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Editor: **Graeme Chamberlin**

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About us

The Office for National Statistics

The Office for National Statistics (ONS) is the executive office of the UK Statistics Authority, a non-ministerial department which reports directly to Parliament. ONS is the UK government's single largest statistical producer. It compiles information about the UK's society and economy, and provides the evidence-base for policy and decision-making, the allocation of resources, and public accountability. The Director-General of ONS reports directly to the National Statistician who is the Authority's Chief Executive and the Head of the Government Statistical Service.

The Government Statistical Service

The Government Statistical Service (GSS) is a network of professional statisticians and their staff operating both within the Office for National Statistics and across more than 30 other government departments and agencies.

Contacts

This publication

For information about the content of this publication, contact ELMR team
Email: elmr@ons.gsi.gov.uk

Other customer enquiries

ONS Customer Contact Centre
Tel: 0845 601 3034
International: +44 (0)845 601 3034
Minicom: 01633 815044
Email: info@statistics.gsi.gov.uk
Fax: 01633 652747
Post: Room 1.101, Government Buildings,
Cardiff Road, Newport, South Wales NP10 8XG
www.ons.gov.uk

Media enquiries

Tel: 0845 604 1858
Email: press.office@ons.gsi.gov.uk

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Economic & Labour Market Review

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In brief

Have your say on ONS's future priorities

The Office for National Statistics (ONS) is the largest producer of official statistics in the UK and provides a wide range of statistical outputs, analysis and advice on the economy and society. Following the 2010 Spending Review, ONS will be looking to make efficiencies so as to reduce costs. But to live within the reducing budget while continuing to invest in methods and systems it is necessary to review outputs and services to explore where further savings can be made.

ONS is therefore asking data users for their views on which statistical outputs they use and how they use them to help determine the shape of its future statistical work programme. The public consultation runs until 24 December 2010, and ONS would like to hear from regular users of statistics, but anyone can respond and all views will be considered in full. Responses will be analysed and the ONS work programme will be published in the business plan in Spring 2011. A summary of responses will be published on the ONS website (www.ons.gov.uk).

Further information
www.ons.gov.uk/about/consultations/work-programme-consultation/index.html

Contact
stakeholderconsultation@ons.gsi.gov.uk

How we're improving the Office for National Statistics website

The Office for National Statistics (ONS) is developing a new website, with a focus on putting users' needs first. When it goes live in spring 2011 the new ONS website will deliver the following improvements:

- quicker and easier to find information, including better search and navigation
- easier to use the information, by downloading data, charts and graphs
- improved accessibility to ONS content for users with visual or other impairments
- release of outputs at 9.30am sharp

After the initial launch, there will be further developments to the new website. These include:

- an online data explorer tool, allowing users to customise, interact with and download datasets
- enabling re–use of ONS data by others, through an Application Programming Interface

Further information and details of how you could be involved in user testing is available from the Web Development page on the ONS website.

Further information
www.ons.gov.uk/about/what-we-do/programmes---projects/web-development/index.html

Contact
web.development.programme@ons.gov.uk

National Statistician launches well–being debate

The National Well–being Project, launched by the National Statistician and the Prime Minister on 25 November 2010, aims to provide a fuller picture of 'how society is doing' than is currently given by economic indicators such as gross domestic product (GDP). This will involve looking at broader measures of the 'quality of life' and how economic progress has impacted on the environment.

The issue of well–being is being increasingly recognised around the world, especially after publication of the Stiglitz, Sen and Fitoussi Report commissioned by President Sarkozy of France. The European Commission's GDP and Beyond project and the OECD's global project on measuring the progress of societies are also looking at these issues.

One recommendation from the Stiglitz, Sen and Fitoussi report is that national statistics offices should gather information on people's views of their own well–being. ONS is planning to include these types of question on its large household surveys from April 2011. These more subjective measures will supplement existing objective measures of well–being to provide a fuller picture of the nation's well–being. They will also provide estimates at the sub–national level.

In order to do this ONS would like to consult with people, organisations and business across the UK as well as central and local government to ask what matters most in people's lives and what is important for measuring well–being. Some aspects that may affect national well–being include:

- income and wealth
- job satisfaction and economic security
- ability to have a say on local and national issues
- having good connections with friends and relatives
- present and future conditions of the environment
- crime
- health
- education and training
- personal and cultural activities, including caring and volunteering

The consultation questions are available online and responses can be made by post or email.

Further information
www.ons.gov.uk/well-being

Contact
nationalwell-being@ons.gov.uk

Household spending falls for the first time in 10 years

UK households spent less on clothing, transport and mortgages last year than in 2008. *Family Spending*, the annual report from ONS on household expenditure in the UK which was published on 30 November 2010, found that in 2009 the average weekly household spend was £455.00. This compares with £471.00 in 2008 and is the first drop within the last ten years.

Spending was highest on transport at £58.40 per week though this fell by 8 per cent on the previous year, with half (£29.30) going towards running costs.

Average expenditure levels in each of the next two top categories were very similar. Recreation and culture fell slightly to £57.90 per week in 2009 from £60.10 in 2008, despite higher spending on items such as leisure classes, sports admissions, cinemas, theatres and concerts. Expenditure on housing, fuel and power increased to £57.30 per week in 2009 from £53.00 per week in 2008.

Expenditure on clothing and footwear was £20.90 per week, slightly lower than the previous year and continuing the long–term fall in this category to the lowest figures recorded under current methods. Similarly, expenditure on household goods and services such as furniture and appliances also hit a long–term low, falling from £30.10 per week in 2008 to £27.90 per week in 2009.

Of the £52.20 average weekly spend on food and non–alcoholic drink, almost three–quarters (72 per cent, £37.70 per week) was purchased from large supermarket chains, a similar proportion to the previous year.

Spending on package holidays fell from £14.70 per week in 2008 to £13.20 per week in 2009 with £12.30 per week spent on package holidays abroad, £1.30 per week less than the previous year.

Overall, average household expenditure in the UK was £461.70 per week for the years 2007–09 combined. There were five regions in which expenditure over this period was higher than the UK average: expenditure was highest in London (£552.30 per week), followed by the South East (£523.90 per week), the East (£487.70 per week), Northern Ireland (£485.80 per week) and the South West (£474.10 per week). Spending was lowest among households in the North East (£387.20 per week), Wales (£396.10 per week), and Yorkshire and the Humber (£400.70 per week).

London households' high spending was partly due to the housing, fuel and power category (£80.10 per week) compared with the UK national average of £54.00 per week.

Households in rural areas had higher overall expenditure (£500.00 per week) than those in urban areas (£450.20 per week). This was reflected in expenditure on transport, where spending was

highest (£75.70 per week in rural areas and £57.00 per week in urban areas), and recreation and culture (£65.80 per week in rural areas and £56.40 in urban areas). However, expenditure on the housing, fuel and power category was slightly higher in urban areas (£54.90 per week) than in rural areas (£52.00 per week).

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

Contact
giles.horsfield@ons.gov.uk

Ownership of consumer durables increases

The ownership of consumer durables continued to increase in 2009. Those included in the Living Costs and Food survey and reported on in the ONS annual publication *Family Spending* are: central heating, washing machine, tumble dryer, dishwasher, microwave, telephone, mobile phone, video recorder, satellite receiver, CD player, DVD player, home computer and Internet connection.

The proportion of households owning a home computer rose from 72 per cent to 75 per cent between 2008 and 2009; up from 70 per cent in 2007. The percentage of households with an Internet connection rose from 66 per cent in 2008 to 71 per cent in 2009.

In the top income decile group, 98 per cent of households owned a home computer and 97 per cent had an Internet connection in 2009. This compares with 38 per cent of households who owned a home computer and 30 per cent who had an Internet connection in the bottom income decile group.

Households with children were more likely to have Internet access at home than those without: 93 per cent of households with two adults and two or more children had Internet access at home, compared with 91 per cent of households with two adults and one child, and 87 per cent of households with two non–retired adults and no children.

Among retired households, 32 per cent of households had Internet access at home in two–adult households and 9 per cent in one–adult households.

The proportion of households with a satellite, digital or cable receiver increased to 86 per cent in 2009, from 82 per cent in 2008 and from 43 per cent in 2001/02. In the highest income decile group, 93 per cent of households had a satellite receiver compared with 68 per cent in the lowest income decile group.

Growth in mobile phone ownership has been moderate since 2001/02, increasing from 65 per cent to 81 per cent in 2009. Ownership varies by income group. Only 67 per cent of households in the lowest decile group reported ownership in 2009, compared with 92 per cent in the highest decile group.

In 2009, most homes had central heating (95 per cent), a washing machine (96 per cent), a microwave (93 per cent) and a telephone (88 per cent).

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

Contact
giles.horsfield@ons.gov.uk

Record number of businesses close in 2009

A total of 279,000 businesses closed in 2009, the highest number since the current series began in 2000, according to figures on business demography published by ONS on 1 December 2010. This is a 'death rate' of 11.9 per cent and compares with the 2008 figure of 221,000 business deaths. The previous highest number of business deaths was in 2004, when 244,000 businesses closed, a death rate of 11.3 per cent. This is the highest number of businesses closing in a single year, and is also the first time that business deaths have outnumbered business births since the series began.

In 2009 there were 236,00 business births in the UK, a rate of 10.1 per cent. This compares with 267,000 births in 2008, a rate of 11.5 per cent. In 2009 there was an 11.7 per cent decrease in the number of business births.

The highest rate of births occurred in business administration and support services with a rate of 13.9 per cent, representing 29,000 births. The highest number of births, however, occurred in professional, scientific and technical, with just under 48,000 new businesses, a birth rate of 12.5 per cent. The highest number of business deaths occurred in construction, with over 44,000, followed by professional, scientific and technical, with over 42,000. The highest business death rate occurred in business administration and support services, with a death rate of 14.8 per cent.

Within the regions, London had the highest business birth and death rates, at 12.6 per cent and 13.7 per cent respectively. Northern Ireland had the lowest business birth and death rates, at 6.6 per cent and 9.2 per cent respectively.

Further information
www.statistics.gov.uk/StatBase/Product.asp?vlnk=15186

Contact
andrew.allen@ons.gov.uk

Emigration of British citizens at 10–year low

Emigration from the UK declined in 2009, according to long–term migration figures released by ONS on 25 November 2010. An estimated 368,000 people emigrated in 2009 compared to 427,000 in 2008.

There was a decrease in numbers of British and EU citizens leaving the UK in 2009. An estimated 140,000 British citizens emigrated in 2009, the lowest since 1999 and down from 173,000 in 2008. Emigration of citizens of the remaining EU countries was 109,000 in 2009, down from 134,000 in 2008.

Immigration into the UK was an estimated 567,000 people in 2009. This compares with 590,000 in 2008 and is a continuation of the level of immigration seen since the group of A8 accession countries joined the European Union in 2004. Immigration of citizens from outside the EU or Britain in 2009 was 303,000, almost unchanged from that seen in 2008.

Immigration where the main reason stated was for formal study rose to 211,000 in 2009, the highest recorded – this compares with 175,000 in 2008. An estimated 193,000 stated work–related reasons for arriving in 2009, down from 220,000 in 2008.

Net migration to the UK (the difference between immigration and emigration) was 198,000 in 2009, which is in line with the average over the last five years. This compares with 163,000 for the previous year, the change primarily as a result of the decrease in emigration between 2008 and 2009.

Further information
www.statistics.gov.uk/StatBase/Product.asp?vlnk=507

Contact
migstatsunit@ons.gov.uk

Large differences in regional impact of the recession

The recession impacted on the regions of the UK to different degrees according to figures published by ONS on 8 December 2010. Regional gross value added (GVA) measures the contribution of each region to the UK economy. While all regions experienced a fall between 2008 and 2009, the first year to see a reduction across all regions since the start of the time series in 1989, there was wide variation in the extent.

East of England saw the biggest fall as GVA dropped by 4.0 per cent whilst Scotland saw the smallest decline, with GVA dropping by 1.4 per cent. In 2009, London had the largest GVA per

head at £34,200, more than twice that in Wales, which had the lowest at £14,842. This is similar to the picture in 2008.

New data on GVA per head for local areas in 2008 have also been published. This showed that Inner London–West (including Camden, City of London, Hammersmith and Fulham, Kensington and Chelsea, Wandsworth and Westminster) saw the strongest growth of 5.4 per cent. West and South of Northern Ireland saw the biggest fall of 0.8 per cent. Overall, Inner London–West had the largest GVA per head at £107,863. The Isle of Anglesey had the lowest GVA per head at £11,333 – almost 10 times lower.

Further information
www.statistics.gov.uk/statbase/Product.asp?vlnk=14650

Contact
fred.norris@ons.gsi.gov.uk

Median pay for full–time civil servants was £23,680 in 2010

Full–time civil servants' median pay, excluding overtime and one–off bonuses, was £23,680 in March 2010, up from £22,850 a year earlier. These figures were reported in the 2010 annual Civil Service statistics published by ONS on 19 November 2010. Median pay for all (full–time and part–time) civil servants was £22,850 in March 2010, up from £22,100 in 2009.

Full–timers made up 79 per cent of the Civil Service in 2010 – 417,770 out of a total of 527,840 – though the proportion of full–timers was down from 80 per cent the previous year.

Women made up the majority of civil servants (53 per cent of the total). This proportion was unchanged on 2009. Although women remain a minority in middle and senior management posts, the proportion of women in more senior posts has continued to increase, with women making up 34 per cent of the Senior Civil Service in 2010 compared with 33 per cent in 2009.

Nearly three–quarters (73 per cent) of civil servants worked outside London and the South East, with 10 per cent based in Scotland and 7 per cent in Wales.

Alongside the release of Civil Service statistics ONS has launched a Data Summary Tool (DST) on its website. This is a spreadsheet that allows users to compare data on different dimensions more easily – for example the proportions of the headcounts of different government departments split between men and women, full–timers and part–timers, permanent and temporary appointments, regions where staff work and a number of others.

Further information
www.statistics.gov.uk/StatBase/Product.asp?vlnk=2899

Contact
david.matthews@ons.gov.uk

Employee figures fall in 2009

For 2009 the Business Register and Employment Survey estimates that the number of employees in the UK was 26.9 million. Of this, 18.3 million were full–time and 8.7 million part–time. Total employment was 28.7 million.

The Business Register and Employment survey is the new source for annual employment statistics. It aims to maintain the Inter–Departmental Business Register and provide the basis for annual estimates of employment, replacing the Annual Business Inquiry (part 1). It also provides the source for detailed regional and sub–regional employment estimates. New employee figures for 2009 were published by ONS on 8 December 2010.

For Great Britain, it is estimated there were 26.2 million employees in 2009 representing a fall of 783,000 compared to 2008. London was the government office region (GOR) with the largest number of employees at 4.1 million. This GOR also showed the largest fall between 2008 and 2009, a decrease of 192,000. The only region to show an increase in the number of employees during this time was the South West of England.

On an industry basis, the health sector had the largest number of employees with 3.5 million (13.2 per cent of the whole of UK total). Agriculture, forestry and fishing had the smallest number of employees, with 217,00 (0.8 per cent). The health sector, where the number of employees in Great Britain grew by 144,000 between 2008 and 2009, was one of only four sectors reporting an increase in employee numbers. The largest fall in employees levels was seen in the Business administration and support service activities, with a fall of 252,000.

Further information
www.statistics.gov.uk/StatBase/Product.asp?vlnk=15390

Contact
annual.employment.figures@ons.gov.uk

2010 Annual Survey of Hours and Earnings (ASHE)

Results from the 2010 ASHE, published by ONS on 8 December 2010, show that median weekly pay for full–time employees in the UK grew by 2.1 per cent in the year to April 2010 to reach £499. Median earnings of full–time male employees were £538 per week in April 2010. For women the median was respectively lower at £439 per week.

The top 10 per cent of full–time employees earned more than £984 per week, while the bottom 10 per cent earned less than £276. Between April 2009 and April 2010 the distribution of gross weekly pay narrowed, with a 2.0 per cent increase at the bottom decile and a 1.3 per cent increase at the top decile.

Median gross weekly earnings for full–time employees were highest for 40 to 49 year olds at £560. Male employees reached their highest earnings in this age group at £614, whereas women reached their highest earnings for 30 to 39 year olds at £508. Earnings increased until employees reached these age groups and then declined steadily thereafter.

The difference between the median level of full–time earnings in the public sector (£554 per week) and the private sector (£473 per week) widened over the year to April 2010, following annual increases of 3.0 per cent and 2.0 per cent respectively.

Median full–time weekly earnings in London were £642, significantly higher than in other regions, where they ranged from £441 in Northern Ireland to £524 in the South East.

The full–time occupations with the highest earnings in 2010 were health professionals (median pay of full–time employees of £1,067 per week); followed by corporate managers (£757); and science and technology professionals (£704). The lowest paid of all full–time employees were those in sales occupations at £287 per week.

Further information
www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101

Contact
earnings@ons.gov.uk

271,000 below the national minimum wage in the UK

Estimates from the Annual Survey of Hours and Earnings (ASHE) show that there were 271,000 jobs paid below the national minimum wage in the UK in April 2010, amounting to 1.1 per cent of all jobs in the labour market.

In April 2010 there were three rates for the national minimum wage: one for those aged 16 and 17 (£3.57 per hour), one for those aged 18 to 21 (£4.83 per hour) and one for those aged 22 and over (£5.80 per hour).

The number of jobs paid below the national minimum wage were:

- 15,000 jobs (5.4 per cent) held by those aged 16 to 17
- 48,000 jobs (2.9 per cent) held by those aged 18 to 21, and
- 207,000 jobs (0.9 per cent) held by those aged 22 and over

People in part–time work were more than twice as likely as people in full–time work to be paid less than minimum wage, with 1.8 per cent of part–time jobs and 0.8 per cent of full–time jobs falling below the minimum wage.

Jobs held by women were more likely to fall below the minimum wage than jobs held by men (1.2 per cent compared with 0.9 per cent). This reflects the UK labour market, where a higher proportion of women work part–time than men.

The 271,000 estimate for 2010 compares with 237,000 for 2009. This is the first time that the number has increased since 2005.

It is important to note that these estimates do not measure non–compliance with national minimum wage legislation. The survey used to provide these estimates do not indicate whether individuals fall into a category that is exempt from legislation, such as apprentices or new trainees.

Further information
www.statistics.gov.uk/statbase/Product.asp?vlnk=5837

Contact
earnings@ons.gov.uk

Gender pay gap falls to 10.2 per cent in 2010

The gender pay gap has fallen from 12.2 per cent in April 2009 to 10.2 per cent in April this year. This is according to measures based on full–timers median hourly pay rates excluding overtime published by ONS on 8 December 2010.

The drop, which is the largest since the median full–time measure began in 1997, reflects a faster rate of growth in earnings for women than men. Men's median hourly earnings rose by 0.3 per cent over the year (from £12.97 in 2009 to £13.01 in 2010), while for women the rise was 2.6 per cent (up from £11.39 in 2009 to £11.68 in 2010). This continues the downward trend in the gender pay gap seen in recent years. In 1997 the gender pay gap in median earnings for full–timers was around 17 per cent.

Looking at other measures, the gender pay gap based on median hourly earnings for part–timers is negative – meaning that women part–timers earn more than men. This gap widened further in favour of women, from -2.5 per cent in 2009 to -4.0 per cent in 2010. The median gender pay gap for all employees decreased from 22.0 per cent in 2009 to 19.8 per cent in 2010. Many more women than men worked part–time, and part–timers tend to get a lower hourly rate (36.2 pr cent less than the median for full–timers), hence there is a greater gender pay gap on this measure than on the full–time measure.

Further information
www.statistics.gov.uk/STATBASE/Product.asp?vlnk=15310

Contact
earnings@ons.gov.uk

Some signs of recovery in trips to and from UK

There are signs that the UK travel industry is stabilising after an extended period where trips to and from the country have been falling. The latest Overseas travel and tourism statistical bulletin, published by ONS on 9 December 2010, observes short term growth in some sectors.

Between July and October, business visits both to the UK and abroad by UK residents were 6 per cent higher than a year earlier, while holiday visits to the UK have also increased by 6 per cent. Holiday visits abroad have fallen by 3 per cent, but the rate of decline is much slower than in recent months.

Although visits overall to and from the UK fell by 1 per cent in the period August to October 2010, compared with May to July, it should be noted that May in particular saw an increase in air travel as the industry recovered from the effects of the volcanic ash cloud in April.

During the 12 months to October, the number of visits by overseas residents to the UK remained broadly the same when compared with the 12 months to October 2009, although visits abroad by UK residents fell by 8 per cent over the same period.

Comparing the same periods, visits to the UK by residents of Europe remained broadly the same at 22.0 million while those from North America fell by 5 per cent, from 3.5 million to 3.3 million. Visits from other parts of the world increased by 2 per cent to 4.3 million.

Meanwhile, visits by UK residents to Europe fell by 8 per cent, from 47.0 million to 43.0 million while those to North America fell by 9 per cent from 3.8 million to 3.4 million. Visits to other parts of the world fell by 2 per cent, from 9.1 million to 8.9 million.

Further information
www.statistics.gov.uk/statbase/Product.asp?vlnk=8168

Contact
socialsurveys@ons.gov.uk

UK's population ageing less rapidly than other countries'

The UK has an ageing population, but it is not ageing as rapidly as countries like Germany and Japan. This is among the main observations reported in the National Statistician's annual article on population, published by ONS in *Population Trends* on 9 December 2010.

In 2009, the proportion of the UK population over 65 was 16 per cent. This represents a slight increase since 1985, when the proportion was 15 per cent. In 1985 the UK had one of the most aged populations in Europe, but by 2009 this was no longer the case. In both Germany and Italy, the European countries with the most aged populations in 2009, the proportion of the population over 65 was 20 per cent. Japan was the world's most aged country in 2008, with 22 per cent of the population aged over 65.

Life expectancy in the UK is increasing in line with other western nations, but with the UK having relatively high fertility rates compared with many European countries, the increase in the proportion of the population over 65 has been slower than in countries with lower fertility rates. This trend may continue into the future.

Around 10 per cent of the UK's population in 2007 was foreign born. This puts it in the mid range for European countries, with Luxembourg having a proportion of over 35 per cent and Switzerland nearly 25 per cent. By contrast, Finland and Hungary had only around 4 per cent of foreign born in their populations. The UK's proportion is also lower than those of Australia, Canada, New Zealand and the USA.

Further information
www.statistics.gov.uk/populationtrends/

Contact
vsob@ons.gov.uk

91 per cent of UK businesses had Internet access in 2009

In 2009, the largest businesses continued to lead the way with the adoption of new technology. However, smaller businesses were closing the gap with increasing numbers using mobile broadband and mobile Internet, developing websites and using the Internet to interact with public authorities.

The annual survey into e–commerce and ICT activity measures the use of information and communication technologies (ICTs) by businesses with 10 or more employees in the UK. The latest results, pertaining to 2009, were published by ONS on 26 November 2010.

The value of purchases by businesses over computer networks reached a new high in 2009 with purchases valued at £466.3 billion. In keeping with the large increase in the value of purchases, there was a significant increase in the proportion of businesses that purchased this way, from 33.3 per cent in 2008 to 51.9 per cent in 2009.

Just over 91 per cent of businesses had Internet access in 2009, with 87.4 per cent connecting via a broadband connection. Over a third of businesses used a 3G mobile connection, at 36.8 per cent. Businesses continued to provide staff with access to the Internet, with 6.8 million of those employees within scope of the survey able to access the Internet at the workplace.

Other key results from the 2009 survey include:

- the value of e–commerce sales by non–financial businesses was £408.3 billion in 2009, an increase of 24.9 per cent on 2008
- 76.0 per cent of businesses had a website
- 14.9 per cent of businesses sold over a website, with 2009 sales over a website at £115.0 billion, while 6.9 per cent of businesses sold over ICTs other than a website

Further information
www.statistics.gov.uk/statbase/Product.asp?vlnk=6645

Contact
mark.williams@ons.gov.uk

Updates

Updates to statistics on www.statistics.gov.uk

16-Nov

Inflation

CPI inflation 3.2%, RPI inflation 4.5%

www.statistics.gov.uk/cci/nugget.asp?id=19

17-Nov

Average weekly earnings

Regular pay growth increases

www.statistics.gov.uk/cci/nugget.asp?id=10

Employment

Rate rises to 70.8%

www.statistics.gov.uk/cci/nugget.asp?id=12

18-Nov

Retail sales

Underlying growth slows in October

www.statistics.gov.uk/cci/nugget.asp?id=256

Public sector

September: £10.3 billion net borrowing

www.statistics.gov.uk/cci/nugget.asp?id=206

24-Nov

GDP growth

Economy grows by 0.8% in 2010 Q3

www.statistics.gov.uk/cci/nugget.asp?id=192

Index of services

2.5% annual rise into September

www.statistics.gov.uk/cci/nugget.asp?id=558

Business investment

0.2% down in third quarter 2010

www.statistics.gov.uk/cci/nugget.asp?id=258

Service producer prices

Aggregate SPPI inflation rises 2.4%

www.statistics.gov.uk/cci/nugget.asp?id=253

25-Nov

Migration

Net migration remains high

www.statistics.gov.uk/cci/nugget.asp?id=260

30-Nov

Family spending

Household spend £455 per week

www.statistics.gov.uk/cci/nugget.asp?id=284

Consumer durables

Ownership increases

www.statistics.gov.uk/cci/nugget.asp?id=868

01-Dec

Business demography

Business 'Deaths' increase

www.statistics.gov.uk/cci/nugget.asp?id=2074

07-Dec

Index of production

Production: 3.3% annual rise

www.statistics.gov.uk/cci/nugget.asp?id=198

Updates to statistics on www.statistics.gov.uk

08-Dec

Regional GVA

Negative growth for all regions in 2009

www.statistics.gov.uk/cci/nugget.asp?id=420

Earnings

2010 survey of hour and earnings

www.statistics.gov.uk/cci/nugget.asp?id=285

Earnings

Full-time gender pay gap narrows

www.statistics.gov.uk/cci/nugget.asp?id=167

Low pay jobs

271 thousand jobs below national minimum wage in the UK

www.statistics.gov.uk/cci/nugget.asp?id=591

Annual employment statistics

Employee figures fall in 2009

www.statistics.gov.uk/cci/nugget.asp?id=325

09-Dec

UK Trade

Deficit increased to £3.9 billion

www.statistics.gov.uk/cci/nugget.asp?id=199

Travel and tourism

Business visits rise

www.statistics.gov.uk/cci/nugget.asp?id=352

10-Dec

Producer prices

?????

www.statistics.gov.uk/cci/nugget.asp?id=248

Forthcoming releases

Future statistical releases on www.statistics.gov.uk

10-Dec

Output and employment in the construction industry – October 2010

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Consumer price indices – November 2010

15-Dec

Public sector employment – Q3 2010

Average weekly earnings – October 2010

Labour market statistics – December 2010

Index of labour costs per hour (experimental) – Q3 2010

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Retail sales – November 2010

Turnover and orders in production and services industries – October 2010

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Public sector finance – November 2010

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22-Dec

Quarterly National Accounts – Q3 2010

Business investment – Q3 2010 revised results

Consumer Trends – Q3 2010

Balance of payments – Q3 2010

23-Dec

Index of services – September 2010

Productivity measures – Q3 2010

05-Jan

Profitability of UK companies – Q3 2010

12-Jan

UK Trade – November 2010

13-Jan

Overseas travel and tourism – November 2010

Index of production – November 2010

14-Jan

Output and employment in the construction industry – November 2010

Producer price index – December 2010

18-Jan

Consumer price indices – December 2010

Economic Indicators

PRICES AND INFLATION	Value	Period	Monthly change	Annual change	Release date
Consumer Prices Index (CPI) (2005=100)	115.2	Oct-10	0.3	3.2	16-Nov-10
Retail Prices Index (all items) (Jan 1987=100)	225.8	Oct-10	0.2	4.5	16-Nov-10
RPI excluding mortgage interest (RPIX) (Jan 1987=100)	224.9	Oct-10	0.2	4.6	16-Nov-10
Producer Prices Index - Output (2005=100)	118.9	Oct-10	0.6	4.0	5-Nov-10
Producer Prices Index - Input prices (materials and fuel) (2005=100)	148.0	Oct-10	2.1	8.0	5-Nov-10

LABOUR MARKET	Value	Period	Change on 3 months	Change on 1 year	Release date
Employment rate (%)	70.8	Jul-Sep 10	0.3	0.1	17-Nov-10
Unemployment rate (%)	7.7	Jul-Sep 10	-0.1	-0.1	17-Nov-10
Average Weekly Earnings - total pay (%)	2.0	Jul-Sep 10	1.2	1.3	17-Nov-10
Average Weekly Earnings - regular pay (%)	2.2	Jul-Sep 10	0.9	0.8	17-Nov-10
Claimant count (Jobseeker's Allowance) (Thousands) (2005=100)	1,465.4	Oct-10	1.4	-162.4	17-Nov-10
Vacancies (Thousands)	453	Aug-Oct 10	-27	20	17-Nov-10

NATIONAL ACCOUNTS ECONOMIC ACTIVITY	Value	Period	Quarterly change	Change on 1 year[3]	Release date
UK Gross Domestic Product (chained volume measure £ billion)	331.3	Q3 10	0.8	2.8	24-Nov-10
Private Non-Financial Corporations Net Lending (£ billion)	17.5	Q2 10			28-Sep-10
Household Saving Ratio (%)	3.2	Q2 10			28-Sep-10
Public Sector current budget (£ billion)	-7.1	Oct-10			18-Nov-10
Public Sector net debt as a % of GDP	57.1	Oct-10			18-Nov-10
Public Sector net borrowing (£ billion)	10.3	Oct-10			18-Nov-10
Public Sector net cash requirement (£ billion)	2.4	Oct-10			18-Nov-10
Public sector net borrowing (excluding financial interventions) (£ billion)	16.2	Sep-10			20-Oct-10

Public sector net debt as a % of GDP (excluding financial interventions)	57.2	Sep-10			20-Oct-10

BALANCE OF PAYMENTS AND TRADE	**Value**	**Period**	**Change on 3 months**	**Change on 1 year**	**Release date**
UK's trade balance (£ billion)	-3.9	Oct-10			9-Dec-10
Balance of Payments current account - (£ billion)	-£7.4	Q2 10			28-Sep-10
of which: EU	-£9.3				
non-EU	£2.0				
Goods export volumes - excluding oil and erratics (2006=100)	88.1	Oct-10			9-Dec-10
Goods import volumes - excluding oil and erratics (2006=100)	95.0	Oct-10			9-Dec-10

SHORT TERM INDICATORS	**Value**	**Period**	**Change on 3 months[1]**	**Change on 1 year[2]**	**Release date**
Retail Sales (2006=100) (chained volume, seasonally adjusted)	108.0	Oct-10	0.1	0.2	18-Nov-10
Index of Manufacturing (2006=100)	91.8	Oct-10	1.1	5.6	7-Dec-10
Index of Production (2006=100)	89.5	Oct-10	0.6	3.8	7-Dec-10
Productivity - Whole economy (2005=100)	99.3	Q2 10	0.5	1.4	29-Sep-10
Productivity - Manufacturing (2005=100)	106.2	Q2 10	2.2	7.9	29-Sep-10
Index of Services (2006=100)	102.8	Sep-10	0.6	2.1	24-Nov-10

Notes:

1. Three months on previous three months
2. Three months on corresponding period one year ago
3. Quarter on corresponding period one year ago

Economic Review

December 2010

Graeme Chamberlin
Office for National Statistics

Summary

The second estimate of Gross Domestic Product (GDP) for 2010 Q3 reports that the UK economy expanded by 0.8 per cent. This is unrevised from the Preliminary GDP estimate published last month. Output growth has slowed from 1.2 per cent in the second quarter, when a number of industries rebounded strongly from a weak first quarter of the year, especially the construction industry. First estimates for the demand–side of the economy show that the slowdown in GDP growth was concentrated in domestic spending, as the pace of growth in household consumption, fixed investment and general government consumption all slowed. It also appears that the contribution of stockbuilding to growth peaked in the summer. However, net trade contributed positively to growth for the first time for over a year. In the labour market, unemployment fell in the latest quarter but the proportion unemployed for over 12 months continues to rise. Average weekly earnings growth remains muted, but has picked up from the lows of last year. Rates of producer prices inflation and services producer prices inflation have increased in 2010 reflecting an increase in commodity prices, depreciation of sterling, and the stronger cyclical position of the UK economy.

