is more reliable than the ABI software data. This is because of:

- survey structure – the BSCI and Capex surveys specialise on investment data, whereas the ABI is the primary vehicle for collecting data on firm characteristics and productivity measures
- survey coverage – the BSCI and Capex have a smaller respondent base and therefore validation of returns is easier
- survey timing and nature of respondents – the BSCI and ABI are annual surveys sent out to coincide with end of year financial accounts. Capex on the other hand is a quarterly survey, and responses are based on guesstimates and forecasts.

Respondents for the BSCI and Capex are likely to be investment managers with access to investment expenditure accounts, whereas ABI respondents are likely to be general managers

- data coding and imputed values
 - respondents do not always fill out a return for every item in a survey. Each survey has its own method of dealing with such missing returns. The BSCI does not impute for missing returns but identifies on an item-by-item basis whether the return is missing or not. The ABI and Capex impute values for the largest respondents, but for smaller responders the fields are left blank. Capex, however, does not distinguish between an item non-response and an actual return of zero. Although the ABI has markers in place to distinguish between such returns, it suffers from the problem of form length. In order to reduce respondent burden, the majority of forms sent out are short and only inquire about category totals. Long forms that are sent out ask for complete breakdowns and are only sent to the largest firms. Item breakdowns for the short forms are calculated using proportions derived from long form returns. The incidence of short returns is very high and influences the reliability of the data set

Cleaning is done for ABI and BSCI returns for firms that are sampled by both surveys. For the reasons above, when the same business responds to the software question in both the BSCI and ABI surveys, the BSCI return supplants the ABI return in the ABI data set. However, if there is a return from the ABI and an item non-response in the BSCI for the same firm, then the ABI return supplants the BSCI return in the BSCI data set. Up to 69 per cent of the BSCI sample is also sampled by the ABI. Using information from the ABI, information can be updated for up to 62 per cent of BSCI non-responders.

As mentioned, Capex is a quarterly

survey, and firms are rotated out of the sample every year so they may not appear in all four quarters of a given year. Secondly, investment is inherently lumpy and firms may concentrate all their annual investment in one or two quarters. It is then not clear whether zero returns in the remaining quarters are real returns or not. Using Capex returns to clean other surveys, and vice versa, is likely to exacerbate measurement error. For these reasons, Capex returns are stand alone and aggregated without cleaning.

Table 11 shows the impact of cleaning on the aggregates. The cleaning leads to higher estimates from both the ABI and BSCI; the impact of the cleaning on the BSCI is, however, much larger than for the ABI. Cleaning leads to an increase in estimates by up to 17 per cent for the ABI and up to 34 per cent for the BSCI.

Weighting firm-level data to obtain industry-level totals

Weights are used to gross up a sample of firm-level returns to aggregate industry totals. The weights adjust each firm-level return to account for all the firms that were not in the survey. Summing across all adjusted returns gives the aggregate industry estimate. This can be generally expressed as:

$$\hat{Y} = \sum_{i \in s} w_i y_i$$

where \hat{Y} is the estimated industry total, y_i is the returned value for sampled business i , and w_i is the weight for each sampled business i in industry s . The weight w_i can be split into three parts, referred to as a-weight (a_i), g-weight (g_i) and o-weight (o_i), so that:

$$\hat{Y} = \sum_{i \in s} a_i g_i o_i y_i$$

The adjustment, in its simplest form, inflates the business return by multiplying it with the inverse of its sampling fraction, that is, the probability that the business was selected. This adjustment is known as the design or a-weight and for a particular

stratum h is given by $a_h = \frac{N_h}{n_h}$ for all respondents where N_h and n_h are the population and sample totals for stratum h . A firm that appears in all three surveys will have a different sampling fraction for each.

The g-weight helps to correct for any bias that may arise from the simple application of an a-weight to gross up individual survey returns to population totals. This is achieved by using employment as an auxiliary variable, as this is found to be strongly correlated with levels of IT investment.

The final part of the weighting is an outlier weight. Outliers are business returns deemed non-representative of general firm characteristics within the industry, for example, the Capex survey forces firms that are forecast to have large expenditure on investment, such as start-ups, into its sample. These firms, however, are not representative of general investment behaviour so would distort population totals if weighted as such. Outliers are added onto the total estimate but are not adjusted. Therefore, o-weights are calculated to nullify the impact of a-weights and g-weights.

Of course, for strata that are completely sampled, all the information pertaining to aggregate investment is available. No firm has been left out of the sample and so no adjustment has to be made. For these special strata, all three weights are set equal to 1.

Combining industry-level estimates

The best way to account for differences in strata definition, sampling frames and outlier identification across surveys is to aggregate the surveys individually using their respective underlying weights. Each survey will provide its own industry-level aggregate and an associated measure of precision of the estimate. The measure of precision of interest is the sampling variance of the estimate.

The level of precision, or variance, of the industry-level estimates will depend on the survey design. For example, the most precise industry-level estimate available is when all firms in a stratum are sampled, when the variance will be zero. It will also depend on how the strata are combined to define g-weights and on the relationship between the auxiliary variable and the variable of interest.

The three industry-level estimates are then combined into one estimate, by applying a weighted average that makes use of the individual survey variances. A survey with a higher industry variance is given a lower weight in the combined total

Table 11

The impact of cleaning on the BSCI and ABI surveys

Year	BSCI original (£'000)	BSCI clean (£'000)	Difference (per cent)	ABI original (£'000)	ABI clean (£'000)	Difference (per cent)
2001	6,380,070	8,575,318	34	4,756,135	5,568,803	17
2002	4,817,336	5,641,296	17	4,270,024	4,415,769	3
2003	3,871,961	4,617,409	19	4,001,523	4,001,244	0
2004	4,909,164	6,310,135	29	5,235,114	5,513,381	5

as it is less precise. Since there is some small overlap between surveys, the covariance terms between surveys are non-zero, but in practice they are very small and, because their impact is second order, they can be ignored. Effectively, the three estimates are treated as if they were independent.

Conclusions and further work

This work has outlined the improvements made in recent years to measures of software investment in the UK. As purchased software has been revised upwards in 2006, and own-account software in private non-financial corporations and financial corporations sectors will be revised in *Blue Book* 2007, this addresses criticisms that official data were underestimating both the purchased and own-account components.

Further work is required on purchased software investment in the banking and insurance sectors and in the public sector, where current survey coverage is weak. Estimates should become available from a redesigned survey covering monetary and financial institutions conducted by the Bank of England. In addition, data collected by the Whole of Government Accounts should provide estimates for computer software for the entire public sector.

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APPENDIX A

ASHE and LFS employment data for the software-related occupations

ASHE and the LFS are two main labour market surveys that provide a breakdown of occupation by industry data for the UK. **Figure A1** gives the most recent data for total employment in the software-related categories in each survey. It is evident that the levels are generally similar. The main difference occurs in 2000, when the LFS adopted the new SOC 2000 whereas ASHE adopted the new classification system in 2001.

The distribution by occupation is shown in **Figure A2**. Again, there are fairly similar trends, although the LFS data are slightly more skewed towards the managerial and strategy classes. Obviously this tendency might reflect self-classification, whereas in ASHE, classification is denoted by employers.

The industry distribution plotted in **Figure A3** marks some important differences. The ASHE proportions are relatively greater in the manufacturing (D) and distribution (G) categories but correspondingly lower in the business services sector (K). The business services sector includes the computer-related activities industry (SIC 72) which **Figure A4** demonstrates that LFS-measured employment is skewed towards. This might also be an indication of the type of self-reporting bias implicit in the LFS, with software professionals incorrectly classifying themselves as working in the software industry.

Figure A1
Total software-related employment



Figure A2
Distribution by occupation based on SOC 2000 (percentage of total, average 2001 to 2005)

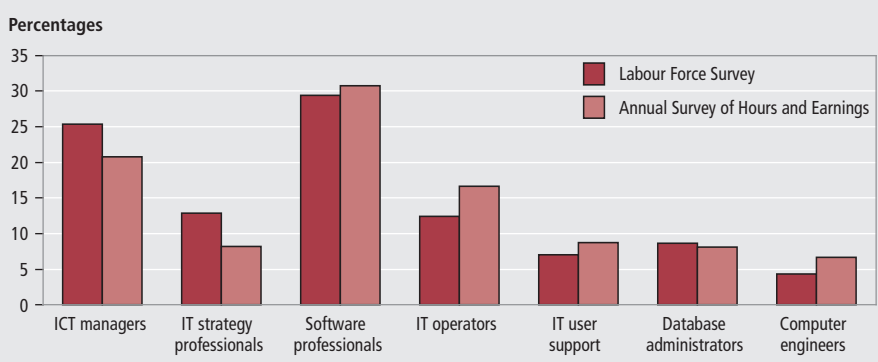
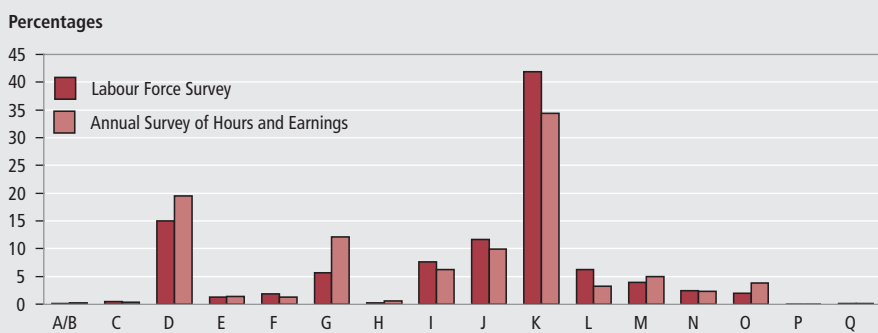


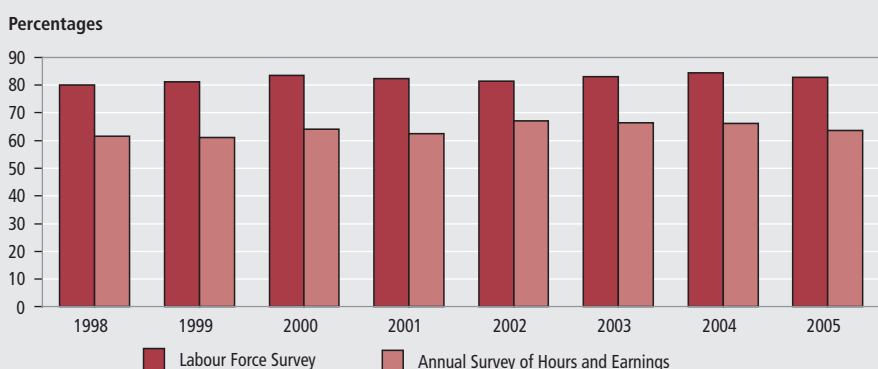
Figure A3
Distribution by industry (percentage of total, average 2000 to 2005)



Key to industry abbreviations

Agriculture (A/B), mining and extraction (C), manufacturing (D), electricity, water and gas (E), construction (F), wholesale and retail (G), hotels and restaurants (H), transport and communication (I), financial services (J), business services (K), public administration and defence (L), education (M), health and social work (N), other services (O), households (P), overseas territories (Q).

Figure A4
Percentage of division K (business services) workers in industry 72



APPENDIX B

Average earnings and employment of software-related employees

The estimates of own-account software based on the OECD methodology will strongly reflect wage and employment movements of the seven software-related occupations described in Table 1.

Figures B1 and B2 taken together describe trends in the total compensation of these seven occupational categories relative to the rest of the economy. Note that due to occupational reclassifications and changing sources, these historical numbers have been estimated and can only be considered as indicative of the actual trends.

Average earnings have risen ahead of the whole economy average earnings index (AEI), reflecting the relative skill level and scarcity of this labour. This evidence suggests that pay differentials widened during the 1990s, perhaps reflecting the dot-com boom and fears concerning the millennium bug. Recent pay growth, though, has been more subdued.

As a proportion of total employment, these seven occupations have been rising over the last three decades. Significant increases in employment were seen in the late 1980s, but growth was more subdued during the early 1990s reflecting general employment and investment trends in the rest of the economy. However, from the mid 1990s, software-related employment as a proportion of the total has been rising further, although it appears to have flattened out in recent years. In 2005, estimated employment in these seven categories was just under 1 million.

Figure B1
Average earnings

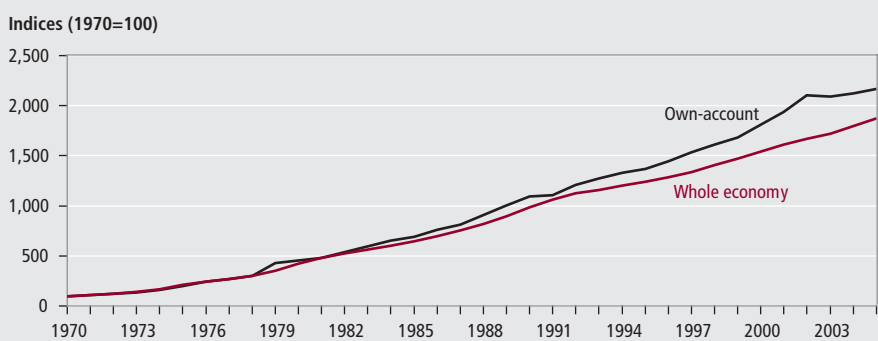
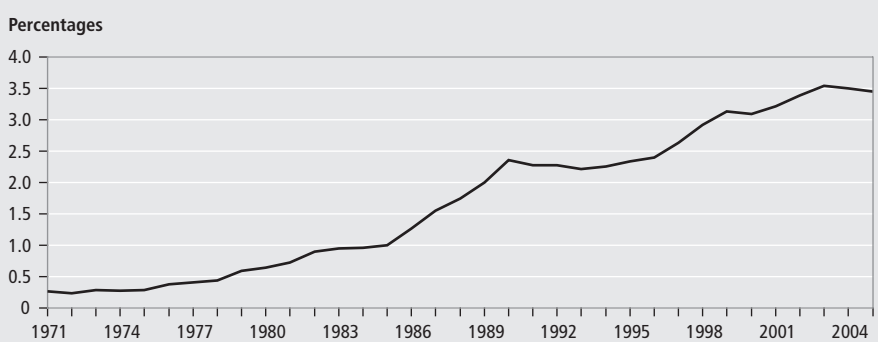


Figure B2
Own-account employment as a percentage of total (LFS) employment



FEATURE

Leonidas Akritidis
Office for National Statistics

Improving the measurement of banking services in the UK National Accounts

SUMMARY

This article was first released on the National Statistics website to coincide with the launch by the Office for National Statistics of the experimental statistics release and transmission to the European Commission of new estimates reflecting changes to the way that Financial Intermediation Services Indirectly Measured (FISIM) is treated in the UK National Accounts.

The article defines the UK methodology in calculating and allocating FISIM and describes the changes to the National Accounts. It also provides the impacts of early estimates at both current prices and chained volume measures on gross domestic product levels and growth.

The concept of Financial Intermediation Services Indirectly Measured (FISIM) is a simple one that is taken for granted when doing business with financial institutions. Instead of a direct charge, many services provided by financial institutions are paid for by an interest differential, that is, the institutions pay depositors a lower rate of interest than they charge borrowers. FISIM imputes indirect charges for these services.

At present, the concept of FISIM has not been fully implemented into the UK National Accounts, but what is done does comply with a treatment permitted in the System of National Accounts (SNA).

ONS will amend the UK National Accounts to reflect changes to the treatment of FISIM at *Blue Book 2008*. The FISIM estimates will be incorporated as one of the major changes that take place during the *Blue Book 2008* process, when the new National Accounts system will be introduced. The figures in this article are estimates of changes in headline figures in current prices and chained volume measures that would occur only in the absence of any other changes; they cannot be regarded as an indicator of the likely revision in 2008. The National Accounts remain ONS's best view of economic activity and growth in the UK economy.

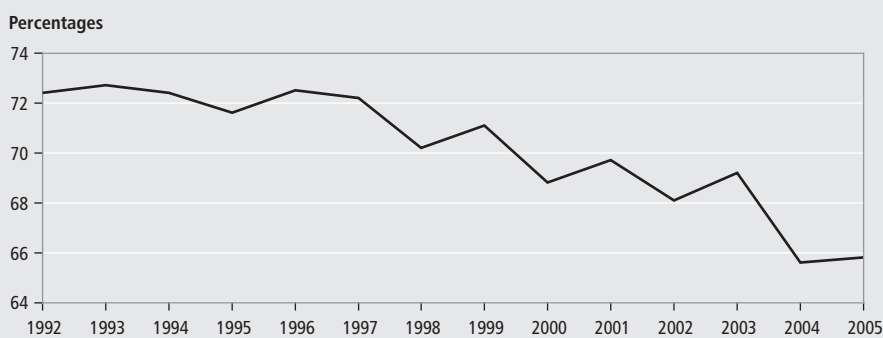
The concept of FISIM

The UK National Accounts are compiled according to international rules and guidelines set out in the United Nations System of National Accounts that were updated in 1993. European Union Member

States are legally required to comply with these rules as set out in the European System of National and Regional Accounts (ESA95). The activity of financial services in general, and of banks in particular, has long been a challenging area for those who develop international standards. Market economic activity can be measured as cash values of sales and purchases of identifiable units, such as cars or haircuts. These cash values can then be deflated to remove inflation effects to enable real growth to be derived. However the activity of banks is not so easily captured.

Banks make explicit charges for some services, such as commission on foreign exchange, account charges and flat rate fees for overdrafts. But the amount of these charges is significantly below the costs paid by the banking industry on wages and bonuses, and on intermediate costs such as rental, electricity and stationary purchases. So, under the conventional treatment, there was the threat of what the OECD described as 'the paradox of a prosperous industry showing a negligibly positive, or even negative, contribution to the national product'.

This discrepancy arises because the banking sector relies extensively on revenues accruing from interest flows. According to standard national accounting conventions, earnings from interest are not defined as part of corporations' output, value added or gross operating surplus. They do not contribute to GDP or to economic growth. The concept of FISIM is a consequence of long-standing international discussions aimed at resolving this paradox.

Figure 1**Share of FISIM in the total of implicit and explicit financial services charges, current prices**

The concept itself was introduced in the 1993 SNA, which outlined how an estimate for the output of FISIM should be calculated, and specified alternative treatments for the allocation of FISIM.

While FISIM is a very important component of banks' revenues, **Figure 1** shows that its share of explicit and implicit charges decreased from 1993 to 2005. At the same time, the share taken by explicit charges, such as fees and commissions, rose.

The treatment of FISIM in the SNA 1993 and the ESA 1995

The SNA recognises that financial intermediaries (FIs) provide services to consumers, businesses, governments and the rest of the world for which explicit charges are not made. In associated guidelines, a number of such services are identified, for example:

- taking, managing and transferring deposits
- providing flexible payment mechanisms such as debit cards
- making loans or other investments
- offering financial advice or other business services

More generally, FIs provide security and convenience. On the loan side, FIs provide rapid and flexible credit facilities involving some assessment of risk and creditworthiness.

The FIs charge explicit commissions and fees for their services to their customers, and implicit ones by paying or charging rates of interest that differ between borrowers and lenders. They pay lower rates of interest than would otherwise be the case to depositors, and charge higher rates of interest to creditors. The resulting receipts of interest are used to offset their expenses

and provide an operating surplus. This scheme of interest rates avoids the need to charge customers individually for services provided, and allows the pattern of interest rates to be seen in practice. However, in this situation, the National Accounts must use an indirect measure of the value of the services for which the intermediaries do not charge explicitly. This is FISIM.

FISIM output generated by FIs should be allocated between the users of the services for which no explicit charges are made. The SNA 1993 acknowledged the practical difficulty of developing a method of allocating FISIM between different users in a way that is conceptually satisfactory from an economic viewpoint and for which the required data are available. Hence, SNA allows use one or other of two different approaches:

Approach 1: Allocation of FISIM into a 'nominal' sector

The SNA 1993 permits a simplified approach, where (by convention) FISIM output is not allocated between users but is treated as absorbed by the intermediate consumption of a 'nominal sector'. In consequence, the estimate of FISIM is not allocated into user sectors or industries. In this approach, GDP is not affected by the size of the FISIM output (SNA93, paragraph 6.126).

ESA95, as originally published, did not require introducing FISIM allocation in National Accounts, because EU countries had concerns about the availability of source data and the reliability of the methodology. This approach is currently used in the UK.

Approach 2: Allocation of FISIM into user sectors

The recommended approach involves a full allocation of the use of FISIM across relevant sectors and industries.

The purpose of allocation of FISIM by sectors and industries is to identify the purchase of these services explicitly and to classify them as intermediate consumption, final consumption expenditure or exports according to which sector incurs the expenditure. (SNA93, Annex III, paragraph 5)

According to the European Council Regulation, which amended the ESA 1995,¹ the FISIM estimate is allocated into sectors in the National Accounts as follows:

- intermediate consumption for the services attributed to non-financial corporations, other financial corporations, general government, households as owners of dwellings, households as owners of unincorporated enterprises, and non-profit institution serving households
- final consumption expenditure for the services attributed to households for individual consumption
- exports for the services attributed to non-residents

There is also an estimate for imports of FISIM, which is allocated into intermediate or final consumption. In addition, there are technicalities concerning FISIM allocation in National Accounts, for example, treatment of non-market units and producers of housing services (see section on specific treatment of FISIM allocation).

According to the Regulation, FISIM is calculated and allocated on loans and deposits only. This is determined by the following arguments:

- the banks control the interest rates of loans and deposits only, and do not control the interest rates of other financial instruments, such as bonds and other securities
- interest rates on loans and deposits are easily identifiable, with a clear distinction of interest rates charged on loans (being higher) and on deposits (being lower). This distinction is very important because the calculation method of FISIM allocation is based on the difference between effective interest rates and reference rate (representing the pure cost of borrowing funds – see more in the next section). This distinction is not very clear for bonds or other securities

- in some cases, calculation of FISIM on bonds resulted in negative FISIM margins. This is because the reference rate is not always lower than the effective interest rate received on bonds. Sometimes, banks hold treasury bonds issued some years ago with very low interest rates

It should be stressed that inclusion of other securities, such as bonds, into the calculation of FISIM allocation lowers the value of FISIM, and in some cases results in negative FISIM margins. Moreover, the calculation of FISIM allocation was tested by trial exercise by various EU countries. The results of this test showed that the difference in calculating FISIM allocation including and excluding securities is negligible. This proves that there is not much service element indirectly measured in other financial instruments provided by the FIs. In many cases, trading companies (such as undertakings for collective investment in transferable securities (UCITS)) involved in trading securities do not even have staff.

The application of approach 2 means that the total amount of FISIM allocated into final consumption expenditure and net trade (exports *less* imports) contributes directly to GDP, and increases its level. However, there are no changes to net borrowing in the sector accounts, as the amounts that are added to final consumption are offset by reductions in interest payments.

Methodology

Construction of current price FISIM

In the new methodology, FISIM allocation is calculated from the perspective of the FIs that generate FISIM on loans and deposits *vis-à-vis* counterpart users' sectors, which are the FISIM consumers. According to the Regulation, the allocation of FISIM is calculated as the difference between the effective rates of interest payable and receivable, and a 'reference' rate of interest.

According to SNA93, 'this reference rate represents the pure cost of borrowing funds – that is, a rate from which the risk premium has been eliminated to the greatest extent possible, and that does not include any intermediation services' (Paragraph 6.128)

To illustrate FISIM calculations, take two examples:

A loan of £1,000:

- interest receivable by the FI 9 per cent
- reference rate 4 per cent
- FISIM on loan = £1,000 x (9 per cent – 4 per cent) = £50

A deposit of £1,000:

- interest payable by the FI 3 per cent
- reference rate 4 per cent
- FISIM on deposit = £1,000 x (4 per cent – 3 per cent) = £10

Total FISIM on loans and deposit = £60

This method of calculating and allocating FISIM requires detailed sector data on stocks and interests for loans and deposits. The data are collected from various inquiries but their degree of detail differs over time.

The data to calculate FISIM output generated by the UK banks and building societies, namely monetary financial institutions (UK MFIs), are obtained from different sources for each of two time periods:

- from 1999, detailed data collected by the Bank of England from its own specially designed inquiries²
- before 1999, detailed stocks data sourced from the Bank of England and interest data derived by ONS from the effective interest rates used elsewhere in the National Accounts

The remaining source data required to calculate FISIM output generated by the other FIs and the FISIM imports series are obtained from ONS inquiries and the Balance of Payment statistics.

According to the Council Regulation, the internal reference rate used to calculate FISIM *vis-à-vis* resident user sectors should be calculated as the ratio of accrued interest received on inter-bank loans to the corresponding average stocks. However, in the UK, it was recognised that the currency mix of inter-bank business was significantly different from that with the FISIM-consuming sectors. Therefore, FISIM is calculated separately for sterling, Euro, Dollar and other currencies using the sterling, Euro and US official interest rates as the reference rates. The overall internal reference rate is therefore calculated as a

weighted average of Sterling, Euro and US official interest rates³ based on the resident sector split of balance sheet holdings.

The Regulation also specifies that an external reference rate should be used to calculate FISIM exports and imports. This is calculated as the ratio of accrued interest received on loans and paid on deposits between resident and non-resident FIs to the corresponding average stocks. However, data with non-resident FIs are not available in the UK, and the external reference rate is calculated as the mid-rate between the calculated loan and deposit rates from the stocks and interest data.

FISIM generated by the UK MFIs is compiled for loans and deposits by the currency split for each of the following domestic user sectors: non-financial corporations, other financial corporations,⁴ general government (GG), households, and non-profit institutions serving households (NPISH).

FISIM is calculated by applying the appropriate reference rate (internal or external) to collected sectorised stocks that FIs hold for loans and deposits. This gives a figure for estimated interest receivable at the reference rate.