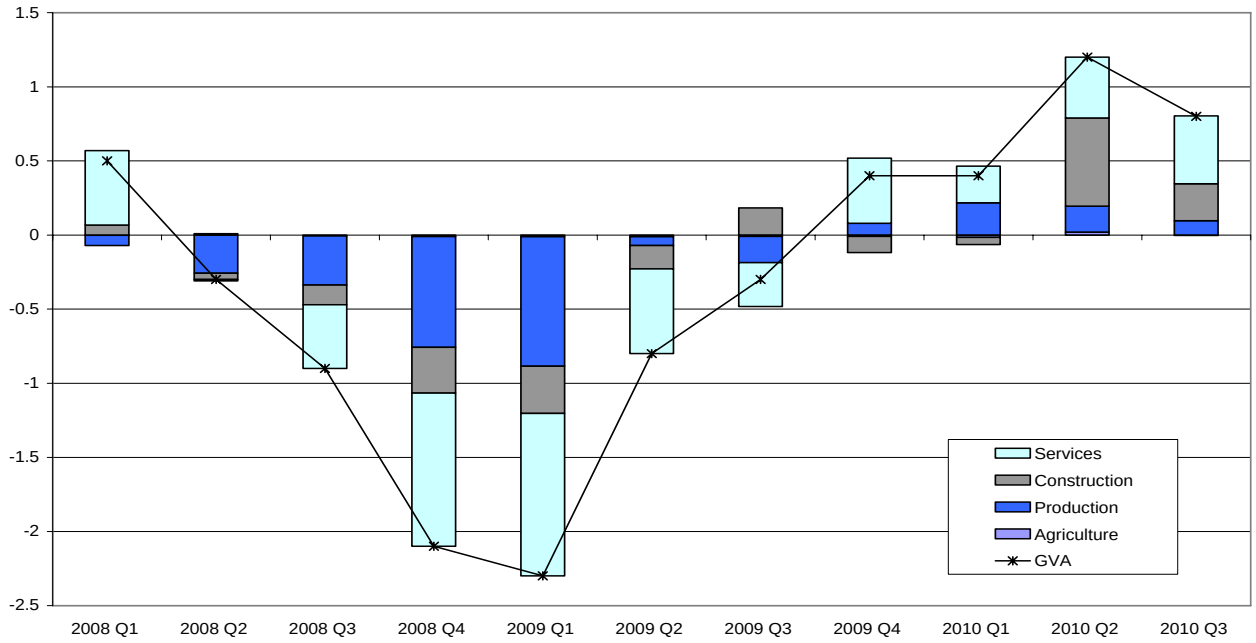
Gross Domestic Product increases for the 4th successive quarter

Latest estimates report that the UK economy grew by 0.8 per cent in the third quarter of the year. This is unchanged from the Preliminary estimate published last month. Gross Domestic Product (GDP) has expanded for four successive quarters and is now 3.9 per cent below the pre–recession level in 2008 Q1 compared to 6.5 per cent at the trough in output in the third quarter of 2009 (**Figure 1a)**.

Figure 1b shows the contributions to the growth in Gross Value Added (GVA – the output–based measure of GDP) through the last four quarters. Taking the last two quarters together, the largest contribution to output growth has come from the construction sector, which expanded by 9.6 per cent in 2010 Q2 and by a further 4.0 per cent in 2010 Q3. Compared to other sectors of the economy, the recovery in construction output was relatively slow to get underway, and most probably disrupted by the poor weather at the start of the year. However, in the last two quarters the sector has contributed almost half the total increase in GVA despite accounting for only 6 per cent of the level of output.

Figure 1a Contributions to growth in GVA

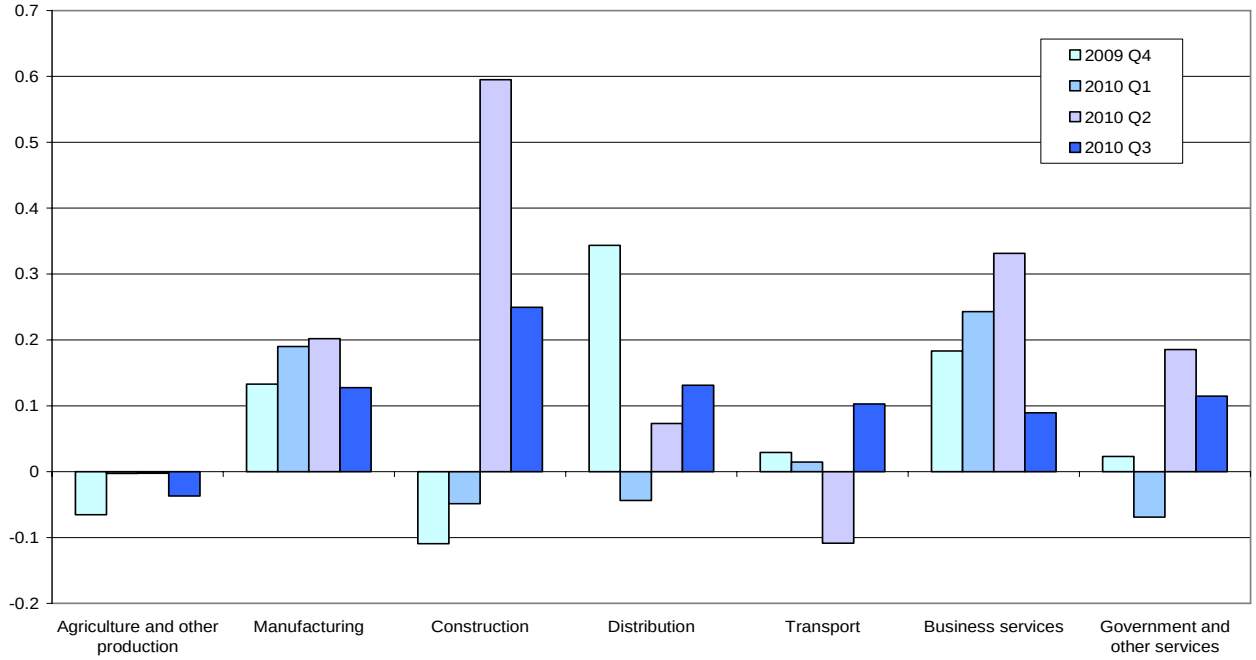
Per cent, quarter on quarter



Source: ONS Output, Income and expenditure

Figure 1b Contributions to growth in GVA by industry

Per cent, quarter on quarter



Source: ONS Output, income and expenditure

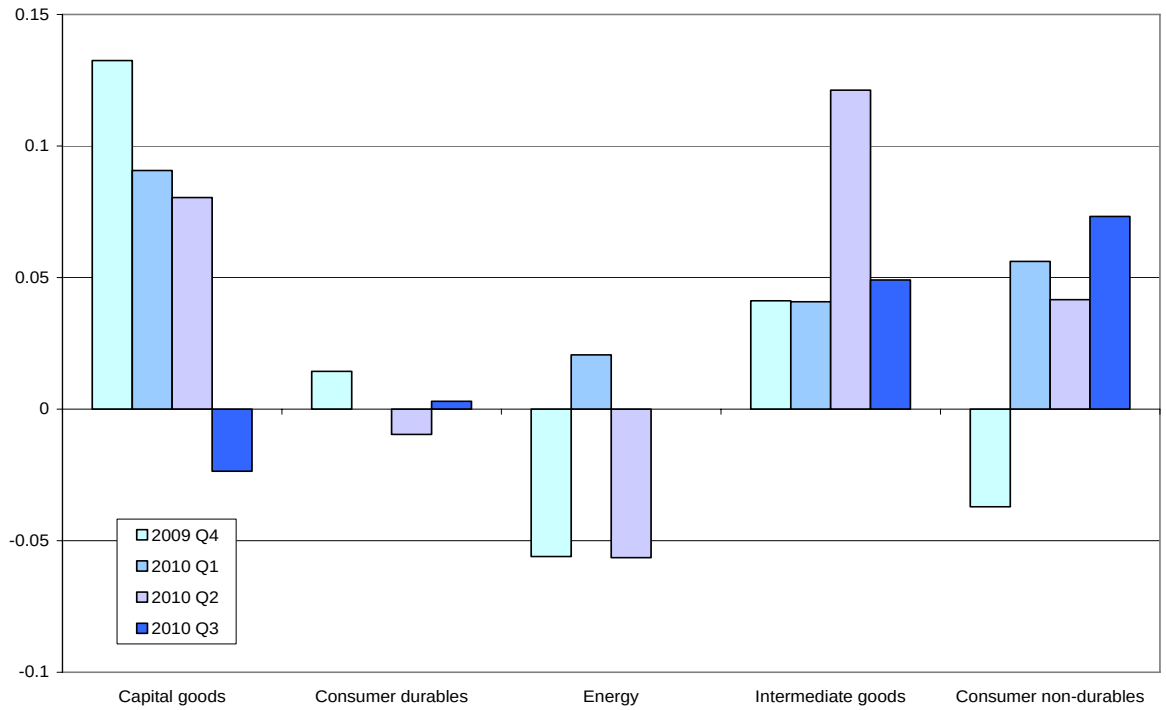
Growth in the manufacturing industries continues to be robust, although slowing in the latest quarter. Output is now 5.2 per cent higher than at the trough of 2009 Q3, but is still 10.1 per cent below the pre–recession level in 2008 Q1. In the services sector, GVA has expanded by 0.6 per cent in each of the last two quarters – a pick up from the first quarter of the year which was affected by adverse weather and the rise in VAT. Business services (including financial intermediation) have been the main driver of growth, but output in this large and diverse sector slowed in the latest published quarter. This, however, was offset by faster growth in the transport (including storage) and distribution sectors.

Capital and intermediate goods lead the slowdown in production

Production output has recovered in line with the global economy and moves by businesses to start restocking – having run down inventories aggressively during the downturn in order to preserve cash flows. In fact, given the global nature of supply chains, restocking and the pick up in world trade have gone hand in hand. **Figure 2** though suggests that the contribution of the intermediate goods industries to GVA growth peaked in the second quarter of the year, corresponding with business surveys which have reported a slowdown in restocking since the summer months. In the latest *Inflation Report*, the Bank of England indicated that the positive contribution of restocking is likely to fade in the next quarters. Intermediate goods producers account for about one quarter of production GVA.

Figure 2 Contributions to GVA growth by the production industries

Percentage, quarter on quarter



Source: ONS Index of production

After fairly strong growth in preceding quarters, the output of capital goods producers fell by 0.6 per cent in 2010 Q3. This corresponds to the reported contraction in the engineering and allied industries in the same quarter. Investment intentions and business confidence among UK firms remain depressed, partly due to the uncertain economic outlook and evidenced by a build up in cash surpluses. At the same time, growth in a number of key export markets including the USA and the Euro zone slowed in the Autumn, impacting on overseas demand. Both the British Chambers of Commerce (BCC) and Markit/CIPS Manufacturing PMI had pointed to a slowing of export orders in the third quarter, although the second of these surveys recorded an improvement in October.

Consumer non–durables goods production accelerated, growing by 1.7 per cent in quarter three compared to 1.0 per cent in quarter two. The main contributor appears to be the manufacture of food, drink and tobacco products, where third quarter output rose by 2.3 per cent compared to 1.2 per cent in the quarter before. Consumer durables production is a negligible part of the UK economy, only accounting for around 3.5 per cent of industrial production and 0.6 per cent of total GVA.

Strong rise in construction output in the third quarter

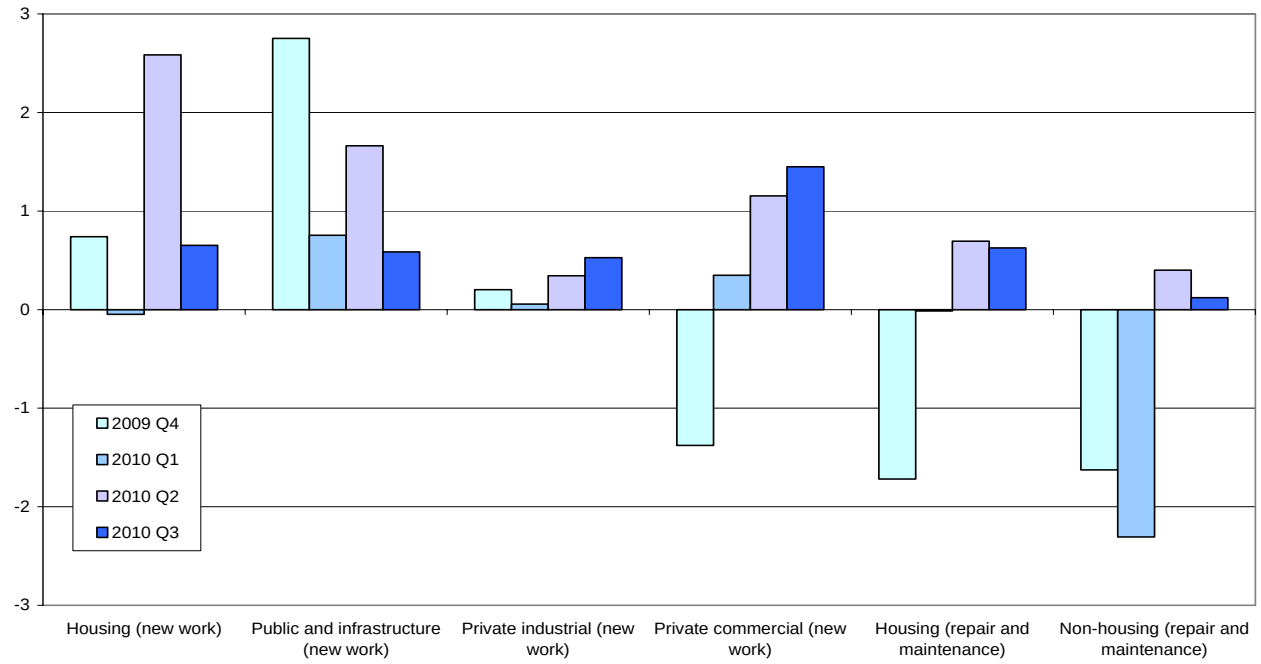
The second–quarter surge in construction output, which in part reflected a rebound from a weaker first quarter, was primarily driven by new work, especially in housing. Growth slowed to 4.0 per cent in the third quarter (**Figure 3**), but this still represents strong quarter on quarter growth. Construction output was relatively slow to respond to the general UK economic recovery, so the pick up in the latest two quarters may also consist of an element of catching up. Output was also fairly slow to respond to the increase in construction orders at the back end of 2009.

A slowdown in housing new work in the third quarter was probably inevitable given the very strong rebound in the previous quarter. However, it may also reflect the recent slowdown in the housing market with both the Halifax and Nationwide indices reporting that house prices have fallen in recent months. Developers are also likely to be constrained by ongoing credit restrictions in financial markets limiting new projects. Infrastructure and other public new work has also seen a slowdown in growth which could, in part, reflect the government's fiscal retrenchment, such as cuts to the Building Schools for the Future (BSF) programme. Commercial new work though has continued to expand, despite ongoing weakness in rents and occupancy rates. This may be concentrated in a number of prime developments, especially in London, where high profile developments such as the Shard, Cheese Grater and Helter Skelter are underway.

Repair and maintenance work has also made an important contribution to construction output growth in the last two quarters after falling during the downturn. It is possible that households and businesses may have delayed these expenditures through the economic downturn and they are now being reinstated in the recovery period. The slowdown in new work may also lead to an increase in repair and maintenance expenditures on existing buildings, as businesses look to repair and refurbish rather than move.

Figure 3 **Contributions to construction output growth**

Per cent, quarter on quarter



Source: ONS Output in the construction industry

Service sector growth unchanged between 2010 Q2 and 2010 Q3

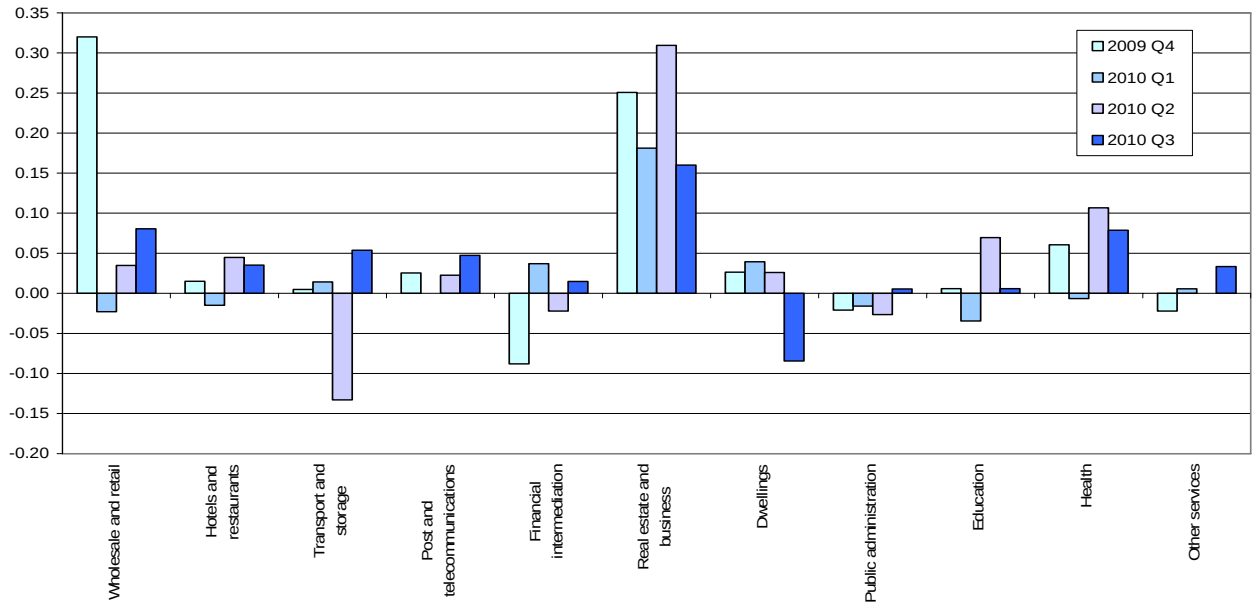
Services are the largest part of the UK economy accounting for around three–quarters of total GVA. However, within the sector there are a range of different activities, and as **Figures 4a** and **4b** show, growth across these has not been uniform since the start of the recovery in 2009 Q4.

Wholesale and retail activity was particularly strong in the final quarter of 2009 as the rise in VAT in January 2010 led to some expenditure being brought forward. This and adverse weather affecting foot fall and transport is also likely to account for the contraction in the first quarter of 2010. In the second and third quarters of 2010 output in the wholesale and distribution sectors has picked up. Retail output has been fairly robust, in line with retail sales, growing by 1.2 per cent in both the second and third quarters. The end of the car scrappage scheme weighed on the output of the motor trades industry in the second quarter, falling by 1.9 per cent, before recovering by 0.6 per cent in the next quarter. This accounts for the majority of the faster growth in the wholesale and retail sector between the second and third quarters of 2010.

Hotels and restaurants output also continued to grow in 2010 Q3, as output increased by 1.1 per cent compared to 1.6 per cent in 2010 Q2. This sector was also adversely affected by the poor weather at the start of the year, so the slowdown in growth in the latest quarter is also likely, in part, to reflect the element of rebound included in second quarter growth.

Figure 4a Contributions to GVA growth by services industries

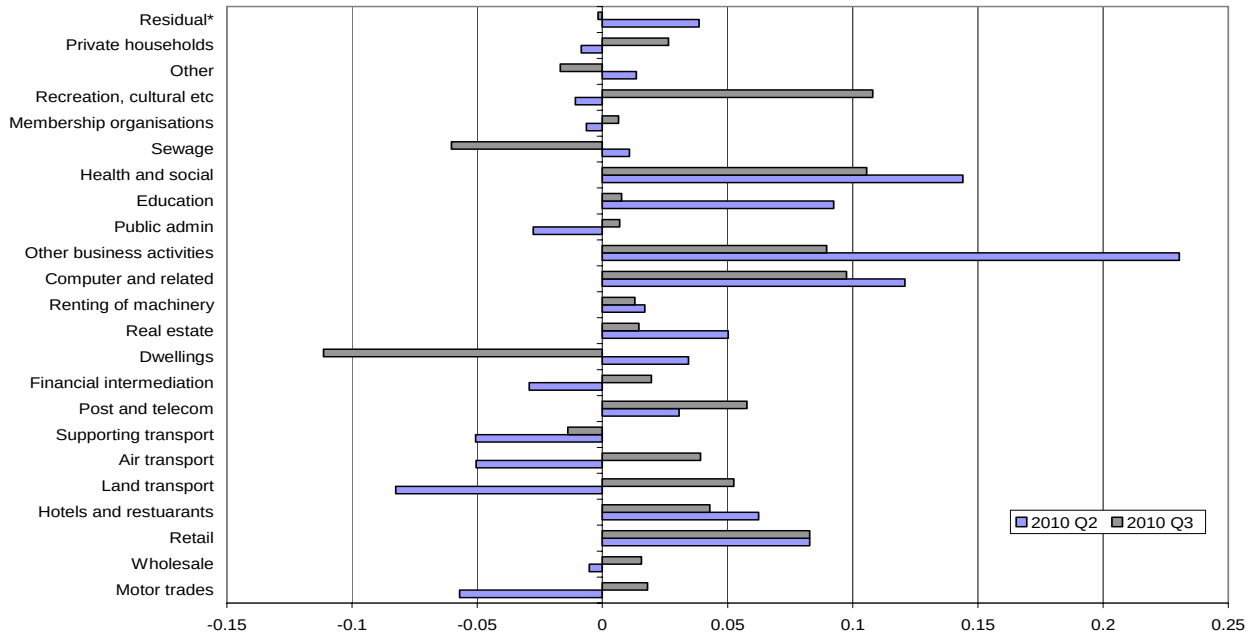
Per cent, quarter on quarter



Source: ONS Index of services

Figure 4b Contributions to GVA growth: detailed services industries

Per cent, quarter on quarter



Source: ONS Index of services

Note

* The residual category includes water transport and R&D activity which are experimental and unpublished divisions in the Index of services

Transport and storage output rose by 1.2 per cent in quarter three compared to a contraction of 2.1 per cent in the second quarter. This turnaround was largely accounted for by the air transport industry. The effects of the volcanic ash cloud following the eruption of Eyjafjallajokull in Iceland and industrial action at British Airways impacted strongly on the second quarter where output fell by 7.2 per cent. In the third quarter, by contrast, output in the air transport division increased by 5.6 per cent. Land transport, which had contracted by 3.3 per cent in 2010 Q2 also bounced back strongly in 2010 Q3, expanding by 2.1 per cent. As land transport is complementary to air transport (trips to and from airports) activity may also have been affected by these disruptions.

Offsetting these increases were slowdowns in the growth of the real estate and business services (from 1.9 per cent to 1.0 per cent) and dwellings (from 0.4 per cent to -1.2 per cent).

Growth in real estate activity growth decelerated from 1.6 per cent to 0.5 per cent between the second and third quarters. This may reflect the continued slowdown in the housing market, with property transactions at historically low levels. Falling house prices are likely to deter both buyers and sellers, and mortgage finance is still restricted for higher loan to value buyers making it hard for first time buyers to borrow sufficiently. Lower property turnover though has been associated with a buoyant private rental market.

The other business services category of output consists of a broad range of predominantly business–to–business services such as accountancy, legal, management consultancy, human resources and so on. Here growth slowed to 0.7 per cent from 1.8 per cent in the previous quarter, but second quarter growth may also have included a rebound from a weaker first quarter.

Other notable changes in services output between the second and third quarters include slowdowns in education and sewage growth and faster growth in recreational, cultural and sporting activities.

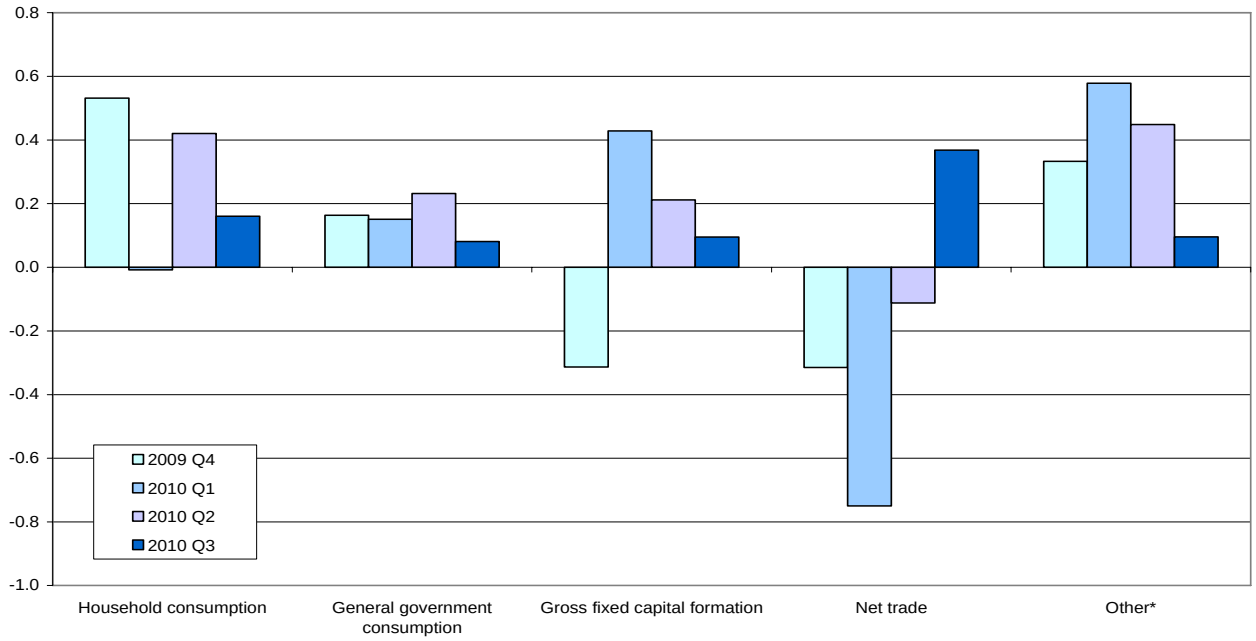
Domestic spending growth slows, but net trade's contribution improves

The Output, Income and Expenditure statistical bulletin provides the first estimates for the expenditure components of GDP. **Figure 5** shows that spending growth slowed across all the domestic categories between the second and third quarters but there was a pick up in the contribution of net trade to GDP.

Household consumption growth slowed from 0.7 per cent to 0.3 per cent, although the strength of second quarter consumption partly reflects the before–mentioned impact of bad weather and the rise in VAT on the level of spending in the first quarter. Overall, household consumption growth has averaged 0.4 per cent per quarter since 2009 Q3, roughly half of its longer–term average growth rate. The muted increase in household consumption is in spite of recent improvements in the labour market and continued low interest rates. The recent fall in the saving ratio may indicate that households have undertaken the rebuilding of balance sheets – although the fall in the saving ratio is as much due to low growth in disposable incomes as a pick up in consumption. This and ongoing uncertainty, especially regarding the possible impact of the government's fiscal retrenchment, may have weighed on consumption growth in recent months.

Figure 5 Contributions to GDP growth

Per cent, quarter on quarter



Source: ONS Output, income and expenditure

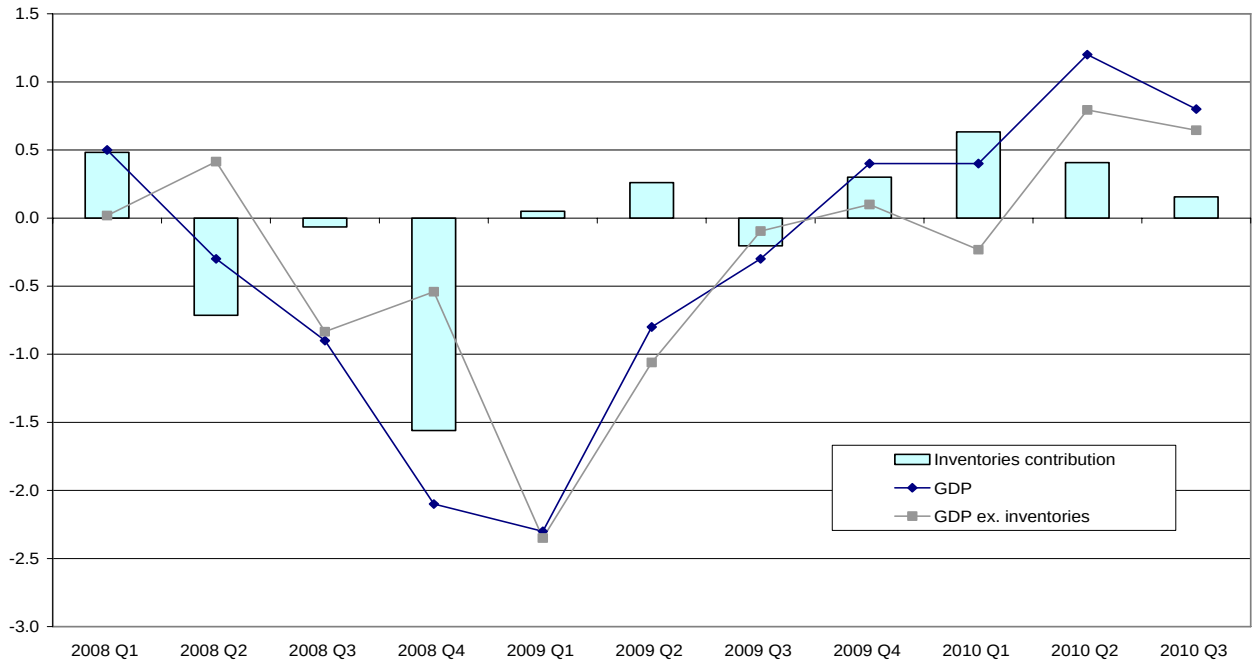
The restoration of the 17.5 per cent rate of VAT in January appeared to lead to some expenditure being brought forward from the first quarter of 2010 to the final quarter of 2009. It has been announced that on 4 January 2011 the rate of VAT will rise further to 20.0 per cent, and this too may be expected to provide some stimulus to spending in the final quarter of the year at the expense of lower spending in the first quarter of 2011.

Gross fixed capital formation (GFCF) has also slowed in the latest published quarter, as growth diminished to 0.6 per cent from 1.4 per cent. This reflects the slowdown in business investment which slowed from 0.7 per cent to -0.2 per cent between the second and third quarters. Other components of GFCF, for which aggregates are yet to be published, include dwellings and public sector investment.

The 'other' category of total expenditure includes the consumption of non–profit institutions (NPISH) and spending on valuables, but the main component of interest is stockbuilding. Despite its small contribution to the level of GDP, stockbuilding can account for a significant part of changes in GDP. **Figure 6** shows the contribution of stockbuilding to GDP growth in recent quarters and provides clear evidence of a stocks cycle at work during the recession and recovery. It also tallies with the output patterns reported by intermediate goods producers in Figure 2, showing the contribution of stockholding to be strongest in the first half of the year as the rate at which businesses reduced their inventories slowed considerably. However, this positive impact on growth has faded in the latest quarter.

Figure 6 Stockbuilding and its contribution to GDP growth[1]

Per cent, quarter on quarter



Source: ONS Output, income and expenditure

Note

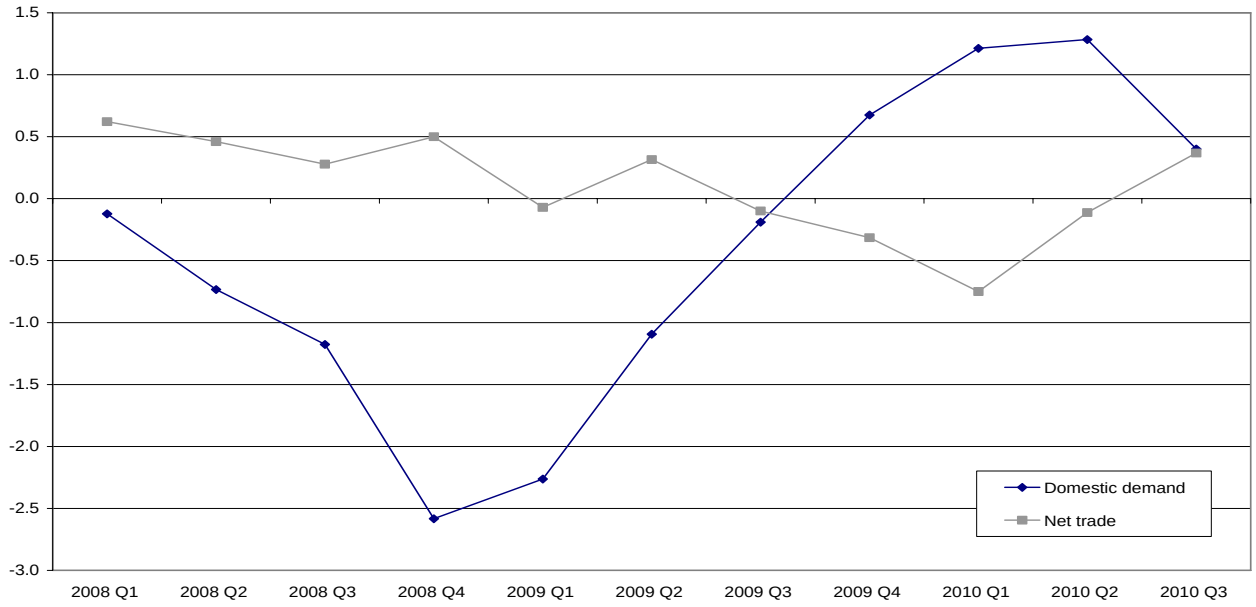
1. The contribution of stockbuilding/inventories to growth is implied by the difference in growth rates between GDP including and excluding changes in inventories.

In 2010 Q3 net trade made a positive contribution to growth for the first time since 2009 Q2 (**Figure 7a**). At the start of the recession net trade's contribution to GDP growth was initially positive as the sharp contraction in domestic demand fed through to imports, which fell at a faster rate than UK exports. However, as the global economy began to recover, and both imports and exports started to grow again, net trade's contribution became negative. The negative contribution was especially marked in 2010 Q1, when January's poor weather prevented goods from reaching port leading to lower than usual exports during that quarter. The contribution of net trade was positive in the latest quarter which incidentally coincides with a slowdown in domestic expenditure growth.

In the second half of 2008 sterling depreciated by around 25 per cent against the US dollar and the euro. It was hoped that this would provide a fillip to growth through exports, in much the same way as when the UK exited the European Exchange Rate mechanism in 1992 with a similar magnitude of sterling depreciation (see the effective exchange rate index for sterling in **Figure 7b**). It could also provide a mechanism for a rebalancing of GDP away from domestic to overseas demand.

Figure 7a Contributions of domestic demand and net trade to GDP growth

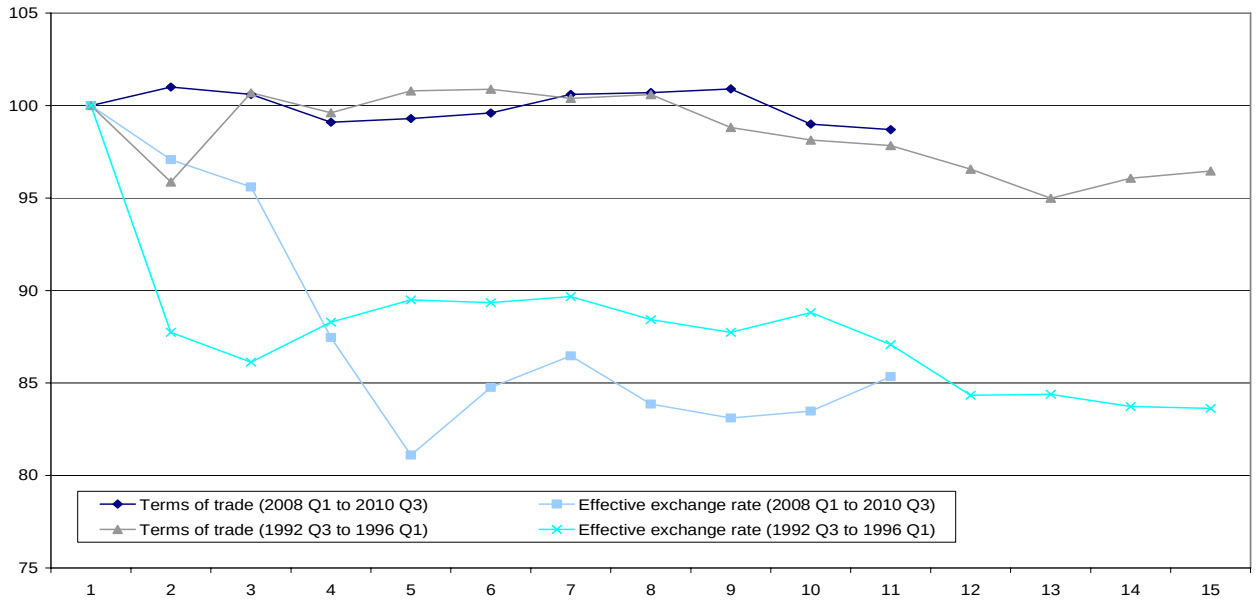
Per cent, quarter on quarter



Source: ONS Output, income and expenditure

Figure 7b Sterling effective exchange rate and the terms of trade[1]

Index: first quarter = 100



Source: Bank of England and ONS UK trade

Note

1. Terms of trade are the ratio of export to import prices for goods trade excluding oil

Sterling depreciation, for one reason or another, appears not to have provided a sufficiently large boost to competitiveness to produce an economic recovery led by foreign demand. The reasons are various. The structure of UK's trade could be a factor. Growth in services exports have been particularly weak, and is probably a reflection that global growth is being predominantly driven by emerging market economies like China where services demand is lower. More mature developed markets, like the USA, by contrast are growing much more slowly. In addition, the fall out from the global financial crisis has depressed activity in banking and financial services around the world, in which the UK specialises, and is an important part of total UK services exports.

The relationship between the exchange rate and competitiveness may also have changed over the last two decades as the UK goods producing sector moves up the value chain as a result of the emergence of lower cost newly industrialised countries entering world trade. By moving away from mass produced standardised products, UK manufacturing is less likely to rely on price and more on quality. Pricing to market effects imply that producers adjust margins to maintain certain strategically set prices in local markets. The fact that the UK's terms of trade, that is the ratio of export to import prices, has changed by relatively little implies that this may be the case (see Figure 7b). Instead UK manufacturers may be using sterling depreciation to increase margins rather than lower export prices.

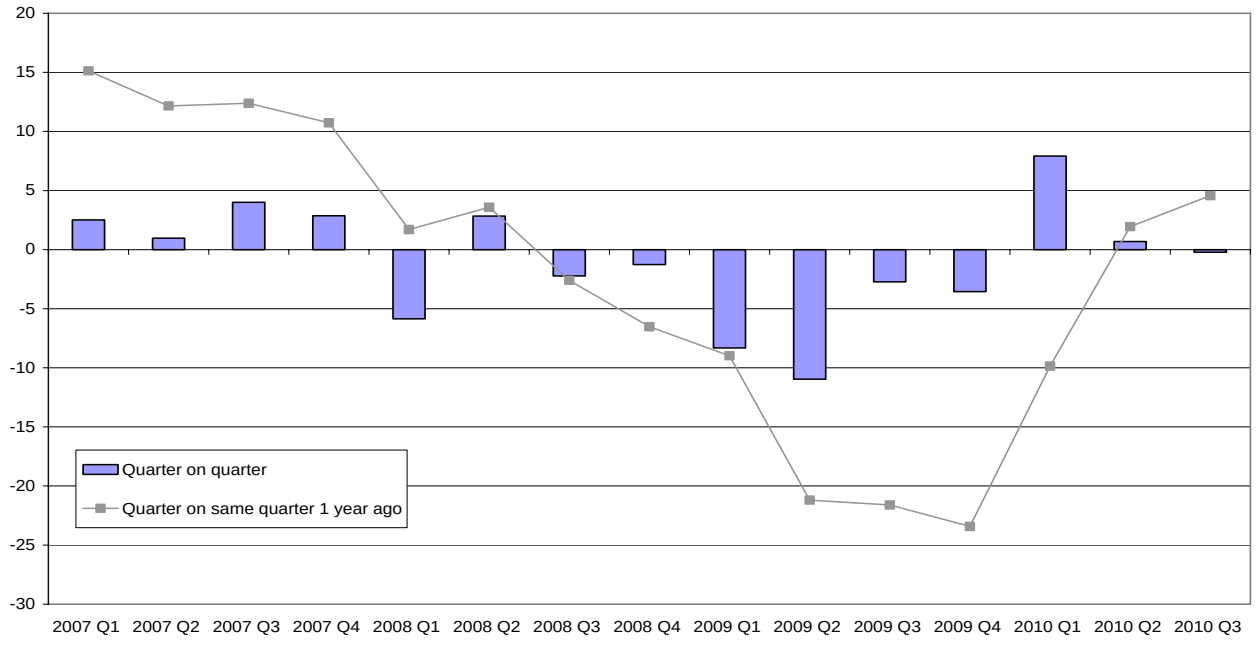
Business investment remains subdued

Provisional results for 2010 Q3 show that business investment fell marginally on the quarter. Apart from a single quarter of strong growth in 2010 Q1, business investment is yet to show any significant momentum since GDP started to recover in 2009 Q4 (**Figure 8a**). The weakness of business investment is also broad–based, with no individual industry acting as a catalyst for overall growth (**Figure 8b**). One strong quarter of growth in the transport industry was sandwiched by two quarters of significant negative growth, meaning that the level of GFCF in this sector was still lower in 2010 Q3 than a year earlier.

Slowing GFCF growth is in tune with the declining output of capital goods producers shown in Figure 2. Depreciation of sterling may also, by increasing the cost of capital goods, have led to lower volumes of imports. However, it appears that the main reason for weak GFCF demand is the uncertain economic outlook, with businesses reluctant to invest in installing extra capacity at the earlier stages of the recovery. The Government's Spending Review, and its possible ramifications for domestic demand and employment, is likely to have further encouraged the cautious outlook. Business survey data, such as those published by the Confederation of British Industry, continue to report low investment intentions, with the weakness of future demand identified as the main limiting factor. In addition, that investment which is actually taking place is reported to be driven by achieving efficiencies rather than increasing capacity.

Figure 8a **Business investment**

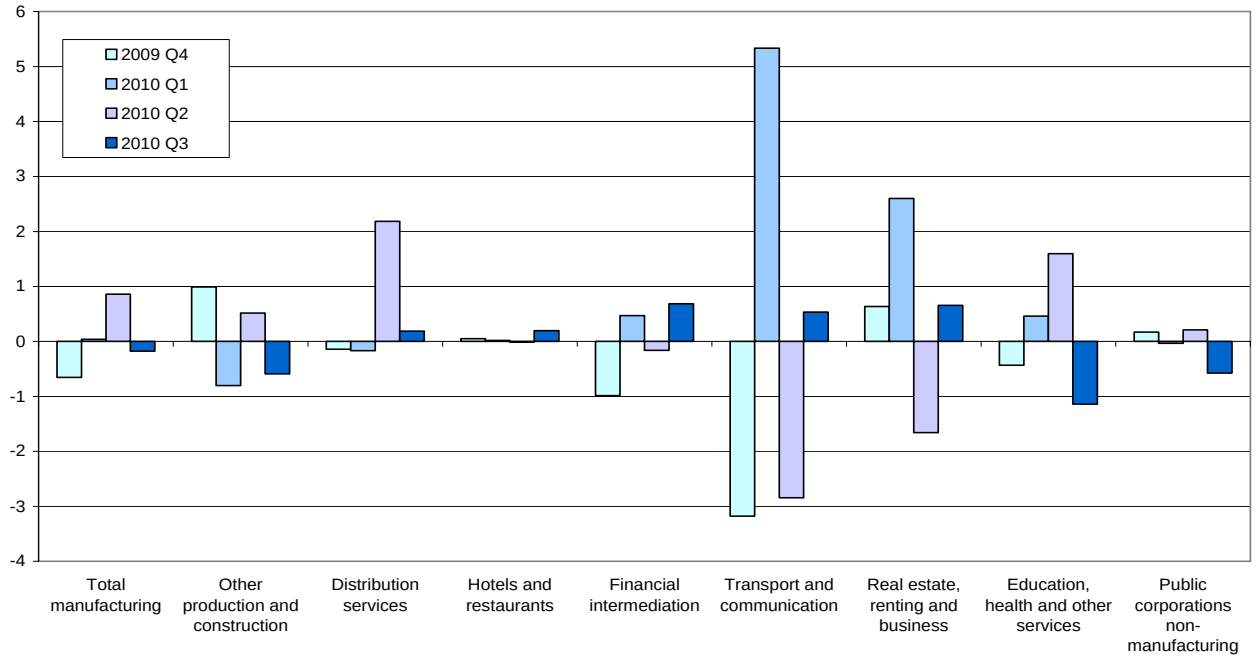
Per cent



Source: ONS Business investment preliminary results

Figure 8b **Contributions to business investment growth by industry**

Per cent, quarter on quarter



Source: ONS Business investment preliminary results

The Bank of England, in its Credit Conditions Survey, recently reported a rise in cash holdings of the private non–financial corporations (PNFC) – evidence that firms are building buffers to protect against future uncertainty and also due to ongoing financing constraints – especially for small and medium firms where access to credit remains difficult. As company cash flows have been supported by relatively good profitability and low borrowing costs, the rise in these cash balances seems to somewhat reflect a deliberate move by firms to reduce investment spending. The proportion of firms indicating that credit constraints are the main barrier to investment spending in business surveys of investment intentions are relatively low compared to the weakness of demand as a factor.

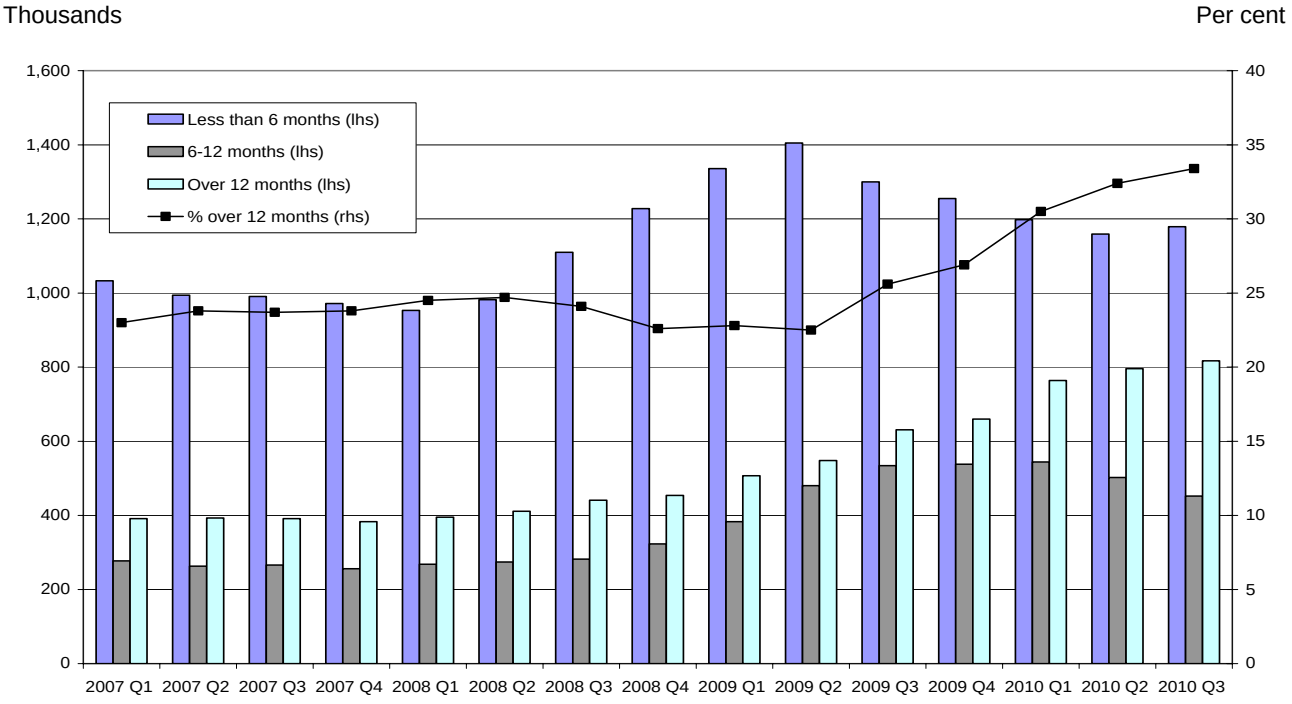
Unemployment falls but durations are on the rise

In the third quarter of the year the UK's unemployment level was 2.448 million, constituting a rate of 7.7 per cent of all those aged 16 and over and economically active. This represents a fall from the first quarter, when the unemployment rate was 0.3 percentage points higher at 8.0 per cent and the level 58,000 higher at 2.506 million.

The fall in unemployment through 2010 though has not been across all durations. The number unemployed for less than six months has fallen from 1.405 million in 2009 Q2 to 1.179 million in the latest quarter – a drop of 226,000. But over the same period, those unemployed for over 12 months have increased, up from 548,000 to 817,000 – a rise of 269,000 (**Figure 9a**). Therefore it appears that unemployment is shifting from the shorter to the longer durations. More than a third (33.4 per cent) of total unemployment is now in this longer term category of over 12 months compared to less than a quarter (22.5 per cent) in 2009 Q2. This tends to suggest that the recent flows into unemployment have slowed, with fewer redundancies for example, but those who entered unemployed towards the beginning of the downturn have found it increasingly difficult to escape.

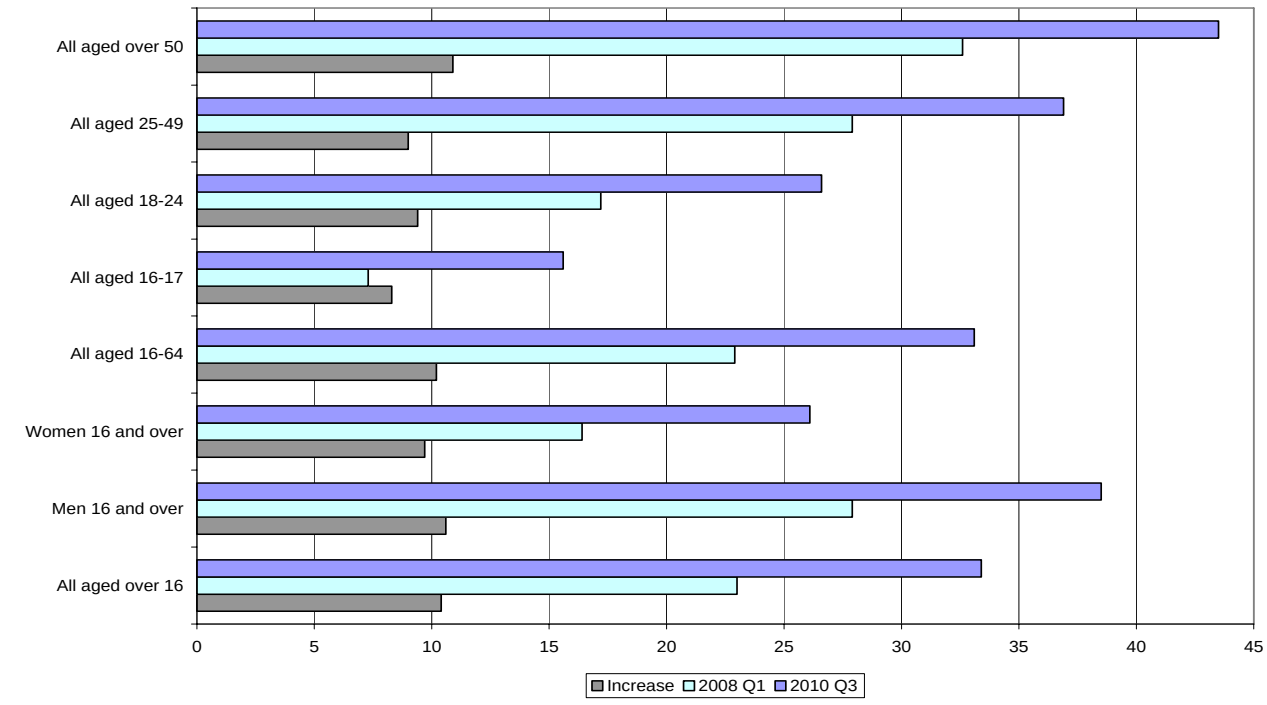
Figure 9b looks at the increase in the proportions unemployed for over 12 months in various segments of the labour market since before the start of the recession in 2008 Q1. Interestingly, the percentage point increase has been relatively similar, at around 10 percentage points, for each age and sex category. However, the incidence of longer–term unemployment in each age and sex category still differs – being greater among males than females and among older rather than younger age groups. Inactivity rates among the female and younger constituents of the labour market tend to be higher, so the smaller proportions of longer–term unemployment may be reflected in a move to inactivity. For example, during the downturn in the labour market there has been a large increase in the student population, especially males.