FISIM generated is then the difference between effective interest reported for each sector and the interest generated at the reference rate. The sum of FISIM estimates represents the output of FISIM generated by FIs. The FISIM estimates by sectors are allocated in the National Accounts following the recommendation described in approach 2 (see the concept of FISIM section)

Some household borrowing from FIs that is secured on dwellings is used to finance individual consumption. This proportion is calculated by the Bank of England, and is known as mortgage equity withdrawal (MEW). FISIM on dwelling loans is allocated into intermediate consumption, whereas FISIM on consumer loans is allocated into final consumption. Therefore, it is necessary to adjust for the above-mentioned effect by moving the corresponding amount of MEW from the FISIM estimate on dwelling loans into the FISIM estimate of consumer loans. The latter adds to GDP.

Additional calculation is made for FISIM estimates generated by the other financial intermediaries (OFIs) and allocated into

intermediate and final consumption of households. This is calculated using margins developed by the Bank of England and applied to corresponding stocks obtained from ONS inquiries.

There is also an estimate of FISIM imports generated by non-resident FIs. This is calculated using stocks obtained from the Balance of Payment statistics and margins derived as the difference between the external reference rate and corresponding effective interest rates (used elsewhere in the National Accounts).

It is worthwhile noting that the substantial majority of total FISIM is generated by the UK MFIs.

A calculation is then made to allocate the total value of FISIM intermediate consumption for each sector into industries, using shares of the stocks of loans and deposits for each industry, and supplementing these by the shares of gross value added for each industry.

Specific treatments of FISIM allocation

It is worthwhile mentioning a few very specific treatments of FISIM allocation in National Accounts:

- the non-market units belonging to the sectors of GG or NPISH have no final consumption of FISIM. These units make only intermediate consumption that increases the output of GG or NPISH sectors, given they are calculated as a sum of costs.⁵ By convention, the output calculated at cost must also be recorded as final consumption of GG or NPISH sectors, because they consume their own outputs
- people who own the dwellings that they live in are treated in the National Accounts as producers of housing services that they then consume. Again, when owner-occupiers take out loans/mortgages (on dwellings) they are paying an implied service charge. Because the transaction is regarded as production, the associated FISIM is regarded as intermediate consumption by the owner-occupier (as part of the cost of production of the housing service)
- the central bank is not taken into account in the calculation of FISIM output and its allocation among user sectors. The output of the central bank is measured as the sum of its costs

Construction of chained volume measures of FISIM

The European Commission decision of 17 December 2002⁶ states that there is no directly observable price or quantity that is truly representative of the output of FISIM from a purely theoretical viewpoint. Therefore, methods for measuring FISIM at constant prices have to be based on conventions.

The first method relies on detailed output indicators, which cover the activities that generate FISIM. Possible indicators could be the number of bank accounts, number and value of loans and deposits, number of cheques processed, and so on. In this method, it is important to take into account the differences between the business and the consumer markets, and develop different output indicators for both markets. The value of FISIM has to be broken down by the different activities to provide the weights for aggregating the output indicators. Unfortunately, this breakdown seems to be both a practical and a conceptual problem.

The second method is the application of the base-year margins of loans and deposits (by user sectors and exports and imports of FISIM) to an appropriate volume indicator. The volume indicator is developed by deflating the corresponding stocks of loans and deposits. The most relevant deflator is one with a wide coverage and hence the approach adopted uses the GDP deflator. This method is used in the UK.

The method of the base-period margin is relatively easy to apply. It leads to chained volume measures (CVM) where the base-period is updated every year. The application of this method shows that FISIM series at CVM are stable, because the

stocks increase only gradually over time. Volatility in the FISIM series is caused by movement in the interest margins. When these effects are removed, the resulting CVM series are stable, which is important for the growth measure.

Analysing FISIM estimates

Estimation of FISIM

FISIM estimates are shown in figures that follow, and in the tables accompanying the web version of this article, available at www.statistics.gov.uk/articles/nojournal/FISIM_Akriditis.pdf. The full series run from 1993 to 2006; selected series, however, are also available electronically starting from 1961.

Figure 2 shows the level of FISIM resources between 1993 and 2006. The total FISIM resources generated by resident FIs (output) and non-resident FIs (import) at current prices shows continuous and gradual increases over time. It shows that the largest increases in the level of FISIM occurred in 1999 and 2006. In 1999, this increase was driven by strong FISIM exports, whereas in 2006 it was by strong intermediate and final consumption of FISIM. The changes in the FISIM levels appear to be strongly influenced by the movements in interest rates, which are analysed in more detail in the next sections.

Figure 2 also illustrates that FISIM resources allocated into final consumption gradually overtook those allocated into intermediate consumption. From 1993 to 2006, the share of total FISIM allocated into final consumption increased from 34 to 45 per cent, the share allocated into intermediate consumption decreased from 56 to 44 per cent, and that to exports increased slightly from 10 to 11 per cent.

Figure 2
FISIM resources and its allocation, current prices

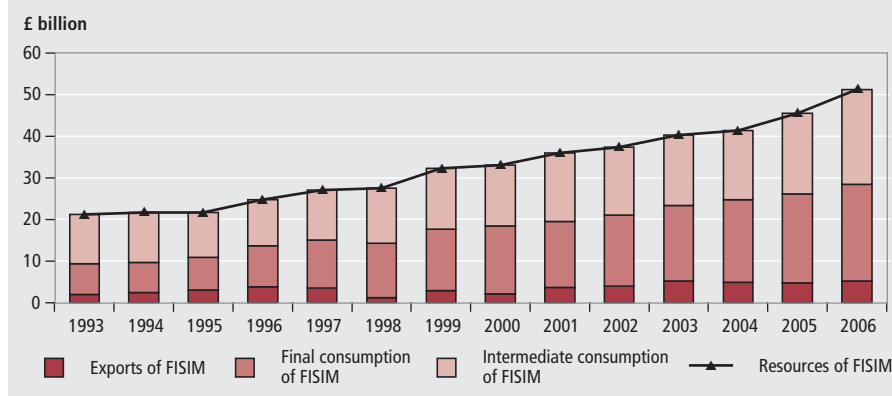
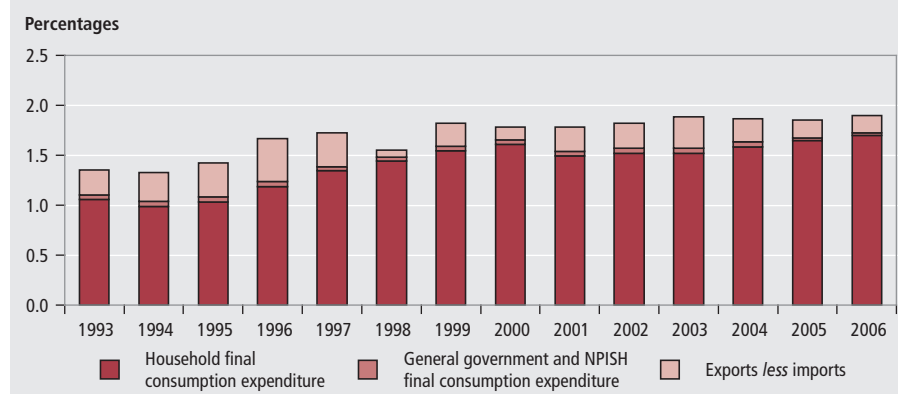


Figure 3
Effect of including FISIM with GDP expenditure, current prices



FISIM and GDP at current prices

The published level of GDP at current prices is based on balancing production, expenditure and income estimates by products and industries using the input-output supply-use framework. This includes GDP estimates up to 2004.

However, the GDP estimates after 2004 are, for years and quarters, mainly determined by the output measure of GDP.

As previously explained, FISIM is calculated from the perspective of FIs *vis-à-vis* resident user sectors. Consequently, the allocation of the total FISIM estimate has an equal impact on all three measures of GDP. It is therefore possible to anticipate the changes in GDP due to the changed treatment of FISIM through analysing the expenditure measure. In the expenditure measure of GDP, the impact of FISIM corresponds to the sum of FISIM components allocated into the final consumption expenditures and net trade (exports *less* imports).

Figure 3 shows FISIM allocation into the expenditure measure of GDP at current prices:

- from 1993 to 2006, the allocation of FISIM increased the level of GDP by an average of 1.7 per cent. This impact was mainly driven by FISIM allocated into household final consumption, where it increased the level of the components by an average of 1.4 per cent in the same period
- from 1993 to 1995, the contribution of FISIM allocated into GDP was smaller than in the later periods due to a smaller share of FISIM allocated into household final consumption. It should be noted that in 2001 this share decreased slightly due to changes in interest rates (see detailed analyses in **Box 1**)
- after 1999 the impact of FISIM on GDP was stable

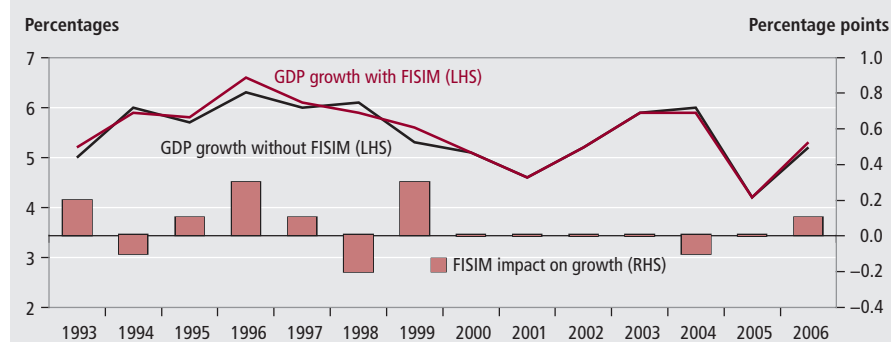
In 1998, there was a one-off decrease primarily due to the share of exported FISIM. This was due to changes in the interest rates of foreign currencies, especially US dollar rates, which resulted in generating a smaller value on FISIM by the resident FIs on both loans to, and deposits by,

non-residents. The volatility in the rates was caused by the collapse of Long Term Capital Management in August 1998 in the USA.

Figure 4 shows the impact of FISIM allocation on GDP growth at current prices in the expenditure measure from 1993 to 2006. This impact was very small, averaging 0.1 percentage point. There was no impact in four of the 14 years. There were:

- small increases of 0.1 to 0.3 percentage points in six years (1993, 1995, 1996, 1997, 1999, 2006)
- small decreases of 0.1 to 0.2 percentage points in three years (1994, 1998, 2004)

Figure 4
Impact of FISIM allocation on GDP growth, current prices, expenditure measure



Box 1**Detailed analyses of FISIM on consumer loans deposits and impact of interest rates**

The main impact of FISIM on GDP comes from the share of FISIM allocated into household final consumption expenditure. **Figure 5** separates out the impact on loans and deposits.

It shows that, from 1993 to 2006, FISIM allocated into consumer loans and deposits increased substantially from £6.9 billion to £22.8 billion. While FISIM generated on both loans and deposits has increased, the movement is driven by FISIM on loans. The dip in 2001 was due to a fall in FISIM on consumer deposits.

Figure 6 shows FISIM on consumer loans gradually increasing from 1993 to 2006, except for small decreases in 2000 and 2004. These decreases were mainly driven by FISIM generated by UK MFIs.

FISIM on deposits is more variable and is the main cause of the volatility of total FISIM allocated into household final consumption expenditure. **Figure 7** shows that after a big increase to £6.4 billion in 2000, FISIM on deposits with UK MFIs dropped heavily in 2001 to £4.5 billion, and took three years to recover. There was also another, although modest, decrease in 2005.

Because FISIM on deposits is more volatile than the corresponding FISIM on loans, it is examined in some more detail here. As explained, FISIM on deposits with UK MFIs is calculated by applying the reference rate to the stock of deposits. This figure is then subtracted from actual reported interest flows to obtain FISIM. The volatility of FISIM on deposits is driven by an inelastic effective rate that is slow to adjust in line with the reference rate.

Figure 5
FISIM on consumer loans and deposits, current prices

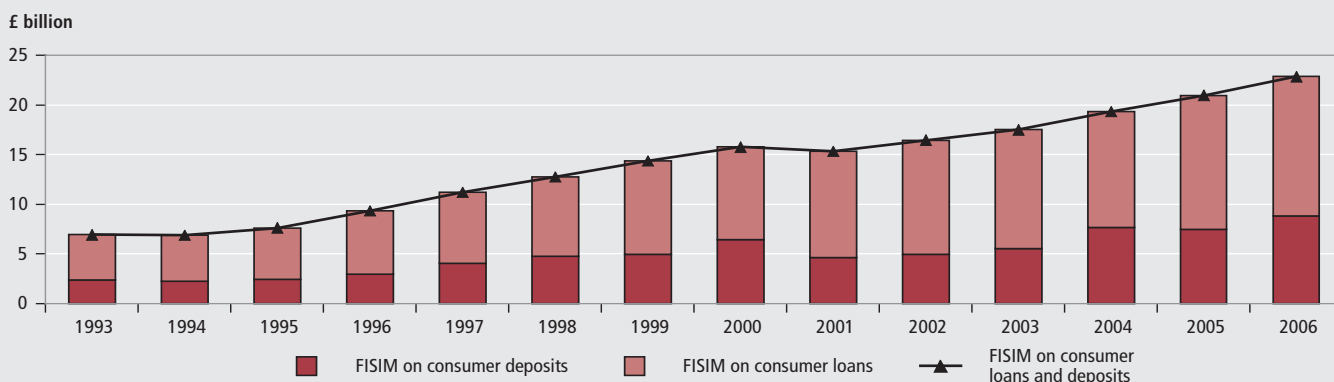


Figure 6
Components of FISIM on consumer loans, current prices

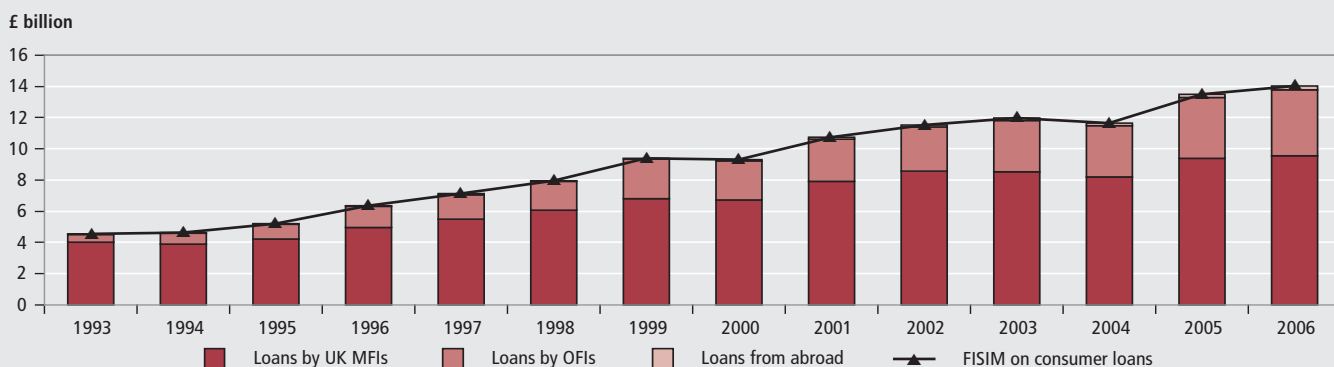


Figure 7
FISIM on consumer deposits, current prices

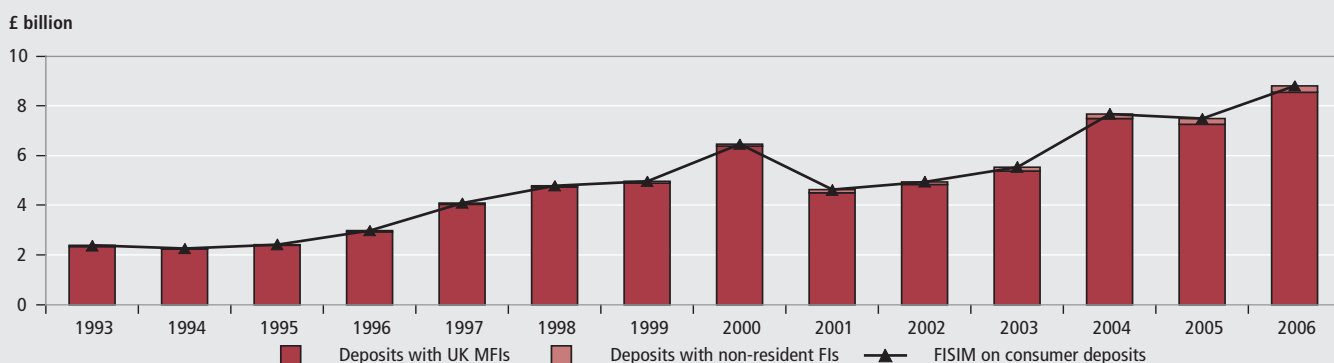


Figure 8 shows that the large decrease in FISIM on consumer deposits in 2001, and the small one in 2005, were each due to the narrowing of the margin between the reference rate and the effective interest rate. However, the stock of deposits was stable and increasing over time.

Figure 8
FISIM on consumer deposits with UK MFIs, current prices

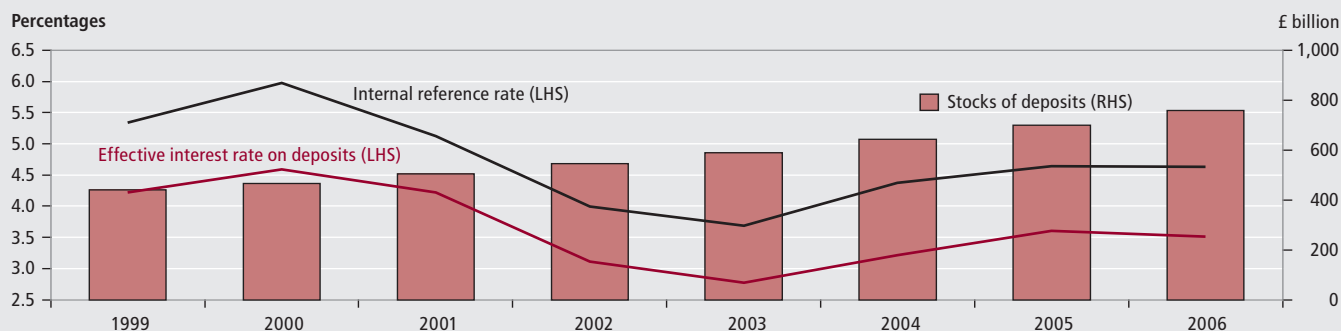
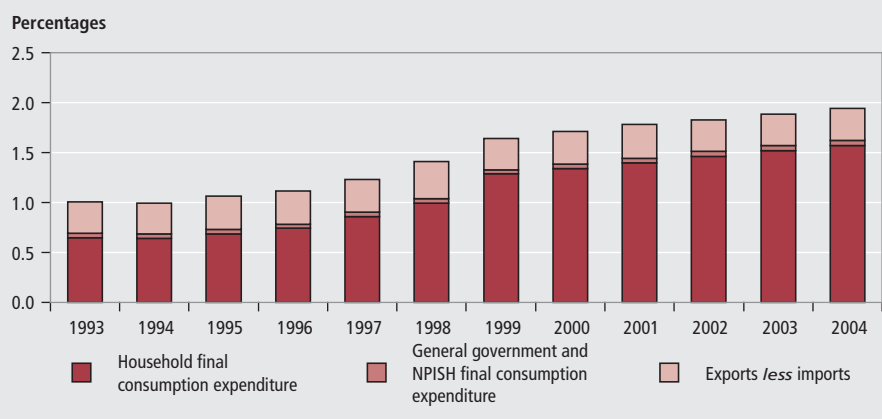


Figure 9
Effect of including FISIM with GDP expenditure, CVM



FISIM and GDP at chained volume measures

As mentioned in the previous section, FISIM is a price phenomenon, and when its effect is removed from the calculations, the resulting series should be more stable.

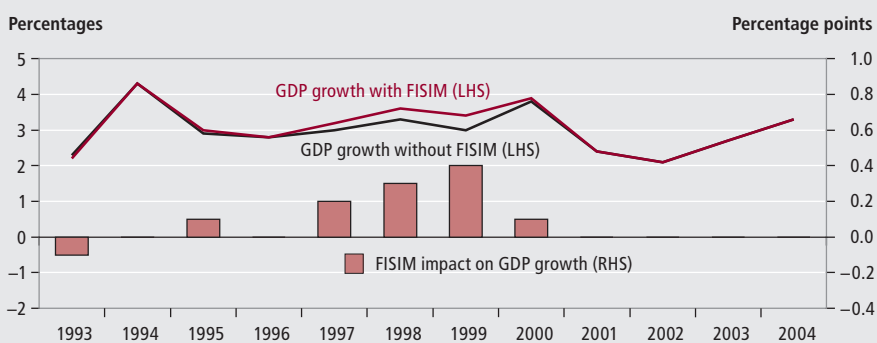
Figure 9 shows that, from 1993 to 2004, the allocation of FISIM to GDP at chained-volume measures (CVM) gradually increased over time. FISIM increased the level of GDP at CVM by an average of 1.5 per cent. This was mainly driven by FISIM allocated into household final consumption, which accounted for an average of 1.1 per cent of the increase over the same period.

FISIM impact on GDP growth at chained volume measures

The annual GDP at CVM is derived from the current prices level of GDP deflated at detailed component level using the expenditure measure (up to 2004).

Figure 10 shows the impact of FISIM allocation on annual GDP growth at CVM in the expenditure measure. It shows that the impacts on annual GDP growth were very small. There was no impact in six years (1994, 1996, and after 2001) and small changes (between 0.1 and 0.4 percentage points) in the other six years.

Figure 10
Impact of FISIM allocation on GDP growth, CVM, expenditure measure



Quarterly GDP growth at CVM is mainly determined by the output measure of GDP. At present, the GDP output measure of the banking industry consists of two components that are calculated separately, namely:

- a FISIM estimate that is derived from a system that actually gives a broader coverage than required by the Council Regulation
- a fees and commissions estimate sourced from the Bank of England inquiries

The FISIM component is offset by a negatively weighted 'nominal sector'. This is known as the financial services adjustment (FSA), and ensures that FISIM does not add to GDP. Under the revised treatment:

- the FSA is removed so that the output of FISIM does add to GDP
- intermediate consumption of FISIM is allocated into industries through adjusting industry weights

- improved measures of quarterly output from FISIM are introduced

In advance of *Blue Book 2008*, it is not possible to anticipate fully the changes in GDP due to the implementation of FISIM and hence the impact on the quarterly path.

Moreover, as one of the many changes coming through in *Blue Book 2008*, any estimates of the impact on the quarterly path may bear little resemblance to those finally published. Given these caveats, ONS has simulated the impact of FISIM implementation on quarterly growth over the period between 2000 Q1 and 2004 Q4. The results are shown in **Figure 11** and **Figure 12**.

Figure 11 shows that the impacts on quarter-on-quarter GDP growth in the 20 quarters from 2000 to 2004 were zero or small. There was no impact in 11 quarters. There were small increases (between 0.1 and 0.2 percentage points) in eight quarters and only one small decrease, of 0.1 percentage point, in 2003 Q3.

Figure 12 shows that although the impacts on quarter-on-quarter of previous year GDP growth, these were slightly larger. There was no impact in three quarters. There were small increases (0.4 percentage point or less) in 14 quarters and small decreases of 0.1 percentage point in the other three quarters.

Publication of FISIM and implementation in the UK National Accounts

This article provides indicative results of FISIM and the allocation in the National Accounts. As emphasised, the UK is obliged to implement these changes in the National Accounts. This obligation coincides with the programmes of work to modernise the UK National Accounts, as explained in Beadle (2007).⁷

The required methodologies will be incorporated for the data set published in *Blue Book 2008*. The revised treatment of FISIM will be fully implemented into the accounts at that point in time.

In the meantime, however, the new FISIM estimates have been published in an experimental quarterly statistical release, starting on 30 March 2007, so that an ongoing series is in the public domain.

The estimates have also been incorporated in the six-monthly ONS First Release on Government deficit and debt under the Maastricht Treaty.

Notes

1 Council Regulation (EC) No 448/98 of 16 February 1998, completing and amending Regulation (EC) No 2223/96 with respect to the allocation of financial intermediation services indirectly measured (FISIM) within the European system of national and regional accounts (ESA).

2 In 2004, the Bank of England introduced a new Profit and Loss (PL) inquiry form to collect detailed sector interest data on loans and deposits, required for the new FISIM method. This improved the data quality. Data before then were reliant on a form, which was not detailed enough for this purpose. Therefore, for 1999 to 2003, sector interest data is derived using average later information from the new PL form together with movements in effective interest rates and balance sheet holdings over time.

3 Repo rate – this is the main refinancing agreement rate or the official Central Bank Rate paid on commercial bank reserves maintained by the Central Bank.

4 This sector does not include the units, which are producers of FISIM.

5 The SNA93 recommends that the value of output of non-market goods and services produced by government units or non-profit institutions should be estimated on the basis of the total costs incurred in their production and that the cost of using non-financial assets should be measured as consumption of fixed capital (paragraph 6.91).

6 EC 2002/990 on further clarifying Annex A to Council Regulation (EC) No 2223/96 concerning the principles for measuring prices and volumes in National Accounts. Document number C(2002) 5054.