Figure 9a Unemployment by duration



Source: ONS Labour market statistics

Figure 9b Changes to unemployment durations by age and sex, 2008 Q1 – 2010 Q3



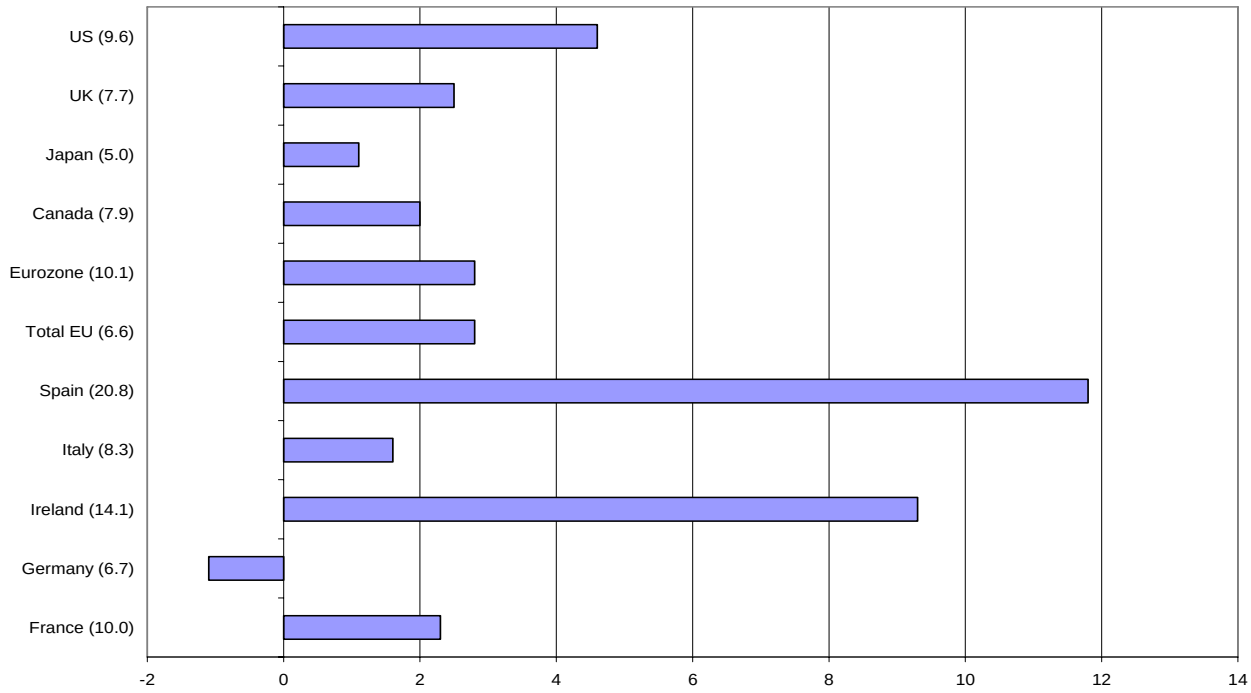
Source: ONS Labour market statistics

International comparisons of unemployment through the recession

The pass through from falling output to the labour market has generally resulted in an increase in unemployment across the major developed nations. As **Figure 10** shows, the unemployment rate is still currently higher than before the recession (2008 January) in this sample of countries, with the exception of Germany, where the unemployment rate is actually 1.1 percentage points lower. So despite there being a global recession, cross–country experiences of unemployment have differed.

Figure 10 Changes in unemployment rates across country[1]

Percentage point change from January 2008 to latest published



Source: ONS Labour market statistics

Note

1. Most recently published unemployment rates in brackets.

The largest increases have been in Ireland and Spain. In Ireland, the unemployment rate has increased markedly, up from 4.8 per cent in January 2008 to 14.1 per cent in September 2010 (9.3 percentage points). The scale of retrenchment, from both private investment and public spending has been relatively severe in Ireland, which has faced a large contraction in the construction sector and a banking crisis. Similar problems have befitted Spain, where the construction sector had also grown to a relatively large share of GDP and the banking system was highly leveraged. Spanish unemployment has always been high relative to the European average, partly a consequence of cultural and structural factors, but the 11.8 percentage point rise from 9.0 per cent in January 2008 to 20.8 per cent in September 2010 is dramatic even for Spain. With a large proportion of the

workforce on temporary contracts, it is relatively easy for employers to cut employment when faced with falling demand.

The US, also famed for its flexible labour market, has also experienced a larger than average increase in its unemployment rate. In October 2010 the unemployment rate of 9.6 per cent was 4.6 percentage points higher than the 5.0 per cent rate recorded in January 2008. In addition, there are signs that the US is experiencing a jobless recovery as the unemployment rate continues to rise despite the upturn in GDP. This suggests that US growth is not sufficiently fast to encourage businesses to invest and crate jobs, and following the weakening of growth in the third quarter, may explain why the Federal Reserve increased it program of quantitative easing in November.

Germany stands at the other end of the unemployment spectrum. Despite suffering a relatively large peak–to–trough fall in GDP, unemployment has been kept down by active implementation of the *Kurzarbeit* programme which subsidizes short–term working. This has always been a feature of the German labour market, but in the first half of 2009 subsidy levels were increased with longer duration of eligibility. At its peak, 1.5 million employees (3.5 per cent of the workforce) were involved, predominantly in manufacturing. This has protected against a sharp increase in unemployment by encouraging firms to hang on to labour. However, once the eligibility period has passed, firms will face an increase in labour costs and are likely to reassess whether or not an adjustment in employment is required. In this respect, unless the pick up in German growth is sufficiently strong, *Kurzarbeit* may just postpone an increase in unemployment.

France has made less use of active labour market policies like short–term working schemes and as a result the rise in unemployment has been higher than in Germany. France also suffers from high youth unemployment and a relatively low employment rate across the whole population. However, and partly as a result of its lower use of reduced working time policies, output per worker is currently higher, implying there is less scope to increase output through productivity alone. This might fair well for employment if output grows sufficiently quickly.

The UK recession, in terms of depth and duration, has been relatively large but the unemployment rate remains below that in the Eurozone and the wider European Union. Here, the rise in unemployment has been offset by a reduction in working hours – specifically through a notable increase in part–time working. As a result, growing underemployment may generate scope for growing output to be met from higher productivity rather than higher employment.

Increases in foreign born workers in total UK employment

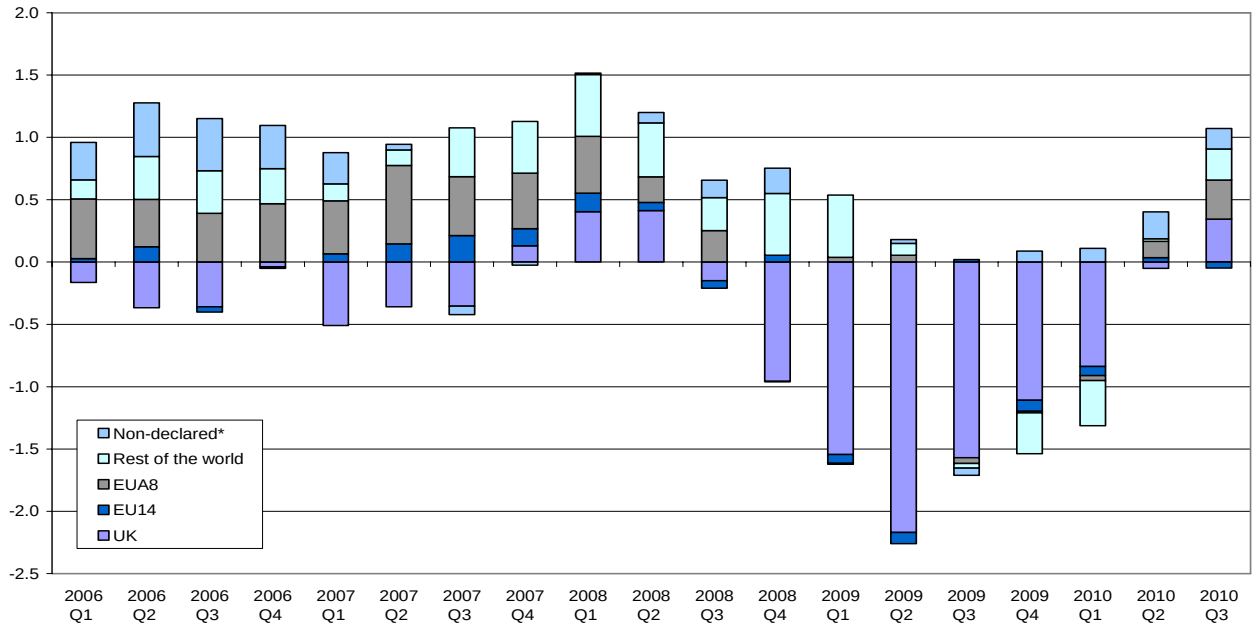
Latest figures for the third quarter of the year (July–September) show that total employment in the UK was 1.0 per cent higher than in the same quarter of 2009. Only a third of this (100,000 out of 297,000) was accounted for by those born in the UK. Those born in the EUA8 group (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia – the group of 8 countries that acceded to the EU in 2004) accounted for almost as many of the increase (90,000).

As **Figure 11** shows, foreign born workers have been an increasing proportion of total UK employment. This is partly due to the strong rise in employment of foreign born workers in the periods of rising employment, and also the large fall in the employment of UK born workers during the economic downturn. As a consequence, of the total increase of 966,000 in employment between 2004 Q1 and 2010 Q3, UK born in employment fell by 334,000 whilst the foreign born in UK employment rose by 1.297 million. Of these, 530,000 were born in the group of EUA8 countries.

Figure 11 Contributions to employment growth by country of birth

Percent, quarter on same quarter 1 year ago

Not seasonally adjusted



Source: ONS Labour market statistics

Note

* The sum of UK and non–UK employment does not equal total employment in the UK as the total includes people who did not state their country of birth

Naturally some care should be taken when considering these changing employment patterns. Some foreign–born workers may actually be or have become UK citizens. The rise in foreign–born employment may also have been in jobs that the domestic population lacked the skills or the willingness to do at prevailing wage rates. Finally, and importantly, it must also be born in mind that UK–born workers are also increasingly working overseas, so these trends will, to some extent, reflect the freer movement of labour across international borders and especially within the European Union.

Average weekly earnings 2.0 per cent higher in September than last year

The economic downturn has not just manifested itself in lower employment and higher unemployment, but also in depressed wage growth. Based on a three month average, annual growth in average weekly earnings had fallen to 0.6 per cent in January 2010 when measuring total pay and to a low of 1.1 per cent in December 2009 when measuring regular pay (total pay excluding bonuses). Since then, pay growth has picked up a little but remains muted, especially compared to rates before the recession. In September 2010, total pay was 2.0 per cent higher than a year before, and regular pay was 2.2 per cent higher. This compares to an average of 4.3 per cent between March 2001 and January 2008 for total pay and an average of 4.0 per cent for regular pay.

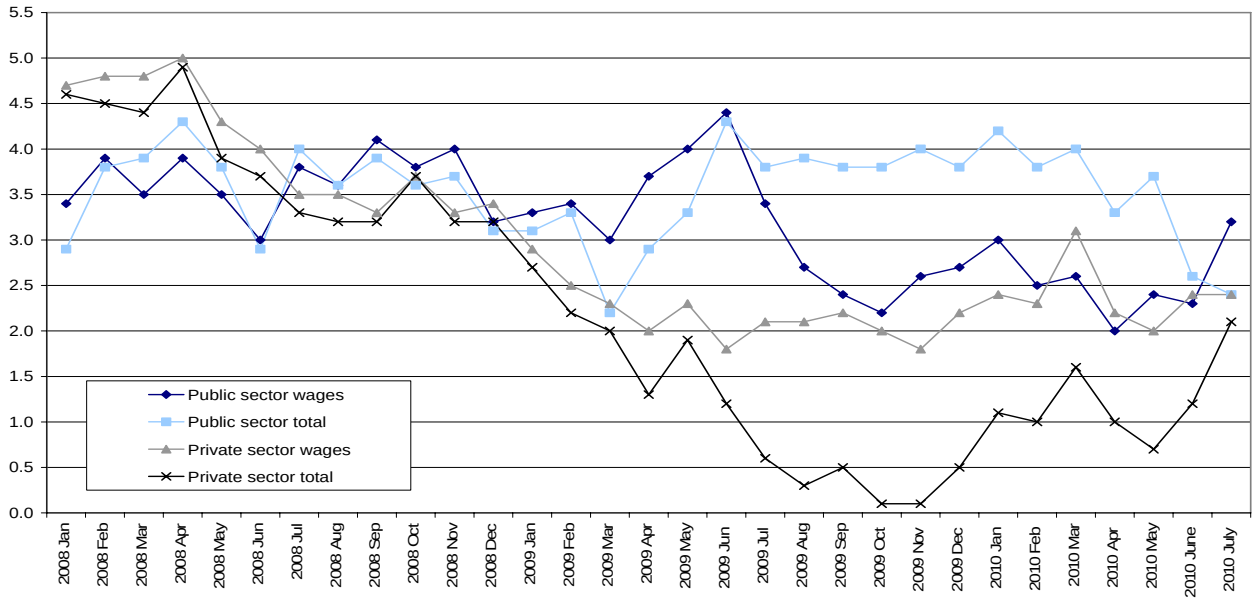
Changes in average earnings growth though also reflect changes in employment patterns across the economy. For example, average earnings will fall if there is a movement of employment from higher paid to lower paid occupations, even if pay growth within those occupations is fairly stable. This often makes it difficult to compare wage growth between the public and private sectors.

In a set of supplementary tables, average weekly earnings for the public and private sectors (excluding bonuses and arrears) are split into wage and employment contributions. These are shown in **Figure 12a**. When comparing total pay growth, it appears that public sector pay has grown faster than private sector pay through 2009 and the first half of 2010. However, this partly reflects the transfer of publicly owned banks from the private to the public sector – moving a number of relatively well–paid workers from the private to the public sectors. This will be reflected in a positive employment component for the public sector, and a negative one for the private sector. Removing this effect, to just leave the wages component, shows that underling pay growth in the public and private sectors has been far more similar over the last year than total pay trends would suggest. Convergence in total pay growth at the end of the time series reflects the two counteracting employment effects falling out of the annual comparison.

Average weekly earnings growth are also made available by industry. **Figure 12b** shows total pay growth across a variety of industries in the 12 months to September 2010 compared to the same period a year earlier, split into both regular and bonus contributions. The fastest pay growth was in the financial and insurance industry at nearly 9.8 per cent, which was almost entirely accounted for by a pick up in bonus payments compared to a year before. It is also noticeable in Figure 12b that pay growth in the manufacturing industries was fairly high relative to the rest of the economy. In September 2010, regular pay growth in the manufacturing industries was 4.2 per cent compared to 2.2 per cent for the rest of the economy. Sterling depreciation, by enabling firms to increase margins, may be a factor supporting this stronger pay growth.

Figure 12a Average weekly earnings growth by sector

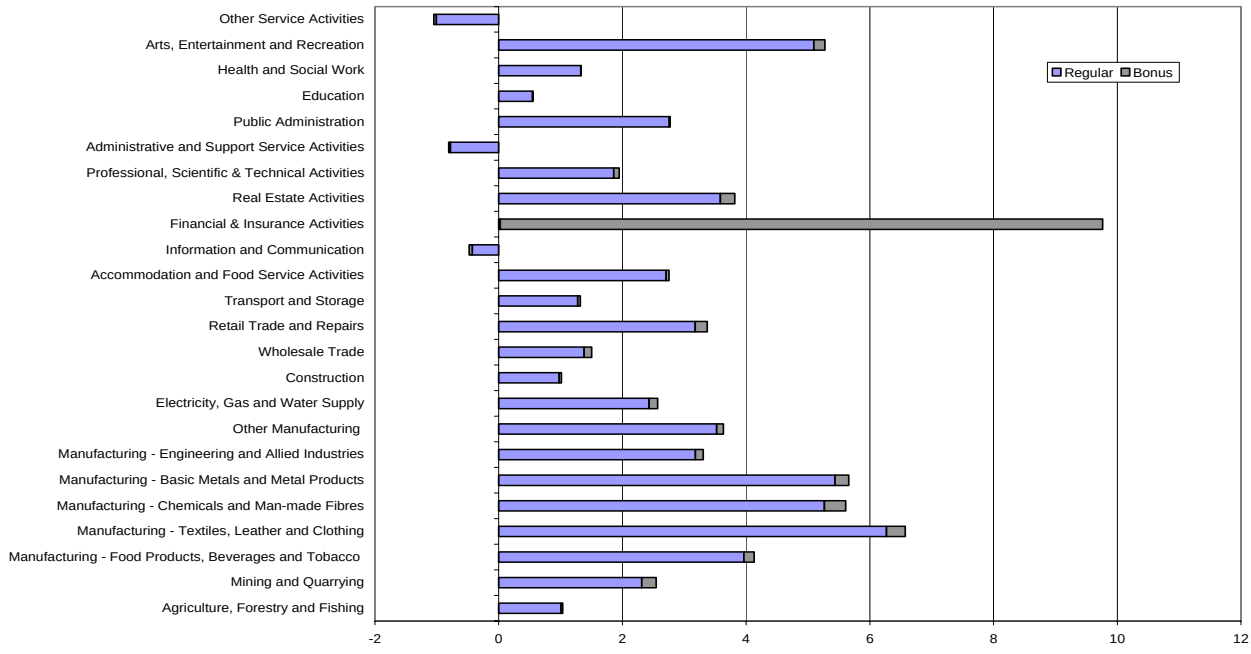
Per cent, month on same month 1 year ago



Source: ONS Average weekly earnings supplementary tables

Figure 12b Average weekly earnings by industry

Per cent[1]



Source: ONS Average weekly earnings supplementary tables

Note

1. Growth rates are based on an average of pay in the 12 months to September 2010 (October 2009 – September 2010) compared with an average in the same period in 2009 (October 2008 to September 2009).

Factory gate inflation at 4.0 per cent in October 2010

Output prices for the home sales of manufactured goods, also known as factory gate prices, were 4.0 per cent higher in October 2010 compared to the same month in 2009. This represents a 2.5 percentage points increase in the annual rate of producer prices index (PPI) output inflation from October 2009, when the annual rate of PPI output inflation was 1.5 per cent. **Figure 13a** shows the contributions by different types of commodity to annual PPI output inflation in each period.

Of the 2.5 percentage point increase in PPI output inflation, around 1.5 percentage points was accounted by petroleum products. For this commodity, annual PPI output inflation rose from -3.1 per cent in October 2009 to 10.6 per cent in October 2010. Other significant contributions to the rise in PPI output inflation came from food products and chemicals and pharmaceuticals. These two may be linked to an increase in oil prices, which tends to have a knock on impact on inputs into the petro–chemical industry and also on world grain prices via the price of biofuels.

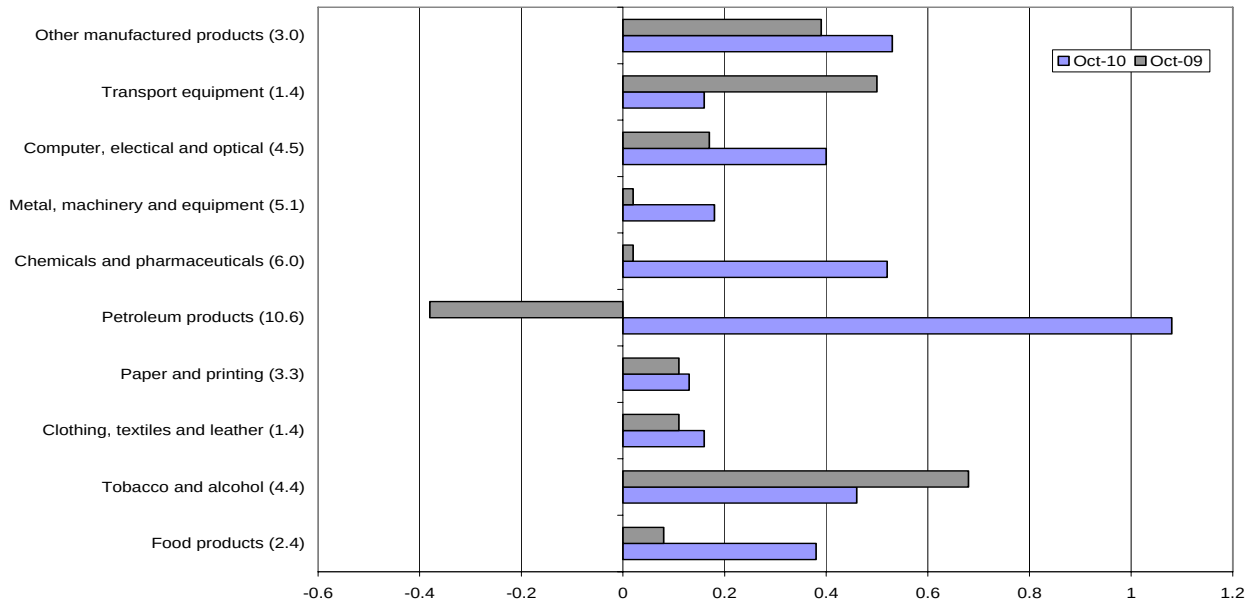
The rise in output price inflation reflects an increase in import price inflation. PPI input inflation has increased from 0.8 per cent in October 2009 to 8.0 per cent in October 2010, and has been mainly driven by an increase in commodity prices, although the depreciation of sterling may also have been a factor in increasing import prices. Fuel, crude oil, imported metals and home food materials have been the main factors accounting for the rise in PPI input price inflation, however imported parts and equipment price inflation slowed markedly (**Figure 13b**). Incidentally this seemed to have little effect on GFCF in the latest quarter.

Figure 14 shows annual inflation for a number of commodity prices including fuels, metals and agricultural produce. In accordance with the rise in PPI input and output prices inflation there have been marked price increases for most metals, natural gas, wheat and cotton. This has also been reflected in business survey data where reports of increasing input and output prices have been made, particularly in the manufacturing sector. In fact, some firms reported that purchasing intermediate products ahead of price increases was one factor leading to an increase in stockbuilding in the second and third quarters.

Figure 15 shows the monthly fuel price of a litre of unleaded low sulphur petrol. Fuel duty and VAT make up the majority of the pump price, and these have generally trended upwards over time. However, most of the short–term movements in fuel prices are accounted for by changes in the oil price. In the third week of November 2011 the average price of a litre of unleaded low sulphur petrol was 118.99 pence, of which 75.91 pence was VAT and fuel duty. This is 9.4 per cent higher than in the same week in 2009 when the average price was 108.73 pence. Of the 10.26 pence increase in the average pump price, 5.54 pence was accounted by VAT and fuel duty (up by 7.9 per cent) and 4.72 pence by the non–tax component – retailer margin and raw petroleum (up by 12.3 per cent).

Figure 13a Contributions to annual PPI output inflation[1]

Per cent, month on same month 1 year ago



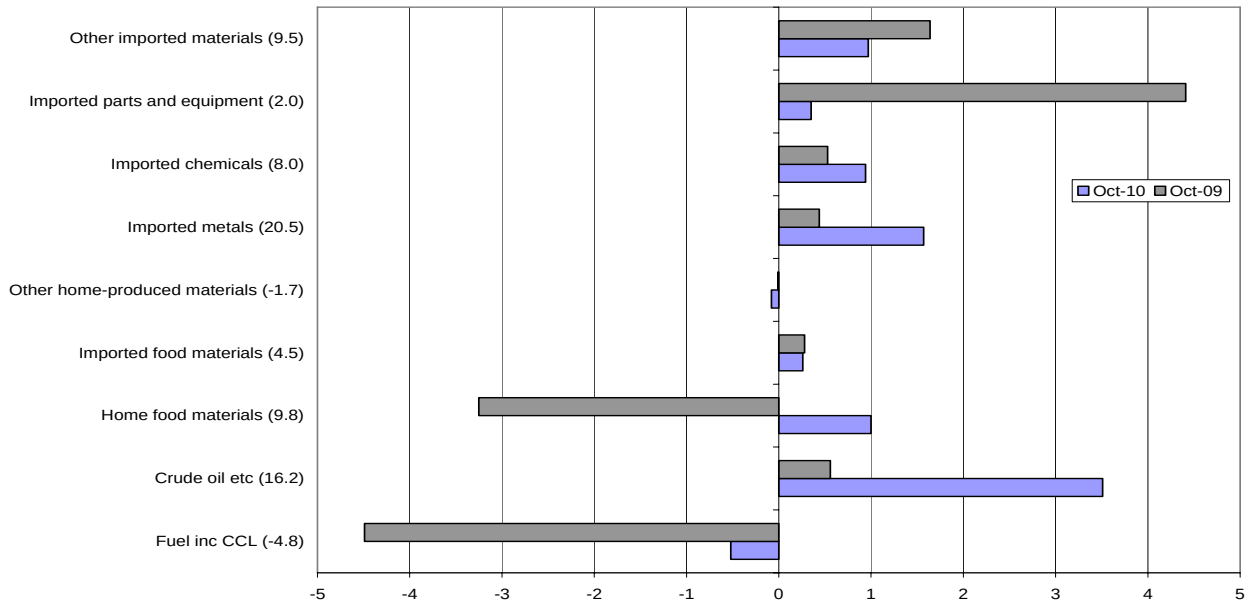
Source: ONS Producer prices

Note

1. Annual rates of PPI inflation in October 2010 shown in brackets

Figure 13b Contributions to annual PPI input inflation[1]

Per cent, month on same month 1 year ago



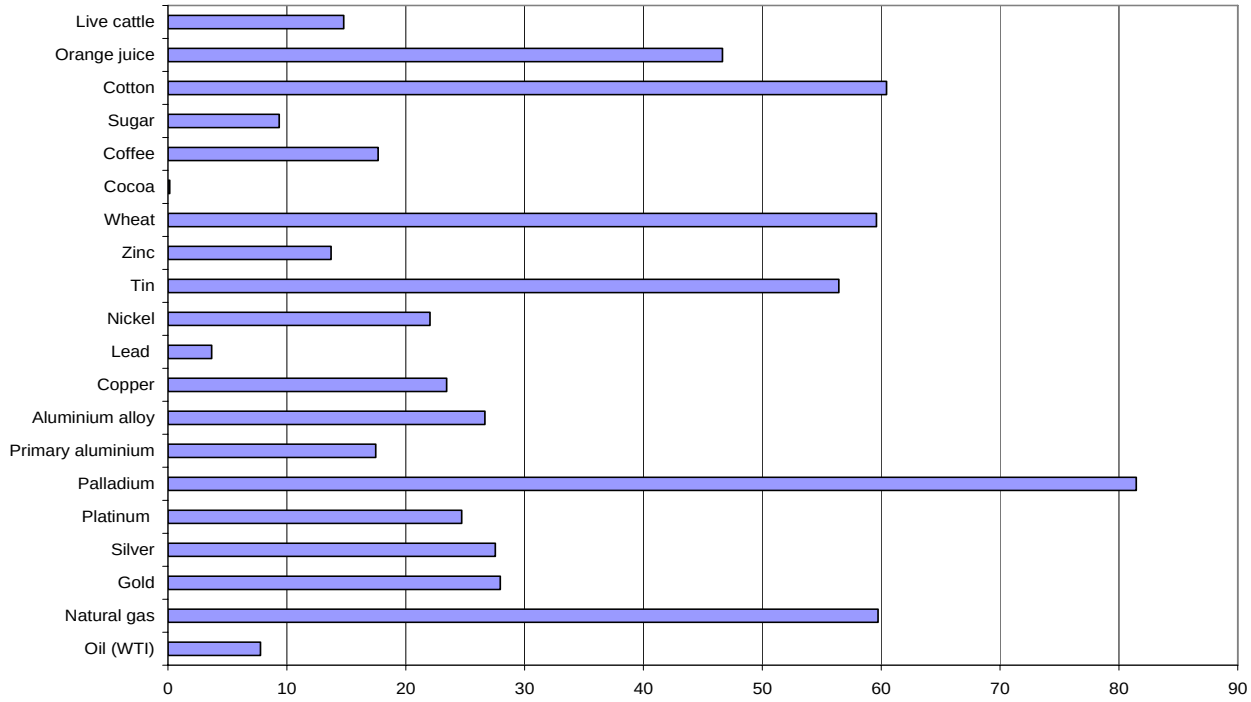
Source: ONS Producer prices

Note

1. Annual rates of PPI inflation in October 2010 shown in brackets

Figure 14 Annual changes in global commodity prices

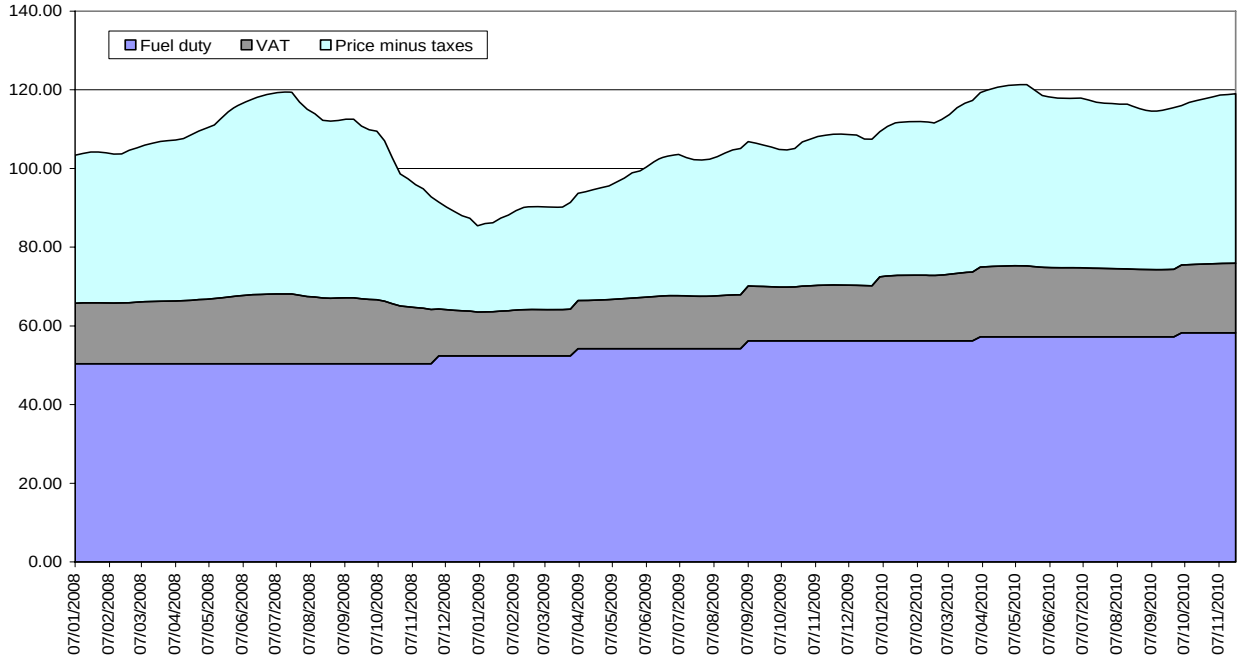
Per cent, October 2010 on October 2009



Source: Financial Times commodity data

Figure 15 Average weekly fuel prices

Pence per litre



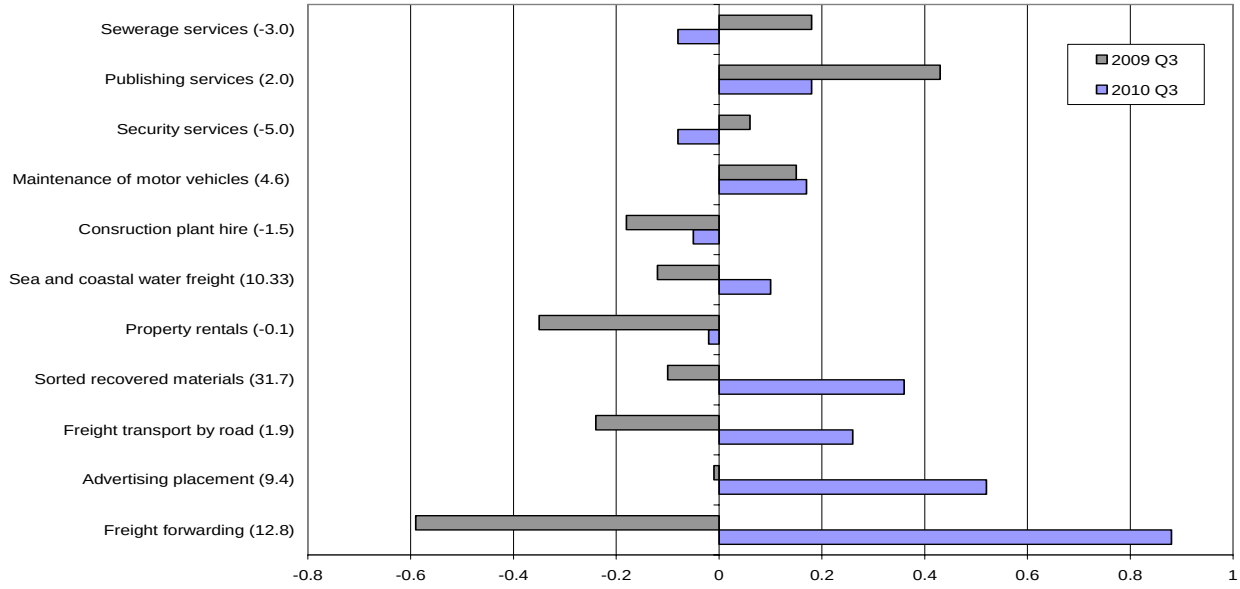
Source: Department for Business, Innovation and Skills Weekly fuel prices

Services producer price inflation 2.4 per cent in 2010 Q3

Inflation in the services producer prices index (SPPI) is also higher in 2010 than in 2009. SPPI inflation has generally followed a similar pattern to PPI inflation, although price movements are less volatile as commodity prices represent a lower proportion of total input prices. On a net sector basis, SPPI inflation was 2.4 per cent higher in the third quarter of 2010 relative to the same quarter in 2009. This marks an increase of 3.0 percentage points on the SPPI inflation rate in 2009 Q3 of -0.6 per cent. **Figure 16** highlights some of the main contributing changes to the rise in SPPI inflation rates in 2010.

Figure 16 Main contributions to annual SPPI inflation[1]

Per cent, quarter on same quarter 1 year ago



Source: ONS Services producer prices

Note

1. Annual inflation rate 2010 Q3 are shown in brackets

In line with the increase in average fuel prices displayed in Figure 15, freight forwarding and freight transport by road contributed 1.5 percentage points and 0.5 percentage points respectively to the 3.0 percentage point increase in the SPPI inflation rate. Sorted recovered materials accounted for 0.46 percentage points of the increase, and this may partly reflect the rise in metal prices shown in Figure 14. Other significant upward contributions came from advertising placement (0.53 percentage points) and property rentals (0.33 percentage points). In these instances the increase in inflation partly reflects a recovery in prices from the depressed levels during the recession. Whilst commodity prices are usually the main factor affecting PPI inflation, the cyclical position of the economy seems to have more of a direct on certain parts of the SPPI where price inflation might move with the strength of demand.

Contact

elmr@ons.gov.uk

Measuring the environmental goods and services sector

Donna Livesey
Office for National Statistics

Summary

There is a clear requirement in the UK, and internationally, to measure the progress towards a 'green' economy, and within this to understand the contribution of the environmental goods and services sector to the economy and the potential for growth. As stated in the UK Environmental Accounts Strategy published in June 2010, ONS is conducting a study to assess the feasibility of measuring this sector in line with the definitional framework proposed by Eurostat. This article presents the framework and outlines a number of interesting statistical challenges to be examined as part of the study, the results of which will be published in summer 2011.

Introduction

This is the first of two articles on measuring the environmental goods and services sector in the UK. This first article introduces the work being taken forward by the ONS to measure this sector, sets it in a UK and international context and discusses the challenges ahead. A second article, scheduled for summer 2011, will present results from the feasibility study and proposals for follow up work which would be required in order to deliver regular official statistics. This feasibility study forms part of the prioritised work programme outlined in the UK Environmental Accounts Strategy[1] published by ONS in June 2010.

There is increasing economic and political interest in the *green economy*, the *low carbon economy*, and the environmental goods and services sector with the global economic downturn having served to sharpen the focus on the potential for *green growth*.

Within the context of delivering sustainable economic growth, for example, HM Treasury's 2010 Spending Review[2] included decisions targeted to '*position the UK at the forefront of the transition to a low carbon economy*'. Also in October, David Cameron's speech to the CBI[3] on '*creating a new economic dynamism*' talked of investment in the UK offshore wind industry as '*a triple win'* stating that '*it will help secure our energy supplies, protect our planet and….could create 70,000 jobs*'.

In the UK, and globally, questions are being posed that have both environmental and economic sustainability at their heart. At the macro–level these questions focus on issues such as the size of the environmental goods and services sector, the contribution to the wider economy, the relative productivity of low carbon and traditional industries and competitiveness in the global market. The potential for growth and increased numbers of 'green' jobs are key points of interest together with the challenges of minimising the impact of the economy on climate change and decoupling economic growth and reliance on finite oil and gas reserves.

There is a recognised requirement for an evidence base to inform planning and cost–benefit analyses and to understand if environmental policy and investment decisions are having the desired impact on targets for reducing greenhouse gas emissions, making the switch to renewable energy sources and job creation.

Internationally, the need for comparable statistics on the environmental goods and services sector is well established. Work by the OECD and European Commission to develop the framework for such statistics began in the early 1990s and a series of reports and country studies have since been published. In 2009, Eurostat (Statistical Agency of the European Commission) published a data collection handbook[4] to support National Statistics Institutes (NSIs) in the collection of official statistics and standard tables[5] were established for an EU pilot data collection. A number of countries have already taken part in pilot studies and preliminary results are now available (**Table 1**).

Table 1 Turnover and employment in the environmental goods and services sector

Country	Turnover (Euro billions)	Employment (full–time equivalent, thousands)
Germany (2007)	4.6	76
France (2007)	1.0	209
Netherlands (2007)	Not available	8
Austria (2008)	Not available	76
Poland (2007)	2.9	262
Romania (2006)	2.1	123
Sweden (2006)	1.0	35

Source: Adapted from Eurostat, September 2010

Confirming the importance of such statistics within Europe, draft amendments have been tabled to the proposal for a new Regulation on Environmental Economic Accounts currently going through the European Parliament and Council co–decision procedure to include the measurement of the environmental goods and services sector in a list of statistical modules for development '... *as a matter of priority*'. (2010/0073 (COD) 9 November 2011)

At the same time, the United Nations Statistics Division has a global consultation underway on the UN System of Environmental Economic Accounting (UNSEEA)[6] and is proposing that the measurement of the environmental goods and services sector, based on the methodology outlined in the Eurostat Handbook, forms part of the core international standard on environmental economic accounting. This standard, once approved by the UN Statistics Commission, would sit alongside the UN System of National Accounts[7] and provide the framework for international statistical reporting.

This article outlines the concepts and definitions underpinning the proposed international standards, describes the current position in the UK and introduces the feasibility study which ONS is undertaking. Based on a review of international experience and consultation carried out to date by ONS within the UK, some of the key issues to be examined by the study are discussed.

Preliminary results from the feasibility study will be published in summer 2011 and a cross–government working group will steer the project. Through this early article, ONS is seeking to raise awareness of this project with a wider audience of potential users of these statistics and would welcome hearing from those with an interest in any of the issues raised.

Concepts and definitions

This article began by quoting commonly used phrases such as *green economy* and *green growth* but how is the environmental goods and services sector that the ONS is seeking to measure defined within this wider context?

In 2009, the OECD Ministerial Council endorsed a mandate for the OECD to develop a Green Growth Strategy '*bringing together economic, environmental, social, technological and development aspects into a comprehensive framework*'. (OECD, 2009).

The OECD describes green growth as:

'…a way to pursue economic growth and development, while preventing environmental degradation, biodiversity loss and unsustainable natural resource use. It…aims at identifying cleaner sources of growth, including seizing the opportunities to develop new green industries, jobs and technologies, whilst also managing structural changes associated with the transition to a greener economy. Managing the employment and other distribution effects of change in more traditional sectors will also need to go hand in hand with exploiting new opportunities'.(OECD 2010)

Part of the ongoing OECD programme of work is focused on establishing how to measure progress towards green growth and a greener economy, including the development of key indicators covering environmental efficiency of production and consumption, the natural asset base of the economy, environmental quality of life and indicators describing policy responses and instruments.

The concepts of *green growth* and the *green economy* relate to changing the face of the whole economy. The aim of the ONS feasibility study to measure the environmental goods and services

sector addresses one specific element of this. The environmental goods and services sector as defined by the Eurostat Handbook is reproduced in **Box 1**.

Box 1 Definition of the environmental goods and services sector*

The environmental goods and services sector consists of a heterogeneous set of producers of technologies, goods and services that:

- measure, control, restore, prevent, treat, minimise, research and sensitise environmental damages to air, water and soil as well as problems related to waste, noise, biodiversity and landscapes. This includes 'cleaner' technologies, goods and services that prevent or minimise pollution
- measure, control, restore, prevent, minimise, research and sensitise resource depletion. This results mainly in resource-efficient technologies, goods and services that minimise the use of natural resources

These technologies and products (goods and services) must satisfy the end purpose criterion, meaning they must have an environmental protection or resource management purpose as their prime objective.

Note

* The Environmental Goods and Services Sector, A Data Collection Handbook, Eurostat (2009)

For the purposes of delivering internationally comparable official statistics a common definitional framework is critical. The Eurostat handbook expands on the core definition but key concepts are as follows:

- *'Heterogeneous set of producers'* confirms that the sector cuts across the economy to include the activities of public and private enterprises and government
- *The 'environmental protection or resource management purpose'* must be the main purpose, classified primarily by the technical nature of the good or service. The example given in the Eurostat handbook is the provision of waste management services. The key driver for the producers of waste management services is not to protect the environment, yet from a technical stance, the services remove waste from the environment and so meet the definition. Where the classification of specific cases cannot be resolved, the intention of the producer in delivering the good or service is taken into account. The intention of the consumer is not considered, nor is the benefit to the environment considered in isolation if the main purpose of the activity is to meet a technical, human or economic need rather than an environmental one. Music downloading services, for example, could be considered environmentally beneficial as they substitute for the production and transportation of CDs, but the main purpose is not environmental protection or resource management.

Table 2 Dimensions of the Eurostat pilot data collection

1. Variables	Employment	Full–time equivalent
	Turnover	Totals invoiced, corresponds to market sales of goods and services supplied to third parties. For non–market producer estimated as total costs of production
	Value added	Difference between the value of the output and the sum of all intermediate consumption
	Exports	Sales, barter, gifts or grants of goods and services from residents to non–residents
2. Technologies, goods and services	Environmental specific services	Output of environmental protection and resource management 'characteristic' activities. e.g. design of systems to treat exhaust gases from motor vehicles
	Connected products	Goods and services which are not typical of environmental protection or resource management but directly serve these activities and have no other use. e.g. installation of equipment for air pollution treatment
	End of pipe technologies	Mainly technical installation and equipment produced for measurement, control, treatment and correction. e.g. equipment for air pollution treatment
	Integrated technologies	Technical processes, methods and knowledge used in production processes which are less polluting and resource intensive. e.g. equipment that produces less exhaust gases to be treated
	Adapted goods	Primary use is not environmental protection or resources management. These are goods which are less polluting or more resource–efficient than equivalent standard goods performing a similar function. e.g. less polluting goods such as de–sulphurised diesel
3. Producers	Corporations	All economic activity not belonging to general government. Includes public corporations. Excludes households
	General Government	Central and local government
4. Activities	Principal and secondary	The principal activity is that producing the largest share of the value added. Secondary activities produce a smaller share
	Ancillary	Exist solely to support the main productive activities of an entity by producing goods and services solely for the use of that entity e.g. in–house waste collection, production of renewable energy for internal consumption
5. Environmental domains	Environmental protection	Based on the Classification of Environmental Protection Activities (CEPA)[8] and is composed of protection of ambient air and climate, wastewater management, waste management, protection and remediation of soil, groundwater and surface water, noise and vibration abatement, protection of biodiversity and landscape, protection against radiation, research and development and other environmental protection activities. Each is to be reported separately with a further breakdown for the protection of climate and ozone layer
	Resource management	Based on the Classification of Resource Management Activities (CREMA).[9] This does not yet constitute an international standard. Management of waters, management of forest resources, management of wild flora and fauna, management of energy resources (production of energy from renewable resources, heat/energy saving and minimisation of intake of fossil resources for non–energy uses), management of minerals, research and development and other natural resource management activities
6. Industry	NACE Rev.2 2-digit level	NACE Rev.2 [10] is the latest revision of the European Union's industrial classification system. NACE Rev.2 is consistent with the UK System of Industrial Classification 2007 (SIC2007)[11] down to the 4–digit level.

Source: Adapted by ONS from Eurostat data collection handbook and questionnaire (2009)

Such exclusions are critical to our understanding of the scope of the sector. Another key exclusion is activity '*aimed mainly at preventing or reducing the impact of natural disasters such as storms or volcanic eruptions on human activities*' (Eurostat, 2009) as it is assessed that protection of humankind is the key driver.

Table 2 summarises the data requirements of the Eurostat pilot data collection, including the types of goods and services covered. As part of the feasibility study, ONS will be seeking to populate the questionnaire as far as possible, assess the quality of the data provided and identify how any gaps can be filled moving forward.

Current status in the UK

The UK publishes regular Environmental Economic Accounts[12] as 'satellite accounts' to the main UK National Accounts[13], measuring the environmental impact of UK economic activity. In June 2010, ONS published a strategy for the continued development of these accounts. This strategy reflects the requirements of emerging international standards and the proposed European regulation as well as the findings of the *Report on the Measurement of Economic Performance and Social Progress* (Stiglitz et al, 2009)[14] which, in part, provided the stimulus for the development of measures of national well–being announced by the Prime Minister and National Statistician on 25 November[15].

Whilst the UK has contributed to the development of the proposed international standards and guidance on measuring the environmental goods and services sector, statistics in line with these standards have yet to be compiled by ONS. The study to assess the feasibility of establishing such statistics therefore forms part of the prioritised work programme outlined in the strategy.

That is not to say, however, that this is a new concept in the UK. A stakeholder consultation exercise conducted by the ONS confirmed that the environmental goods and services sector is central to the objectives of a number of central government departments as well as the devolved governments and data is required to monitor progress and measure success. The Department for Business, Innovation and Skills published *The Path to Strong, Sustainable and Balanced Growth*[16] in November 2010 and is working with the Department for Environment, Food and Rural Affairs and the Department of Energy and Climate Change to develop a *Roadmap to a Green Economy*[17.] Other policy examples include *A Green Jobs Strategy for Wales* published by the Welsh Assembly Government.[18] Other organisations, including academia, have identified a need for access to micro data for modelling and cost–benefit analyses.

There have been valuable developments in statistics in response to the keen political interest and a key success criterion for the feasibility study will be to understand and build on the lessons of this work whilst seeking to avoid any duplication of effort. A key example is the Innovas study[19] commissioned by the Department for Business, Enterprise and Regulatory Reform (now Business, Innovation and Skills) titled *Low Carbon and Environmental Goods and Services, an industry analysis*. (Innovas, 2009).

The Low Carbon and Environmental Goods and Services sector (LCEGS) is defined in the report as covering environmental products and activities, renewable energy and emerging low carbon activities such as alternative fuels, building technologies, nuclear power and carbon finance. It covers company activity for the whole environmental supply chain, making the distinction between LCEGS specialists such as manufacturers of wind turbines and suppliers to the LCEGS markets such as manufacturers of gear boxes used in wind turbines.

This study included regional analyses and international comparisons and the Update for 2008/9[20] valued the Low Carbon and Environmental Goods and Services sector (LCEGS) at £112 billion, positioning the UK as the world's sixth largest low carbon and environmental economy. (Innovas, 2010). See **Table 3**.

Table 3 UK market value and employment, LCEGS sector, 2008/09

Sector	Market value (£ billion)	Total employed (thousands)
Environmental	23	198
Renewable energy	29	266
Emerging low carbon	56	446

Source: Adapted by ONS from Low Carbon and Environmental Goods and Services, an industry analysis (Innovas, 2010)

The United States is estimated by the same study to be the largest low carbon and environmental economy with a market value of £633 billion, almost six times the size of the UK.

In April 2010, the US Department of Commerce published their own estimates of the size of the US green economy[21] using data on shipments/receipts sourced from the official 2007 Economic Census as the key measure of economic activity. The US employ a 'narrow' and 'broad' measure where goods and services are included in the former measure only where there is clear agreement that their primary purpose is that of reducing pollution or conserving energy and resources (defined similarly to environmental protection and resource management as used in the Eurostat framework).

The authors highlight some key challenges which would appear to echo general international experience. They note the difficulty in making comparisons across studies due to differences in definitions and methods and recognise the need for further development, stressing the importance of developing methods based on timely official data sources which support regular monitoring of progress. The challenges of measurement are now explored further.

Challenges to be examined by the feasibility study

Early consultation with key UK stakeholders and a review of the Eurostat handbook and UK and international experiences in measuring the environmental goods and services sector have helped identify key issues to be examined as part of the feasibility study. Some of these are introduced here.

The environmental goods and services sector is not a sector in the traditional sense. It is not enough to identify a specific type of institution or a distinct set of industries and sum their activity. The production of environmental goods and services cuts across the whole economy and will often only represent a fraction of an organisation's output, being a secondary or ancillary activity (Table 2).

In identifying environmental goods and services activity, pinpointing industries, based on the Standard Industrial Classification System 2007 (SIC2007) for which the total activity falls within the sector, is only possible in a limited way. For example, sewerage (SIC07 37) would be classified in its entirety to the environmental protection domain of wastewater management. Production of electricity (SIC07 35.11), however, does not separately distinguish electricity sourced from renewables. The ONS stakeholder consultation also identified that users have experienced difficulty in identifying environmentally efficient construction services using the industry classifications. Whilst being consistent with the international NACE Rev.2 to the 4–digit level, the UK SIC2007 does include some additional helpful detail at the 5–digit level, for example, 'environmental consulting services' (SIC07 74.90/1) but this is a fairly isolated case.

Similarly, identifying the environmental goods and services based on product classifications does not provide an exhaustive solution. The PRODCOM (PROducts of the European COMmunity) list is defined by a combination of the NACE Rev.2 and the Classification of Product by Activity (CPA). The UK PRODCOM survey is based on almost 4,000 products and covers 21,500 businesses[22] and can also be matched with data on the UK's international trade in goods data[23]. HM Revenue and Customs provide trade statistics for over 9,000 commodities using commodity codes from the Harmonised System Nomenclature (HS)[24] and its EU derivative, the Intrastat Classification Nomenclature (CN)[25]. However, the primary focus of these classification systems has not been to identify environmental goods and whilst the OECD has identified a list of environmental goods[26] which can be explicitly identified from the HS codes, there are recognised gaps. Another point to note is that all of these coding systems primarily deal with goods. UK stakeholders have also identified problems in using the Standard Occupational Classification (SOC)[27] to identify *green* professions and skills. The feasibility study will examine how comprehensive these lists are in the UK context and also seek to identify complementary information for services.

International and UK experience suggests that the use of these classification systems will have to be supplemented by comprehensive research to identify the sector. Sweden[28], for example, employed a range of sources to identify the sector including their business register, official energy statistics, membership lists of industry specific associations and environmental networks, on–line search engines, the Yellow Pages and conferences and events. The feasibility study will examine the practicality of taking a similar approach and **Box 2** suggests some potential sources which could be explored. For the longer term, one of the advantages of developing methodology for the UK based on international standards is that any weaknesses in the infrastructure supporting those

standards will be widely felt, strengthening any case for future development including influencing future revisions to international classification systems.

Box 2 Possible sources for identifying producers in the UK environmental goods and services sector

- Inter-Departmental Business Register (IDBR)
- Population for existing surveys and specific questions on surveys .e.g. Environmental Protection Expenditure, Innovation, PRODCOM
- Other statistics e.g. Digest of UK Energy Statistics, Innovas study, regional studies
- Experts from DEFRA, DECC and BIS
- Trade Association memberships
- Memberships of professional organisations
- Journals
- Environmental networks
- Intellectual Property Office – register of patents
- Search engines, Yellow Pages etc.

A second issue, already touched upon, is the treatment of activities in the supply chain. The Eurostat selection criterion is that only main producers are included. Producers supplying components for an environmental good or service are only included if the component has no wider application. Going back to the earlier example of the gear boxes used in wind turbines, their manufacture would only be included if the gear box is used exclusively for this purpose. The activity of selling the final goods and services is also excluded. There are two dimensions to this issue for the feasibility study to examine. Firstly, how practical is it to distinguish the elements of the supply chain and secondly, does this treatment of the supply chain meet the user requirements for the UK. The Innovas study in the UK has taken a more inclusive approach to the supply chain and the consultation exercise carried out by ONS confirmed interest in an approach which would allow users to identify supply chains. The possibility of adapting datasets to meet more than one need will require investigation. This challenge was identified by Statistics Norway[29] where elements of the supply chain for windmills are important for the Norwegian economy but would not fall within the Eurostat criterion.

Another issue of scope is that of knowing when coverage is complete. As identified, there is no neat classification system in place. The questions will therefore need to be addressed as to when can any database of environmental goods and services and producers be considered exhaustive and how, given the dynamic nature of the sector, can it be effectively maintained over time. The availability of any existing published estimates will provide a useful check, as will consultation with experts on the environmental domains, but it has been suggested there may be a need, for

example, to develop a demand–side measure based on consumer expenditure to confirm any supply–driven measure.

Expanding on the dynamic nature of the sector, a specific issue exists in relation to adapted goods (Table 2). These goods are unique within the environmental goods and services sector in that they do not directly serve an environmental protection or resource management purpose. These are goods which are less polluting or more resource–efficient than equivalent standard goods performing a similar function. Consider refrigerators as an example. The energy efficiency ratings of refrigerators range from G to A++. The first step in identifying the adapted goods is to determine which within this range is considered the standard good. Is it everything other than the A++ rated product or is it the best seller? Then there is the issue that what is considered the most resource–efficient product today may be the standard product of tomorrow. When energy labelling was introduced the A+ and A++ ratings did not exist and so A would have been the most energy–efficient option. The feasibility study needs to examine how these goods can possibly be tracked and consider carefully the implications for time series of products ceasing to be classified as adapted goods.

As far as possible, the UK Environmental Accounts make use of existing official statistics. In line with the UK Statistics Authority Code of Practice for Official Statistics[30] existing data sources and estimation techniques must be evaluated before considering a new survey to ensure proportionate burden on suppliers. Additionally, official data sources should be considered ahead of others. This applies to the measurement of the environmental goods and services sector and is a common approach internationally. Countries such as Canada[31] and Poland[32] operated specific surveys or adapted existing surveys to fill any gaps in data and a number of countries have used e–mail or telephone surveys to help with the initial scoping of the sector or to test assumptions, but existing sources have generally been examined as a starting point.

Assuming the producers of environmental goods and services can be identified for the UK, the ability to code these producers in line with the Inter–Departmental Business Register (IDBR)[33] will facilitate access to a rich source of official survey and administrative data including turnover and employment. The IDBR lists organisations covering 99 per cent of UK economic activity and in 2007/8 provided the sampling frame for 68 ONS surveys to companies and local authorities. In principle, this means that once a methodology can be established, regular updating of time series should be achievable. It is, of course, not quite so straightforward.

Where companies or sectors supply a range of goods and services, environmental and non–environmental, the make–up of the company or sector needs to be understood in order to assign the relevant turnover to the environmental goods and services sector. This confirms the importance of effectively identifying those operating in the sector and how their business activity breaks down but it also highlights that a degree of estimation will be required – at sector, enterprise, individual site or product level. The feasibility study will explore the relative merits of the different methodologies available. Internationally, turnover would seem to be the most readily available of the variables and is often used as a proxy for allocating other variables such as employment and value added. Assumptions regarding the link between turnover and other variables will be tested for the UK.

The potential levels of estimation involved in measuring the environmental goods and services sector means that a transparent assessment of the resulting statistics will be very important. UK users have identified that they would be seeking to develop models to forecast the potential growth of the sector and in addition to the data requirements of the Eurostat pilot questionnaire, there is a clear demand in the UK for regional statistics. The feasibility of regional statistics would have to be explored but if it is possible to produce estimates, sufficient metadata would need to be presented to convey the fitness for purpose of the statistics.

As well as regional statistics, UK users have identified a need for statistics on the number and size of businesses in the sector and also specific domains of interest which are not drawn out by the Eurostat framework, for example, activity specific to renewable energy and recycling.

These additional requirements also highlight a final statistical issue that will be examined by the feasibility study. Assuming effective implementation of the proposed international standards, a very detailed dataset would potentially be available on the environmental goods and services sector but what would this tell us? There is a danger of information overload and so it is important to revisit the requirement for an evidence base. The consultation exercise identified the need for key statistics and indicators to understand the size of the sector, the number of companies operating in the sector and its relative contribution to the economy. Users want to compare the relative profitability and productivity of the environmental and non–environmental sectors and to understand the international competitiveness of the UK and the potential for growth, particularly in relation to jobs. Linked to this is an interest in innovation and levels of research and development. This means that in addition to compiling the dataset, ONS must deliver clear analyses for UK users.