7 Ibid.

Figure 11

Impact of FISIM allocation on GDP growth, CVM, output measure, quarter on previous quarter

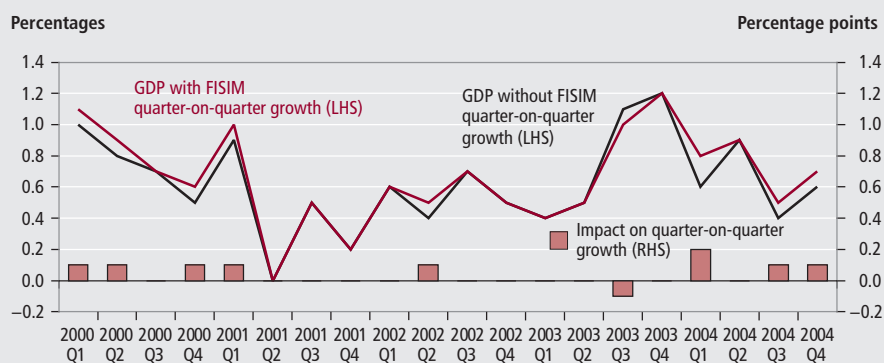
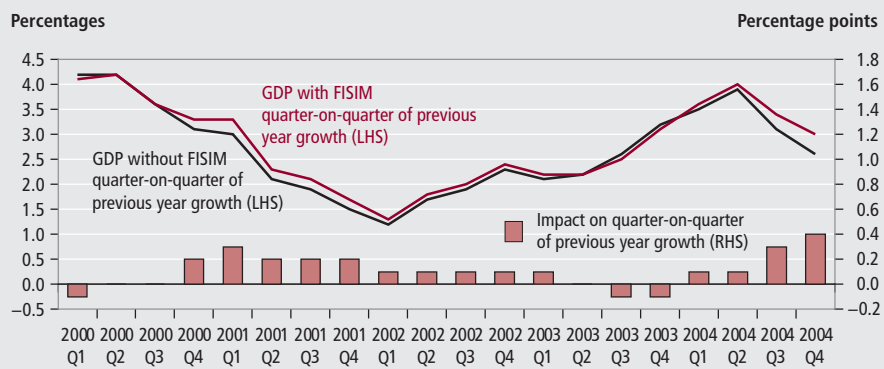


Figure 12

Impact of FISIM allocation on GDP growth, CVM, output measure, quarter on quarter of previous year



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FEATURE

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Office for National Statistics

Revisions analysis to quarterly current account balance of payments data

SUMMARY

This article presents the analysis of revisions made to Balance of Payments quarterly current account data between 1998 Q4 and 2003 Q3, and is an update of the previous article published in the August 2005 issue of *Economic Trends*. It focuses on revisions to current account credits and debits and how these influence revisions to the current account balance.

A revision is the difference between a first published estimate and subsequent estimates of the same series. When publishing data, the Office for National Statistics (ONS) is faced with a trade-off between timeliness and accuracy. When data are required swiftly after the end of a reporting period, estimates are based on a limited data set reflecting lower early response rates. When data collected are not seen to be representative of the whole sample, forecasts are used to make the estimate representative. Revisions to these initial estimates may be due to availability of more reliable data, improved methods or a combination of the two.

Balance of Payments (BoP) estimates are published quarterly. Revisions are analysed between the first estimate and the value three years later. Mature data, periods for which three or more years of revisions exist, are available from 1996 Q1 to 2003 Q3. Revisions to initial estimates are tested to determine whether they are significantly different from zero (see Methodology section for testing methods).

This article focuses on the results of revisions analysis to quarterly BoP current account data. Data are analysed by main stage and by component. The article also explores the chronological evolution of revisions and provides explanation for more prominent revisions occurring over the period analysed.

Data

Data are assumed to be mature three years after their initial estimates are published. Once mature, a point in a series is not expected to change as a result of source data; changes to data after maturity are due to methodological improvements.

The three-year period, from first estimate to maturity, can be broken down into main stages, where revisions can be effectively monitored. The key stages are as follows:

- first publication (first): an estimate of quarterly BoP data is published in the BoP First Release, approximately three months after the end of the quarter
- first revision (R1): the second estimate is published around six months after the end of the quarter. The initial revision is a key indicator of the quality of the estimates and is considered to be the most important revision
- *Pink Books* (PB): annual BoP data estimates are published in the *Pink Book*, usually in July. The quarterly estimates are updated again during the production of the first and second estimates of annual BoP data, as figures from new and more comprehensive annual data sources become available. Methodological improvements are mainly made during the publication of *Pink Books*, and
- three-year estimate: value of data three years after the initial estimate. Data are considered as mature and appropriate for analysis

In this article, revisions to BoP current account data are examined over the periods between:

- first publication and R1
- R1 and the first *Pink Book* publication (PB1)
- PB1 and the second *Pink Book* publication (PB2), and
- PB2 and the value three years after the initial estimate (3yr)

For current account data, the time series used runs from 1998 Q4 to 2003 Q3. Taking the analysis up until 2003 Q3 means that all the estimates have had at least three years to mature, and have been through all of the stages discussed above.

Methodology

Revisions to a series are considered to be significant if the mean revision is statistically different from zero. The main part of the analysis is to apply a statistical test to the mean revisions to establish significance. The outcome of the test gives an indication of whether the revisions pattern may have occurred by chance, rather than due to a systematic under- or overestimation of earlier estimates. All statistical tests in this article are conducted at a 5 per cent level.

The significance tests are based on the assumption that the underlying distribution is Normal. **Figure 1** shows the distribution of total revisions to the current account balance, up to three years after first publication; it appears that an approximate bell-shaped distribution exists.

Further, a Jarque Bera test is used to check the suitability of a normal distribution. For current account balance revisions, the test gives a p-value of 0.53 and the hypothesis that the data are normally distributed cannot be rejected. Thus the use of the t-test is appropriate to assess the significance of revisions.

Mean revisions (the average size of revisions over the last five years) and the mean absolute revisions (the average size of revisions over the last five years, without regard to sign) are presented as an indication of the reliability of the latest figures, as is the critical t-value used in each test. When successive revisions in a series are not independent, a modified t-test is used (see **Box 1** for further details).

Reasons for revisions

Details of major revisions can be found in First Releases and *Pink Books*. Large changes occur during the quarters in which *Pink Books* are published (see **Box 2** for the main reasons for revisions). Compilation of data for the annual *Pink Book* is frequently used as the opportunity to make methodological changes. The largest revisions in the period analysed can be attributed to these methodological changes.

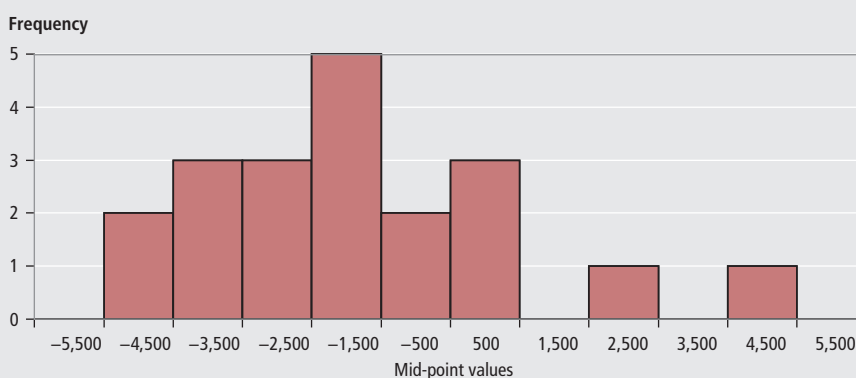
During the period analysed, the following major revisions were undertaken:

- September 2001 – several improvements to methods. Trade in goods data were affected due to the inclusion of smuggled goods. Data for trade in financial services were presented on a gross basis, rather than a net basis for the first time, which did not affect current account

balances. New international standards for the treatment of interest rate swap settlement receipts and payments were applied. Improved methodology for deriving interest transactions between the UK and Channel Islands and Isle of Man affected income figures. Current transfers figures were revised down due to re-estimation of tax paid on foreign direct investment (FDI)

- June 2002 – income revisions reflected improvements to the estimation of income from property investment and dividend payments on non-residents' investment in UK equity securities. Reassessment of the data on insurance claims, as a result of the events of 11 September 2001 affected current transfers and exports of services
- December 2002 – trade in goods figures were revised down as a result of the incorporation of final HM Customs and Excise data in 2001. The availability of more detailed data from the annual International Trade in Services (ITIS) Survey and the International Passenger Survey resulted in revisions to trade in services figures. Income revisions mainly reflected the inclusion of the annual benchmark inquiries for FDI and non-residents' ownership of UK company shares from the Share Ownership Survey

Figure 1
Distribution of current account balance revisions



Box 1

Testing for significance in revisions

The modified t-test is used to test whether there is statistical evidence that the mean revision is significantly different from zero. If the test is not significant, this implies that the observed pattern of revisions may have occurred by chance. The t-test compares the calculated mean revision with the variability of the revisions, to determine whether it is statistically different from zero.

However, a standard t-test is based on the assumption that the revisions are independent of each other. This is not true for a time series, as revisions made for one period may be associated with revisions made to previous periods. The modified t-test corrects for this lack of independence by adjusting the estimate of the variability of the revisions to take into account the serial correlation, that is, the extent of the association between successive revisions. A technical description of the modified t-statistics and its calculations are given in Jenkinson (2004).

Box 2

Main reasons for revisions

Revisions are made for three main reasons listed below, the first two being the most common source.

- Revisions are made as more data become available. ONS or its suppliers receive data in the form of survey responses from economic agents such as companies, households and government at later stages, which then replaces initial estimates. Initial estimates comprise provisional survey data. When these data are not representative of the whole sample, forecasts are used. Naturally, the actual data can vary from the forecast estimates, requiring revisions to be made
 - Revisions are made due to pre-announced improvements in methodology. These improvements can take many forms. It could be that there has been an improvement in data sources, a new survey or administrative data have been developed, or an existing survey has been improved. An improvement could be made to the compilation or balancing process (which balances the different components of the current account). Alternatively, methodology changes could be the result of bringing existing practices into line with European or International requirements. An example of a pre-announced methodology improvement within ONS was the implementation of the International Monetary Fund's Balance of Payments Manual fifth edition (BPM5), which was introduced in September 1998. This involved restructuring the current account, and all historical data that were affected by BPM5 had to be revised accordingly, and
 - Revisions are occasionally due to unavoidable circumstances, such as errors. These are rarely a significant source of revisions
- September 2003 – trade in goods import figures included adjustments to allow for the impact of trade associated with VAT missing trader inter-community (MTIC) fraud for the first time. These adjustments resulted in overall upward revisions to trade in goods debits data. An expanded sample of the annual ITIS Survey resulted in upward revisions to exports and imports of services
 - June 2005 – revised data from HM Revenue and Customs resulted in revisions to trade in goods estimates. General reassessment of data during the annual supply and use balancing process and a review of the use of Chamber of Shipping data used in the transportation account resulted in trade in services revisions. Data for private social benefits and contributions were presented on a gross, rather than net, basis for the first time, which did not affect current account balances
 - June 2006 – several improved methods. A methodological change to the estimation of aviation fuel procured in foreign airports resulted in trade in goods revisions, but these were offset by revisions to services debits so did not affect current account balances. Trade in services revisions mainly affected financial services as a result of the use of improved estimates of UK banks' spread earnings on foreign exchange, derivatives and securities trading activities. Revisions to the investment data set stemmed from the implementations of a new methodology for estimating UK residents' investment in foreign property. Revisions to current transfers from 1999 onwards

were mainly attributable to the use of an improved methodology for estimating UK receipts from the EU's Agricultural Guarantee Fund

Characteristics of revisions to BoP current account Balance

Figure 2 shows revisions, over three years, to quarterly BoP current account balance estimates. These estimates tend to be revised downward, with average revisions of minus £1.3 billion. A maximum upward revision of £4.2 billion occurred in 2003 Q2 and a maximum downward revision of £4.7 billion in 2000 Q4. It is important to note that the first estimate of the current account balance has recorded a positive figure only twice in the period analysed.

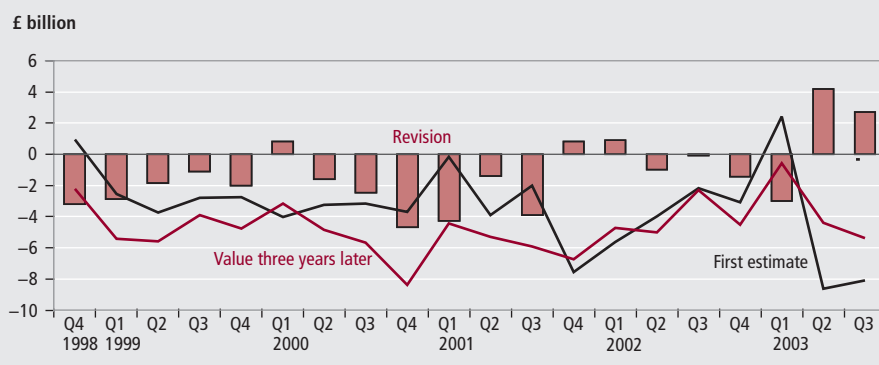
Total revisions can be broken down to reveal their evolution over time. This is displayed in terms of contribution at each of the main stages. **Figure 3** expands on the bars in **Figure 2**. In four of the 20 periods under examination, the largest revision occurs between first estimate and

first revision: 1998 Q4, 2002 Q1, 2003 Q1 and 2003 Q3. The initial revision makes a substantial contribution in the majority of the other periods. It should also be noted that in 70 per cent of periods, the overall revision is in the same direction as the first revision. For a further eight reference periods, the largest contribution to the overall revision occurs between R1 and PB1. In three of the periods, the largest revisions occur during the PB1 to PB2 stage.

Table 1 shows that mean revisions at all stages are negative. Overall revisions are not statistically different from zero although revisions between R1 and PB1 are. The majority of revisions between these stages are negative, with a sizeable £3.1 billion downward revision in 2000 Q2. The presence of numerous upward revisions at the other stages results in the overall revisions not being significant.

A small revision to the balance may conceal large revisions in both credits and debits. **Figure 4** shows trends within credits and debits and how these contribute to current account balance revisions.

Figure 2
Current account balance revisions



The majority of current account balance revisions have been downward, with the exception of five upward revisions occurring in 2000 Q1, 2001 Q4, 2002 Q1, 2003 Q2 and 2003 Q3, this being due to greater upward revisions (or smaller downward revisions) to debits than credits.

In 70 per cent of periods, credits and debits have been revised in the same direction. Credits and debits have both been revised upward since 2001 Q2, debits having a larger upward revision than credits in 60 per cent of this period.

Credits and debits

Figure 5 and Figure 6 show, respectively, revisions to current account credits and debits. It is clear that revisions within the current account do not have a large impact on credits and debits overall. The largest single revision to credits is downward by £5.3 billion in 1999 Q1. For the debits account, the largest revision is £5.3 billion in 2001 Q3. This contrasts with account totals of over £80 billion for credits and £100 billion for debits. Upward revisions have been reported for credits and debits since 2001 Q2 and 2000 Q3 respectively.

Figure 7 and Figure 8 look at the breakdown of current account credit and debit revisions over time, expanding on the bars from Figures 5 and 6, respectively. The direction and magnitude of current account credits and debits revisions have not been consistent over the periods analysed.

It is apparent how major changes associated with certain releases affect data for a number of preceding periods. For instance, there were methodological changes introduced in *Pink Book 2001*. This is represented, in Figure 7, by a large negative first revision in 2001 Q1, sizeable revisions between the first revision and publication of the first *Pink Book* in periods 2000 Q1 to 2000 Q4 and notable revisions in the PB1–PB2 bars between 1999 Q1 and 1999 Q4.

Similar trends due to methodological changes occur when examining current account debits by stage. Adjustments due to trade associated with VAT MTIC fraud, introduced in *Pink Book 2003*, caused a large first revision in 2003 Q1. Related substantial revisions therefore occurred in the R1–PB1 bars in periods 2002 Q1 to 2002 Q4.

Table 2 shows that the revisions to current account credits are not significant overall. However, there is significant evidence to suggest that revisions to current account credits are not equal to zero, between the second *Pink Book* stage and the

Figure 3

Contribution to current account balance revisions: by stage

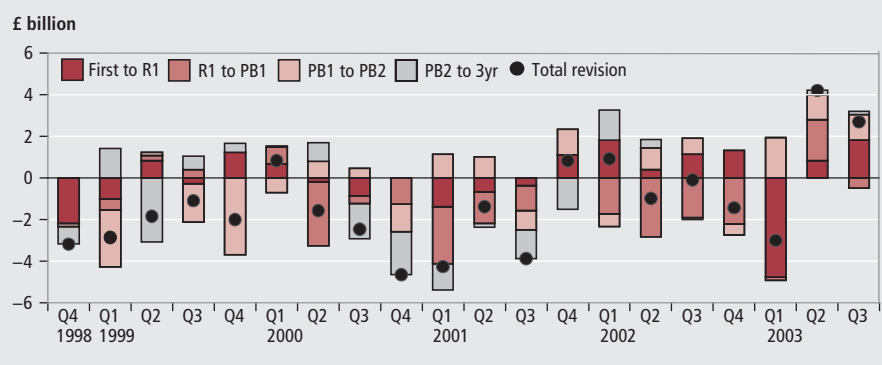


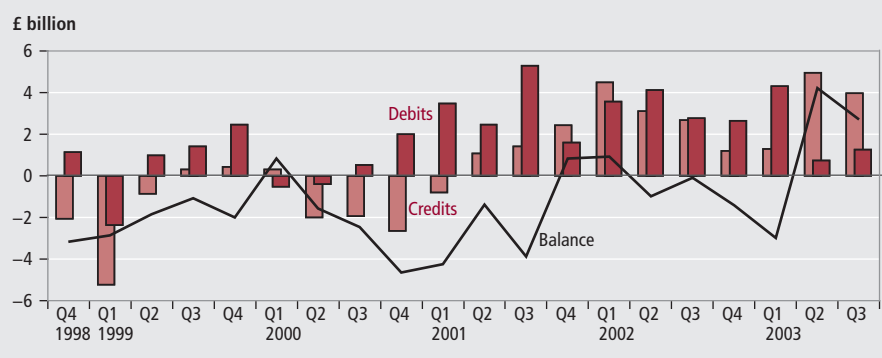
Table 1

Current account balance testing for significance

Balance	Mean absolute revision	Mean revision	Significant?	t-statistic	Critical t value
First to R1	1.14	-0.03	No	-0.10	2.09
R1 to PB1	1.18	-0.84	Yes	-2.25	2.10
PB1 to PB2	1.17	-0.08	No	-0.20	2.09
PB2 to 3yr	0.89	-0.32	No	-1.24	2.09
First to 3yr	2.21	-1.27	No	-1.80	2.11

Figure 4

Overall revisions to current account



value after three years. The largest average revision occurs between these stages; this is influenced by the majority of revisions being upward during the period analysed.

Continuous upward revisions from 2001 Q1 keeps the PB1 to PB2 stage average high and a single large revision in 2002 Q2 keeps the first to R1 average high. Several

Figure 5

Current account credits revisions



Figure 6
Current account debits revisions

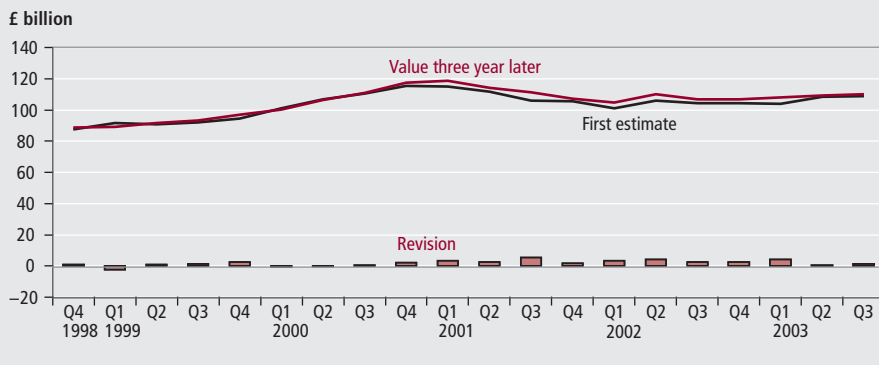


Figure 7
Contribution to current account credit revisions: by stage

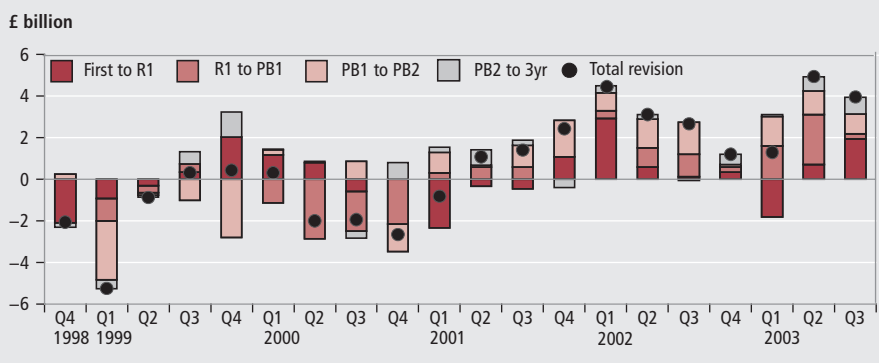


Figure 8
Contribution to current account debits revisions: by stage

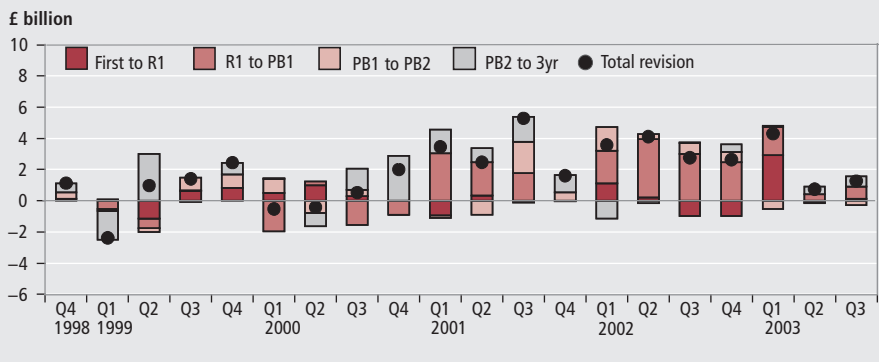


Table 2
Current account credits testing for significance

£ billion					
Credits	Mean absolute revision	Mean revision	Significant?	t-statistic	Critical t value
First to R1	1.05	0.16	No	0.38	2.12
R1 to PB1	0.91	-0.04	No	-0.06	2.26
PB1 to PB2	1.04	0.23	No	0.60	2.10
PB2 to 3yr	0.40	0.25	Yes	2.23	2.09
First to 3yr	2.16	0.60	No	0.41	2.36

downward revisions of over £1 billion occur at the R1 to PB1 stage, leading to a downward average revision.

Examining **Table 3**, average revisions to current account debits are upward at all main stages. There is significance in the debits account, both for total revisions and at the second *Pink Book* to value after three years stage. Only five of the 20 periods examined have a downward revision between these stages. There was no significance identified the last time an analysis of current account revisions was conducted. Looking at Figure 5, it is clear that in the majority of periods, revisions have been upward; revisions have been positive for the last 13 quarters – eight of these have been added since the last analysis.

Components of the current account

The current account comprises four main components:

- trade in goods
- trade in services
- income, and
- current transfers

Revisions are examined in terms of these components.

Balance

Figure 9 provides an alternative analysis of the bars from Figure 3, showing the contribution of each component to the current account balance revisions. The largest average revision of the components within the current account balance comes from trade in goods. The overall average revision and the average revision for current account components, with the exception of trade in services, are negative. Large downward trade in goods revisions between 2000 Q3 and 2003 Q1 are attributed to introducing adjustments for trade associated with VAT MTIC fraud.

Tests show that there is no significance overall or within any component balance revision (**Table 4**). Each of these components can be assessed by main stage. **Figure 10** shows average revisions to the current account and its components, by main stage. The main contributing factor between the first estimate and publication of the first *Pink Book* is trade in goods. Post PB1, income is the largest contributing component.

Table 3
Current account debits testing for significance

£ billion

Debits	Mean absolute revision	Mean revision	Significant?	t-statistic	Critical t value
First to R1	0.62	0.19	No	0.96	2.09
R1 to PB1	1.35	0.80	No	1.20	2.20
PB1 to PB2	0.61	0.30	No	1.90	2.09
PB2 to 3yr	0.98	0.57	Yes	2.21	2.09
First to 3yr	2.20	1.87	Yes	3.23	2.12

The following observations can be made about current account components:

- trade in goods has the largest effect on current account balance revisions, with an average revision of minus £1.4 billion. The largest revision, minus £4.0 billion, occurred in 2002 Q2. The largest average revision occurred between the first revision and publication of the first *Pink Book*. Revisions are not significant for any of the main stages
- the average revision for trade in services is £0.6 billion. There is no significance overall or at any of the main stages. This is the only component where average revisions at all the main stages are positive. For 15 of the 20 periods analysed, the revisions are upward, with the largest overall revision of £2.4 billion in 2003 Q2
- the smallest revisions overall are made to the income balance, with an average downward revision of £0.1 billion. Average revisions are greatest between publication of the first and second *Pink Books*
- tests show that current transfer balance revisions are not significantly different from zero overall, or at any of the main stages. Average revisions are greatest at the R1–PB1 and PB1–PB2 stages, with average revisions of minus £0.2 billion. Average revisions at the other main stages have magnitudes of less than £0.1 billion

Credits and debits

Figure 11 and Figure 12, respectively, provide an alternative analysis of the bars from Figures 5 and 6. Revisions at component level are examined over the full three-year period.

The largest contribution to average current account credits revisions, at £2.3 billion, comes from trade in services. The largest negative average revision, at minus £1.3 billion, occurs to income credits. Tests show credits revisions to be significantly different from zero for trade

in goods and trade in services. All revisions to trade in services are upward, as are the majority of trade in goods revisions. Those revisions that are negative have a magnitude of less than £0.4 billion. Income and current transfers have several large negative

revisions which lead to the overall results not being significant.