As has been demonstrated, there are a wide range of demands for statistics and a series of difficult challenges to be worked through. The ultimate challenge of this feasibility study will be to work with key users to prioritise the work programme within the resources available. It is clear, based on international experience, that the feasibility study should be viewed as a starting point in measuring the environmental goods and services sector.

Conclusion

There is a clear requirement in the UK, and internationally, to measure the progress towards a green economy, and within this to understand the contribution of the environmental goods and services sector to the growth of the economy. The UK feasibility study to measure this sector in line with proposed international standards faces a number of interesting statistical challenges and it is certain that any initial estimates produced could come with caveats. The programme of work required to address outstanding issues will be presented alongside any preliminary estimates and the lessons learned reported to Eurostat to inform future development.

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Stuart Homann, Environment Agency

Notes

1. ONS consultation on the strategy for the UK Environmental Accounts, www.ons.gov.uk/about/consultations/consultation-on-the-strategy-for-the-uk-environmental-accounts/index.html
2. Spending Review 2010, www.hm-treasury.gov.uk/spend_sr2010_documents.htm
3. Prime Minister speech to CBI, www.cbi.org.uk/pdf/20101025-cbi-pm-conference-speech.pdf
4. Eurostat, European Commission (2009), Methodologies and Working Papers, *The Environmental Goods and Services Sector,* http://ec.europa.eu/eurostat/portal/page/portal/product_details/publication?p_product_code=KS-RA-09-012
5. Eurostat, European Commission (2009), EGSS Trial Data Collection 2009, www.eurostat.ec.europa.eu/portal/environmental_accounts/methodology/data_collections
6. Obst C, SEEA Editor, Department of Economic and Social Affairs, Statistics Division, United Nations, *Outcome Paper for Global Consultation, Issue 5: Environmental Goods and Services Sector* (2010), http://unstats.un.org/unsd/envaccounting/seearev/OCdocs/Outcome5.pdf
7. UN System of National Accounts, http://unstats.un.org/unsd/sna1993/toctop.asp
8. CEPA, http://ec.europa.eu/eurostat/ramon
9. CReMA, p.45, http://ec.europa.eu/eurostat/portal/page/portal/product_details/publication?p_product_code=KS-RA-09-012
10. NACE Rev.2, http://ec.europa.eu/eurostat/ramon
11. www.statistics.gov.uk/methods_quality/sic/downloads/sic2007explanatorynotes.pdf
12. UK Environmental Accounts, www.statistics.gov.uk/focuson/environmental
13. UK National Accounts – The Blue Book, www.statistics.gov.uk/downloads/theme_economy/bluebook2010.pdf
14. www.stiglitz-sen-fitoussi.fr/documents/rapport_anglais.pdf

15. www.ons.gov.uk/about/newsroom/statements/national-statistician-launches-well-being-debate.pdf
16. www.bis.gov.uk/assets/biscore/corporate/docs/p/10-1296-path-to-strong-sustainable-and-balanced-growth
17. Roadmap to a Green Economy http://ww2.defra.gov.uk/environment/economy
18. Welsh Assembly Government, Capturing the Potential: A Green Jobs Strategy for Wales (2009), www.wales.gov.uk/topics/businessandeconomy/publications/greenjobs/?lang=en
19. Sharp J, Innovas Solutions, Report commissioned by BERR (2009), *Low Carbon and Environmental Goods and Services: An Industry Analysis.* www.berr.gov.uk/files/file 50253.pdf
20. Innovas Solutions, Report commissioned by BERR (2010), *Low Carbon and Environmental Goods and Services: An Industry Analysis* , *Update for 2008/09,* www.bis.gov.uk/assets/biscore/corporate/docs/l/10-795-low-carbon-goods-analysis-update-2008-09.pdf
21. U.S Department of Commerce, Economics and Statistics Administration (2010), *Measuring the Green Economy*, www.esa.doc.gov/GreenEconomyReport.pdf
22. PRODCOM, www.statistics.gov.uk/statbase/Product.asp?vlnk=15281
23. www.uktradeinfo.com
24. HS 2007, http://ec.europa.eu/eurostat/ramon
25. CN 2011, http://ec.europa.eu/eurostat/ramon
26. OECD environmental goods list, www.oecd.org/dataoecd/44/3/35837840.pdf
27. Standard Occupational Classification, www.ons.gov.uk/about-statistics/classifications/current/soc2010/index.html
28. Brolinson H, Cederlund M, Eberhardson M, Statistics Sweden (2006), *Environmental Goods and Services Sector in Sweden 2002-2005,* http://epp.eurostat.ec.europa.eu/portal/environmental_accounts/publications/monetary_environmental_accounts
29. Statistics Norway (2008), *Environmental Accounts, Environmental Goods and Services Industry and Environmental Expenditures Statistics, 2008 Final Technical Implementation Report to Eurostat,* http://epp.eurostat.ec.europa.eu/portal/environmental_accounts/publications/monetary_environmental_accounts
30. www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html
31. Summary of Statistics Canada methodology, p.90, Eurostat handbook, http://ec.europa.eu/eurostat/portal/page/portal/product_details/publication?p_product_code=KS-RA-09-012
32. Central Statistical Office of Poland (2008), *Environmental Goods and Services Sector, Final Report from Pilot Project conducted under Eurostat-CSO agreement No. 71401.2007.014-2007.496,* http://epp.eurostat.ec.europa.eu/portal/environmental_accounts/publications/monetary_environmental_accounts
33. Office for National Statistics, Inter-Departmental Business Register, www.statistics.gov.uk/idbr/idbr.asp

Contact

Environment.accounts@ons.gov.uk

References

Eurostat, European Commission (2009), Methodologies and Working Papers, The Environmental Goods and Services Sector, http://ec.europa.eu/eurostat/portal/page/portal/product_details/publication?p_product_code=KS-RA-09-012

Innovas Solutions (2010), Report commissioned by BERR (2009), 'Low Carbon and Environmental Goods and Services: An Industry Analysis', www.berr.gov.uk/files/file 50253.pdf

Leinen J (2010) Draft Report on the Proposal for a Regulation of the European Parliament and of the Council on European Environmental Economic Accounts (2010/0073 (COD), European Parliament Committee on the Environment, Public Health and Food Safety, www.europarl.europa.eu/meetdocs/2009_2014/documents/envi/pr/830/830779/830779en.pdf

OECD (2010), Interim Report of the Green Growth Strategy: Implementing our Commitment for a Sustainable Future (May 2010), www.oecd.org/document/3/0,3343,en_2649_37465_45196035_1_1_1_1,00.html

Googling the present

Graeme Chamberlin
Office for National Statistics

Summary

Google Trends data provides weekly reports on the number of search queries made by people in a geographical area and by category. As over three quarters of those who access the Internet regularly are looking for information on goods and services – this information may be a useful indicator of economic activity. For example, the volume of queries may relate to future patterns of spending. This article investigates this use of Google Trends data for various search categories, looking at its correlation with official data on retail sales, property transactions, car registrations and foreign trips.

Introduction

The Office for National Statistics (ONS) conducts an annual survey to measure Internet access and individuals' use of the Internet across the UK. The 2010 results show that Internet usage continues to become more widespread among the adult population with the range of activities undertaken online also increasing.

Figure 1 shows that in 2010 there were 38.3 million Internet users in the UK, defined as those that had accessed the Internet in the three months prior to being interviewed for the survey. This represents 77 per cent of the UK adult population aged 16 and over. Of those, the number of adults accessing the Internet everyday has grown year on year to 30.1 million in 2010, 60 per cent of UK adults aged 16 or over. This is nearly double the level of 16.5 million (35 per cent of UK adults aged 16 and over) in 2006.

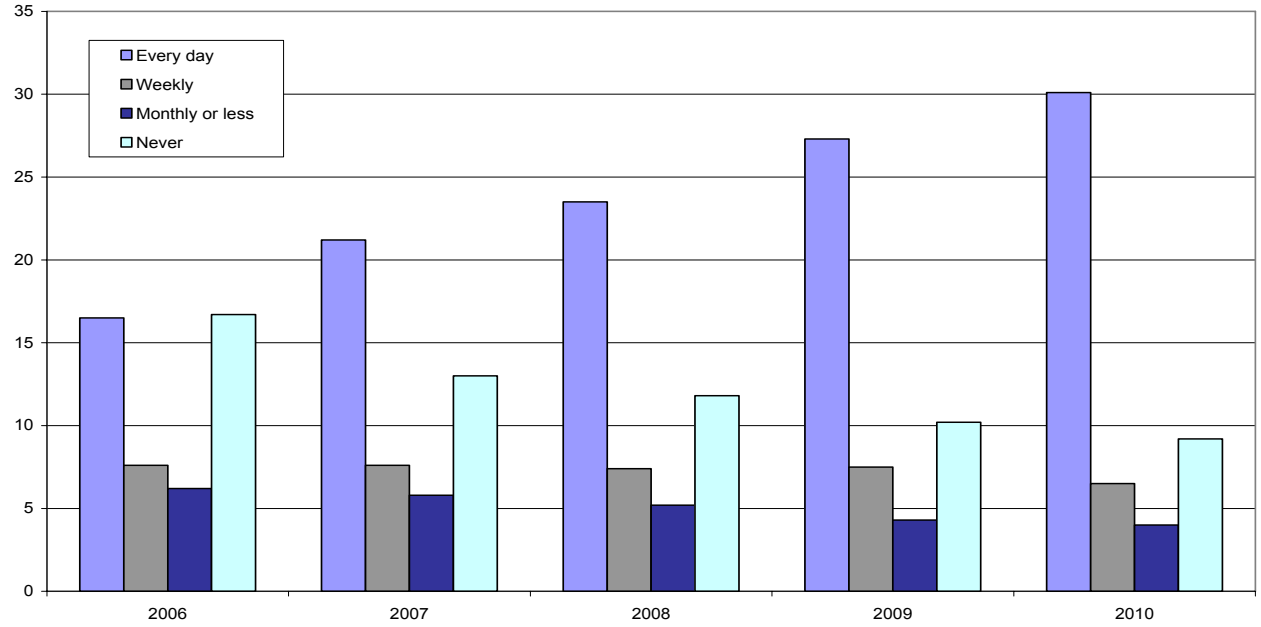
At the same time the proportion of adults who have never used the Internet continues to fall (**Figure 2**). In 2001 nearly half (48.5 per cent) of the UK adult population had never used the Internet. This fell to 35 per cent (16.7 million) by 2006 and then to 18 per cent (9.2 million) in 2010. As Figure 2 also shows, those who have never used the Internet are concentrated in the older generations. In 2010, 60 per cent of adults aged over 65 had never used the Internet, making up nearly two–thirds (64 per cent) of the UK total, whilst only 1 per cent of those aged 16–24 had never used the Internet.

Frequency of use has grown hand in hand with the technology available to access the Internet. Now, almost all home access is via a broadband connection, compared to almost none about one decade ago when connections were via dial–up (**Figure 3**). The use of other forms of ICT has also

Figure 1 Frequency of internet access

United Kingdom

Millions of adults aged 16 or over

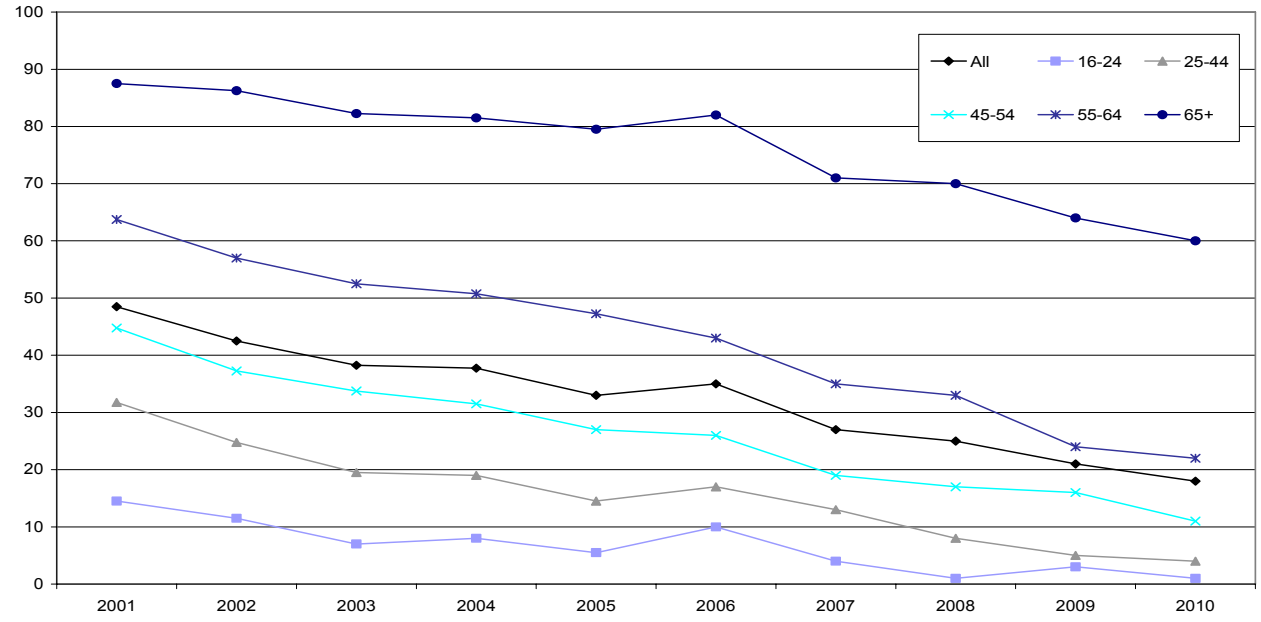


Source: Internet Access 2010

Figure 2 Adults who have never used the internet by age

United Kingdom

Per cent

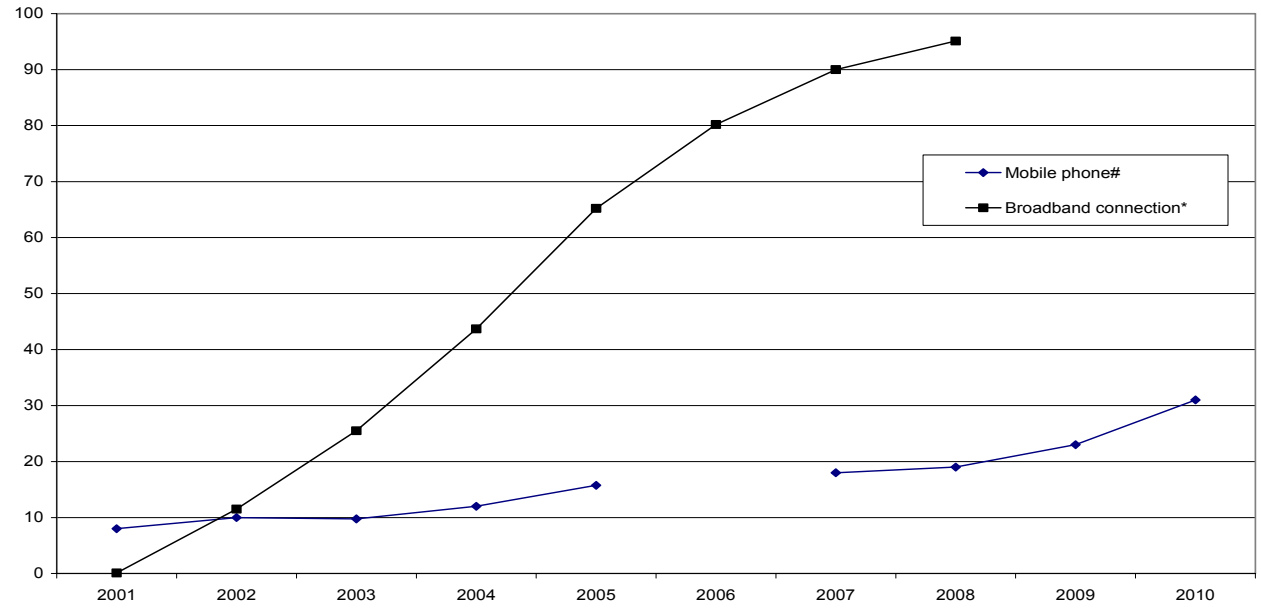


Source: Internet Access 2010

Figure 3 Modes of accessing the Internet[1]

United Kingdom

Per cent



Notes

1. Per cent of those who accessed the Internet in the last three months

* As opposed to a dial–up connection

Data missing for 2006

Source: Internet Connectivity 2008 and Internet Access 2010

become more significant. Away from business or home, the mobile phone has become the most popular way to access the Internet wirelessly. In 2010, 31 per cent of those who accessed the Internet in the last three months did so with a mobile phone, up from 23 per cent a year earlier. This proportion was particularly high in the 16–24 age category, where 44 per cent of those who had accessed the Internet in the last three months had done so with a mobile phone. Wi fi hotspots in places such as cafes, hotels, railway stations and airports have continued to expand accounting for 2.7 million (7 per cent) of regular Internet users in 2010, up from 0.7 million in 2007.

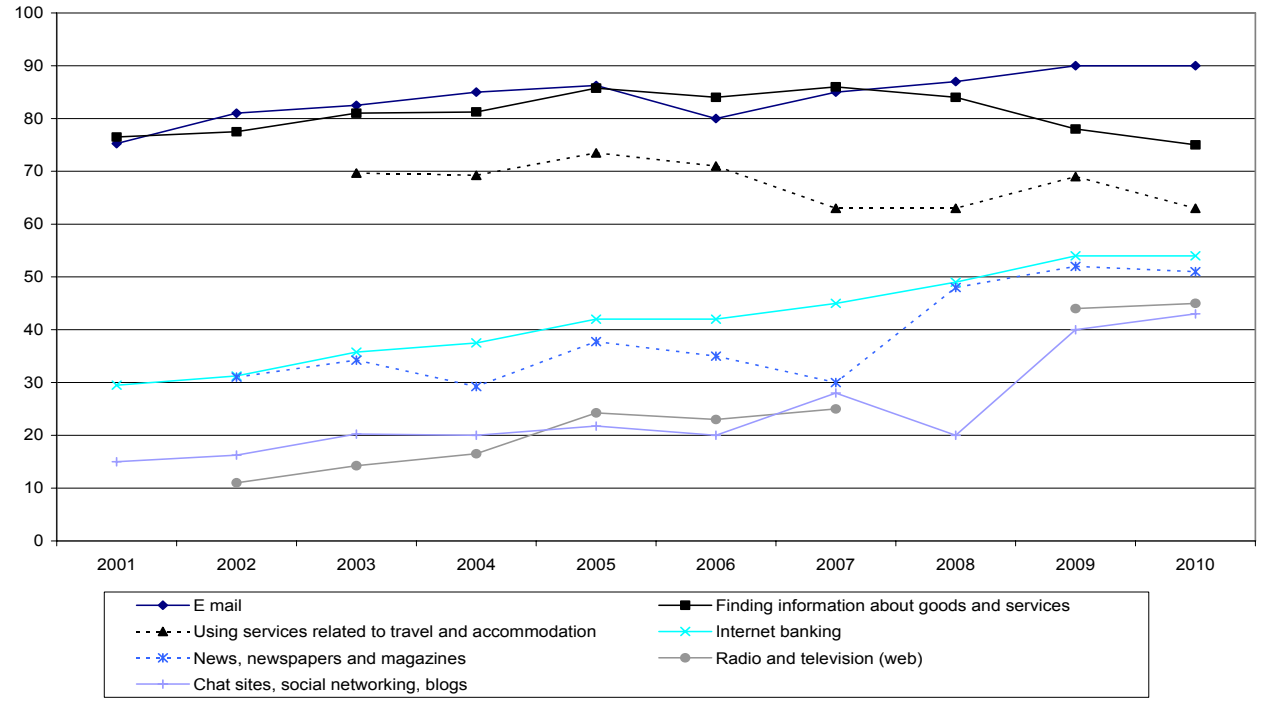
Figure 4 shows the main types of activity undertaken online by individuals in the UK. A number of these have become more significant over time such as social networking and chat sites, Internet banking and online radio and television (on demand entertainment). The use of the Internet in these cases has undoubtedly been helped by improvements in technology allowing faster and more secure access. However, the main reasons for using the Internet have, as a proportion of total users, been relatively unchanged over the last decade. Email remains the most widespread activity undertaken, but finding information about goods and services and using the Internet for planning and making travel arrangements have also been ranked consistently high. In 2010, almost 29 million adults who had accessed the Internet in the three months before the survey had

used it to find information about goods and services and 24 million for using services related to travel and accommodation.

Figure 4 Internet activity[1]

United Kingdom

Per cent



Notes

1. Percentage of those who accessed in the last three months

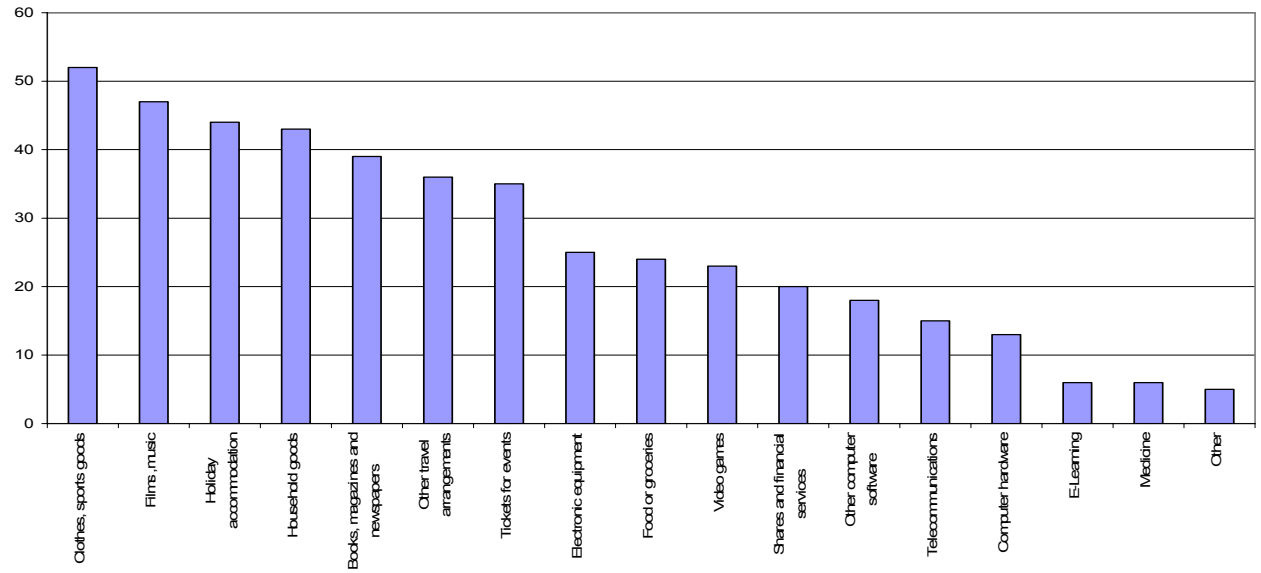
Source: Internet Access 2010

Actual purchases of goods and services over the Internet have also been on the increase. According to the latest Internet Access survey, in 2010, 31 million UK adults bought or ordered goods and services online in the 12 months before the survey – this is 62 per cent of all UK adults. **Figure 5** shows the distribution of these purchases across different categories of spending. Over half (52 per cent) of those who had purchased online in 2010 had bought clothes and sports goods. Films and music took second place (47 per cent), followed by holiday accommodation (44 per cent), household goods (44 per cent), books, magazines and newspapers (39 per cent) and other travel arrangements (36 per cent). The majority of those purchasing films and music and books, magazines and newspapers online did so by downloading or accessing directly from websites rather than delivered by post. The main reasons for purchasing over the Internet are convenience, easy to use websites, availability of goods and services not in the local area and lower prices (**Figure 6**).

Figure 5 Purchases over the Internet in 2010[1]

United Kingdom

Per cent



Note

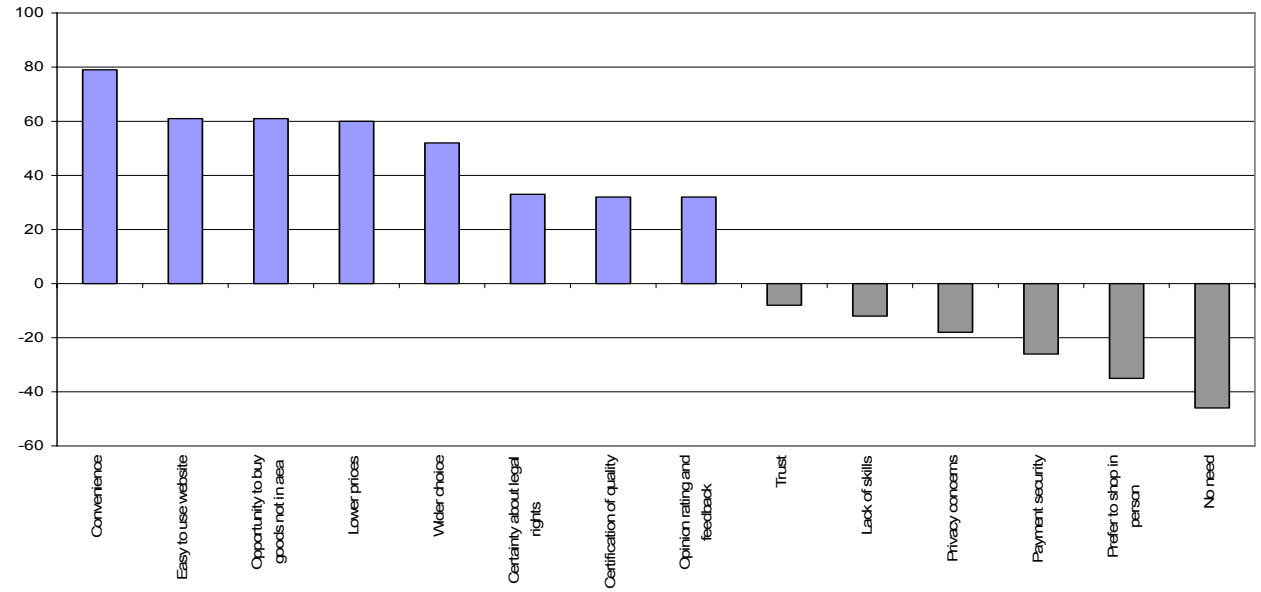
1. Adults who had bought or ordered goods and services in the last 12 months

Source: Internet Access 2010

Figure 6 Reasons for[1] and for not[2] purchasing over the Internet

United Kingdom

Per cent



1. Shown in blue and based on adults who had bought online in the last 12 months

2. Shown in the grey bars as negative percentages – based on those who had not bought online in the previous 12 months (including never).

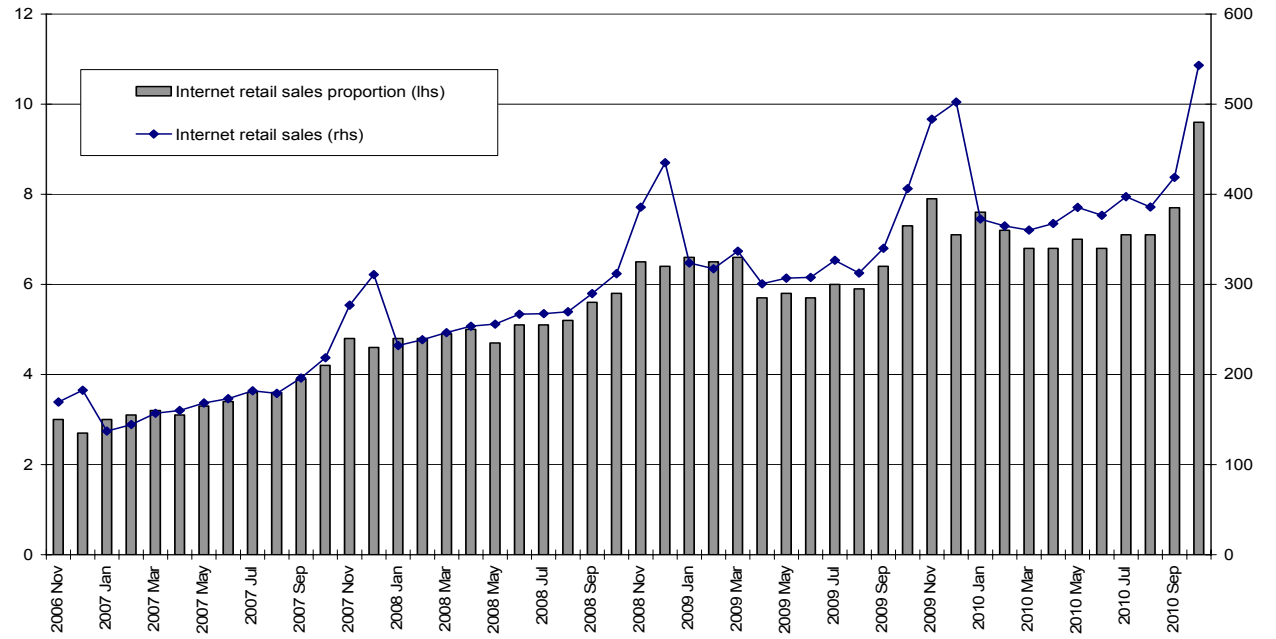
Source: Internet Access 2009

These trends have been reflected in official measures of retail sales where the proportions of online sales are now reported separately (see McLaren 2010 for the latest methodology). In October 2010, average weekly Internet sales were £543.1 million – constituting 9.6 per cent of total weekly retail sales of £5.69 billion. This proportion has risen steadily since the start of the time series in 2006 (see **Figure 7**, note that the figures reported here are not seasonally adjusted).

Figure 7 Internet retail sales

Great Britain

Per cent of total retail sales, Not seasonally adjusted £ million



Source: Retail sales October 2010

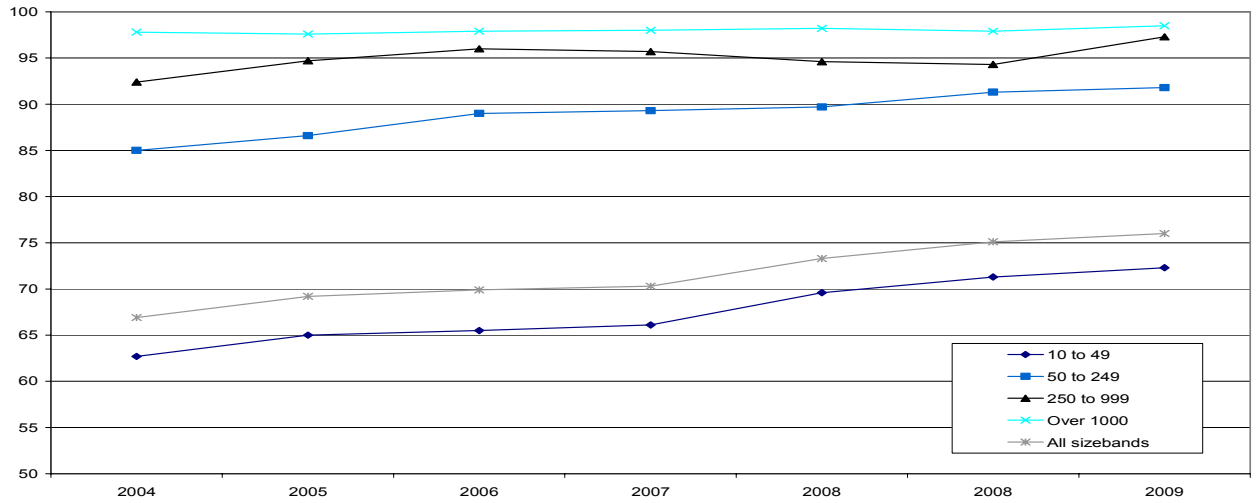
ONS also runs an annual E–Commerce survey reporting on business use of Information and Communication Technologies (ICT) in the UK. The number of businesses with a website has increased year on year to 76.0 per cent in 2009, up from 66.9 per cent in 2004 (**Figure 8**). In 2009 almost all large businesses, defined in terms of numbers of employees, had a website. The proportion of smaller businesses with a website has increased between 2004 and 2009 but is still lower than for larger businesses.

The E–Commerce survey also reports on the percentage of businesses that make sales over websites. **Figure 9** shows the proportion of businesses making sales over a website by size (in terms of employment) and by industry in 2009. In line with the data on businesses with a website, larger businesses are more likely to make sales over a website than smaller businesses. 37.8 per cent of businesses with over 1000 employees made sales over a website compared to 13.2 per cent of those with 10–49 employees. Businesses in the utilities, wholesale, retail, transport and information and communications industries were more likely to make sales over a website.

Figure 8 Businesses[1] with a website

United Kingdom

Per cent



Note

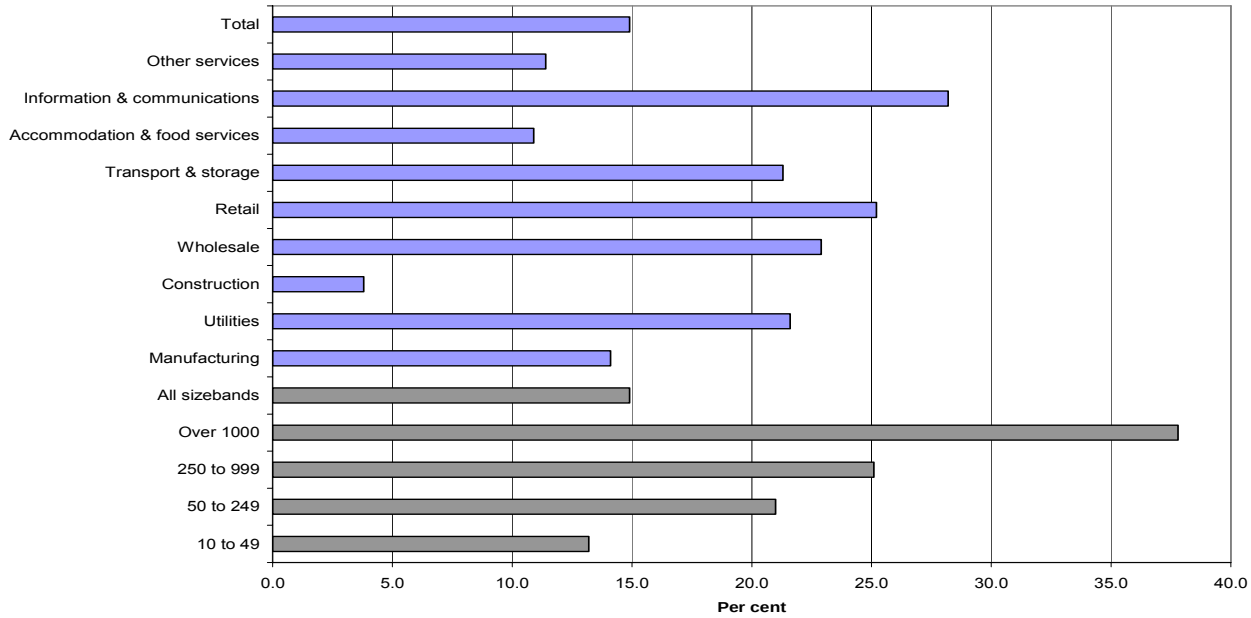
1. Businesses are shown by size in terms of employment

Source: E–Commerce survey 2009

Figure 9 Sales over a website by size[1] and industry[2], 2009

United Kingdom

Percentage of firms making sales over a website



Source: E–Commerce Survey 2009

Notes

1. Size is shown by employment bands in the grey bars

2. Industry is shown in the blue bars

Evidence from household and business surveys clearly show the high and growing importance of the Internet for communication and finding out information. The main focus of this article is to investigate whether the use of the Internet for information gathering bears any relationship to actual activity in the UK. For example, do Internet searches for types of products or vendors relate to actual retail sales? Other examples considered in this article include car registrations, property transactions and trips overseas and whether Internet searches show any correlation with actual activity. The next section outlines the source of this Internet search information before its correlation with various economic time series is assessed.

Google Trends

Search engines, such as Google (www.google.com), are widely used by people to navigate their way around the World Wide Web. By collecting data on the search queries made by people, Google Trends provides indices of the volume of Google queries by geographic location and category. This offers a potentially interesting resource for analysing people's intentions – including their expenditure decisions. (see www.google.com/insights/search).

Choi and Varian (2009), two economists affiliated to Google, examined the usefulness of Google Trends data for predicting various types of spending. Their argument is, because Google Trends data are practically available in real time, any statistical relationship between actual sales and Google Trends can be exploited to produce more timely estimates of data. For example, official retail sales data are only available with a lag of several weeks, whereas a model based on Google Trends data could produce estimates much faster. This approach to producing more rapid estimates of present data is commonly referred to as nowcasting, as the idea is to predict the present rather than the future (forecasting).

This article replicates some of this original study, which was applied to the US, to various aspects of UK data. It stops short of producing nowcasts, but investigates whether there is any association between various categories of searches and activity in retail sales, car registrations, property sales and financing, and overseas visits. Any such relationship is predicated by the widespread use of the Internet by individuals and businesses described in the previous section.

Google Trends data are presented in the form of a *query index* rather than the raw number of searches for a particular category or item. This is based on the query share, which is the number of searches for that particular category or item in a given geographic region at a point in time as a share of the total number of queries. This is then normalised so that they start at zero on 1 January 2004, with the index at subsequent dates showing the percentage change in the query share relative to 1 January 2004.

An approach based on query share therefore needs to be interpreted carefully. For example, a falling query share over time is not necessarily an indicator that the raw number of searches are also falling over time. In fact, due to the large rise in total searches in recent years as Internet use becomes more frequent and widespread, a falling query share might just reflect lower than average growth. Particular examples of where this is likely to be the case are categories consisting of a high

proportion of early Internet users such as travel websites (lastminute.com) and computer retailers/wholesalers (Dell). In 2004 these are likely to have had a relatively high share of total Internet searches, but over time as more businesses start using the Internet, this share will naturally fall.

Choi and Varian (2009) test the significance of Google Trends data by seeing if it offers a statistical improvement over a basic seasonal autoregressive model. That is, the following regression is run on monthly data:

$$y_t = \beta_0 + \beta_1 y_{t-1} + \beta_2 y_{t-12} + \beta_3 x_t$$

where

y is the variable of interest and *x* is a relevant category (or categories) of Google Trends data. If the coefficient β_3 is statistically significant, then it suggests that Google Trends data improves the fit of the model. Their motivation is to assess the nowcasting potential of Google Trends data. Given its relative timeliness it can enter the above regression contemporaneously and then be used to form estimates of *y* before it is officially published.

This article estimates similar models for various categories of spending and activity in the UK. However, given the earlier point of trends in query shares it arguably makes more sense to estimate the model in first differences (that is monthly changes rather than levels).

$$\Delta y_t = \beta_0 + \beta_1 \Delta y_{t-1} + \beta_2 \Delta y_{t-12} + \beta_3 \Delta x_t$$

This removes the issue of longer term trends from the analysis, essentially narrowing the focus on Google Trend's ability to predict short–term movements in the variable of interest. Estimating the model in first differences also makes sense from the econometric perspective as the normal way of dealing with non–stationary data. Otherwise, trends in the time series may lead to a spurious finding of significance.

Finding a significant β_3 coefficient implies that using Google Trends data offers an improvement over a simple (naïve) backward–looking time series model and suggests that it may be a useful indicator for nowcasting. Of course, a better test of nowcasting potential is to test the significance of Google Trends data out of sample and, where relevant, on real time data. This is not investigated in this article but is something that could be explored by interested readers.

However, it should also be noted that if the coefficient β_3 is found to be insignificant it does not necessarily imply that Google Trends data is without use. For example, if the variable of interest has behaved in a very orderly way then past lags of the data may have high statistical significance (predictive ability) reducing the scope of Google Trends data to improve the model fit. That does not imply that the Google Trends data itself is not an interesting and timely indicator of certain activity.

Google classifies search queries into 27 categories at the top level and 241 categories at the second level using an automated classification engine. Queries are assigned to particular categories using natural processing methods. For example, the query 'Car tyre' would be assigned

to the category 'Vehicle tyres' which is a subcategory of 'Auto parts' which in turn is a subcategory of 'Automotive'. **Table 1** shows a number of official data sources and potentially relevant Google search categories. The top searches and rising searches in each category are shown in the **Appendix**. Many of the official data sources are drawn from ONS retail sales, and given the evidence from the E–Commerce survey, time series relating to large businesses are used where available.

Table 1 **Official data and relevant Google Trends categories**

Official data	Source	Relevant Google Trends categories
All retailing (large firms)	ONS Retail Sales	'Shopping'
Non-specialised food stores (large firms)	ONS Retail Sales	'Food retailers'
Non-specialised non-food stores	ONS Retail Sales	'Mass merchants and department stores'
Textiles, clothing and footwear (large firms)	ONS Retail Sales	'Apparel', 'Clothing retailers' and 'Clothing labels and designers'
Furniture and lighting	ONS Retail Sales	'Lighting', 'Home and garden', 'Home making' and 'Home furnishings'
Home appliances	ONS Retail Sales	'Electrical household appliances'
Hardware, paints and glass	ONS Retail Sales	'Home improvement'
Audio video equipment and recordings	ONS Retail Sales	'Music streams and downloads', 'Music retailers', 'Audio equipment', 'Consumer electronics' and 'Home video'
Books, newspapers and stationery	ONS Retail Sales	'Book retailers'
Computers and telecommunications	ONS Retail Sales	'Personal electronics', 'Consumer electronics', 'Mobile and wireless', 'Mobile phones' and 'Telecommunications'
Non-store retailing (large firms)	ONS Retail Sales	'Shopping portals and search engines'
Car registrations	Driver and Vehicle Licensing Agency (DVLA)	'Vehicle licensing and registration', 'Automotive', 'Vehicle shopping', 'Vehicle brands' and 'Auto financing'
Property transactions (number)	Land Registry	'Real estate' and 'Home inspections and appraisals'
Mortgage approvals (number)	Bank of England Financial Statistics	'Home financing'
Overseas visits (number)	ONS Travel and Tourism	'Travel', 'Vacation destinations', 'Hotels and accommodation', 'Air travel' and 'Cruises and charters'

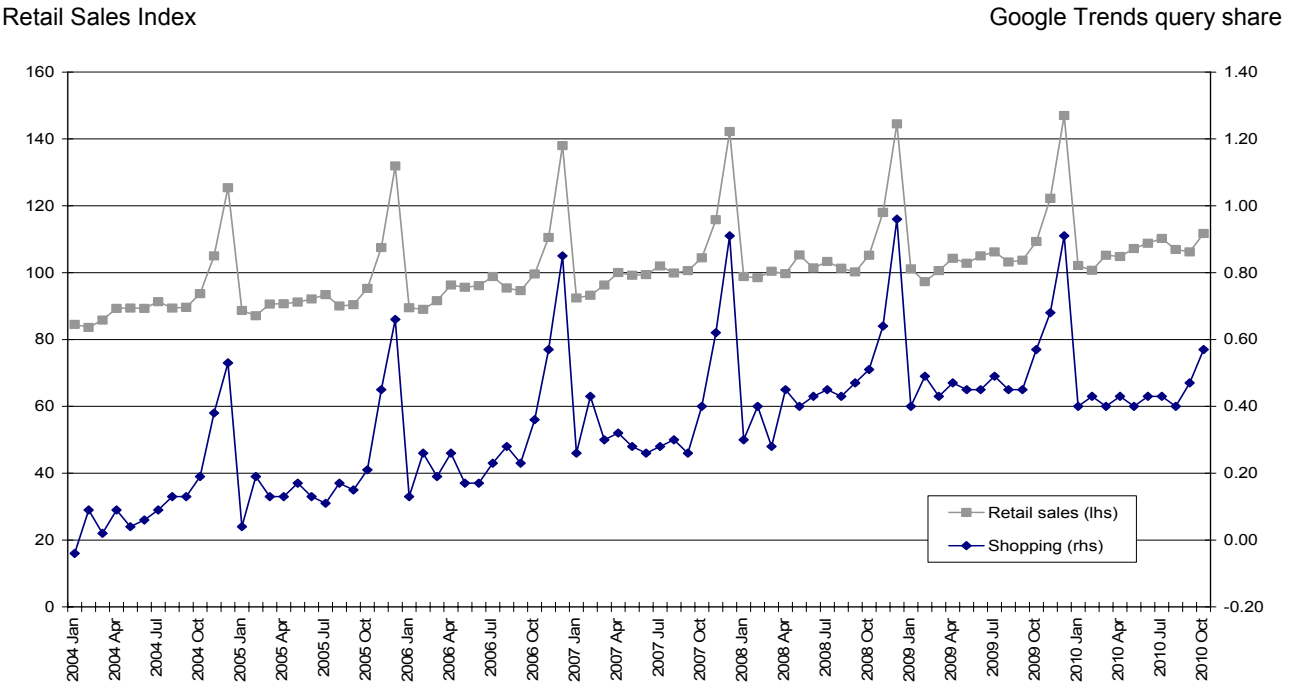
Results

This section presents the results from estimating the simple time series model outlined in the previous section (based on first differences using monthly non–seasonally adjusted data) for each of the official data sources and potentially relevant Google Trends data listed in Table 1. Google Trends data is published weekly whereas official data is published monthly – therefore following Choi and Varian (2009) – Google Trends data relating to the second week of the month are used.

All retailing excluding fuel (large firms)

Figure 10 shows the time series of this measure of retail sales and the Google Trends category 'Shopping'. Whilst there appears to be a good correlation between the short–term movements in the data, with both showing the same strong seasonal variation, the regression results find the Google Trends data to be insignificant. There are two possible reasons for this.

Figure 10 Retail sales and Shopping



Source: ONS Retail Sales and Google Trends

Dependent Variable: All retail sales excluding automotive fuel (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000678	0.002445	-0.277092	0.7825
All retail sales excluding automotive fuel (large firms) (-1)	-8.34E-05	0.023321	-0.003575	0.9972
All retail sales excluding automotive fuel (large firms) (-12)	0.937521	0.059707	15.70194	0.0000
Shopping	0.032843	0.041838	0.785013	0.4349

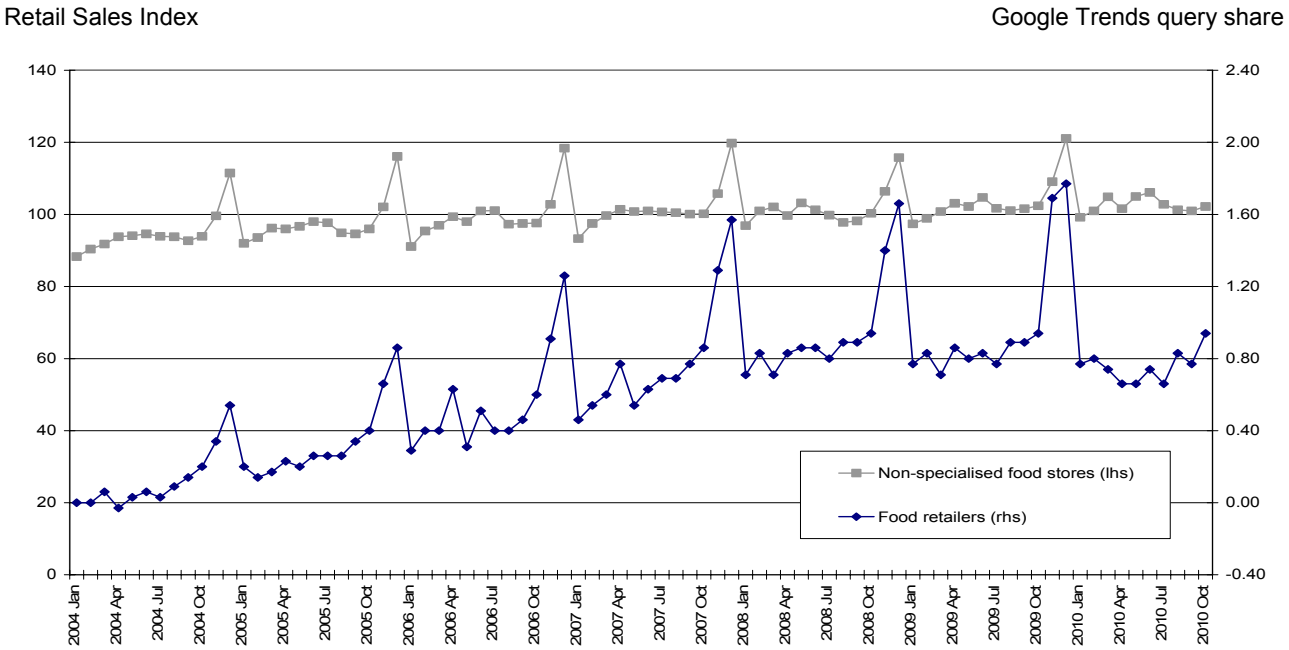
First, the seasonal movements in the retail sales data may be adequately captured by the past history of the data, leaving little explanative room for the Google Trends data. This can be seen in the regression results where the twelfth lag of the retail sales data is highly significant pointing to a fairly regular seasonal pattern. Second, the makeup of the Google Trends 'Shopping' time series might not necessarily be a good indicator.

The Appendix shows the top searches in each category. The top search itself is normalised to 100 with the volume of other searches presented relative to this. It can be seen that eBay is by far the top search and is the UK's largest online marketplace. But as Wallis (2006) notes, whilst this auction site may be an important element of online shopping, it does not constitute retail sales in the official sense – which are defined as goods sold by retailers. Some goods are sold directly by businesses on eBay, for example IBM has sold new products and offered services in both competitive auctions and at fixed (buy it now) prices. However, the majority of goods sold are transfers between households/consumers. eBay is a service that facilitates this transfer but is not a retailer so will not form part of the Retail Sales Index. As these transfers do not generate final demand or value–added they are also not included in household expenditure and gross domestic product. Here, only the fees and commissions paid for facilitating the sales and purchases of goods and services would count as final demand. Therefore, the 'Shopping' category may not fully correspond to total retail sales. Comparing Google Trends data with specific components of retail sales though may provide more significant results.

Non–specialised food stores (large firms)

This category of (predominantly food) retail sales mainly consists of supermarkets. As **Figure 11** shows there is a high correlation with the Google Trends category of 'Food retailers', and the regression results find this to be significant. Top searches making up the 'Food retailers' category consist of Tesco (and Tesco Direct), ASDA (and George), Morrisons, Sainsburys, Aldi, Lidl, Ocado and Waitrose – all of the largest UK supermarket chains.

Figure 11 Non–specialised food stores and Food retailers



Source: ONS Retail Sales and Google Trends

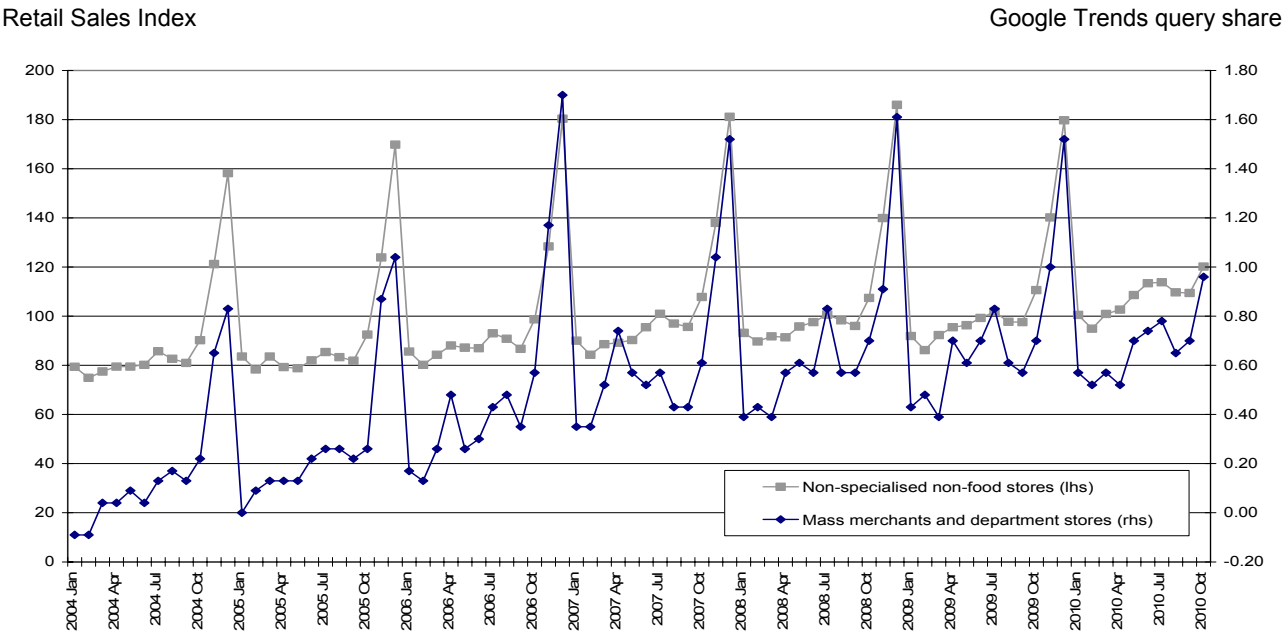
Dependent Variable: Non-specialised food stores (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000643	0.002210	-0.291082	0.7718
Non-specialised food stores (large firms) (-1)	-0.036416	0.032208	-1.130656	0.2617
Non-specialised food stores (large firms) (-12)	0.828919	0.058382	14.19827	0.0000
Food retailers	0.037285	0.015265	2.442520	0.0169

It can be seen that Figure 11 also shows the query share of the 'Food retailers' category in total queries to be generally growing over time. This may be partly attributed to the growing online presence of the UK's largest supermarket chains. Rising searches in this category, showing the fastest growing search queries, include ASDA Direct, Tesco Direct, ASDA online and Ocado (Waitrose/John Lewis Partnership).

Non–specialised non–food stores (large firms)

Large firms in this component of (predominantly non–food) retail sales are department stores and therefore map well to the Google Trends category of 'Mass merchants and department stores' where the top search queries include Marks and Spencer (various spellings and abbreviations), John Lewis, Debenhams, Next and River Island. **Figure 12** shows a strong correlation between these two time series and the Google Trends data is found to be significant in the regression model.

Figure 12 Non–specialised non–food stores and Mass merchants



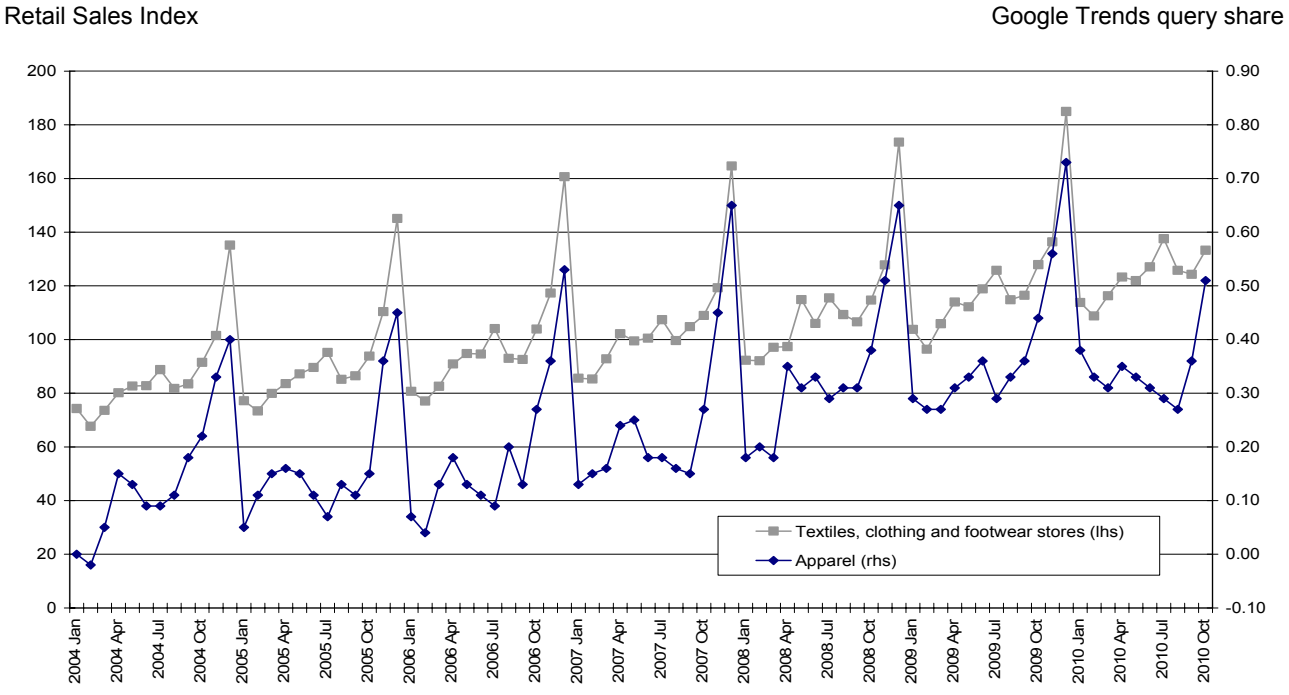
Source: ONS Retail Sales and Google Trends

Dependent Variable: Non-specialised non-food stores				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-3.01E-05	0.003453	-0.008730	0.9931
Non-specialised non-food stores (-1)	0.005328	0.015621	0.341071	0.7340
Non-specialised non-food stores (-12)	0.845518	0.044809	18.86949	0.0000
Mass merchants and department stores	0.078724	0.027889	2.822718	0.0061

Textiles, clothing and footwear (large firms)

There are a number of Google Trends categories that may be good indicators of clothing and footwear retail sales (other textiles are relatively small). As it happens, 'Apparel' is the most significant in terms of regression results, and as shown in **Figure 13**, it moves broadly in line with the official retail sales data. 'Apparel' consists of top search queries for items such as shoes, boots, dress and clothes, with most of the rising searches corresponding to retailers such as New Look, River Island, Dorothy Perkins, Monsoon, Topshop, Debenhams and Next. Other relevant Google Trends categories were found to be insignificant. 'Clothing retailers' primarily consists of search queries for outlet centres like Bicester Village, McArthur Glen, Ashford outlet and outlet Swindon. 'Clothing labels and designers' mainly consist of clothing brands and this too was found to be an insignificant variable.