The following observations can be made about current account credits components:

- revisions for trade in goods credits are significantly different from zero overall and specifically between the first publication–PB1 period. The average overall revision is £0.3 billion, with upward average revisions of £0.2 billion between R1–PB1 and PB1–PB2 stages. The average revision post PB2 is downward, with a magnitude of less than £0.1 billion. The introduction of estimates for trade associated with VAT MTIC fraud has had a significant impact

Figure 9

Current account balance revisions: by component

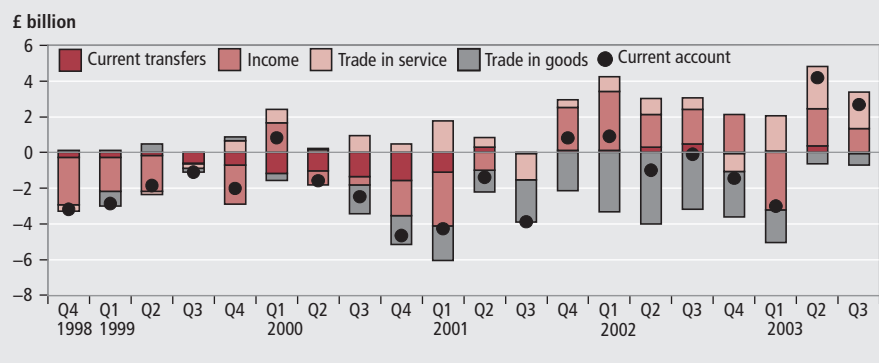


Table 4

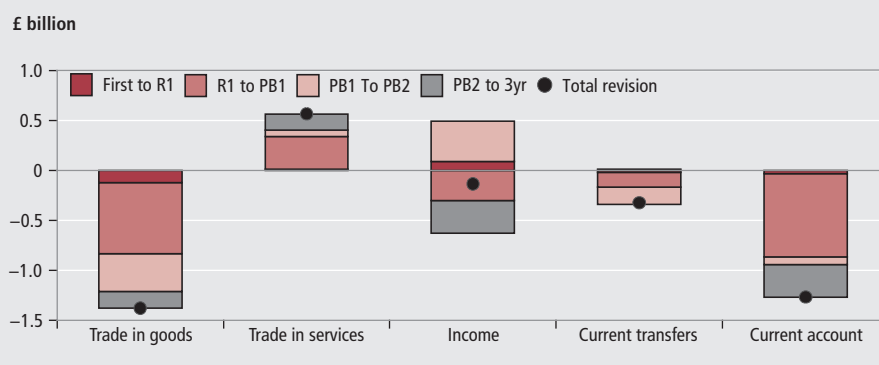
Testing for significance of current account balance revisions: by component

£ billion

Balance	Mean absolute revision	Mean revision	Significant?	t-statistic	Critical t value
Trade in goods	1.47	-1.38	No	-1.75	2.57
Trade in services	0.89	0.57	No	2.04	2.10
Income	1.80	-0.13	No	-0.21	2.11
Current transfers	0.51	-0.32	No	-0.88	2.45
Total balance	2.21	-1.27	No	-1.80	2.11

Figure 10

Average revisions to current account balance components: by stage



- trade in services credits revisions are also significant over the first publication–3yr period, with an average revision of £2.3 billion, with statistical significance in the PB1–PB2 and PB2–3yr stages. Average revisions at all stages are upward. Services data were subject to annual input-output balancing, the results of which were generally published during June of each year, often leading to upward revisions to exports and imports at both the PB1–PB2 and PB2–3yr stages. Changes to the reporting of financial services figures, implemented in September 2001, from net to gross, affect revisions between 1998 Q4 and 2001 Q2. Revisions between 2000 Q2 and 2001 Q2 reflect the revisions made in September 2003 to account for the expansion of the ITIS Survey sample. Revisions from 2003 Q1 to 2003 Q3 are affected by the introduction of the improved data for UK banks' net spread earnings in June 2006
- there is no significance at any stage for income credits. Average revisions are downward at all stages. The largest revisions occur between the first estimate and PB1 stage, with an average of minus £0.5 billion. Revisions

between 1998 Q4 and 2001 Q1 are the result of reclassification of interest rate swaps in September 2001. The single revision in 2003 Q1 was the effect of the inclusion of corrected contributor data for direct investment inquiries

- revisions to current transfers do not show significance at any of the main stages. Average revisions at all the main stages are downward, with an overall average revision of minus £0.8 billion. Revisions between 1998 Q4 and 2001 Q1 are influenced by the re-estimation of tax paid on FDI, introduced in September 2001. The single upward revision in 2001 Q3 was made in June 2002 as a reassessment of insurance claims paid out as a consequence of 11 September 2001

Examining the debits account by component, it is clear that all current account components are significantly different from zero. The largest contributory stage is that between first publication and publication of the first *Pink Book*. Very few notable revisions are made between the publication of the first *Pink Book* and the value after three years.

The following observations can be made about current account debits components:

- overall trade in goods debits revisions and revisions between the first publication and first revision stage are significantly different from zero. Revisions introduced in September 2001, due to smuggled goods, affect data between 1998 Q4 and 2001 Q1. The greatest influence on trade in goods debits revisions is from the adjustments made for trade associated with VAT MTIC fraud made in September 2003. These affect periods 1998 Q4 to 2003 Q1
- the majority of revisions for trade in services are positive; average revisions at each of the main stages are upward. Tests show that revisions are significantly different from zero overall and for all the main stages with the exception of revisions between R1 and PB1 stages. The revisions to all periods will be affected by input-output balancing. Changes to the reporting of financial services figures, implemented in September 2001, from net to gross, affect revisions between 1998 Q4 and 2001 Q2. Revisions between 2000 Q2 and 2001 Q2 reflect the revisions made in September 2003 to account for the expansion of the ITIS Survey sample
- revisions to income debits are significantly different from zero overall and specifically between the PB1–PB2 period; this is the main stage with the largest average revision of minus £0.6 billion. This is largely due to the inclusion of FDI annual benchmark figures. Revisions are smaller between first publication and the first revision, at minus £0.3 billion, and a downward, yet sizeable, revision of minus £0.5 billion at the R1–PB1 stage. The large downward revision between the publication of the first and second *Pink Books*, along with several other downward revisions, are the effect of the overall revision being significant
- for current transfers, revisions are downward, with the exception of two upward revisions in 2001 Q3 and 2002 Q4. Average revisions at all the main stages are downward, as is the overall revision, averaging minus £0.4 billion. Tests show statistical significance at the first estimate to three-year stage and specifically at the PB1–PB2 stage. Patterns within revisions to current transfer debits appear to coincide with current transfer credits revisions; the re-estimation of tax paid on FDI affects revisions between 1998 Q4 and 2001 Q1 and the reassessment of insurance claims result in the 2001 Q3 upward revision

Figure 11

Current account credits revisions: by component

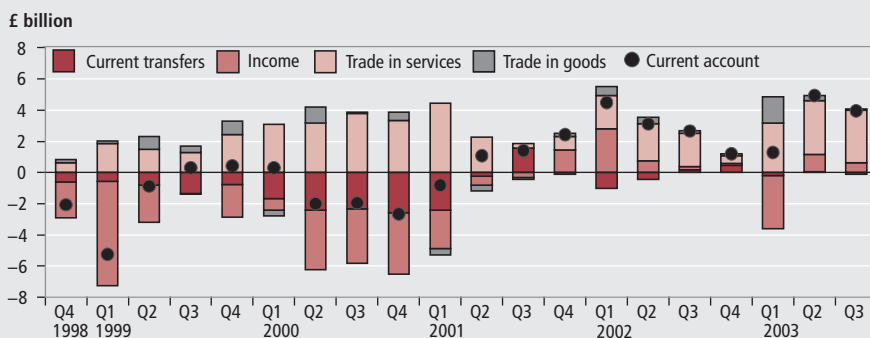
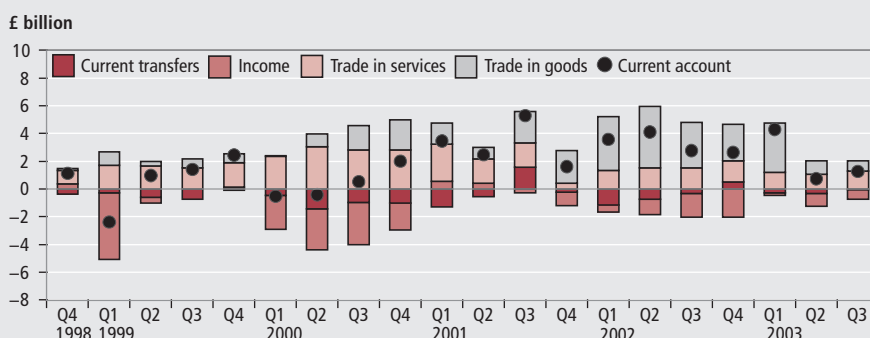


Figure 12

Current account debits revisions: by component



Conclusion

Major revisions made over the period analysed are mainly due to methodological improvements and availability of later source data, rather than to errors made. Overall revisions to quarterly current account balance data between 1998 Q4 and 2003 Q3 are not significant. ONS will continue to monitor these revisions going forward.

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FEATURE

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Characteristics of public sector workers

SUMMARY

This article presents analysis of public sector employment, and makes comparisons with the private sector, using data from the Labour Force Survey. It looks at characteristics which differentiate people employed in these sectors, comparing proportions of public and private sector workers in different groups: by sex, age, ethnicity, disability, full and part-time working, usual hours worked, job tenure, union membership, occupation and level of qualifications. The article also explains some of the limitations of the data used and the methodology used to derive the estimates.

This article is part of a series providing analysis of public sector employment (PSE) statistics. Previous recent articles have focused on trends and regional estimates. The article provides further information on the characteristics of public sector employees, and updates some earlier analysis.

Estimates based on returns from public sector organisations are the preferred source of official UK statistics on the level of, and trends in, public sector employment. But these can provide only limited information on the characteristics of public sector employees. The Labour Force Survey (LFS) provides a wealth of information about people which cannot be obtained from business sources. The LFS is therefore used to provide comparisons of characteristics of public and private sector workers, although some adjustments are made to the data to compensate for known deficiencies in the distinction between public and private sector workers in the survey.

Use of LFS data for analysis of public sector employment

The LFS is a large household survey carried out continuously across the UK, sampling over 50,000 households every quarter. It provides the main headline measures of employment for the whole economy.

But analysis of the LFS by public/private classifications, as for analysis of employment by industry, has a number of limitations.

LFS public/private sector and industry classifications are made on the basis of survey respondents' views about the organisations for which they work. As a consequence, they are likely to suffer from reporting error as well as the figures not corresponding to the National Accounts definition used to produce PSE estimates from administrative sources. For example, according to the National Accounts definition, university staff and GPs should be classified into the private sector, while at present they remain in the public sector according to the definition applied within the LFS.

The raw LFS estimates of public sector employment are around one million higher than those from the PSE. The LFS estimates are therefore adjusted to match more closely National Accounts definitions and to be more in line with the data obtained from public sector employers. Even so, the adjusted LFS PSE estimates are still higher, and the difference between estimates from the two sources has grown over recent years, as discussed in the recent article on regional PSE estimates. The approximate adjustments which have been made to the LFS public/private sector data are described in the Technical Note.

Box 1**Notes and definitions**

The public sector is made up of employees, including those employed on government employment and training schemes. The private sector includes the self-employed and unpaid family workers.

Annual data from the LFS are based on four-quarter averages. Those for 1997 to 2005 are based on seasonal quarters: winter (December to February), spring (March to May), summer (June to August) and autumn (September to November). For 2006 they are based on calendar quarters: January to March (Q1), April to June (Q2), July to September (Q3), and October to December

(Q4), reflecting a change to the main reporting periods for LFS microdata (see also Technical Note).

All tables are based on LFS data. In addition, the figures in Tables 2 and 4 are also constrained so that they are consistent overall with the percentages of people employed who work in the public (or private) sector, according to the ONS published PSE series, that is, also using overall estimates of PSE from public sector organisations. The annual data on this basis relate to the second quarter (June), seasonally adjusted from 1999 but not seasonally adjusted before 1999.

Analysis of characteristics of public sector workers and comparisons with the private sector

Sex

Table 1 compares the percentages of male and female workers in the public and private sector from 1997 to 2006. There are nearly twice as many women (65 per cent in 2006) as men (35 per cent) working in the public sector. This pattern of male and female employment is the opposite of that which is found within the private sector, where there is a greater proportion of men compared with women (59 per cent and 41 per cent in 2006, respectively). While there has been an increase of 2 percentage points in the proportion of public sector employees who are women (and a corresponding reduction for men) over the period 1997 to 2006, the pattern for male and female employees within the private sector has been stable over the same period.

Looking at the data in a different way (see **Table 2**), the proportion of women who were employed in the public sector was 29 per cent in 2006, an increase from 27 per cent in 1997, while the proportion of men working in the public sector has been relatively constant at around 13 per cent.

Age

According to **Table 3**, 74 per cent of those working within the public sector in 2006 are over 35 years of age, compared with 62 per cent of those working in the private sector. There is relatively little difference in the proportions aged 25 to 34 (20 per cent and 22 per cent respectively) while the proportion of public sector workers who are aged under 25 is much lower than among private sector workers (6 per cent compared with 16 per cent).

There have been increases in the proportions of workers aged over 35

between 1997 and 2006, in both the public and private sectors, especially for those aged 50 or over. The proportions aged under 25 have changed little, while there has been a decline in both the public and private sectors in the proportions aged 25 to 34. These changes mainly reflect changes in the workforce as a whole.

Looking at the percentages another way, in terms of proportions of those in particular age groups who work in the public sector, **Table 4** shows how this proportion tends to increase with age. The lowest proportion in 2006 is 5 per cent, for 16 to 17 year olds, rising to 24 per cent for the 35 to 49 year olds and 23 per cent for those aged 50 or over. Table 4 also shows that the main change in these proportions from 1997 to 2006 has been an increase in the proportion of workers aged 50 or over who are employed in the public sector, from 20 per cent to 23 per cent.

Ethnicity

Table 5 shows the percentages of those employed within the public and private sectors who belong to different ethnic groups. Of those employed within the public sector in 2006, 8 per cent were from non-white ethnic groups, the same as for those working in the private sector. The main difference between the public and private sector is that the former tends to have a slightly lower proportion of their workforce from the Asian or Asian British group (3 per cent in 2006 compared with 4 per cent for the private sector) while the opposite is true for Black or Black British workers (3 per cent compared with 2 per cent).

The earliest period for which a breakdown by ethnicity is available on a consistent basis from the LFS is 2001. There has been an increase in the percentage of employees in the non-white ethnic group within the public sector, from

6 per cent to 8 per cent over the period 2001 to 2006, which is mainly accounted for by a rise in the Asian or Asian British and Other ethnic groups. These changes reflect general changes in the workforce, as there have been very similar changes in the proportions of those in the non-white ethnic group within the private sector over the same period.

Disability

In 2006, 14 per cent of employees within the public sector had a long-term disability compared with 13 per cent of those working in the private sector. Disability estimates are only available from the LFS from 1998. **Table 6** shows that there has been an increase over the period 1998 to 2006 of almost 3 percentage points in the proportions of both the public and private sector workers with a long-term disability.

Full and part-time working

According to **Table 7**, the majority of employees within both the public and private sector worked full time in 2006 (71 per cent in the public sector, compared with 76 per cent in the private sector). While nearly a third (29 per cent) of those employed in the public sector worked part time in 2006, a quarter (25 per cent) of those employed in the private sector did so. These proportions have been nearly constant for the past ten years. From 1997 to 2006, there was a 1 percentage point fall in the proportion of part-time employees in the public sector, while in the private sector there was a rise of 1 percentage point in the proportion of part-time workers over the same period.

Usual hours worked

Table 8 shows that a higher proportion of public sector workers (22 per cent in 2006) usually work for 16 to 30 hours, compared

with private sector workers (17 per cent in 2006). Those employed in the public sector are less likely to work long hours. In 2006, 14 per cent of workers in the public sector had usual weekly hours exceeding 45 hours, compared with 22 per cent in the private sector. The private sector has, however, seen a faster decline in the proportion working over 45 hours, by some 7 percentage points compared with 1 percentage point in the public sector between 1997 and 2006.

Looking at these figures on usual hours for males and females separately, Table 8 also shows that the above differences are concentrated among men. There is relatively little difference among women in the pattern of hours worked in the public and private sectors. But 69 per cent of men working in the public sector usually worked 31 to 45 hours per week in 2006, compared with 57 per cent in the private sector. At the same time, 22 per cent of men in the public sector worked more than 45 hours, while 31 per cent of men employed in the private sector did so. The latter proportion has declined sharply and steadily since 1997, from 41 per cent, while the proportion usually working over 45 hours has declined less steeply for men in the public sector, and has changed relatively little among women in both sectors.

Job tenure

Table 9 shows comparisons of the proportions of public and private sector workers, for different age bands, according to length of job tenure, for 2006. Of those employed within the public sector, 40 per cent overall have been with their employer for more than ten years, compared with 28 per cent in the private sector. This difference is mainly explained by the differences for those aged 35 or over. While 45 per cent of those within the public sector aged 35 to 49 have been with their employer for over ten years, 34 per cent of those of the same age in the private sector have been with their employer for that long. Among those aged 50 or over, 60 per cent of those working in the public sector have stayed with their current employer for more than ten years, compared with 51 per cent of those in the private sector.

As shown by Table 10, the average length of job tenure is greater in the public sector than in the private sector, across all age groups. The overall average length of job tenure in 2006 was 10.1 years within the public sector, compared with 7.7 years for private sector workers.

Union membership

Of those employed in the public sector in 2006, 60 per cent said they were members of a trade union, while in the private sector only 16 per cent of employees were union members (see Table 11). Union membership among public sector workers fell by 1 percentage point over the period 1997 to 2006, while the private sector saw a fall of 3 percentage points over the same period.

Occupation

Table 12 shows the different occupational make-up of public and private sector workers in 2006.

Nearly two-thirds (64 per cent) of the public sector workforce is composed of those working within professional (23 per cent), associate professional and technical (24 per cent), and administrative and secretarial (17 per cent) occupations. In contrast, half as many (32 per cent) of private sector workers are in these occupations (professional with 10 per cent, associate professional and technical with 11 per cent and administrative and secretarial with 11 per cent).

While only 5 per cent of public sector employees are in skilled trades, sales and customer service, and process plant and machine operatives occupations, 33 per cent of private sector workers belong to these occupations.

Of those in the public sector, 8 per cent are employed as managers and senior officials, compared with 17 per cent of people working in the private sector.

While 12 per cent of men in the public sector are in jobs as managers and senior officials, the proportion among women is only 6 per cent. There is a similar difference in the private sector: 20 per cent compared with 14 per cent, respectively.

Highest qualification

Table 13 shows the proportions of those working in the public and private sectors in 2006 broken down according to highest qualifications attained. Nearly half those working in the public sector are educated to degree level (32 per cent) or other higher education beyond A level or equivalent (16 per cent), while just over a quarter overall (19 per cent and 8 per cent, respectively) of those employed in the private sector have these qualifications.

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CONTACT

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Table 1
Proportions employed within the public and private sectors: by sex

United Kingdom		Percentages	
	Men	Women	All
Public			
1997	37.1	62.9	100.0
1998	37.2	62.8	100.0
1999	36.5	63.5	100.0
2000	36.5	63.5	100.0
2001	35.6	64.4	100.0
2002	35.0	65.0	100.0
2003	35.1	64.9	100.0
2004	34.8	65.2	100.0
2005	34.9	65.1	100.0
2006	34.8	65.2	100.0
Private			
1997	58.9	41.1	100.0
1998	58.7	41.3	100.0
1999	58.8	41.2	100.0
2000	58.7	41.3	100.0
2001	58.9	41.1	100.0
2002	58.9	41.1	100.0
2003	59.0	41.0	100.0
2004	59.2	40.8	100.0
2005	59.0	41.0	100.0
2006	58.9	41.1	100.0

Note:

See Notes and definitions in Box 1.

Table 2
Proportions of people working in the public and private sectors: by sex

United Kingdom		Percentages	
	Men	Women	All
Public			
1997	13.3	27.0	19.5
1998	13.2	26.7	19.3
1999	12.9	26.8	19.2
2000	12.9	26.8	19.2
2001	12.8	27.3	19.4
2002	12.7	28.0	19.7
2003	13.0	28.4	20.0
2004	13.0	28.9	20.3
2005	13.1	28.9	20.4
2006	13.0	28.6	20.2
Private			
1997	86.7	73.0	80.5
1998	86.8	73.3	80.7
1999	87.1	73.2	80.8
2000	87.1	73.2	80.8
2001	87.2	72.7	80.6
2002	87.3	72.0	80.3
2003	87.0	71.6	80.0
2004	87.0	71.1	79.7
2005	86.9	71.1	79.6
2006	87.0	71.4	79.8

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey and data from public sector organisations (ONS)

Table 3
Proportions employed within the public and private sectors: by age

United Kingdom		Percentages				
	16–17	18–24	25–34	35–49	50+	All ages
Public						
1997	0.6	6.2	25.9	43.9	23.3	100.0
1998	0.5	5.9	23.9	44.7	25.0	100.0
1999	0.5	5.9	23.1	44.8	25.6	100.0
2000	0.5	6.1	22.5	44.5	26.4	100.0
2001	0.5	6.3	21.2	44.5	27.4	100.0
2002	0.5	6.5	20.7	44.6	27.6	100.0
2003	0.5	6.5	21.1	43.8	28.1	100.0
2004	0.5	6.3	21.1	44.0	28.1	100.0
2005	0.4	6.0	20.8	44.1	28.7	100.0
2006	0.5	5.8	19.8	44.1	29.8	100.0
Private						
1997	3.1	13.5	26.3	34.4	22.7	100.0
1998	3.0	13.4	26.3	34.2	23.1	100.0
1999	2.8	13.4	25.9	34.5	23.5	100.0
2000	2.8	13.3	25.2	35.0	23.7	100.0
2001	2.8	13.5	24.5	35.2	24.1	100.0
2002	2.8	13.5	23.6	35.6	24.5	100.0
2003	2.7	13.5	22.6	35.9	25.2	100.0
2004	2.7	13.7	22.1	36.0	25.5	100.0
2005	2.5	13.6	21.8	36.2	25.8	100.0
2006	2.3	13.8	21.7	36.2	26.0	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 4

Proportions of people working in the public and private sectors: by age

United Kingdom						Percentages
	16–17	18–24	25–34	35–49	50+	All ages
Public						
1997	4.5	10.3	19.3	23.6	19.9	19.5
1998	4.3	9.5	18.2	23.7	20.2	19.3
1999	4.0	9.4	17.5	23.7	20.7	19.2
2000	4.4	9.8	17.5	23.3	20.9	19.2
2001	4.3	10.1	17.4	23.4	21.5	19.4
2002	4.2	10.5	17.7	23.6	21.7	19.7
2003	4.5	10.9	18.6	23.5	21.9	20.0
2004	4.3	10.5	19.7	23.7	21.9	20.3
2005	4.0	10.3	19.6	23.8	22.1	20.4
2006	4.7	9.6	18.8	23.6	22.5	20.2
Private						
1997	95.5	89.7	80.7	76.4	80.1	80.5
1998	95.7	90.5	81.8	76.3	79.8	80.7
1999	96.0	90.6	82.5	76.3	79.3	80.8
2000	95.6	90.2	82.5	76.7	79.1	80.8
2001	95.7	89.9	82.6	76.6	78.5	80.6
2002	95.8	89.5	82.3	76.4	78.3	80.3
2003	95.5	89.1	81.4	76.5	78.1	80.0
2004	95.7	89.5	80.3	76.3	78.1	79.7
2005	96.0	89.7	80.4	76.2	77.9	79.6
2006	95.3	90.4	81.2	76.4	77.5	79.8

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey and data from public sector organisations (ONS)

Table 5

Proportions employed within the public and private sectors: by ethnicity

United Kingdom								Percentages
	White	Non-white					All	
		Mixed	Asian or Asian British	Black or Black British	Chinese	Other ethnic group	Total non-white	
Public								
2001	94.3	0.5	2.4	2.2	0.2	0.5	5.7	100.0
2002	93.9	0.4	2.8	2.1	0.2	0.6	6.1	100.0
2003	93.5	0.4	2.8	2.3	0.2	0.7	6.5	100.0
2004	93.0	0.6	3.1	2.3	0.3	0.8	7.0	100.0
2005	92.8	0.6	3.2	2.2	0.3	1.0	7.2	100.0
2006	92.2	0.7	3.1	2.6	0.2	1.2	7.8	100.0
Private								
2001	94.4	0.5	2.9	1.5	0.3	0.4	5.6	100.0
2002	93.8	0.5	3.2	1.5	0.4	0.6	6.2	100.0
2003	93.5	0.6	3.3	1.5	0.4	0.7	6.5	100.0
2004	93.0	0.6	3.4	1.7	0.3	0.9	7.0	100.0
2005	92.5	0.6	3.7	1.7	0.4	1.1	7.5	100.0
2006	91.9	0.6	4.0	1.8	0.4	1.3	8.1	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 6

Proportions employed within the public and private sectors: by disability

United Kingdom		Percentages	
	Long-term disabled	Not long-term disabled	All
Public			
1998	11.5	88.5	100.0
1999	12.1	87.9	100.0
2000	11.9	88.1	100.0
2001	12.3	87.7	100.0
2002	13.6	86.4	100.0
2003	13.3	86.7	100.0
2004	13.7	86.3	100.0
2005	13.8	86.2	100.0
2006	14.2	85.8	100.0
Private			
1998	10.6	89.4	100.0
1999	11.4	88.6	100.0
2000	11.8	88.2	100.0
2001	11.9	88.1	100.0
2002	12.7	87.3	100.0
2003	12.7	87.3	100.0
2004	13.2	86.8	100.0
2005	13.1	86.9	100.0
2006	13.1	86.9	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 7

Proportions employed within the public and private sectors: by full and part-time status

United Kingdom		Percentages	
	Full-time	Part-time	All
Public			
1997	69.7	30.3	100.0
1998	69.7	30.3	100.0
1999	70.1	29.9	100.0
2000	69.7	30.3	100.0
2001	69.4	30.6	100.0
2002	69.6	30.4	100.0
2003	69.7	30.3	100.0
2004	69.9	30.1	100.0
2005	70.9	29.1	100.0
2006	70.7	29.3	100.0
Private			
1997	76.5	23.5	100.0
1998	76.4	23.6	100.0
1999	76.3	23.7	100.0
2000	76.1	23.9	100.0
2001	76.4	23.6	100.0
2002	75.8	24.2	100.0
2003	75.3	24.7	100.0
2004	75.6	24.4	100.0
2005	75.6	24.4	100.0
2006	75.5	24.5	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 8

Proportions employed within the public and private sectors: by sex and total usual weekly hours worked

United Kingdom		Percentages				
		0–5 hours	6–15 hours	16–30 hours	31–45 hours	Over 45 hours
Male						
Public						
1997		0.7	1.9	4.6	67.1	25.7
1998		0.6	2.1	4.9	65.6	26.8
1999		0.6	2.3	4.9	65.9	26.3
2000		0.6	2.2	4.7	65.8	26.7
2001		0.5	2.2	4.8	66.3	26.2
2002		0.7	2.4	5.2	64.9	26.8
2003		0.7	2.5	5.0	66.3	25.5
2004		0.6	2.3	5.7	67.5	24.0
2005		0.6	2.1	6.2	67.6	23.5
2006		0.6	2.4	6.1	68.8	22.1
Private						
1997		0.9	3.2	5.5	49.1	41.3
1998		0.9	3.2	5.6	50.7	39.6
1999		0.9	3.3	6.0	51.8	38.0
2000		0.8	3.2	6.1	52.3	37.6
2001		0.7	3.3	6.2	53.1	36.7
2002		0.7	3.5	6.8	53.9	35.1
2003		0.8	3.5	7.3	54.6	33.8
2004		0.7	3.4	7.6	55.5	32.7
2005		0.7	3.5	7.7	56.2	31.9
2006		0.7	3.5	7.8	56.8	31.1
Female						
Public						
1997		2.2	11.6	29.2	47.2	9.8
1998		2.3	11.7	29.1	46.5	10.5
1999		2.3	11.2	28.4	47.2	10.9
2000		2.0	11.4	29.3	46.6	10.7
2001		1.8	10.5	30.2	46.3	11.2
2002		1.8	9.9	30.4	46.6	11.5
2003		2.0	9.7	29.9	47.6	10.7
2004		1.8	9.3	30.0	48.5	10.4
2005		1.6	8.7	29.6	49.7	10.4
2006		1.6	9.1	29.6	49.3	10.3
Private						
1997		3.5	15.0	26.4	44.5	10.7
1998		3.4	14.6	26.8	45.3	10.0
1999		3.3	14.2	27.5	45.3	9.8
2000		3.1	13.7	28.1	45.4	9.7
2001		2.8	13.0	28.4	46.2	9.7
2002		2.7	13.0	28.7	45.9	9.6
2003		2.6	13.5	29.3	45.4	9.2
2004		2.6	13.0	29.4	45.8	9.2
2005		2.6	12.6	29.5	46.0	9.3
2006		2.8	12.4	29.5	46.1	9.2

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 8 - *continued***Proportions employed within the public and private sectors: by sex and total usual weekly hours worked**

United Kingdom		Percentages				
	0–5 hours	6–15 hours	16–30 hours	31–45 hours	Over 45 hours	All
All						
Public						
1997	1.6	8.1	20.1	54.5	15.7	100.0
1998	1.6	8.2	20.1	53.6	16.5	100.0
1999	1.7	8.0	19.9	54.0	16.5	100.0
2000	1.5	8.1	20.4	53.5	16.5	100.0
2001	1.4	7.6	21.2	53.4	16.5	100.0
2002	1.4	7.3	21.6	52.9	16.8	100.0
2003	1.5	7.2	21.2	54.1	15.9	100.0
2004	1.4	6.9	21.7	55.0	15.1	100.0
2005	1.3	6.4	21.5	55.9	14.9	100.0
2006	1.3	6.8	21.5	56.1	14.4	100.0
Private						
1997	2.0	8.0	14.1	47.2	28.7	100.0
1998	1.9	7.9	14.4	48.4	27.3	100.0
1999	1.9	7.8	14.9	49.1	26.3	100.0
2000	1.7	7.6	15.2	49.5	26.0	100.0
2001	1.5	7.3	15.4	50.2	25.5	100.0
2002	1.5	7.4	15.9	50.6	24.6	100.0
2003	1.5	7.6	16.4	50.8	23.7	100.0
2004	1.5	7.4	16.6	51.5	23.1	100.0
2005	1.5	7.3	16.7	52.0	22.5	100.0
2006	1.6	7.2	16.8	52.4	22.0	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 9

Proportions employed within the public and private sectors: by age and length of job tenure, 2006

United Kingdom		Percentages	
Age	Job tenure	Public	Private
Under 25	Less than 5 years	92.4	93.6
	Greater than 5 but less than 10 years	7.6	6.4
	Greater than 10 years	0.0	0.0
25 to 34	Less than 5 years	62.6	66.9
	Greater than 5 but less than 10 years	25.5	22.4
	Greater than 10 years	11.9	10.7
35 to 49	Less than 5 years	35.4	44.7
	Greater than 5 but less than 10 years	19.7	21.3
	Greater than 10 years	44.9	34.0
50 or over	Less than 5 years	23.2	30.9
	Greater than 5 but less than 10 years	16.4	18.0
	Greater than 10 years	60.3	51.0
All ages	Less than 5 years	40.7	53.8
	Greater than 5 but less than 10 years	19.1	18.3
	Greater than 10 years	40.2	27.9

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 10

Average length of job tenure in the public and private sectors: by age, 2006

United Kingdom		Years
Age	Public	Private
Under 25	1.8	1.7
25–34	4.7	4.2
35–49	10.4	8.3
50 or over	15.0	13.3
All ages	10.1	7.7

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 11

Proportions employed within the public and private sectors: by trade union membership

United Kingdom		Percentages	
	Union member	Non-union member	All
Public			
1997	60.8	39.2	100.0
1998	60.4	39.6	100.0
1999	59.9	40.1	100.0
2000	60.6	39.4	100.0
2001	59.9	40.1	100.0
2002	60.1	39.9	100.0
2003	59.4	40.6	100.0
2004	59.3	40.7	100.0
2005	59.0	41.0	100.0
2006	59.5	40.5	100.0
Private			
1997	19.0	81.0	100.0
1998	18.4	81.6	100.0
1999	18.3	81.7	100.0
2000	17.9	82.1	100.0
2001	17.7	82.3	100.0
2002	17.3	82.7	100.0
2003	17.1	82.9	100.0
2004	16.3	83.7	100.0
2005	16.3	83.7	100.0
2006	15.8	84.2	100.0

Notes:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 12

Proportions employed within the public and private sectors: by occupation and sex, 2006

United Kingdom			Percentages			
Occupation	Public			Private		
	Men	Women	All	Men	Women	All
Managers and senior officials	12.2	5.8	8.0	19.5	13.8	17.1
Professional occupations	23.5	21.9	22.5	12.2	7.5	10.3
Associate professional and technical	27.5	22.1	24.0	10.7	12.2	11.3
Administrative and secretarial	10.4	20.7	17.2	3.8	20.4	10.7
Skilled trades occupations	4.9	0.7	2.2	21.4	2.3	13.6
Personal service occupations	6.5	19.0	14.7	1.6	12.3	6.0
Sales and customer service occupations	0.6	1.0	0.9	5.3	16.2	9.8
Process plant and machine operatives	3.9	0.3	1.5	13.5	2.9	9.1
Elementary occupations	10.4	8.5	9.2	11.9	12.4	12.1
All	100.0	100.0	100.0	100.0	100.0	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

Table 13

Proportions employed within the public and private sectors: by highest level of qualification and sex, 2006

United Kingdom			Percentages			
Level of qualification	Public			Private		
	Men	Women	All	Men	Women	All
Degree level or equivalent	35.5	30.8	32.4	20.0	18.0	19.2
Higher education	11.5	18.0	15.7	7.8	8.1	7.9
GCSE A level or equivalent	22.5	15.8	18.1	30.2	20.5	26.2
GCSE Grades A to C or equivalent	15.9	21.3	19.4	18.7	29.9	23.3
Other qualifications	8.7	8.5	8.6	13.5	12.6	13.2
No qualifications	5.8	5.7	5.7	9.8	10.9	10.3
All	100.0	100.0	100.0	100.0	100.0	100.0

Note:

See Notes and definitions in Box 1.

Source: Labour Force Survey

TECHNICAL NOTE

Method of producing PSE and private sector employment estimates from the LFS

Estimates of PSE, and private sector employment, according to the various characteristics analysed in this article, are produced using LFS microdata, based on corresponding average estimates for the four quarters of each year. These averages use seasonal quarters up to 2005 and calendar quarters for 2006, reflecting the change to the main reporting periods used for the LFS microdata. Analysis suggests that this does not introduce any important discontinuity, making a difference generally well within 1 per cent for annual PSE estimates overall.

LFS public/private sector classifications suffer from some reporting error and the data do not correspond to the National Accounts definition which is used for the official ONS PSE series. Some adjustments are therefore made to the LFS microdata to bring the estimates as close as possible to the National Accounts definition.

The LFS asks respondents two questions to define whether someone is employed in the public or private sector. Firstly, those in work in the week before the interview are asked whether the organisation that they worked for was either:

- a private firm or business or a limited company, or
- some other kind of organisation

If respondents answer that it was some other kind of organisation then they are asked 'what type of non-private organisation was it?'. Their response is then coded as one of the following by the interviewer:

- a public limited company (plc)
- a nationalised industry/state corporation
- central government or Civil Service
- local government or council (including police, fire services and local authority-controlled schools/colleges)
- a university or other grant-funded establishment (including 'opted-out' schools)
- a health authority or NHS Trust
- a charity, voluntary organisation or trust
- the armed forces, or
- some other kind of organisation

If respondents state that they work for a plc, or for a charity, voluntary organisation or trust, they are classified as a private sector worker in the LFS. Respondents who report that they are self-employed or an unpaid family worker are also classified as private sector workers. Other respondents are classified as public sector workers.

Given the way that the LFS classifies people to the public and private sector, respondents can end up being classified as working in the public sector when really they are in the private sector according to National Accounts definitions. An example is employees of public-funded bodies such as universities and further education colleges who are classified as being in the public sector according to the LFS. However, universities and further education colleges are, in fact, part of the private sector in the National Accounts as they are not controlled by government. Employees working for agencies and/or contractors, carrying out work for a public sector organisation, can also classify themselves as working in the public sector in the LFS when in reality they belong to the private sector, as their employer is a private sector organisation.

The data used here to analyse characteristics of workers in the public and private sectors are therefore adjusted, to be more in line with National Accounts definitions, by reclassifying, where necessary, workers who stated that they worked for a university or other grant-funded institution, or as agency temporary workers, from the public sector into the private sector.

Note that GPs (including dentists) and their practice staff, in the LFS, are coded to the private or public sector depending on whether they do mainly private work or NHS work even though, in the National Accounts, they are considered to be part of the private sector because they are self-employed. However, those who are allocated to the public sector in the LFS cannot be reclassified to the private sector as they cannot be distinguished from others, such as doctors and dentists working in hospitals that are part of the public sector.

When making comparisons in terms of proportions of workers with particular characteristics who are employed in the public and private sectors, for example, the percentage of employed women who work in the public sector, as in Tables 2 and 4, it is important to make further small adjustments to the data beyond the reclassifications described above. This is in order to make the figures more comparable with overall percentages based on the published PSE estimates derived from returns from public sector organisations. The LFS data are thus finally constrained so that the overall public/private sector split is consistent with ONS's main published PSE figures. Note that these adjustments are not necessary for cross-sectional analysis within sectors. They have no effect on the estimated proportions of public or private sector workers with particular characteristics, which is the basis of much of the analysis in this article, for example, the percentage of public sector employees who are women.

FEATURE

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Revisions to workforce jobs

SUMMARY

This article explains the revisions made to the workforce jobs (WFJ) series, released on 14 March 2007, in the Labour Market Statistics First Release. It was originally intended to release these revisions in December 2006 but further quality assurance was required. This quality assurance has now been concluded and a Review of Workforce Jobs Benchmarking has been published separately, which includes a comparison of annual growth in jobs as measured by the revised WFJ series and the Labour Force Survey.

Workforce jobs (WFJ) is a quarterly measure of the number of jobs in the UK and is the preferred measure of short-term change by industry. It is the sum of employee jobs (measured by surveys of employers), self-employment jobs (from the Labour Force Survey (LFS)), those in HM Forces, and government-supported trainees (from administrative sources).

Revisions have resulted from the following developments and annual processes:

- annual benchmarking of short-term GB employee jobs to the latest Annual Business Inquiry (ABI) estimates for December 2004 and 2005
- self-employment jobs estimates (derived from the LFS) have been revised upwards, back to 1959, reflecting more appropriate treatment of second self-employed jobs
- revisions to public sector employment (PSE), back to 1959
- revisions to the sources for government-supported trainees and Northern Ireland civilian jobs, back to 2001, and
- a seasonal adjustment review, back to 1996

The first two items are the predominant cause of revisions. **Tables 1 to 4** show the revisions to UK WFJ back to 1996. In total, the level in September 2006 has been revised upwards by 376,000. The annual change in WFJ to December 2005 has been revised upwards by 230,000. This is driven by the benchmarking of employee

jobs. The revision to self-employment jobs has raised the level of the entire series, by approximately 100,000, but this has little impact on annual movements.

Benchmarking GB employee jobs

Benchmarking is an annual process to align the short-term GB employee jobs series to the latest ABI estimates. The December data points of the short-term series are aligned to the ABI, and the differences are wedged back in stepped increments over the previous months or quarters in the year to maintain the short-term path. For most industries, the revised ABI benchmark for 2004 and the provisional benchmark for 2005 have been applied, revising the series back to the start of 2004. Note that there are some components of the employee jobs series that are not benchmarked:

- the public sector components within sections L, M and N (public administration and defence, education, health and social work), division 64 (post and telecommunications) and division 92 (recreation, cultural and sporting activities) – these are sourced from the definitive public sector employment (PSE) series that were integrated into WFJ in 2006. Revisions to this source are discussed below. The private sector components of these industries are benchmarked
- section A (agriculture) – this series is sourced from the LFS and does not have a benchmark

Benchmarking is the predominant cause of the upward revision of 230,000 to the annual change in UK WFJ to December 2005, a revision of 351,000 to the level. The service sector (sections G to O) has been revised up by 255,000 to the annual change to December 2005, a revision of 377,000 to the level, driven by section K (real estate, renting and business activities). This is partly offset by downward revisions to the production sector (sections C to E), 47,000 to the annual change to December 2005 and 58,000 to the level.

The short-term employment surveys (STES) estimator tends to underestimate the rate of change, that is, the growth in services and the decline in production. When the series are subsequently benchmarked to the ABI, it causes these sectors to be revised in opposite directions. At the whole economy level, the service sector revisions dominate because the service sector is much larger. Both the National Statistics Quality Review of Employment and Jobs Statistics and the more recent Review of Workforce Jobs Benchmarking have recommended that the STES estimator should be changed, and this is being pursued.

Revisions to GB self-employment jobs

The self-employment jobs estimates that feed into workforce jobs are derived from the LFS. Until now, the estimates explicitly excluded any self-employment second jobs held by people whose main jobs were self-employed. The rationale for this was that if a person has two self-employment jobs then their second job was likely to be an extension of their main job. As part of the ongoing work to reconcile WFJ and LFS jobs estimates (again, following the Review of Employment and Jobs Statistics), analysis has shown that this assumption is not valid. Therefore, the series has been revised back to 1959 to include self-employment second jobs held by people whose main jobs are also self-employed. This has raised the level of the series by approximately 100,000 in recent years (slightly higher in earlier years). The impact on the annual change is small. The revisions are spread across all industries. Those with a large self-employed component have been revised the most, for example sections F (construction), G (distribution) and K (real estate, renting and business activities).

Revisions to public sector employment

The public sector components within sections L, M and N (public administration and defence, education,

Table 1

Workforce jobs:¹ revisions to levels

United Kingdom				Thousands, seasonally adjusted	
	Workforce jobs	Employee jobs	Self-employment jobs	HM Forces	Government-supported trainees
-	1	2	3	4	5
Mar 96	129	-2	132	0	0
Jun 96	131	2	129	0	0
Sep 96	126	10	116	0	0
Dec 96	102	-11	114	0	0
Mar 97	116	-3	119	0	0
Jun 97	132	3	129	0	0
Sep 97	126	12	114	0	0
Dec 97	99	-15	114	0	0
Mar 98	113	-4	118	0	0
Jun 98	112	4	108	0	0
Sep 98	107	16	91	0	0
Dec 98	90	-18	108	0	0
Mar 99	92	-4	96	0	0
Jun 99	80	5	75	0	0
Sep 99	120	17	103	0	0
Dec 99	76	-16	92	0	0
Mar 00	90	-4	94	0	0
Jun 00	66	5	61	0	0
Sep 00	96	16	80	0	0
Dec 00	67	-16	83	0	0
Mar 01	78	-7	85	0	0
Jun 01	76	0	77	0	0
Sep 01	93	10	83	0	0
Dec 01	68	-17	85	0	0
Mar 02	74	-9	82	0	0
Jun 02	86	-5	91	0	0
Sep 02	92	6	87	0	0
Dec 02	74	-8	81	0	0
Mar 03	80	-1	81	0	0
Jun 03	83	-7	89	0	1
Sep 03	101	5	96	0	-1
Dec 03	86	-5	91	0	0
Mar 04	111	6	105	0	0
Jun 04	117	8	108	0	1
Sep 04	131	33	99	0	-1
Dec 04	121	27	94	0	-1
Mar 05	174	87	87	0	0
Jun 05	232	129	102	0	1
Sep 05	316	199	115	0	1
Dec 05	351	241	110	0	0
Mar 06	329	237	94	0	-2
Jun 06	344	248	96	0	0
Sep 06	376	266	109	0	1

Relationship between columns: 1=2+3+4+5

Note:

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. For this reason, self-employment jobs (which come from LFS) will not equal the figures for self-employed persons from the LFS. Workforce jobs figures come from a variety of sources and, where possible, from the employer rather than the individual. Employee jobs (the largest component of Workforce Jobs) come from quarterly surveys of employers carried out by ONS, and administrative sources.

Table 2

Workforce jobs:¹ revisions to annual changes

United Kingdom

Thousands, seasonally adjusted

	Workforce jobs	Employee jobs	Self-employment jobs	HM Forces	Government-supported trainees
	1	2	3	4	5
Dec 97	-4	-4	0	0	0
Dec 98	-8	-3	-6	0	0
Dec 99	-14	2	-16	0	0
Dec 00	-9	0	-9	0	0
Dec 01	1	0	2	0	0
Dec 02	5	9	-4	0	0
Dec 03	12	3	10	0	0
Dec 04	35	32	3	0	0
Dec 05	230	214	16	0	0
Sep 06	60	67	-6	0	0

Relationship between columns: 1=2+3+4+5

Note:

1 See note 1 to Table 1.

health and social work), division 64 (post and telecommunications) and division 92 (recreation, cultural and sporting activities) are sourced from the definitive PSE series that were integrated into WFJ in 2006. Revisions to these series result mainly from the annual process of re-referencing estimates of local authority employment in England and Wales to bring the historical time series in line with the latest survey levels. This causes small revisions back to 1959.

Revisions to other sources

Revisions from sources for government-supported trainees and Northern Ireland civilian jobs have been taken on, causing small revisions back to 2001.

Seasonal adjustment review

A seasonal adjustment review has been conducted, causing small revisions back to 1996.

CONTACT

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Table 3

Workforce jobs¹ by industry: revisions to annual changes

United Kingdom

Thousands, seasonally adjusted

	All jobs	Agriculture and fishing	Production	Construction	Distribution, hotels and catering	Transport and communications	Finance, real estate, renting and business activities	Public administration, education and health ²	Other services
SIC 2003 sections	A-O	A,B	C-E	F	G,H	I	J, K	L-N	O
	1	2	3	4	5	6	7	8	9
Dec 97	-4	0	0	-3	0	0	2	-1	-1
Dec 98	-8	-1	-1	-3	-4	0	0	1	0
Dec 99	-14	-1	-3	-4	-2	-1	-2	0	-1
Dec 00	-9	-1	-1	-1	0	1	-1	-5	-1
Dec 01	1	0	0	3	1	1	-2	0	0
Dec 02	5	-1	-2	1	-1	2	6	2	-2
Dec 03	12	0	-2	3	4	2	0	3	2
Dec 04	35	2	-7	-14	11	5	19	0	19
Dec 05	230	0	-47	23	14	0	199	40	2
Sep 06	60	10	-8	6	-7	0	42	5	13

Relationship between columns: 1=2+3+4+5+6+7+8+9

Notes:

1 See note 1 to Table 1.

2 Includes both public and private sectors.

Table 4
Workforce jobs¹ by industry: revisions to levels

United Kingdom

Thousands, seasonally adjusted

	All jobs	Agriculture and fishing	Production	Construction	Distribution, hotels and catering	Transport and communications	Finance, real estate, renting and business activities	Public administration, education and health ²	Other services
SIC 2003 sections	A–O	A,B	C–E	F	G,H	I	J, K	L–N	O
	1	2	3	4	5	6	7	8	9
Mar 96	129	9	11	26	22	8	22	16	16
Jun 96	131	8	10	28	25	7	23	13	17
Sep 96	126	9	11	27	27	8	19	11	14
Dec 96	102	7	7	22	20	5	16	11	14
Mar 97	116	7	9	26	19	7	21	12	14
Jun 97	132	8	11	25	26	9	23	13	17
Sep 97	126	8	12	23	29	8	20	10	15
Dec 97	99	6	6	19	20	5	18	11	13
Mar 98	113	7	9	22	20	6	21	12	16
Jun 98	112	7	12	19	21	6	20	13	14
Sep 98	107	6	11	18	24	7	17	10	14
Dec 98	90	5	5	17	16	6	18	11	12
Mar 99	92	5	7	18	16	5	18	13	13
Jun 99	80	4	5	15	14	4	15	10	12
Sep 99	120	6	14	20	25	9	21	11	14
Dec 99	76	4	2	13	14	5	16	11	11
Mar 00	90	4	7	16	15	4	18	12	14
Jun 00	66	4	5	11	11	4	12	9	10
Sep 00	96	5	11	15	20	8	17	9	12
Dec 00	67	3	1	12	14	5	15	6	10
Mar 01	78	3	6	15	13	2	17	7	13
Jun 01	76	5	6	13	14	5	14	7	12
Sep 01	93	4	10	14	18	7	17	9	14
Dec 01	68	3	15	15	7	13	6	10	
Mar 02	74	3	8	16	11	2	16	5	13
Jun 02	86	6	8	18	16	7	14	5	13
Sep 02	92	4	10	15	16	8	16	9	15
Dec 02	74	2	–2	16	14	8	19	8	8
Mar 03	80	3	9	17	11	1	16	8	15
Jun 03	83	6	6	16	12	6	16	8	12
Sep 03	101	5	12	14	15	8	20	13	15
Dec 03	86	2	–3	19	18	10	19	11	10
Mar 04	111	4	7	25	15	4	31	6	20
Jun 04	117	8	2	22	19	11	38	2	15
Sep 04	131	4	1	18	21	14	50	7	17
Dec 04	121	3	–11	5	29	16	39	11	29
Mar 05	174	2	–19	11	22	10	96	27	27
Jun 05	232	3	–21	21	22	11	143	23	30
Sep 05	316	6	–40	38	33	18	186	47	27
Dec 05	351	3	–58	28	43	16	237	50	31
Mar 06	329	19	–48	12	18	24	213	54	37
Jun 06	344	12	–47	16	33	22	224	47	38
Sep 06	376	16	–48	44	26	18	228	52	40

Relationship between columns: 1=2+3+4+5+6+7+8+9

Notes:

1 See note 1 to Table 1.

2 Includes both public and private sectors.

FEATURE

Claire Swadkin and David Hastings
Office for National Statistics

Regional economic indicators

May 2007

with a focus on sub-regional household income

SUMMARY

This quarter, regional economic indicators (REI) focuses on sub-regional household income in light of the latest published data. The headline indicators provide the underlying picture of regional economic performance, productivity and welfare. Labour market data and indicators of factors that drive productivity are also included. This article covers the nine English Government Office regions, Northern Ireland, Scotland and Wales: the European Nomenclature of Units for Territorial Statistics (NUTS) level 1 regions of the UK. The term 'region' is used for convenience.

Regional gross disposable household income (GDHI) was published in March 2007. Here, the focus is on the sub-regional household income at the European Nomenclature of Units for Territorial Statistics (NUTS) level 2, a geographical level of 37 areas (see map) into which the UK is divided. Regional household income estimates are required to be produced at this level under the European System of Accounts 1995 (ESA95).

At the regional level, the South East and London had the highest GDHI in absolute terms in 2005; Northern Ireland and the North East had the lowest. The NUTS2 distribution of household income within each region varied significantly. Surrey, East and West Sussex accounted for the largest contribution to the South East GDHI, at 34 per cent. Outer London accounted for the majority of London GDHI, at 57 per cent. Both Outer and Inner London contributed

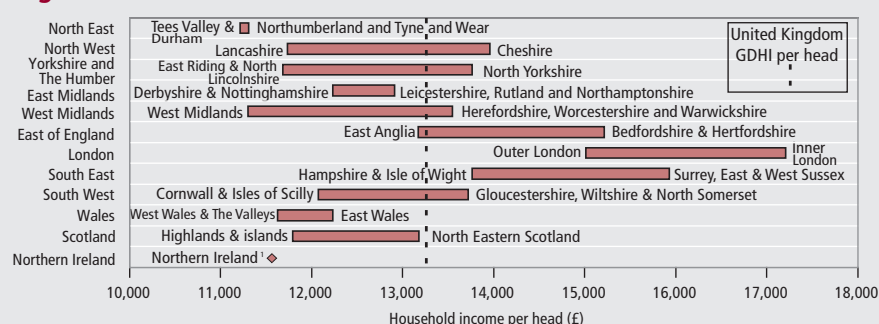
high proportions of the UK GDHI relative to the contribution from other NUTS2 areas.

GDHI measured in absolute terms (£ million) does not take into account the population distribution both within and across regions. For more reliable comparisons of income distributions, the measure of GDHI per head is used. The regional per head results are given later in this article. These show that London, the South East and the East of England were the only regions where GDHI per head was greater than the UK average. The three regions that had the lowest level of GDHI per head were the North East, Northern Ireland and Wales.

Figure 1 shows the NUTS2 distribution of GDHI per head among the NUTS1 regions. In 2005 every NUTS2 area within London and the South East had GDHI per head greater than the UK average. In total, GDHI per head in 13 NUTS2 areas (out of the total 37) was above the UK average

Figure 1

GDHI per head: by distribution of NUTS2 areas within each NUTS1 region, 2005



1 Northern Ireland has no sub-regions.

GDHI per head. All the areas within the North East, East Midlands, Wales, Scotland and Northern Ireland had measures of GDHI per head below the UK average. The greatest dispersions between areas in one region were within the North West and Yorkshire and the West Midlands.

Figure 2 charts the top and bottom performing NUTS2 regions in terms of GDHI per head indices. The NUTS2 areas that performed best against the UK average in per head index terms were concentrated in the three regions which had the highest levels of GDHI (in both absolute and per head terms), London, the South East and the East of England.

The NUTS2 area of West Midlands had the lowest GDHI per head index, although its namesake NUTS1 region is not the worst performing region. The next three NUTS2 areas with the lowest GDHI per head index (Northumberland and Tyne and Wear, Tees Valley and Durham and Northern Ireland) make up the North East and Northern Ireland regions; this is consistent with the above, where these regions were identified as having the lowest GDHI in both absolute and per head terms.

West Wales and the Valleys had the fifth lowest GDHI per head in the UK (Figure 2). However, it also had the highest growth rate of GDHI per head, at 5.0 per cent. In contrast, Inner London had the lowest growth rate at 2.7 per cent, despite having the highest GDHI per head.

GDHI and GDHI per head estimates at the NUTS3 geographic level were also published, although they do tend to be less stable. Further analysis on these NUTS3 estimates and also on the components of GDHI is available.

Regional overview

Key figures on a regional basis indicate that:

- in 2005 London remained the region with the highest gross value added (GVA) per hour worked, 21 per cent above the UK average. Northern Ireland had considerably the lowest GVA per hour worked index measure, at only 80 per cent of the UK average
- London and the South East had the highest levels of GDHI per head, at £15,885 and £14,941, respectively, but among the lowest annual percentage

growth rates, at 3.2 per cent and 3.6 per cent, respectively. The North East (£11,356) and Wales (£11,851) had the lowest GDHI per head

- the South East had the highest employment rate in the fourth quarter of 2006, at 78.7 per cent; Northern Ireland had the lowest rate, at 69.5 per cent, compared with the unchanged UK employment rate of 74.5 per cent

Headline indicators

This section presents a selection of regional economic indicators that provide an overview of the economic activity of UK regions. The welfare and productivity indicators have been updated, to include the latest GDHI and GVA per hour worked estimates, published in March 2007.

Regional performance

The February edition of this article presented data on economic performance in terms of headline workplace-based nominal GVA and GVA per head, respectively, for the UK regions that were published in December 2006. It should be noted that nominal figures do not take account of inflation or regional differences in prices. The data demonstrated little change in 2005 from the previous year in the distribution of GVA among the regions. London and the South East continued to account for the largest share of UK GVA (19.1 per cent and 14.6 per cent, respectively) while Northern Ireland (2.3 per cent) and the North East (3.4 per cent) had the smallest.

Table 1 shows that all regions experienced growth in nominal GVA in 2005, although this growth was considerably lower than that seen in 2003 and 2004. In 2005, overall UK growth was only 4.1 per cent compared with 5.9 per cent in the preceding two years. London, the North East and the East Midlands had the highest annual percentage growth (at

Figure 2

GDHI per head indices: by top and bottom performing NUTS2 areas, 2005



Table 1

Headline workplace-based GVA at current basic prices: annual nominal growth of absolute GVA and GVA per head: by NUTS1 region

															Percentages
		UK less extra-regio ¹ and statistical discrepancy	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland	Extra-regio ¹
GVA annual percentage growth															
	2003	5.9	6.1	5.6	5.4	5.9	7.1	5.2	6.9	6.4	5.8	6.7	6.0	6.0	-1.1
	2004	5.9	6.0	6.1	5.7	5.7	6.7	5.5	6.5	6.3	5.5	6.5	5.9	5.9	1.9
	2005	4.1	3.9	4.4	3.7	3.7	4.4	3.8	3.9	4.4	3.3	4.0	3.9	4.1	16.9
GVA per head annual percentage growth															
	2005	N/A	3.3	3.9	3.4	3.2	3.7	3.2	3.0	3.1	2.6	3.4	3.7	3.0	N/A

Note:

1 Extra-regio is the contribution to economic activity that cannot be allocated to any region.

Source: Office for National Statistics

4.4 per cent) in 2005. The North East region had one of the smallest absolute values of GVA, but in 2005 the year-on-year growth in this region was comparable with the region that had by far the largest value of GVA (London). This shows that even the regions with the smaller economies are capable of growth rates comparable with the larger regions.

Due to the wide variations in geographical size among the regions, comparisons are more usefully expressed in terms of GVA per head of population, rather than absolute values. In 2005, GVA per head for the UK was £17,677. London was the region with the highest GVA per head in 2005 at £27,088, well above (by 53 per cent) the UK average. GVA per head for the South East was also above the UK average (by 7 per cent), at £18,976 per head. Wales and the North East had the lowest GVA per head, at £13,813 and £14,048, respectively. Despite these figures being less than 80 per cent of the UK average, annual growth in these regions was high, at 3.9 and 3.7 per cent, respectively. Scotland and the East Midlands also had high annual growth rates in 2005.

Labour productivity

Labour productivity indicators provide

the most effective comparisons of regional economic performance. The GVA per head measure, although accounting for different regional sizes, is affected by commuting. It can be artificially inflated because the numerator (GVA) includes the activity of the residents (who work and live there) and also the in-commuters, whereas the latter are excluded from the population denominator. This is represented in **Figure 3** in the case of London where the commuting problem is overcome by the labour productivity indicators (GVA per filled job and GVA per hour worked) which use workplace-based measures for both the numerator and denominator. This more accurately apportions output against a measure of all those who contribute to producing that output. Because of this, the choice of indicator can greatly affect any perceptions made. **Figure 3** shows that, when using GVA per hour worked, there are significantly fewer and smaller differences in regional economic performance than when making comparisons based on other indicators. GVA per hour worked additionally takes into account any variations in labour market structures across the regions, such as the proportions of full-time and part-time workers or job share availability. It is for these reasons

that GVA per hour worked is the preferred indicator of productivity. Regional GVA per hour worked indices for 2005 were published in Table 8 in the March 2007 productivity release.

Figure 4 shows the regional GVA per hour worked productivity indices on a time series basis. The only regions that improved their productivity relative to the UK average between 2001 and 2005 were London, the East of England, the South West and Scotland. This chart does suggest that since 2001 there has been some widening in the regional productivity differences. Productivity in London was greater against the UK average by 5 percentage points more in 2005 than in 2001, with some decline in the latest year compared with 2004. However, the opposite has occurred elsewhere. In Northern Ireland, for example, the gap by which productivity was below the UK average widened by 8 percentage points across the same time period.

In terms of the annual change in the GVA per hour worked indicator, five regions experienced declining productivity against the UK average in 2005: the East Midlands, London, the South East, Scotland and Northern Ireland. However, all except the East Midlands declined by less than 2 percentage points. Productivity in the East Midlands declined by 4 percentage points against the UK average in 2005, although too much reliance should not be put on one year's figures.

Welfare

Regional GDHI was published in March 2007. GDHI per head is a residence-based measure that can be used as an indicator of the welfare of people living in a region. **Table 2** represents this data from 2000 to 2005. In 2005, London (£15,885), the South East (£14,941) and the East of England (£14,198) were the only regions where GDHI per head was greater than the UK average. However, **Table 2** also shows that London and the South East were the regions which had the lowest percentage growth of this indicator between 2000 and 2005 (18.2 and 19.4 per cent, respectively). The three regions that had a level of GDHI lower than £12,000 per head (the North East, Wales and Northern Ireland) had among the largest improvements over this five-year period (at 22.6, 25.6 and 24.7 per cent growth, respectively). The East Midlands also saw large growth in its GDHI per head indicator between 2000 and 2005 (at 25.6 per cent).

Figure 5 reinforces this pattern based on the latest year's data. It shows the GDHI per head values for each region in 2005

Figure 3
Comparison of regional economic indicators: by NUTS1 regions, 2005

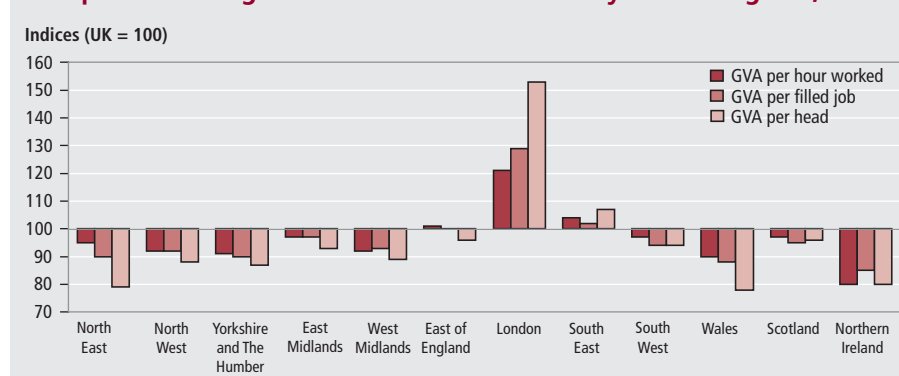


Figure 4
GVA per hour worked: by NUTS1 regions

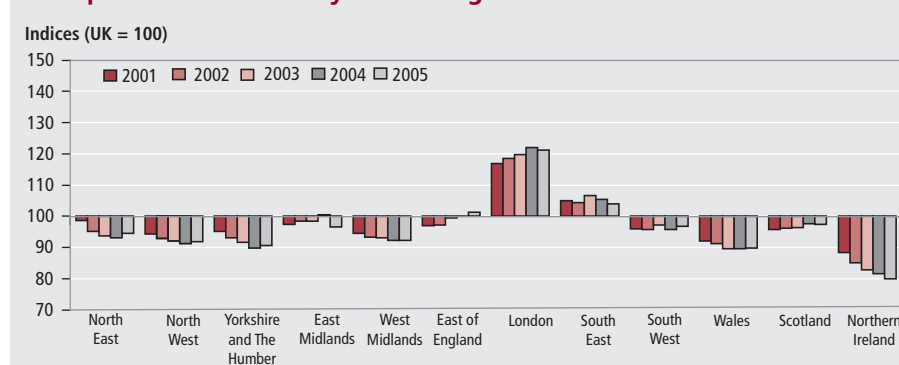


Table 2

Headline GDHI per head at current basic prices: by NUTS1 region

	£ per head													
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2000	10,906	9,261	9,979	9,964	9,972	9,949	11,681	13,439	12,509	10,806	11,124	9,433	10,168	9,270
2001	11,588	9,810	10,560	10,514	10,628	10,547	12,509	14,223	13,320	11,508	11,819	10,070	10,800	9,819
2002	11,930	10,147	10,874	10,834	11,008	10,854	12,909	14,495	13,652	11,868	12,151	10,456	11,199	10,176
2003	12,409	10,576	11,304	11,306	11,559	11,303	13,376	15,039	14,104	12,367	12,630	10,932	11,682	10,668
2004	12,773	10,920	11,673	11,687	11,993	11,670	13,722	15,396	14,424	12,718	12,990	11,322	12,047	11,086
2005 ²	13,279	11,356	12,186	12,197	12,522	12,133	14,198	15,885	14,941	13,258	13,494	11,851	12,554	11,564
Percentage change 2000 to 2005	21.8	22.6	22.1	22.4	25.6	22.0	21.5	18.2	19.4	22.7	21.3	25.6	23.5	24.7

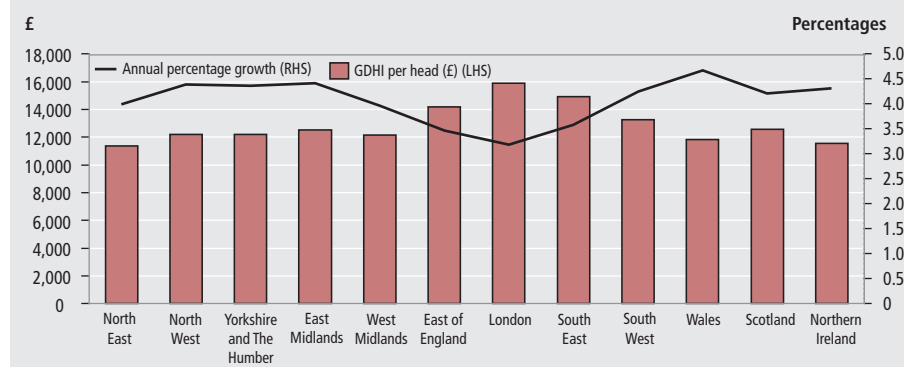
Notes:

1 UK less extra-regio.

2 Provisional.

Source: Office for National Statistics

Figure 5

Headline gross disposable household income per head: by NUTS1 regions, 2005

plotted with each region's annual percentage growth. Figure 5 demonstrates that the three regions which had above average values of GDHI per head in 2005 (London, the South East and the East of England) had the lowest annual percentage growth. This suggests that in 2005, there was a reduction in the difference between the regions with the higher and the lower incomes, resulting in a reduction in the regional disparities in terms of this indicator of welfare.

Median gross weekly earnings data for 2006 and revised data for 2004 and

2005 were published in October 2006. All regions experienced increases in median gross weekly earnings in 2006. London maintained the noticeable lead in 2006 as the region with the highest median gross weekly earnings for full-time employees, at £572. The North East had the lowest median earnings, at £399, followed by Wales at £403 and Northern Ireland at £405.

Figure 6 shows the data on gross median weekly pay, by sex, for 2006. Females across all UK regions had lower pay than males. However, in terms of annual percentage

growth, pay for females outperformed that for males. The only regions where pay for females did not have higher annual growth than male pay in 2006 were the North East, the South East and Scotland. The annual growth rate of female pay was greatest in Northern Ireland.

Drivers of productivity

The following indicators represent the drivers of productivity as identified by HM Treasury and the Department of Trade and Industry (DTI). Research and Development (R&D) statistics provide an indicator for innovation; VAT statistics on net registration change and business survival rates are indicators for enterprise; and regional trade in export goods is regarded as a suitable indicator for competition. Statistics on the qualifications of the working age population provide an indicator of skills available within the regions, as does information on the percentage of pupils achieving 5 or more grades A*-C at GCSE or equivalent level.

Innovation

Innovation is a necessary, although not sufficient, condition for economic success and therefore is recognised as an important driver of productivity. Innovation can mean either the invention of new and more valuable products or services, or the development of new processes that increase efficiency. R&D is an input to the innovation process and is defined by the Organisation for Economic Co-operation and Development (OECD, 2002) as 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of the stock of knowledge to devise new applications'.

Statistics on Business Expenditure on Research and Development consistent with

Figure 6

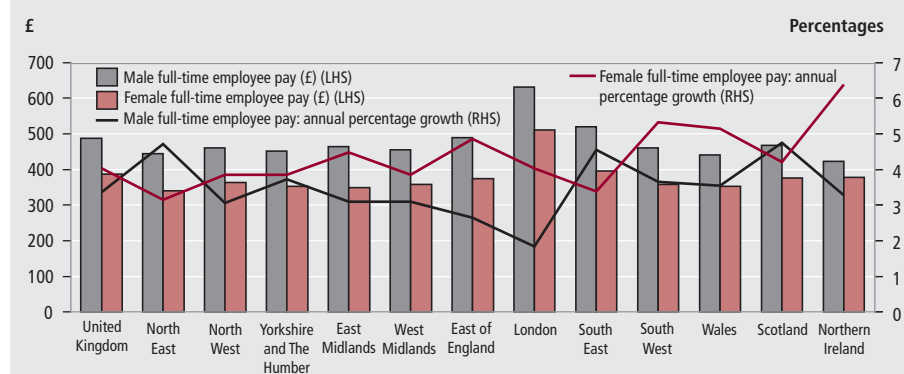
Gross median weekly pay: by sex and NUTS1 region, 2006

Table 3

Expenditure on research and development performed in UK businesses: by NUTS1 region, 2005

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
Expenditure (£ million)	13,410	158	1,887	350	1,019	735	3,316	630	3,163	1,201	231	584	136
Annual percentage change	4.6	3.3	8.3	0.6	6.1	-4.8	22.7	-20.5	-1.6	-7.4	2.2	18.2	17.2

Source: Office for National Statistics

Figure 7

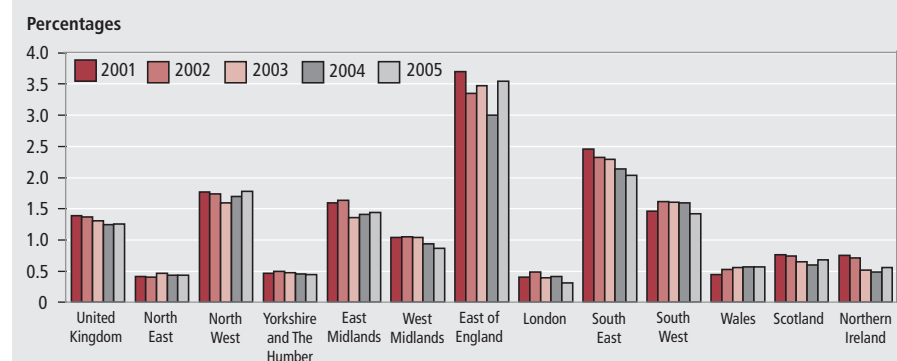
Business expenditure on R&D as a percentage of headline workplace-based GVA: by NUTS1 regions

Figure 8

Three-year survival rates of VAT-registered enterprises: by year of initial registration and NUTS1 regions

these internationally agreed standards were published in November 2006. **Table 3** shows that the East of England and the South East had the highest business expenditure on R&D in 2005 and were the only regions where expenditure was higher than £3 billion. Northern Ireland, the North East and Wales remained the regions with the lowest R&D expenditure. The East of England had the highest percentage growth in 2005, at 23 per cent. Scotland and Northern Ireland were the regions with the next highest growth in 2005, at 18 and 17 per cent, respectively, despite being ranked low when comparing their absolute expenditure on R&D with other regions.

R&D as a percentage of GVA is a measure commonly used in international comparisons and can further explain the

trends shown above. **Figure 7** shows that the East of England was the region with the highest share of R&D expenditure in terms of GVA (3.5 per cent in 2005) and that this has been the case since 2001. The large percentage growth of absolute expenditure in 2005 in this region, identified above, could now be attributed to a recovery from the relatively low level of R&D expenditure in 2004, evident in **Figure 7**.

London had the lowest R&D expenditure as a percentage of GVA in 2005, at just 0.3 per cent. This, however, may not be due to low levels of innovation in London but reflect the impact of regional industry composition on R&D as an indicator of innovation. London has a large concentration of service industries: in 2005 they accounted for 87 per cent of total

headline GVA there, but service industries may not be R&D intensive if, for example, they rely heavily on human capital. If innovation occurs in other forms, it will not be captured by the R&D measure. This also puts into context the large decline of 20.5 per cent in R&D expenditure in London in 2005, identifiable in **Table 3**.

Figure 7 also shows that there has been a steady decline of R&D expenditure in terms of GVA since 2001 in the South East. This reinforces the decline in absolute expenditure in the South East evident in **Table 3**. The South East was, however, one of the five regions in 2005 with a level of R&D expenditure in terms of GVA greater than the UK average of 1.3 per cent; the other four regions were the North West, the East of England, the East Midlands and the South West.

Enterprise

Indicators of enterprise are published by the Small Business Service (SBS) of the DTI. VAT registrations and deregistrations are the best official guide to the pattern of business start-ups and closures. They are an indicator of the level of entrepreneurship and the factors that influence the pattern of business start-ups, such as economic growth, which encourages new ventures and creates demand for business. The most recent data (as published in October 2006) were presented in previous editions of this article and remain accessible from the SBS website.

An alternative indicator is the business survival rate. Data on the proportion of businesses that remained registered for VAT three years after their initial registration were updated in February 2007. **Figure 8** shows the regional business survival rates for two different years of initial registration, 1995 and 2002, and the percentage still trading three years later. For the most recent year, the region with by far the highest rate of business survivals was Northern Ireland (78.5 per cent) and the regions with the lowest were London (66.9 per cent) followed by the North East (70.4 per cent) and the West Midlands (70.6 per cent).

Figure 8 shows there were improvements in businesses survival rates in all regions over the time period, although the extent of

Table 4

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

		£ million												
		United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
EU25 exports														
2005	Q3	29,408	1,304	2,653	1,672	2,315	1,973	2,536	2,600	4,449	1,454	1,246	1,662	697
	Q4	32,267	1,369	2,789	1,728	2,416	2,139	2,883	2,642	4,938	1,701	1,306	1,629	746
	Total	119,950	5,386	10,546	6,891	9,177	8,227	10,965	9,835	17,736	6,302	5,385	6,315	2,880
2006	Q3	31,649	1,283	3,052	1,557	2,477	2,698	2,634	2,180	4,297	1,577	1,342	1,680	813
	Q4	30,084	1,383	2,543	1,636	2,127	2,129	2,733	2,091	4,546	1,629	1,265	1,617	821
	Total	149,356	5,477	13,849	7,584	10,732	11,232	12,224	14,172	19,340	6,740	5,547	6,787	3,238
Non-EU25 exports														
2005	Q3	23,995	816	2,260	1,232	1,786	1,770	2,049	4,528	3,784	1,094	839	1,739	429
	Q4	25,866	826	2,560	1,404	1,966	2,093	2,434	4,417	4,219	1,179	859	1,663	477
	Total	91,806	2,993	8,761	4,982	6,838	6,978	8,166	16,535	14,495	4,046	3,260	6,347	1,734
2006	Q3	21,892	713	2,301	1,254	1,742	1,534	1,830	3,137	3,663	1,074	981	1,624	460
	Q4	23,365	856	2,421	1,313	1,791	1,579	2,024	3,940	3,465	1,113	947	1,496	505
	Total	92,144	2,966	9,857	4,959	7,151	6,713	7,911	15,071	14,568	4,196	3,745	6,499	1,880

Note:

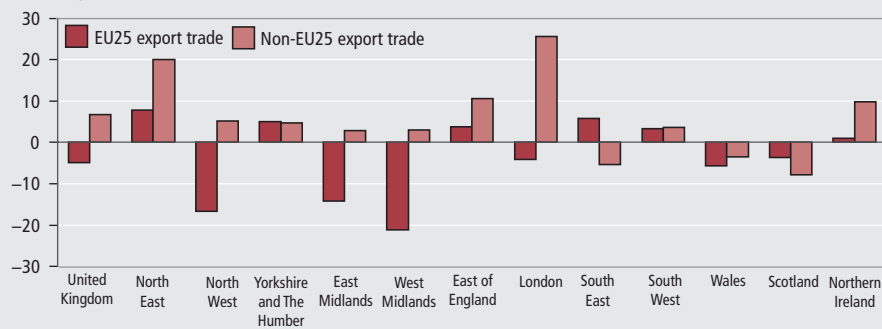
1 UK includes trade that cannot be allocated to a region.

Source: HM Revenue and Customs

Figure 9

Quarterly growth of trade in export goods: by NUTS1 regions, 2006 Q4

Percentages



these did differ by region. Across the UK, between 1995 and 2002, business survival rates improved by 5.7 percentage points. The largest improvement (8.4 percentage points) was in the North West, closely followed by the North East (7.9 percentage points). By contrast, in Northern Ireland, the improvement over the time period was only 0.3 percentage points. However, Northern Ireland was identified above as the strongest region in terms of business survival rates, even though there was only a small increase between the two years. There was a decline in survival rates in Northern Ireland in the first half of this period and an improvement in the second half, whereas all other regions showed a consistent rise over the whole period, although from a lower base. The larger improvements in other regions could be due to numerous factors, but the figures do not suggest significant

overall regional differences in the ability of new businesses to survive.

Competition

HM Revenue and Customs publishes regional trade statistics on export trade in goods by statistical value, which provide an indicator of competition. Trade in goods by definition excludes intangibles and services. The statistical value of export trade is calculated as the value of the goods plus the cost of movement to the country's border. New data for the fourth quarter of 2006 were published in March 2007, presented here in **Table 4**. At the UK level (which includes trade that cannot be allocated to a region), exports to other European Union (EU) member states decreased in the latest quarter by £1,565 million, whereas exports to countries outside the EU25 increased by £1,473 million.

Figure 9 shows the percentage change seen in the fourth quarter of 2006 for both exports to EU member states and exports to countries outside the EU. The decline in exports to the EU25 countries in the fourth quarter of 2006 (identified above) is represented here as a 5 per cent decline. This decline is evident in six regions, most noticeably the West Midlands, the North West and the East Midlands. Export trade to non-EU25 countries grew in the latest quarter in most regions, with the exception of the South East, Wales and Scotland, where there were declines. Growth in London and the North East was particularly significant, at 26 and 20 per cent, respectively.

Figure 10 shows the value of export goods as a percentage of headline workplace-based regional GVA. This basis of interpreting the results is more useful than looking at the absolute numbers because it takes into account the differing sizes of regional economies. In 2005, the North East was the region where exports accounted for the highest percentage of GVA (23 per cent), although this has declined from previous years. The region where exports accounted for the smallest percentage of GVA (12 per cent) in 2005 was the South West, although this is a slightly larger proportion than in previous years. The most significant drop was in Scotland, where exports in 2005 accounted for 9 per cent less in terms of GVA than they did in 2001.

Investment

Physical capital stock directly influences how much one unit of labour can produce and therefore investment in this is closely correlated to productivity improvements. Net capital expenditure can provide a measure of investment. The latest regional breakdown of this indicator was published in September 2006, available from the Annual Business Inquiry. Although there are quality concerns regarding the regional allocations of this variable, it is currently the best available published indicator.

Skills

The skills of workers are important to productivity as they define the capabilities that the labour force can input to the production process. It is useful to be able to analyse skills from two perspectives: the qualifications of the current working age population and the qualifications of young people representing the future capabilities of the labour force.

Data on the highest qualifications of the working age population were updated on the ONS's regional snapshot web pages in

March 2007. The characteristics of the local economies will dictate what labour skills are required and so do affect the analysis of these results.

Figure 11 shows the percentage of the working age population who have no qualifications, by region, against the UK average. Northern Ireland had the highest proportion with no qualifications (8.6 percentage points above the UK average), whereas the opposite was the case in the South East and the South West (4.1 percentage points lower than the UK average). This does not necessarily mean that these regions have the most qualified working age population, but does indicate where there is a large proportion of the working population with no qualifications, even if this is due to the skill requirements dictated by the regional economies. It could also mean that a significant number of those with qualifications have migrated out of these regions.

Data on the percentage of pupils achieving 5 or more grades A*–C at GCSE level or equivalent, for each region in 2005/06, have also been updated and are illustrated in **Figure 12**. Only the East of England, the South East and Northern Ireland were above the UK average, with performance in Northern Ireland noticeable at 4.0 per cent above the UK average. Wales and Yorkshire and the Humber were the regions where this indicator performed the most poorly, at 5.2 and 4.5 per cent, respectively, below the UK average.

The labour market

Table 5 shows the seasonally adjusted employment rate, the number of people of working age in employment, expressed as a proportion of the population, from the Labour Force Survey (LFS).

In quarter four (October to December) of 2006, the UK employment rate was 74.5 per cent, unchanged from a year ago and unchanged from quarter three (July to September). Regional rates varied from 78.7 per cent in the South East to 69.5 per cent in Northern Ireland.

Six regions had an increase over the year. The North East had a rise of 1.2 percentage points compared with a quarterly change of just 0.3 percentage points. Five regions experienced a fall over the year, with the rate for the East Midlands falling by 0.7 percentage points; the rate for Wales was unchanged.

Table 6 shows the unemployment rate (according to the internationally-consistent ILO definition) for persons aged 16 and over from the LFS. The UK rate in the fourth quarter of 2006 was 5.5 per cent,

Figure 10

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

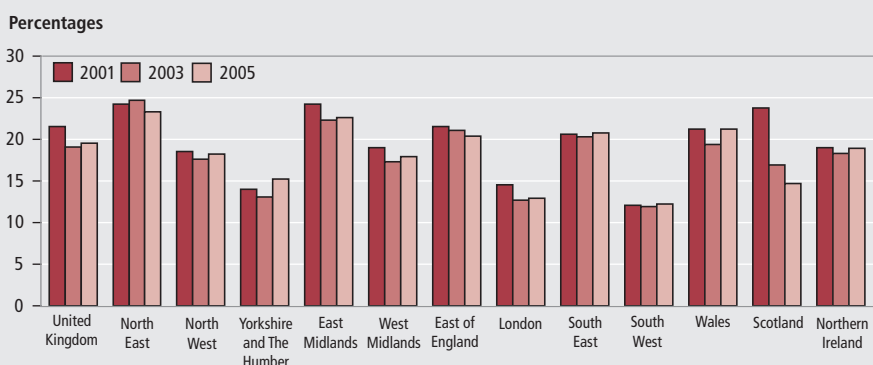


Figure 11

Proportion of working age population with no qualifications: by NUTS1 regions, spring 2006

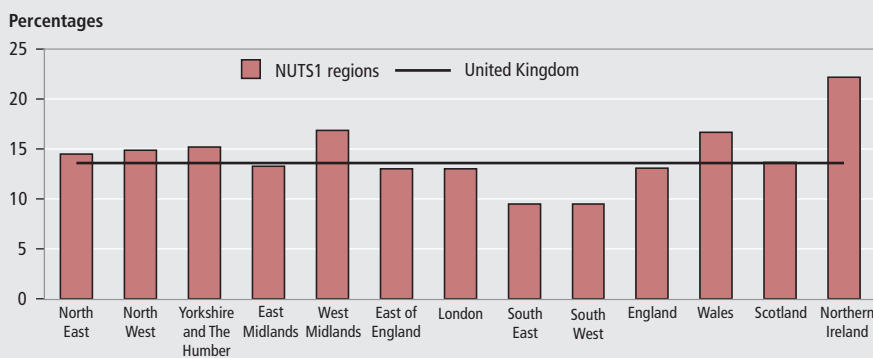


Figure 12

Proportion of pupils achieving 5 or more grades A*–C at GCSE level or equivalent: by NUTS1 regions, 2005/06

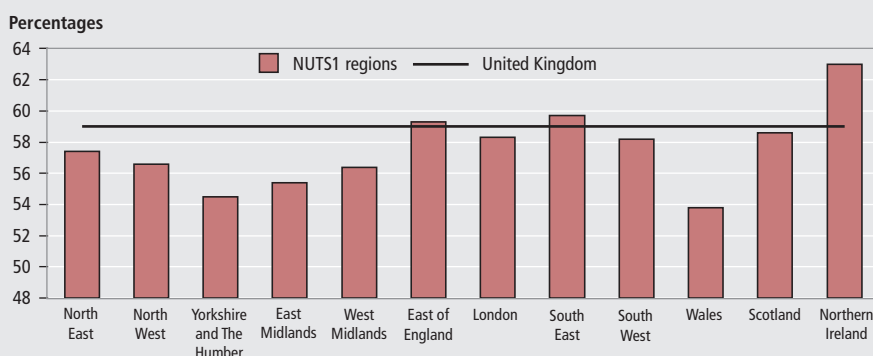


Table 5

Employment¹ rates for persons of working age: by NUTS1 region

Percentages, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2003	Oct–Dec	74.6	69.5	73.4	74.1	76.1	73.4	79.7	69.8	78.9	79.1	75.1	72.1	73.9	66.8
2004	Jan–Mar	74.8	69.8	73.9	74.2	76.4	73.9	79.6	70.2	78.6	79.3	75.2	72.6	74.4	67.1
	Apr–Jun	74.7	69.8	73.8	74.1	76.3	73.9	79.0	70.1	78.7	78.1	75.0	72.6	74.7	66.8
	Jul–Sep	74.7	70.1	73.5	74.3	75.6	75.1	78.9	69.4	79.0	78.7	75.1	71.3	75.0	67.0
	Oct–Dec	74.9	69.8	74.1	74.5	76.1	74.9	78.8	69.3	79.1	78.7	75.2	72.3	75.1	69.2
2005	Jan–Mar	74.9	70.3	73.3	74.5	76.4	74.7	78.8	69.8	78.9	78.8	75.1	71.7	75.3	68.8
	Apr–Jun	74.7	70.2	73.3	74.3	76.5	74.4	78.7	69.3	79.0	78.8	75.0	71.4	75.0	68.5
	Jul–Sep	74.8	69.7	73.5	74.7	77.2	74.0	78.5	69.5	78.9	78.3	75.0	72.3	75.2	69.9
	Oct–Dec	74.5	70.1	72.9	74.4	77.2	73.4	77.5	69.3	78.8	77.8	74.6	71.8	75.4	68.7
2006	Jan–Mar	74.6	70.9	73.4	74.2	77.0	73.8	77.4	69.9	78.8	78.1	74.9	71.5	75.3	69.4
	Apr–Jun	74.6	71.7	73.3	74.1	76.9	73.8	76.9	69.5	79.0	78.4	74.8	71.5	74.8	70.1
	Jul–Sep	74.5	70.9	73.5	73.5	77.1	73.9	77.0	69.5	78.9	77.8	74.7	72.1	75.2	68.9
	Oct–Dec	74.5	71.2	73.0	73.8	76.5	73.2	77.1	69.7	78.7	78.4	74.6	71.8	76.1	69.5

Note:

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

Source: Labour Force Survey

Table 6

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

Percentages, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2003	Oct–Dec	4.9	6.3	4.7	4.9	4.5	5.7	3.4	7.0	3.8	3.0	4.8	4.8	5.8	6.2
2004	Jan–Mar	4.8	5.6	4.5	4.8	4.7	5.5	3.4	7.0	3.8	3.0	4.7	4.6	5.8	5.3
	Apr–Jun	4.8	5.5	4.4	4.6	4.2	5.5	3.8	7.0	3.7	3.7	4.7	4.2	6.0	5.1
	Jul–Sep	4.7	5.9	4.5	4.6	4.1	5.0	3.6	7.2	3.6	3.3	4.6	4.9	5.3	5.0
	Oct–Dec	4.7	6.4	4.6	4.6	4.2	4.7	3.8	7.2	3.5	3.3	4.6	4.2	5.7	4.6
2005	Jan–Mar	4.7	5.8	4.7	4.4	4.3	4.7	3.8	6.7	3.7	3.6	4.6	4.6	5.5	4.8
	Apr–Jun	4.8	6.8	4.4	4.8	4.2	4.7	3.9	7.2	3.8	3.2	4.7	4.6	5.4	4.9
	Jul–Sep	4.8	6.7	4.5	4.5	4.4	4.7	4.1	6.7	4.0	3.7	4.8	4.6	5.5	4.3
	Oct–Dec	5.1	6.5	4.9	5.4	4.6	5.3	4.5	7.4	4.2	3.9	5.2	4.9	5.2	4.5
2006	Jan–Mar	5.2	6.6	4.9	5.4	5.0	5.2	4.8	7.7	4.5	3.6	5.3	4.8	5.3	4.4
	Apr–Jun	5.5	6.1	5.3	5.7	5.4	5.7	5.0	7.9	4.7	3.7	5.5	5.7	5.4	4.2
	Jul–Sep	5.6	6.9	5.6	6.0	5.3	6.1	5.0	8.0	4.5	3.9	5.7	5.4	5.0	4.7
	Oct–Dec	5.5	6.5	5.3	6.0	5.8	6.5	4.5	7.9	4.3	3.8	5.6	5.2	5.2	4.2

Source: Labour Force Survey

down 0.1 percentage point from the previous quarter but up 0.4 percentage points on a year earlier. Regionally, the rates ranged from 7.9 per cent in London to 3.8 per cent in the South West.

Over the year, unemployment has increased in seven regions. Two regions had an increase of more than 1 percentage point: the West Midlands (1.2 percentage points) and the East Midlands (1.1 percentage points). Two regions, the South West and Northern Ireland, had annual falls. Three regions experienced no change in the unemployment rate over the year.

Table 7 shows economic inactivity rates for persons of working age from the LFS.

The UK rate in the fourth quarter of 2006 was 21.0 per cent, unchanged from the previous quarter and down 0.4 percentage points on a year earlier. Across the regions, rates varied from 17.7 per cent in the South East to 27.4 per cent in Northern Ireland.

Compared with a year earlier, nine regions had a decrease in the inactivity rate, and thus a corresponding increase in the working-age activity rate. The North East had the largest rise of 1.3 percentage points. Two regions, the East of England and

Yorkshire and The Humber, had an annual increase; the South East was unchanged.

Table 8 shows the number of employee jobs, not seasonally adjusted, from the Employer Surveys. The number of UK employee jobs was 27,298,000, an increase of 233,000 over the year to December 2006. In percentage terms, this was a 0.9 per cent increase.

There were rises in all regions except the North West and the West Midlands. The largest percentage increases were in Wales (3.6 per cent), the East Midlands (2.0 per cent) and Northern Ireland (1.5 per cent).

Table 9 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 2.9 per cent in March 2007, unchanged since January 2007, but 0.1 percentage point down on a year earlier. This national rate masks large variations between regions and component countries of the UK. The North East continues to have the highest claimant count

rate in the UK and in March 2007 stood at 4.4 per cent. This region has had the highest rate in every year since 1999. The North East is followed by the West Midlands (3.9 per cent) and London and the North West, both at 3.3 per cent. The South East and the South West had the lowest claimant count rates, at 1.7 and 1.8 per cent, respectively. The claimant count rate was 3.0 per cent in all three devolved administrations.

Compared with a year earlier, six regions had a lower claimant count rate. Scotland and Northern Ireland had the largest decrease of 0.3 percentage points. Four regions experienced a rise in the claimant count rate. The North East had an increase of 0.2 percentage points. Rates for two regions, the South West and the West Midlands, were unchanged from the previous year.

Table 7

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

		Percentages, seasonally adjusted													
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2003	Oct–Dec	21.5	25.7	22.9	22.0	20.3	22.1	17.4	24.8	17.8	18.3	21.1	24.2	21.5	28.6
2004	Jan–Mar	21.3	25.9	22.5	22.0	19.8	21.7	17.5	24.5	18.2	18.3	21.0	23.7	20.9	29.1
	Apr–Jun	21.5	26.0	22.7	22.3	20.3	21.6	17.8	24.5	18.2	18.9	21.2	24.1	20.5	29.4
	Jul–Sep	21.5	25.4	23.0	22.1	21.1	20.9	18.1	25.1	17.9	18.6	21.2	24.9	20.7	29.4
	Oct–Dec	21.3	25.3	22.3	21.8	20.5	21.3	18.0	25.3	17.9	18.6	21.1	24.5	20.2	27.4
2005	Jan–Mar	21.4	25.3	23.0	22.0	20.2	21.6	18.0	25.0	18.0	18.2	21.2	24.7	20.1	27.6
	Apr–Jun	21.5	24.6	23.2	21.9	20.1	21.8	18.1	25.2	17.8	18.5	21.2	25.1	20.6	27.8
	Jul–Sep	21.3	25.3	22.9	21.6	19.2	22.2	18.0	25.3	17.8	18.6	21.2	24.1	20.3	26.9
	Oct–Dec	21.4	25.0	23.3	21.2	18.9	22.4	18.7	25.1	17.7	18.9	21.2	24.4	20.4	28.0
2006	Jan–Mar	21.1	23.9	22.7	21.5	18.8	22.0	18.6	24.2	17.4	18.9	20.8	24.8	20.4	27.3
	Apr–Jun	21.0	23.5	22.5	21.3	18.6	21.6	18.9	24.4	17.1	18.4	20.7	24.0	20.8	26.7
	Jul–Sep	21.0	23.8	22.1	21.7	18.5	21.2	18.9	24.2	17.3	18.9	20.7	23.7	20.8	27.5
	Oct–Dec	21.0	23.7	22.8	21.3	18.7	21.6	19.1	24.2	17.7	18.4	20.8	24.1	19.7	27.4

Source: Labour Force Survey

Table 8

Employee jobs:¹ by NUTS1 region

		Thousands, not seasonally adjusted													
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
Dec 02		26,296	1,005	2,973	2,152	1,746	2,330	2,282	3,965	3,668	2,117	22,238	1,101	2,281	675
Dec 03		26,407	1,015	2,979	2,196	1,773	2,325	2,310	3,935	3,620	2,141	22,294	1,122	2,308	683
Dec 04		26,733	1,015	3,030	2,250	1,803	2,346	2,302	3,963	3,652	2,176	22,537	1,164	2,337	696
Dec 05		27,065	1,064	2,961	2,252	1,845	2,363	2,340	4,036	3,740	2,197	22,798	1,186	2,379	703
Mar 06		26,861	1,053	2,934	2,234	1,833	2,333	2,311	4,012	3,710	2,190	22,610	1,184	2,368	700
Jun 06		27,035	1,061	2,946	2,243	1,844	2,341	2,331	4,035	3,735	2,211	22,747	1,203	2,383	700
Sep 06		27,073	1,057	2,936	2,252	1,854	2,342	2,345	4,034	3,737	2,209	22,766	1,219	2,384	704
Dec 06		27,298	1,070	2,954	2,262	1,882	2,357	2,361	4,081	3,761	2,222	22,950	1,228	2,406	713

Note:

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

Source: Employer Surveys

Table 9
Claimant count rates:¹ by NUTS1 region

Percentages, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2002		3.1	5.0	3.5	3.6	2.9	3.5	2.1	3.6	1.6	1.9	2.9	3.6	3.8	4.4
2003		3.0	4.5	3.2	3.3	2.8	3.5	2.1	3.6	1.7	1.9	2.9	3.3	3.7	4.1
2004		2.7	4.0	2.8	2.8	2.5	3.3	2.0	3.5	1.6	1.6	2.6	3.0	3.5	3.6
2005		2.7	3.9	2.9	2.9	2.5	3.4	2.1	3.4	1.6	1.6	2.6	3.0	3.2	3.3
2006		3.0	4.3	3.3	3.3	2.9	4.0	2.4	3.5	1.9	1.8	2.9	3.2	3.3	3.2
2006	Mar	3.0	4.2	3.2	3.3	2.8	3.9	2.3	3.5	1.9	1.8	2.9	3.2	3.3	3.3
	Apr	3.0	4.2	3.3	3.3	2.9	4.0	2.4	3.5	1.9	1.8	2.9	3.2	3.3	3.3
	May	3.0	4.3	3.3	3.3	2.9	4.0	2.4	3.6	1.9	1.8	3.0	3.2	3.3	3.3
	Jun	3.0	4.3	3.3	3.4	2.9	4.0	2.4	3.6	1.9	1.9	3.0	3.2	3.3	3.2
	Jul	3.0	4.3	3.3	3.4	2.9	4.0	2.4	3.6	1.9	1.9	3.0	3.2	3.3	3.2
	Aug	3.0	4.3	3.3	3.4	2.9	4.0	2.4	3.5	1.9	1.9	3.0	3.2	3.3	3.2
	Sept	3.0	4.3	3.4	3.4	3.0	4.0	2.4	3.5	1.9	1.9	3.0	3.2	3.3	3.2
	Oct	3.0	4.3	3.4	3.4	2.9	4.0	2.4	3.5	1.9	1.9	3.0	3.2	3.3	3.2
	Nov	3.0	4.4	3.3	3.3	2.9	4.0	2.4	3.5	1.8	1.9	3.0	3.1	3.2	3.2
	Dec	3.0	4.4	3.3	3.3	2.9	4.0	2.4	3.4	1.8	1.8	2.9	3.1	3.2	3.1
2007	Jan	2.9	4.3	3.3	3.3	2.9	4.0	2.4	3.4	1.8	1.8	2.9	3.0	3.0	3.0
	Feb	2.9	4.4	3.3	3.2	2.9	4.0	2.4	3.3	1.8	1.8	2.9	3.1	3.1	3.0
	Mar	2.9	4.4	3.3	3.2	2.9	3.9	2.4	3.3	1.7	1.8	2.9	3.0	3.0	3.0

Note:

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

Source: Jobcentre Plus administrative system

CONTACT

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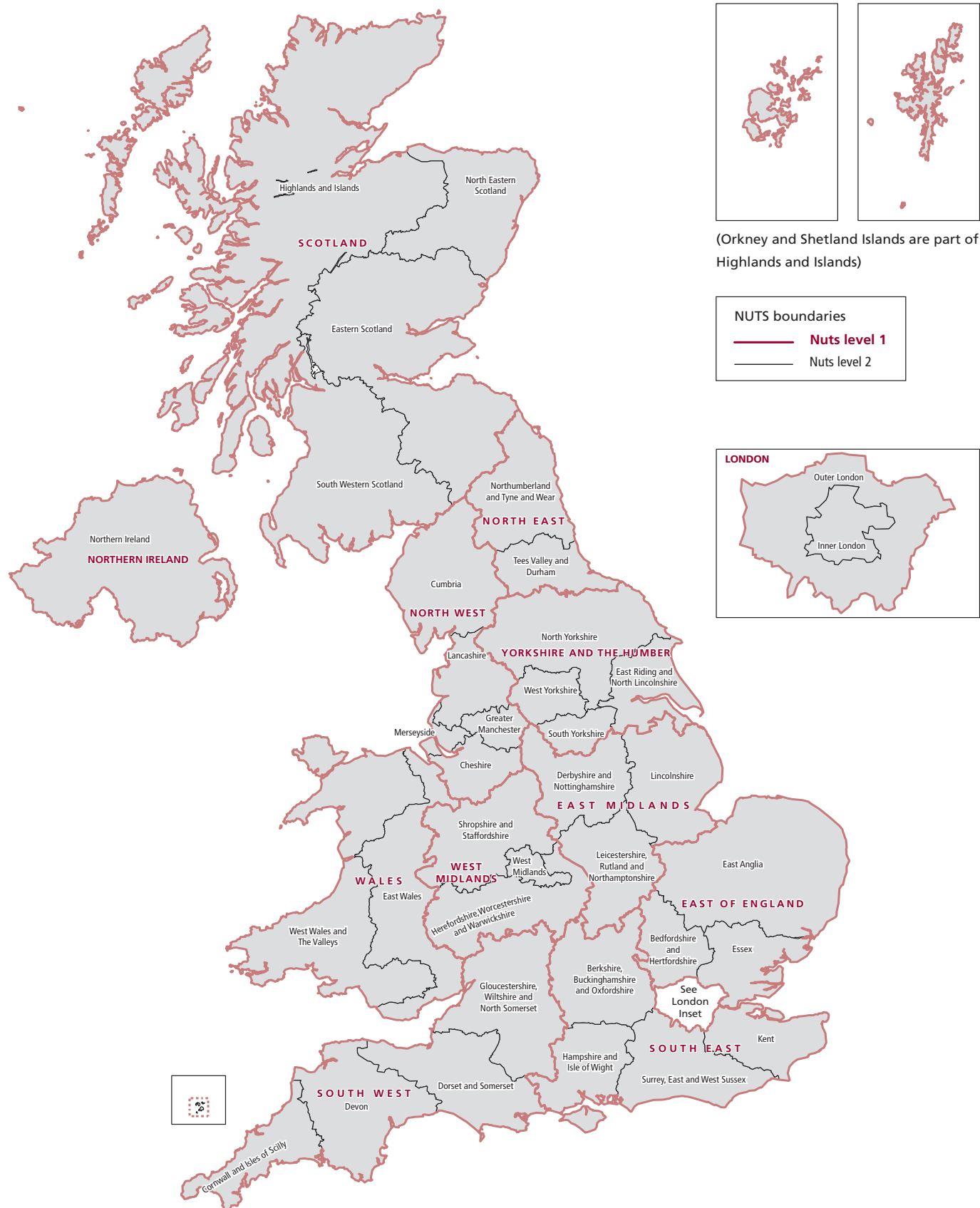
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Map

NUTS¹ levels 1 and 2

United Kingdom



1 Nomenclature of Units for Territorial Statistics.

Key time series

National accounts aggregates

Last updated: 25/04/07

Seasonally adjusted

	£ million		Indices (2003 = 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
2001	996,987	882,753	89.8	89.6	93.8	95.4	95.7	94.1	93.6
2002	1,048,767	930,297	94.5	94.4	97.2	97.4	97.4	97.0	96.9
2003	1,110,296	985,558	100.0	100.0	100.0	100.0	100.0	100.0	100.0
2004	1,176,527	1,044,165	106.0	105.9	103.4	103.3	103.3	102.6	102.6
2005	1,225,978	1,088,506	110.4	110.4	104.5	105.3	105.3	104.9	104.9
2006	1,289,989	1,145,167	116.2	116.2	106.6	108.2	108.2	107.4	107.4
2001 Q1	246,345	217,972	88.7	88.5	93.2	95.0	95.4	93.4	92.7
2001 Q2	248,058	219,362	89.4	89.0	93.4	95.1	95.4	94.0	93.3
2001 Q3	249,447	220,955	89.9	89.7	94.5	95.7	95.9	93.9	93.5
2001 Q4	253,137	224,464	91.2	91.1	94.2	96.0	96.1	95.0	94.8
2002 Q1	257,368	228,051	92.7	92.6	95.9	96.5	96.6	96.1	95.8
2002 Q2	261,028	231,626	94.0	94.0	96.3	97.1	97.0	96.9	96.9
2002 Q3	264,049	234,316	95.1	95.1	98.4	97.8	97.7	97.3	97.3
2002 Q4	266,322	236,304	95.9	95.9	98.3	98.3	98.2	97.6	97.6
2003 Q1	270,918	240,577	97.6	97.6	99.4	98.8	98.8	98.8	98.8
2003 Q2	275,130	244,438	99.1	99.2	98.9	99.3	99.3	99.8	99.9
2003 Q3	280,024	248,520	100.9	100.9	100.0	100.4	100.4	100.5	100.5
2003 Q4	284,224	252,023	102.4	102.3	101.7	101.5	101.6	100.9	100.7
2004 Q1	286,975	254,169	103.4	103.2	101.9	102.2	102.2	101.1	100.9
2004 Q2	293,120	260,148	105.6	105.6	103.2	103.1	103.2	102.4	102.4
2004 Q3	295,998	262,789	106.6	106.7	103.0	103.5	103.5	103.0	103.0
2004 Q4	300,434	267,059	108.2	108.4	105.4	104.1	104.2	103.9	104.0
2005 Q1	301,795	267,882	108.7	108.7	104.2	104.5	104.6	104.1	104.0
2005 Q2	304,745	270,605	109.8	109.8	105.6	104.9	105.0	104.6	104.6
2005 Q3	306,936	272,028	110.6	110.4	103.9	105.5	105.5	104.8	104.6
2005 Q4	312,502	277,991	112.6	112.8	104.4	106.1	106.2	106.1	106.2
2006 Q1	315,133	279,917	113.5	113.6	105.3	107.0	107.1	106.1	106.1
2006 Q2	319,346	283,338	115.0	115.0	107.0	107.8	107.9	106.7	106.6
2006 Q3	325,413	288,772	117.2	117.2	107.0	108.6	108.6	108.0	107.9
2006 Q4	330,097	293,140	118.9	119.0	107.1	109.3	109.3	108.8	108.8
2007 Q1						110.0	110.1		
Percentage change, quarter on corresponding quarter of previous year ⁴									
2001 Q1	5.0	5.3	5.0	5.4	3.3	2.9	2.9	2.0	2.3
2001 Q2	4.6	5.0	4.6	5.0	3.1	2.3	2.1	2.3	2.8
2001 Q3	4.1	4.5	4.2	4.5	3.1	2.4	1.9	1.7	2.5
2001 Q4	4.7	5.1	4.7	5.2	3.7	2.0	1.6	2.7	3.5
2002 Q1	4.5	4.6	4.5	4.6	2.9	1.6	1.3	2.9	3.3
2002 Q2	5.2	5.6	5.1	5.6	3.1	2.1	1.7	3.1	3.9
2002 Q3	5.9	6.0	5.8	6.0	4.1	2.2	1.9	3.6	4.1
2002 Q4	5.2	5.3	5.2	5.3	4.4	2.4	2.2	2.7	3.0
2003 Q1	5.3	5.5	5.3	5.4	3.6	2.4	2.3	2.8	3.1
2003 Q2	5.4	5.5	5.4	5.5	2.7	2.3	2.4	3.0	3.1
2003 Q3	6.1	6.1	6.1	6.1	1.6	2.7	2.8	3.3	3.3
2003 Q4	6.7	6.7	6.8	6.7	3.5	3.3	3.5	3.4	3.2
2004 Q1	5.9	5.6	5.9	5.7	2.5	3.4	3.4	2.3	2.1
2004 Q2	6.5	6.4	6.6	6.5	4.3	3.8	3.9	2.6	2.5
2004 Q3	5.7	5.7	5.6	5.7	3.0	3.1	3.1	2.5	2.5
2004 Q4	5.7	6.0	5.7	6.0	3.6	2.6	2.6	3.0	3.3
2005 Q1	5.2	5.4	5.1	5.3	2.3	2.3	2.3	3.0	3.1
2005 Q2	4.0	4.0	4.0	4.0	2.3	1.7	1.7	2.1	2.1
2005 Q3	3.7	3.5	3.8	3.5	0.9	1.9	1.9	1.7	1.6
2005 Q4	4.0	4.1	4.1	4.1	-0.9	1.9	1.9	2.1	2.1
2006 Q1	4.4	4.5	4.4	4.5	1.1	2.4	2.4	1.9	2.0
2006 Q2	4.8	4.7	4.7	4.7	1.3	2.8	2.8	2.0	1.9
2006 Q3	6.0	6.2	6.0	6.2	3.0	2.9	2.9	3.1	3.2
2006 Q4	5.6	5.4	5.6	5.5	2.6	3.0	2.9	2.5	2.4
2007 Q1						2.8	2.8		

Notes:

1 "Money GDP".

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

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

4 For index number series, these are derived from the rounded figures shown in the table.

Source: Office for National Statistics

Gross domestic product: by category of expenditure

Last updated: 25/04/07

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

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation				Exports of goods and services	Gross final expenditure	less imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic at product market prices
	Households	Non-profit institutions¹	General government	Gross fixed capital formation	Changes in inventories²	Acquisitions less disposals of valuables	Total					
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2001	653,326	27,155	217,359	171,639	5,577	342	1,075,760	277,694	1,353,632	294,449	0	1,059,648
2002	676,833	27,130	224,868	178,066	2,289	183	1,109,596	280,593	1,390,217	308,706	0	1,081,469
2003	697,160	27,185	232,699	178,751	3,983	-37	1,139,741	285,397	1,425,138	314,842	0	1,110,296
2004	721,434	27,327	240,129	189,492	4,597	-42	1,182,937	299,289	1,482,225	335,703	0	1,146,523
2005	731,274	28,119	247,412	195,107	3,611	-354	1,205,170	322,869	1,528,039	359,132	-233	1,168,674
2006	744,933	29,883	253,235	207,704	5,501	66	1,241,322	360,440	1,601,762	401,331	529	1,200,960
2001 Q1	161,204	6,873	53,609	42,555	1,643	-26	265,928	71,295	337,389	73,841	0	263,631
2001 Q2	162,333	6,788	53,894	43,242	1,802	202	268,431	69,333	337,813	73,937	0	263,935
2001 Q3	164,239	6,762	54,600	43,357	1,743	30	270,836	67,921	338,708	73,327	0	265,519
2001 Q4	165,550	6,732	55,256	42,485	389	136	270,565	69,145	339,722	73,344	0	266,563
2002 Q1	167,588	6,762	55,756	42,927	1,047	66	274,166	69,440	343,608	75,709	0	267,948
2002 Q2	168,803	6,756	56,288	43,981	385	48	276,273	71,533	347,850	78,367	0	269,392
2002 Q3	169,715	6,793	56,429	44,765	511	62	278,337	71,056	349,422	78,006	0	271,368
2002 Q4	170,727	6,819	56,395	46,393	346	7	280,820	68,564	349,337	76,624	0	272,761
2003 Q1	171,828	6,843	57,099	44,934	-571	-8	280,285	72,662	352,958	78,836	0	274,119
2003 Q2	174,146	6,779	57,684	44,161	-644	94	282,367	70,611	352,971	77,283	0	275,712
2003 Q3	175,140	6,790	58,445	43,924	2,264	-68	286,503	70,334	356,830	78,089	0	278,748
2003 Q4	176,046	6,773	59,471	45,732	2,934	-55	290,586	71,790	362,379	80,634	0	281,717
2004 Q1	178,197	6,830	59,969	47,256	-381	112	291,983	73,389	365,373	81,648	0	283,725
2004 Q2	180,362	6,805	59,530	47,102	1,050	-90	294,759	74,861	369,620	83,313	0	286,307
2004 Q3	181,032	6,826	60,002	47,813	1,025	-96	296,603	75,097	371,700	84,300	0	287,400
2004 Q4	181,843	6,866	60,628	47,321	2,903	32	299,592	75,942	375,532	86,442	0	289,091
2005 Q1	182,197	6,996	60,908	48,106	2,029	-158	300,079	75,533	375,611	85,591	-75	289,945
2005 Q2	182,206	6,975	61,792	47,937	678	86	299,673	79,293	378,967	87,595	-75	291,297
2005 Q3	182,998	7,028	62,272	49,524	474	-201	302,095	82,167	384,262	91,391	-58	292,813
2005 Q4	183,873	7,120	62,440	49,540	430	-81	303,323	85,876	389,199	94,555	-25	294,619
2006 Q1	183,907	7,325	62,705	50,616	2,173	-128	306,599	93,903	400,502	103,587	89	297,004
2006 Q2	185,998	7,415	63,106	51,207	2,407	233	310,366	96,086	406,451	107,282	126	299,295
2006 Q3	186,543	7,508	63,495	52,273	1,310	-29	311,100	85,409	396,509	95,344	150	301,316
2006 Q4	188,485	7,635	63,929	53,608	-389	-10	313,257	85,042	398,300	95,118	164	303,345
2007 Q1												305,468

Percentage change, quarter on corresponding quarter of previous year

2001 Q1	2.1	3.9	1.8	3.0			2.8	9.7	4.3	9.0		2.9
2001 Q2	2.9	0.6	1.6	5.4			3.2	3.0	3.1	6.1		2.2
2001 Q3	3.4	-1.6	2.8	3.6			3.0	1.0	2.6	3.6		2.3
2001 Q4	4.0	-3.0	3.3	-1.8			2.7	-1.6	1.7	0.7		2.0
2002 Q1	4.0	-1.6	4.0	0.9			3.1	-2.6	1.8	2.5		1.6
2002 Q2	4.0	-0.5	4.4	1.7			2.9	3.2	3.0	6.0		2.1
2002 Q3	3.3	0.5	3.3	3.2			2.8	4.6	3.2	6.4		2.2
2002 Q4	3.1	1.3	2.1	9.2			3.8	-0.8	2.8	4.5		2.3
2003 Q1	2.5	1.2	2.4	4.7			2.2	4.6	2.7	4.1		2.3
2003 Q2	3.2	0.3	2.5	0.4			2.2	-1.3	1.5	-1.4		2.3
2003 Q3	3.2	0.0	3.6	-1.9			2.9	-1.0	2.1	0.1		2.7
2003 Q4	3.1	-0.7	5.5	-1.4			3.5	4.7	3.7	5.2		3.3
2004 Q1	3.7	-0.2	5.0	5.2			4.2	1.0	3.5	3.6		3.5
2004 Q2	3.6	0.4	3.2	6.7			4.4	6.0	4.7	7.8		3.8
2004 Q3	3.4	0.5	2.7	8.9			3.5	6.8	4.2	8.0		3.1
2004 Q4	3.3	1.4	1.9	3.5			3.1	5.8	3.6	7.2		2.6
2005 Q1	2.2	2.4	1.6	1.8			2.8	2.9	2.8	4.8		2.2
2005 Q2	1.0	2.5	3.8	1.8			1.7	5.9	2.5	5.1		1.7
2005 Q3	1.1	3.0	3.8	3.6			1.9	9.4	3.4	8.4		1.9
2005 Q4	1.1	3.7	3.0	4.7			1.2	13.1	3.6	9.4		1.9
2006 Q1	0.9	4.7	3.0	5.2			2.2	24.3	6.6	21.0		2.4
2006 Q2	2.1	6.3	2.1	6.8			3.6	21.2	7.3	22.5		2.7
2006 Q3	1.9	6.8	2.0	5.6			3.0	3.9	3.2	4.3		2.9
2006 Q4	2.5	7.2	2.4	8.2			3.3	-1.0	2.3	0.6		3.0
2007 Q1												2.8

Notes:

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

Source: Office for National Statistics

Labour market summary

Last updated: 18/04/07

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
Dec-Feb 2005	47,615	30,130	28,690	1,440	17,485	63.3	60.3	4.8	36.7
Dec-Feb 2006	48,007	30,410	28,835	1,574	17,598	63.3	60.1	5.2	36.7
Mar-May 2006	48,100	30,552	28,895	1,657	17,548	63.5	60.1	5.4	36.5
Jun-Aug 2006	48,193	30,717	29,015	1,702	17,476	63.7	60.2	5.5	36.3
Sep-Nov 2006	48,285	30,703	29,029	1,674	17,583	63.6	60.1	5.5	36.4
Dec-Feb 2007	48,378	30,677	28,982	1,694	17,701	63.4	59.9	5.5	36.6
Male	MGSM	MMSG	MGSA	MGSD	MGSJ	MGWH	MGSS	MGSY	YBTD
Dec-Feb 2005	23,070	16,312	15,470	841	6,759	70.7	67.1	5.2	29.3
Dec-Feb 2006	23,285	16,453	15,543	910	6,832	70.7	66.8	5.5	29.3
Mar-May 2006	23,336	16,533	15,563	971	6,803	70.8	66.7	5.9	29.2
Jun-Aug 2006	23,387	16,609	15,632	977	6,778	71.0	66.8	5.9	29.0
Sep-Nov 2006	23,439	16,617	15,664	953	6,822	70.9	66.8	5.7	29.1
Dec-Feb 2007	23,492	16,629	15,660	969	6,863	70.8	66.7	5.8	29.2
Female	MGSN	MGSB	MGSB	MGSE	MGSK	MGWI	MGST	MGSZ	YBTE
Dec-Feb 2005	24,545	13,819	13,220	599	10,726	56.3	53.9	4.3	43.7
Dec-Feb 2006	24,722	13,956	13,292	664	10,766	56.5	53.8	4.8	43.5
Mar-May 2006	24,764	14,019	13,332	686	10,745	56.6	53.8	4.9	43.4
Jun-Aug 2006	24,806	14,108	13,383	726	10,697	56.9	54.0	5.1	43.1
Sep-Nov 2006	24,846	14,086	13,365	721	10,760	56.7	53.8	5.1	43.3
Dec-Feb 2007	24,886	14,048	13,323	725	10,839	56.4	53.5	5.2	43.6

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
Dec-Feb 2005	36,883	29,069	27,647	1,422	7,814	78.8	75.0	4.9	21.2
Dec-Feb 2006	37,164	29,252	27,703	1,549	7,912	78.7	74.5	5.3	21.3
Mar-May 2006	37,230	29,388	27,757	1,631	7,843	78.9	74.6	5.5	21.1
Jun-Aug 2006	37,296	29,517	27,841	1,676	7,779	79.1	74.6	5.7	20.9
Sep-Nov 2006	37,337	29,484	27,837	1,647	7,853	79.0	74.6	5.6	21.0
Dec-Feb 2007	37,378	29,449	27,778	1,671	7,929	78.8	74.3	5.7	21.2
Male	YBTG	YBSL	YBSF	YBSI	YBSO	MGSP	MGSV	YBTJ	YBTM
Dec-Feb 2005	19,067	15,950	15,119	831	3,117	83.7	79.3	5.2	16.3
Dec-Feb 2006	19,238	16,060	15,160	900	3,178	83.5	78.8	5.6	16.5
Mar-May 2006	19,280	16,138	15,178	960	3,142	83.7	78.7	5.9	16.3
Jun-Aug 2006	19,322	16,209	15,244	965	3,113	83.9	78.9	6.0	16.1
Sep-Nov 2006	19,360	16,203	15,260	943	3,156	83.7	78.8	5.8	16.3
Dec-Feb 2007	19,398	16,216	15,256	961	3,182	83.6	78.6	5.9	16.4
Female	YBTH	YBSM	YBSG	YBSJ	YBSP	MGSQ	MGSW	YBTK	YBTN
Dec-Feb 2005	17,816	13,119	12,528	591	4,697	73.6	70.3	4.5	26.4
Dec-Feb 2006	17,926	13,192	12,543	649	4,734	73.6	70.0	4.9	26.4
Mar-May 2006	17,950	13,249	12,578	671	4,701	73.8	70.1	5.1	26.2
Jun-Aug 2006	17,975	13,308	12,598	711	4,666	74.0	70.1	5.3	26.0
Sep-Nov 2006	17,977	13,280	12,577	704	4,697	73.9	70.0	5.3	26.1
Dec-Feb 2007	17,980	13,233	12,523	710	4,747	73.6	69.6	5.4	26.4

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: 020 7533 6094

Prices

Last updated: 17/04/07

Percentage change over 12 months

	Consumer prices						Not seasonally adjusted, except for series PLLW, RNPE and RNPF			
	Consumer prices index (CPI)			Retail prices index (RPI)			Producer prices			
							Output prices		Input prices	
	All items	CPI excluding indirect taxes (CPIY) ¹	CPI at constant tax rates (CPI-CT)	All items	All items excluding mortgage interest payments (RPIX)	All items excluding mortgage interest payments and indirect taxes (RPIY) ²	All manufactured products	Excluding food, beverages, tobacco and petroleum products	Materials and fuels purchased by manufacturing industry	Excluding food, beverages, tobacco and petroleum products
	D7G7	EL25	EAD6	CZBH	CDKQ	CBZX	PLLW ³	PLLW ³	RNPE ³	RNPF ³
2003 Jan	1.3			2.9	2.7	2.9	1.3	0.9	1.7	-2.2
2003 Feb	1.6			3.2	3.0	3.1	1.5	1.1	2.5	-2.0
2003 Mar	1.5			3.1	3.0	3.2	2.1	1.3	0.8	-1.5
2003 Apr	1.4			3.1	3.0	2.9	1.6	1.3	-1.3	-0.6
2003 May	1.3			3.0	2.9	2.7	1.1	1.2	-0.1	-0.2
2003 Jun	1.1			2.9	2.8	2.7	1.1	1.2	0.0	-1.2
2003 Jul	1.3			3.1	2.9	2.8	1.3	1.3	0.6	-0.5
2003 Aug	1.4			2.9	2.9	2.7	1.5	1.2	1.9	0.0
2003 Sep	1.4			2.8	2.8	2.7	1.4	1.4	1.3	1.0
2003 Oct	1.4			2.6	2.7	2.4	1.5	1.3	2.5	1.2
2003 Nov	1.3			2.5	2.5	2.1	1.7	1.4	4.6	1.7
2003 Dec	1.3	1.1	1.1	2.8	2.6	2.2	1.8	1.5	2.0	0.4
2004 Jan	1.4	1.5	1.3	2.6	2.4	2.0	1.6	1.4	-0.3	0.0
2004 Feb	1.3	1.3	1.1	2.5	2.3	1.9	1.6	1.5	-1.3	-0.5
2004 Mar	1.1	1.1	1.0	2.6	2.1	1.7	1.4	1.5	0.9	-0.1
2004 Apr	1.1	1.1	1.0	2.5	2.0	1.8	1.8	1.3	2.9	-0.2
2004 May	1.5	1.4	1.3	2.8	2.3	2.2	2.5	1.4	5.6	0.7
2004 Jun	1.6	1.5	1.4	3.0	2.3	2.3	2.6	1.4	3.7	1.3
2004 Jul	1.4	1.4	1.2	3.0	2.2	2.0	2.6	1.7	3.7	1.4
2004 Aug	1.3	1.3	1.1	3.2	2.2	2.0	2.8	2.2	4.6	2.3
2004 Sep	1.1	1.0	0.9	3.1	1.9	1.7	3.1	2.3	8.1	3.8
2004 Oct	1.2	1.2	1.1	3.3	2.1	2.0	3.5	2.9	9.2	4.8
2004 Nov	1.5	1.4	1.4	3.4	2.2	2.2	3.5	2.9	6.7	4.6
2004 Dec	1.7	1.7	1.6	3.5	2.5	2.5	2.9	2.5	4.4	4.2
2005 Jan	1.6	1.7	1.5	3.2	2.1	2.0	2.6	2.5	9.6	7.5
2005 Feb	1.7	1.7	1.6	3.2	2.1	2.0	2.7	2.5	11.0	8.2
2005 Mar	1.9	2.0	1.8	3.2	2.4	2.3	2.9	2.4	11.1	7.4
2005 Apr	1.9	2.0	1.9	3.2	2.3	2.3	3.3	2.6	10.0	7.0
2005 May	1.9	2.0	1.8	2.9	2.1	2.2	2.7	2.5	7.6	6.5
2005 Jun	2.0	2.2	1.9	2.9	2.2	2.2	2.5	2.3	12.0	7.4
2005 Jul	2.3	2.5	2.3	2.9	2.4	2.5	3.1	2.2	13.9	8.6
2005 Aug	2.4	2.6	2.3	2.8	2.3	2.3	3.0	1.9	12.8	7.5
2005 Sep	2.5	2.6	2.4	2.7	2.5	2.5	3.3	2.1	10.5	5.7
2005 Oct	2.3	2.5	2.3	2.5	2.4	2.3	2.6	1.4	8.9	7.0
2005 Nov	2.1	2.3	2.1	2.4	2.3	2.3	2.3	1.3	13.6	9.6
2005 Dec	1.9	2.1	1.8	2.2	2.0	2.0	2.4	1.7	17.9	12.1
2006 Jan	1.9	2.1	1.9	2.4	2.3	2.3	2.9	1.8	15.8	10.3
2006 Feb	2.0	2.1	2.0	2.4	2.3	2.3	2.9	1.8	15.4	10.7
2006 Mar	1.8	1.9	1.7	2.4	2.1	2.2	2.5	1.9	12.9	10.0
2006 Apr	2.0	2.1	2.0	2.6	2.4	2.3	2.5	2.3	15.2	10.0
2006 May	2.2	2.3	2.2	3.0	2.9	2.8	3.1	2.5	13.6	8.6
2006 Jun	2.5	2.6	2.4	3.3	3.1	3.2	3.4	2.9	11.1	8.7
2006 Jul	2.4	2.4	2.3	3.3	3.1	3.2	2.9	2.5	10.5	8.2
2006 Aug	2.5	2.6	2.4	3.4	3.3	3.4	2.7	2.3	8.0	7.8
2006 Sep	2.4	2.6	2.3	3.6	3.2	3.3	1.9	2.1	5.1	7.0
2006 Oct	2.4	2.7	2.3	3.7	3.2	3.3	1.6	2.6	4.7	6.1
2006 Nov	2.7	3.0	2.6	3.9	3.4	3.6	1.8	2.6	3.3	4.7
2006 Dec	3.0	3.2	2.9	4.4	3.8	3.9	2.2	2.6	2.1	2.8
2007 Jan	2.7	2.9	2.6	4.2	3.5	3.7	2.2	2.6	-2.1	1.6
2007 Feb	2.8	2.9	2.6	4.6	3.7	3.9	2.2	2.7	-0.9	1.3
2007 Mar	3.1	3.1	2.9	4.8	3.9	4.0	2.7	2.9	0.7	2.4

Notes:

Source: Office for National Statistics

1 The taxes excluded are VAT, duties, insurance premium tax, air passenger duty and stamp duty on share transactions.

2 The taxes excluded are council tax, VAT, duties, vehicle excise duty, insurance premium tax and air passenger duty.

3 Derived from these identification (CDID) codes.

NOTES TO TABLES

Identification (CDID) codes

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

Conventions

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

The following standard symbols are used:

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

CONCEPTS AND DEFINITIONS

Labour Force Survey 'monthly' estimates

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

Labour market summary**Economically active**

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

Economically inactive

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

Employment and jobs

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

Unemployment

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

Unemployed people:

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

Other key indicators**Claimant count**

The number of people claiming Jobseeker's Allowance benefits.

Earnings

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

Productivity

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

Redundancies

The number of people who:

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

plus the number of people who:

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

Unit wage costs

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

Vacancies

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

Directory of online tables

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

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

Weblink: www.statistics.gov.uk/elmr_tables

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

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

Prices

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

Selected output and demand indicators

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

Selected financial statistics

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

Further labour market statistics

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

Weblink: www.statistics.gov.uk/elmr_tables

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

Notes

A Annually
B Biannually
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

☎ 020 7533 5866
✉ rpi@ons.gsi.gov.uk

Labour Market Statistics Helpline

☎ 020 7533 6094
✉ labour.market@ons.gsi.gov.uk

Earnings Customer Helpline

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

National Statistics Customer Contact Centre

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

Skills and Education Network

☎ 024 7682 3439
✉ senet@lsc.gov.uk

DfES Public Enquiry Unit

☎ 0870 000 2288

For statistical information on

Average Earnings Index (monthly)

☎ 01633 819024

Claimant count

☎ 020 7533 6094

Consumer Prices Index

☎ 020 7533 5874

Earnings

Annual Survey of Hours and Earnings

☎ 01633 819024

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

☎ 020 7533 6094
✉ labour.market@ons.gsi.gov.uk

Economic activity and inactivity

☎ 020 7533 6094

Employment

Labour Force Survey

☎ 020 7533 6094
✉ labour.market@ons.gsi.gov.uk

Employee jobs by industry

☎ 01633 812318

Total workforce hours worked per week

☎ 01633 812766
✉ productivity@ons.gsi.gov.uk

Workforce jobs series – short-term estimates

☎ 01633 812318
✉ workforce.jobs@ons.gsi.gov.uk

Labour costs

☎ 01633 819024

Labour disputes

☎ 01633 819205

Labour Force Survey

☎ 020 7533 6094
✉ labour.market@ons.gsi.gov.uk

Labour Force Survey Data Service

☎ 01633 655732
✉ lfs.dataservice@ons.gsi.gov.uk

New Deal

☎ 0114 209 8228

Productivity and unit wage costs

☎ 01633 812766

Public sector employment

General enquiries

☎ 020 7533 6178

Source and methodology enquiries

☎ 01633 812362

Qualifications (DfES)

☎ 0870 000 2288

Redundancy statistics

☎ 020 7533 6094

Retail Prices Index

☎ 020 7533 5874
✉ rpi@ons.gsi.gov.uk

Skills (DfES)

☎ 0114 259 4407
Skill needs surveys and research into skill shortages
☎ 0114 259 4407

Small firms (DTI)

Small Business Service (SBS)

☎ 0114 279 4439

Subregional estimates

☎ 01633 812038

Annual employment statistics

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

Annual Population Survey, local area statistics

☎ 020 7533 6130

LFS Subnational Data Service

☎ 020 7533 6135
✉ snds@ons.gsi.gov.uk

Trade unions (DTI)

Employment relations

☎ 020 7215 5934

Training

Adult learning – work-based training (DWP)

☎ 0114 209 8236

Employer-provided training (DfES)

☎ 0114 259 4407

Travel-to-Work Areas

Composition and review

☎ 020 7533 6114

Unemployment

☎ 020 7533 6094

Vacancies

Vacancy Survey: total stocks of vacancies

☎ 020 7533 6162

ONS economic and labour market publications

ANNUAL

Financial Statistics Explanatory Handbook

2007 edition. Palgrave Macmillan, ISBN 1-4039-9783-7. Price £45.

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

Foreign Direct Investment (MA4)

2005 edition

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

Input-Output analyses for the United Kingdom

2006 edition

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

Research and development in UK businesses (MA14)

2005 edition

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

Share Ownership

2004 edition

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

United Kingdom Balance of Payments (Pink Book)

2006 edition. Palgrave Macmillan, ISBN 1-4039-9387-4. Price £45.

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

United Kingdom National Accounts (Blue Book)

2006 edition. Palgrave Macmillan, ISBN 1-4039-9388-2. Price £45.

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

First releases

- Annual survey of hours and earnings
- Business enterprise research and development
- Foreign Direct Investment
- Gross domestic expenditure on research and development
- Low pay estimates
- Regional gross value added
- Share Ownership
- UK trade in services
- Work and worklessness among households

QUARTERLY

Consumer Trends

2006 quarter 4

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

United Kingdom Economic Accounts

2006 quarter 4. Palgrave Macmillan, ISBN 978-0-230-52617-4. Price £32.

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

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

2006 quarter 4

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

First releases

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

MONTHLY

Financial Statistics

April 2007. Palgrave Macmillan, ISBN 978-0-230-52587-0. Price £45.

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

Focus on Consumer Price Indices

March 2007

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

Monthly review of external trade statistics (MM24)

March 2007

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

Producer Price Indices (MM22)

March 2007

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

First releases

- Consumer Price Indices
- Index of distribution
- Index of production
- Labour market statistics
- Labour market statistics: regional
- Producer Prices
- Public Sector Finances
- Retail Sales Index
- UK Trade

OTHER

Labour Market Review

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

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

National Accounts Concepts, Sources and Methods

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

Sector classification guide (MA23)

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

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