Figure 13 **Textiles, clothing and footwear and Apparel**



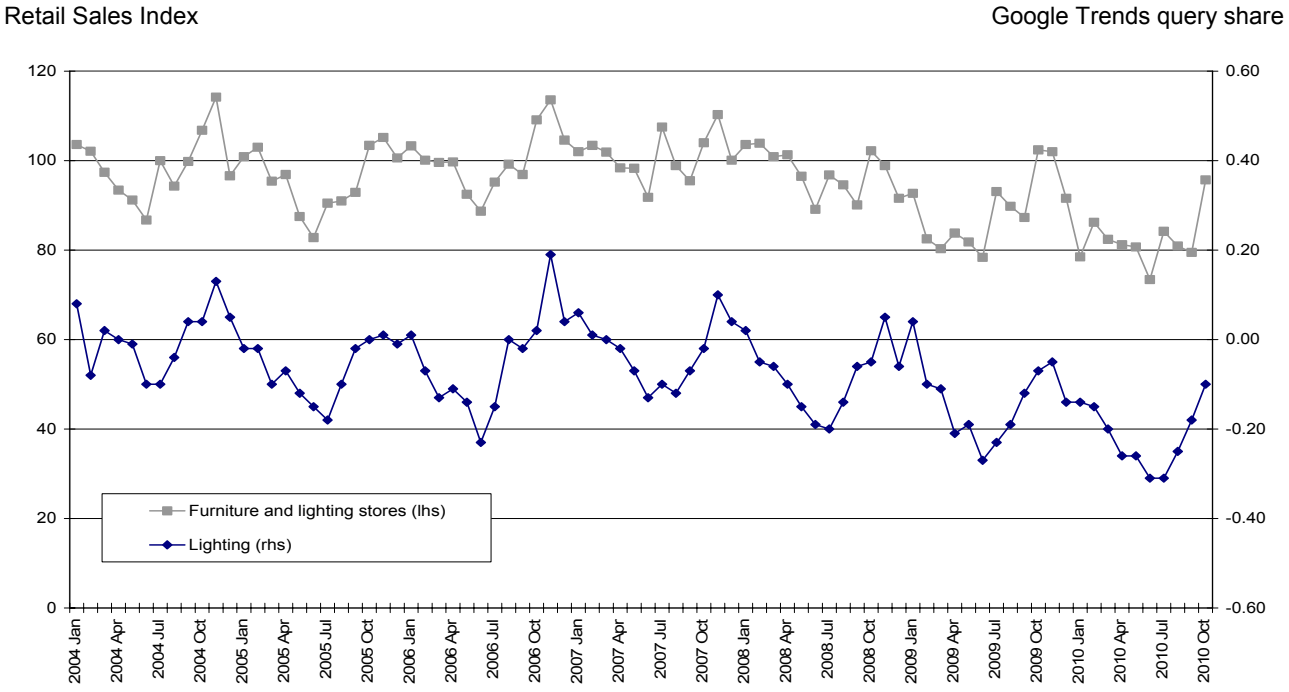
Source: ONS Retail Sales and Google Trends

Dependent Variable: Textiles, clothing and footwear (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.762260	0.070735	-10.77632	0.0000
Textiles, clothing and footwear (large firms) (-1)	-0.098986	0.036680	-2.698638	0.0086
Textiles, clothing and footwear (large firms) (-12)	0.847713	0.064158	13.21287	0.0000
Apparel	0.284930	0.086051	3.311157	0.0014

Furniture and lighting

The 'Lighting' Google Trends category was found to be the most significant variable in the regression model among the various possibilities. And as **Figure 14** shows, there is a good correlation with movements in furniture and lighting retail sales. This is despite the top searches concentrating entirely on lighting (lighting, lights, lamps, bulbs and so on) with no coverage of furniture. Other Google Trends categories were insignificant in the regression, despite having top searches that might have been expected to be quite strongly correlated. For example, 'furniture' and 'Ikea' were the top two searches in both the 'Home and garden' and 'Home furnishings' categories. The 'Home making' category was also found to have limited significance, despite consisting of top searches such as blinds and curtains.

Figure 14 **Furniture and Lighting**



Source: ONS Retail Sales and Google Trends

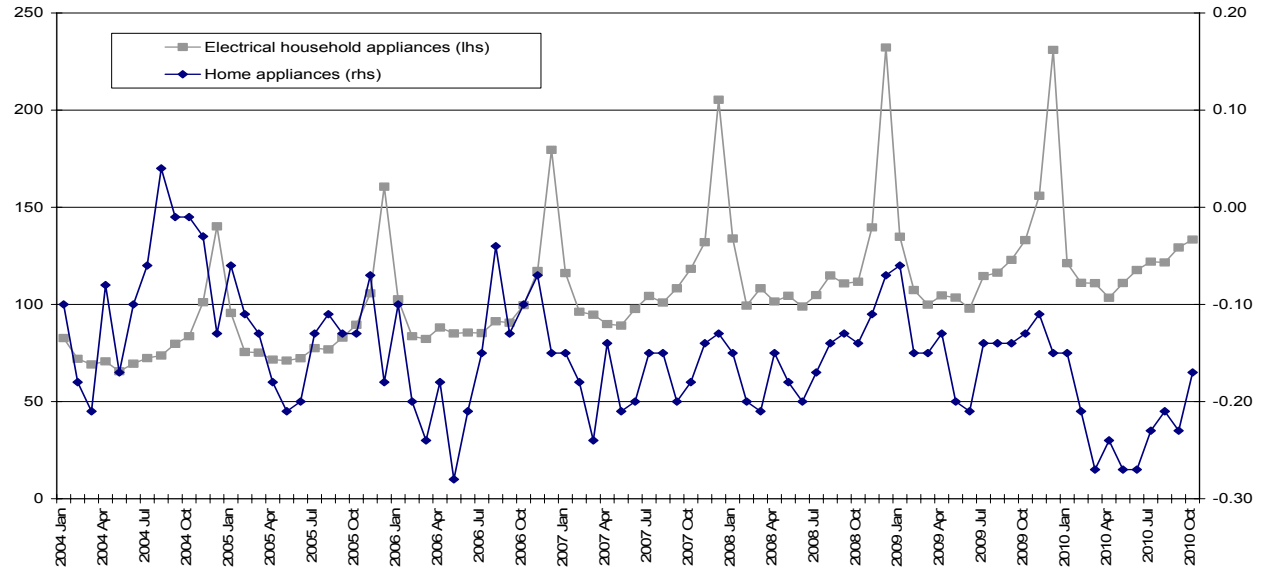
Dependent Variable: Furniture and lighting				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001585	0.005506	-0.287879	0.7742
Furniture and lighting (-1)	-0.238516	0.079849	-2.987089	0.0038
Furniture and lighting (-12)	0.631267	0.085860	7.352289	0.0000
Lighting	0.315846	0.087907	3.592973	0.0006

Electrical household appliances

On the face of it, retail sales of electrical household appliances have a strong association with the Google Trends category 'Home appliances' where the top searches consist of items like fridge, washing machine, oven, cookers, dishwasher and brands such as Hotpoint, Bosch, Dyson and Miele. However, as **Figure 15** and the regression results show, the actual correlation is weak, with the Google Trends data not reflecting the very strong seasonal pattern in retail sales which seem to peak after Christmas. It may be the case that individuals use the Internet to obtain information on these products and brands throughout the year but wait for the sales period before making purchases. Or it may be the case that this information is obtained 'in–store' rather than online, with store visits themselves driven by end of year promotions.

Figure 15 Household appliances

Retail Sales Index Google Trends query share



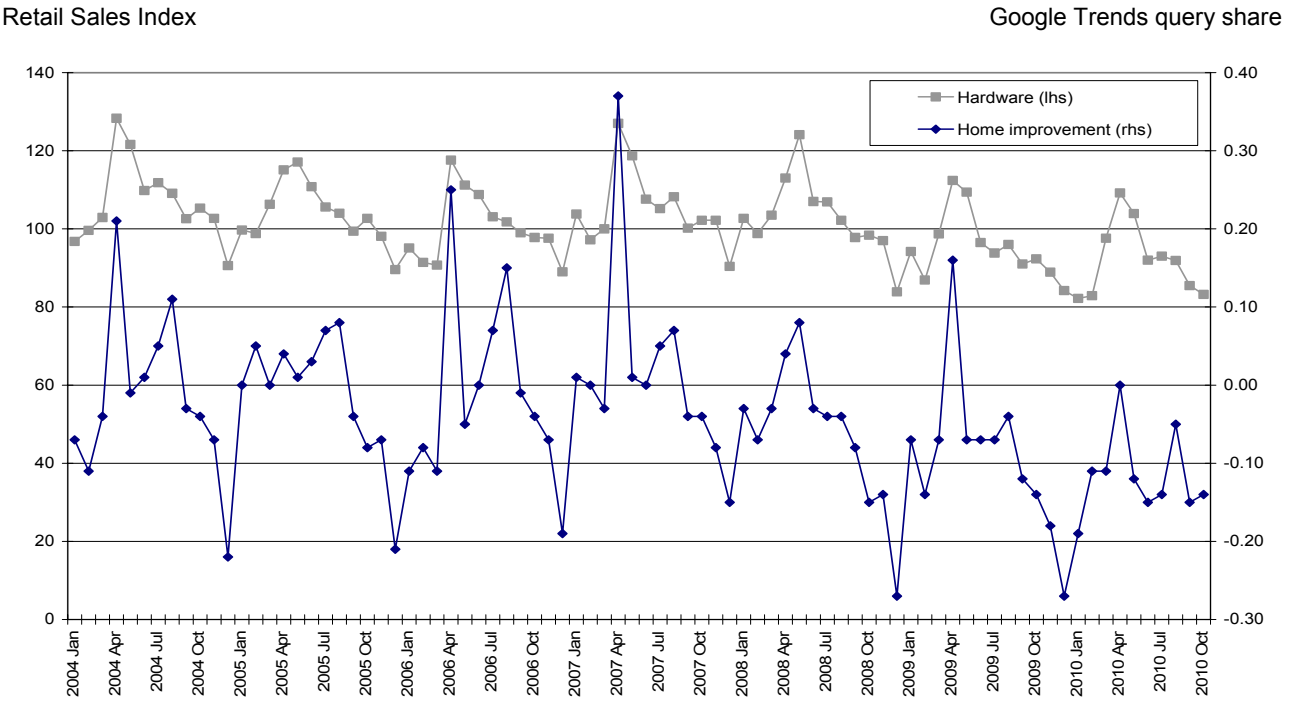
Source: ONS Retail Sales and Google Trends

Dependent Variable: Electrical household appliances				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001452	0.008180	-0.177461	0.8596
Electrical household appliances (-1)	-0.068132	0.042030	-1.621050	0.1091
Electrical household appliances (-12)	0.960291	0.042651	22.51505	0.0000
Home appliances	0.062539	0.158712	0.394041	0.6946

Hardware, paint and glass

The 'Home improvement' category in Google Trends shows a strong correlation with the short–term movements in retail sales of Hardware, paint and glass (**Figure 16**) and reports a significant coefficient in the regression model. It is easy to see why when looking at the top searches which show the Google Trends 'Hardware' category to be strongly driven by B&Q and Homebase – the UK's two largest DIY chains. Wickes and Focus also appear in the list of top searches with Wilkinsons and Screwfix among the rising searches meaning that the Google Trends indicator is strongly based on retailers.

Figure 16 **Hardware and Home improvement**



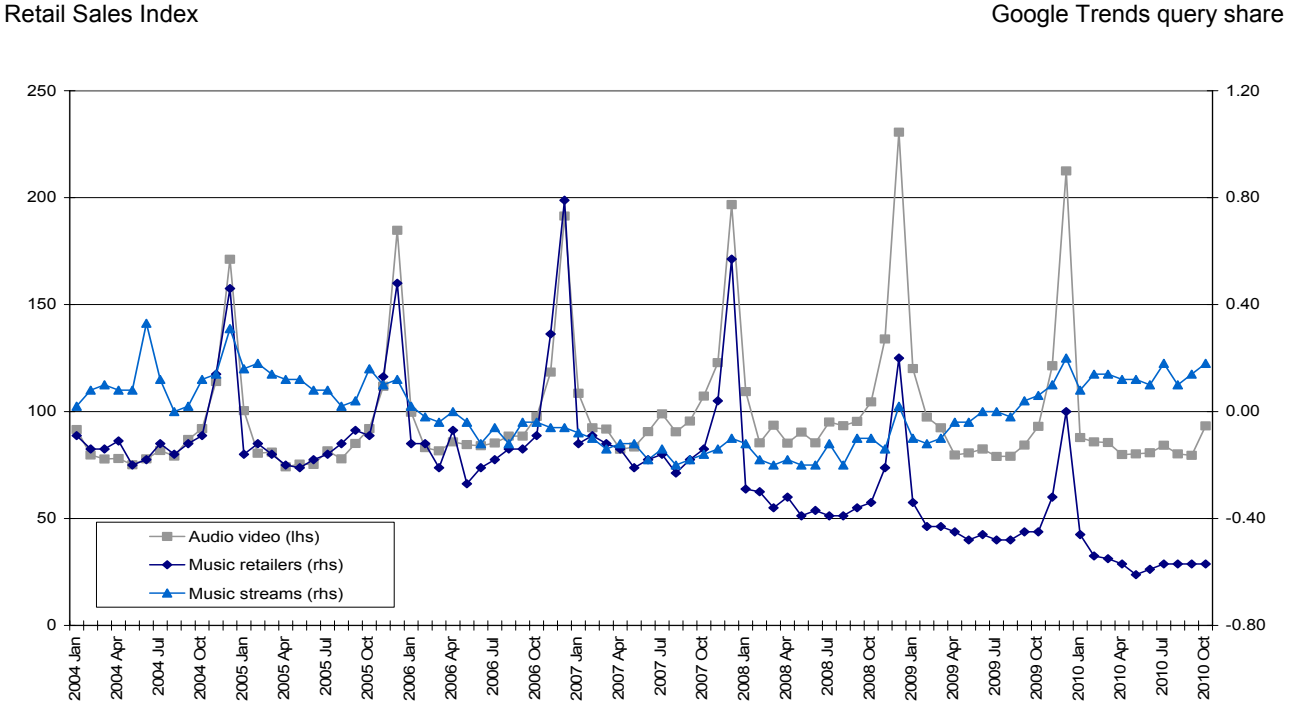
Source: ONS Retail Sales and Google Trends

Dependent Variable: Hardware				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001689	0.004952	-0.341169	0.7339
Hardware (-1)	0.058889	0.065820	0.894694	0.3737
Hardware (-12)	0.512768	0.074151	6.915201	0.0000
Home improvement	0.318654	0.054996	5.794169	0.0000

Audio video equipment and recordings

There are several Google Trends categories that may be related to this part of retail sales although none are very significant in the regression model. A combination of 'Music streams and downloads' and 'Music retailers', as shown in **Figure 17**, appears to be the best fit – although neither is significant at the 10 per cent level and both are insignificant if included individually. Whilst the 'Music retailers' category, consisting mainly of searches for HMV, shows a similar seasonal pattern to the retail sales data, its share of search queries has fallen since 2007. At the same time the volume of search queries in the 'Music streams and downloads' category (including iTunes) has risen but this has a less seasonal pattern.

Figure 17 Audio video and Music retailing and downloads



Source: ONS Retail Sales and Google Trends

Dependent Variable: Audio video				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.000937	0.007889	-0.118710	0.9058
Audio video (-1)	-0.023859	0.035811	-0.666242	0.5073
Audio video (-12)	0.867572	0.089219	9.724104	0.0000
Music streams and downloads	0.210392	0.128397	1.638600	0.1054
Music retailers	0.127788	0.087538	1.459801	0.1485

A number of other Google Trends categories were considered but found to be insignificant. These include:

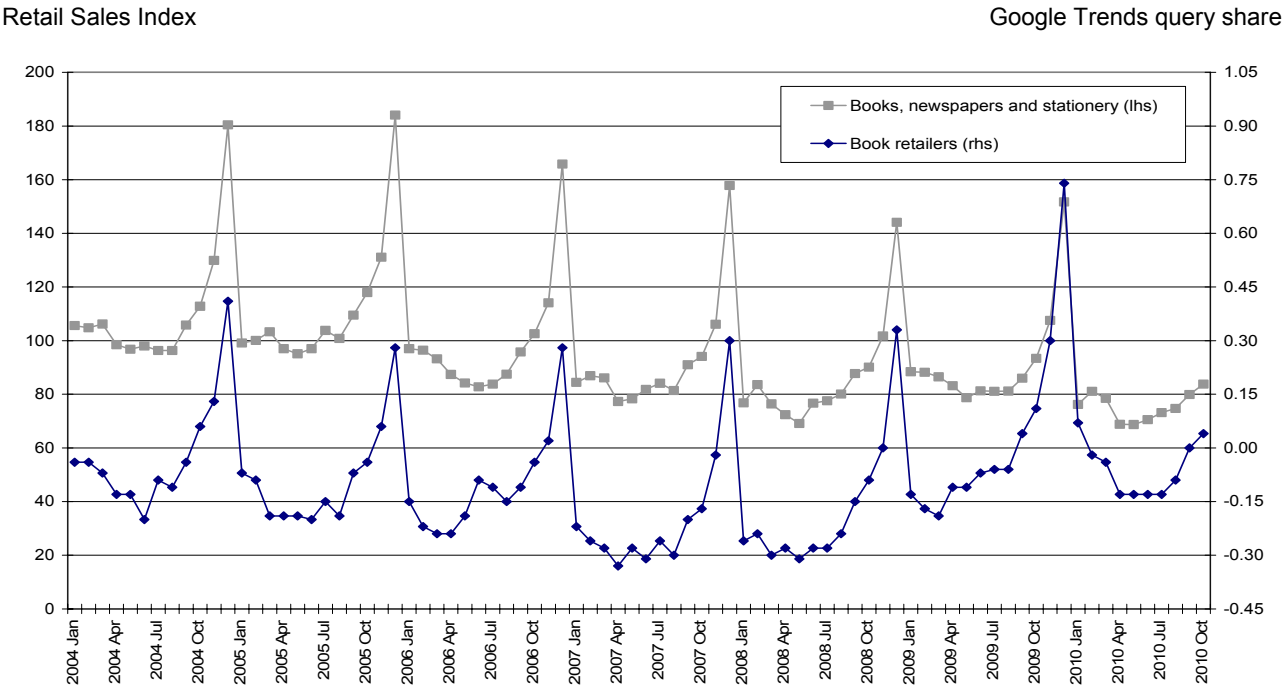
- 'Audio equipment' which is driven mainly by iPod and MP3 search queries
- 'Consumer electronics' which also includes iPods along with TV, Sony, LCD, Panasonic and Samsung in the top searches, and
- 'Home video' which also includes top searches of TV, LCD, Sony, Panasonic and Samsung

The lack of any retailers among the top and rising searches may explain why these have limited significance in a regression on retail sales.

Books

Retail sales in books, newspapers and stationery are shown in **Figure 18** along with the Google Trends category 'Book retailers'. Clearly there is a strong correlation between the movements in each series and this is reflected in the regression model where the 'Book retailers' indicator is highly significant. The top searches are mainly focused around Amazon, although Waterstones and WH Smith also achieved a relatively high number of search queries. In the official retail sales data though Amazon is not categorised in books, newspapers and stationery but in non–store retailing. However, the evidence from the regression results suggest that it nonetheless still provides a good indicator of expenditure patterns. The same factors that may encourage people to go online and buy books from Amazon may also encourage purchases from other book stores.

Figure 18 Books and Book retailers



Source: ONS Retail Sales and Google Trends

Dependent Variable: Books, newspapers and stationery				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.003165	0.004873	-0.649469	0.5180
Books, newspapers and stationery (-1)	-0.064906	0.023838	-2.722810	0.0080
Books, newspapers and stationery (-12)	0.551515	0.069803	7.901055	0.0000
Book retailers	0.521628	0.078090	6.679855	0.0000

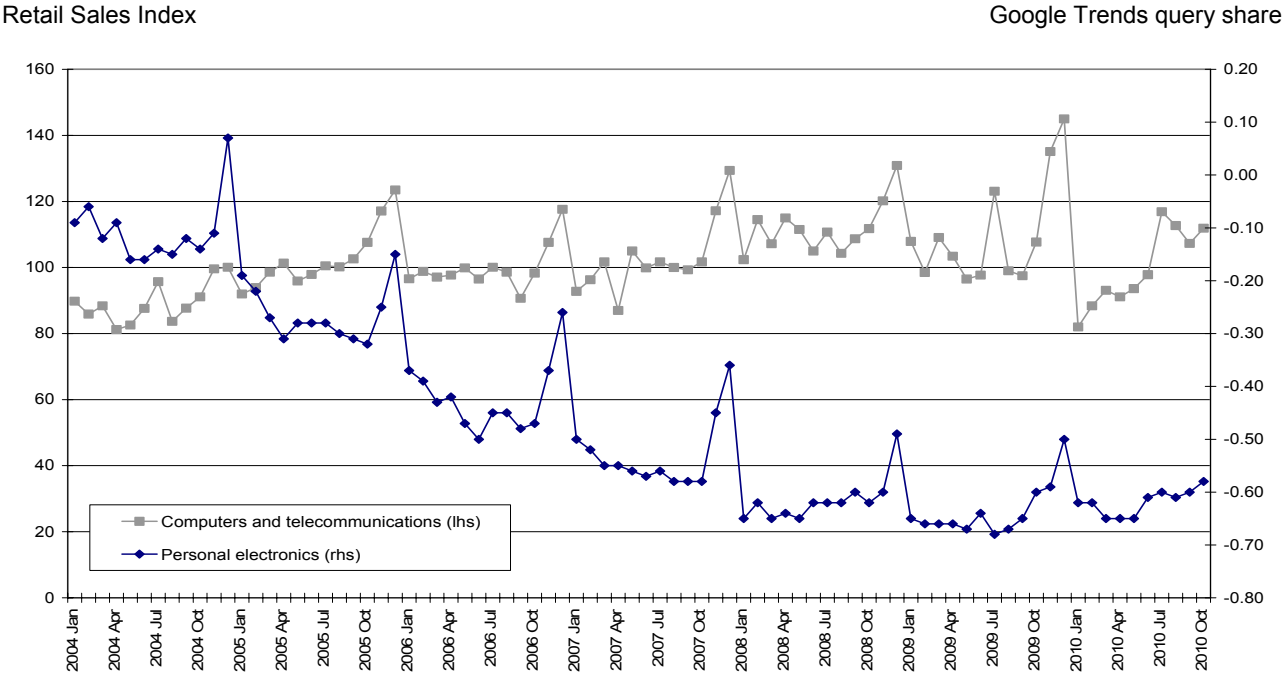
Computers and telecommunications

The Google Trends category 'Personal electronics' is found to be the most significant indicator of retail sales in computers and telecommunications. Top searches here are centred on small devises such as Palm, iPaq (an early Pocket PC), PDA and with Blackberry, iPhone and Windows mobile among the fastest rising searches. **Figure 19** shows the value in using the difference approach in the regression model, as the falling share in total search queries may reflect an initially high share in 2004 although this downward trend has arrested since 2008, perhaps partly due to the release of the iPhone. The short–term movements in the series are clearly more correlated with the retail sales data than the longer term trends.

'Consumer electronics' was also considered but found to be insignificant as this consists mainly of audio video equipment. As can be seen in the Appendix, the 'Mobile and wireless', 'Mobile phones'

and ‘Telecommunications’ categories all consist of broadly the same top searches (mobile, Nokia, O2, Samsung, Vodafone, Sony Ericsson, Carphone Warehouse and so on). These were also found to be significant in a regression on retail sales of computers and telecommunications but fitted less well than ‘Personal electronics’.

Figure 19 Computers and Personal electronics



Source: ONS Retail Sales and Google Trends

Dependent Variable: Computers and telecommunications				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.003214	0.009720	0.330611	0.7418
Computers and telecommunications (-1)	-0.221568	0.084607	-2.618779	0.0106
Computers and telecommunications (-12)	0.449533	0.125867	3.571500	0.0006
Personal electronics	0.556862	0.149354	3.728459	0.0004

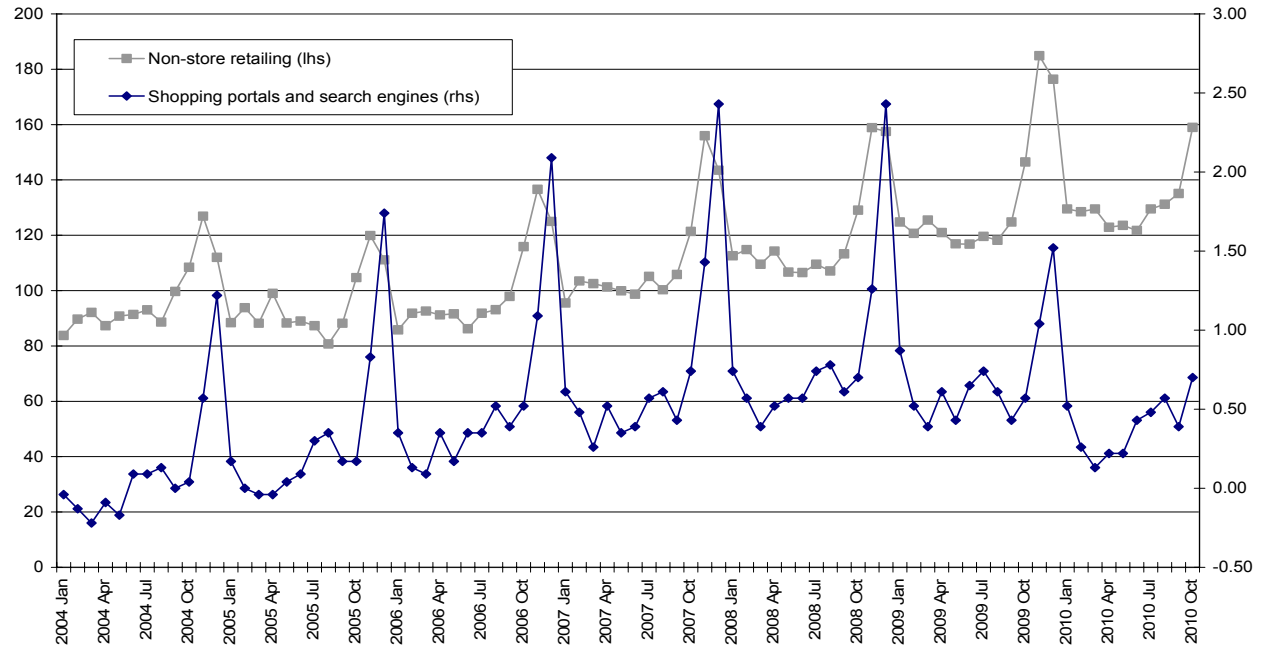
Non–store retailing (large firms)

Non–store retailing predominantly consists of mail order and market stalls, but the large firms time series is unlikely to consist of too many of the latter. The ‘Shopping portals and search engine’ category in Google Trends is found to exhibit similar movements and is significant in the regression model (see **Figure 20**). This category is dominated by catalogue–based retailers including Argos, Littlewoods, Additions and Empire. Although Argos operates a mail–order business, most of its

activity is still in store retailing so it is not classified in the non–store category. However, it may well still, provide a good proxy for activity in this part of retail sales.

Figure 20 Non–store retailing and shopping portals

Retail Sales Index Google Trends query share



Source: ONS Retail Sales and Google Trends

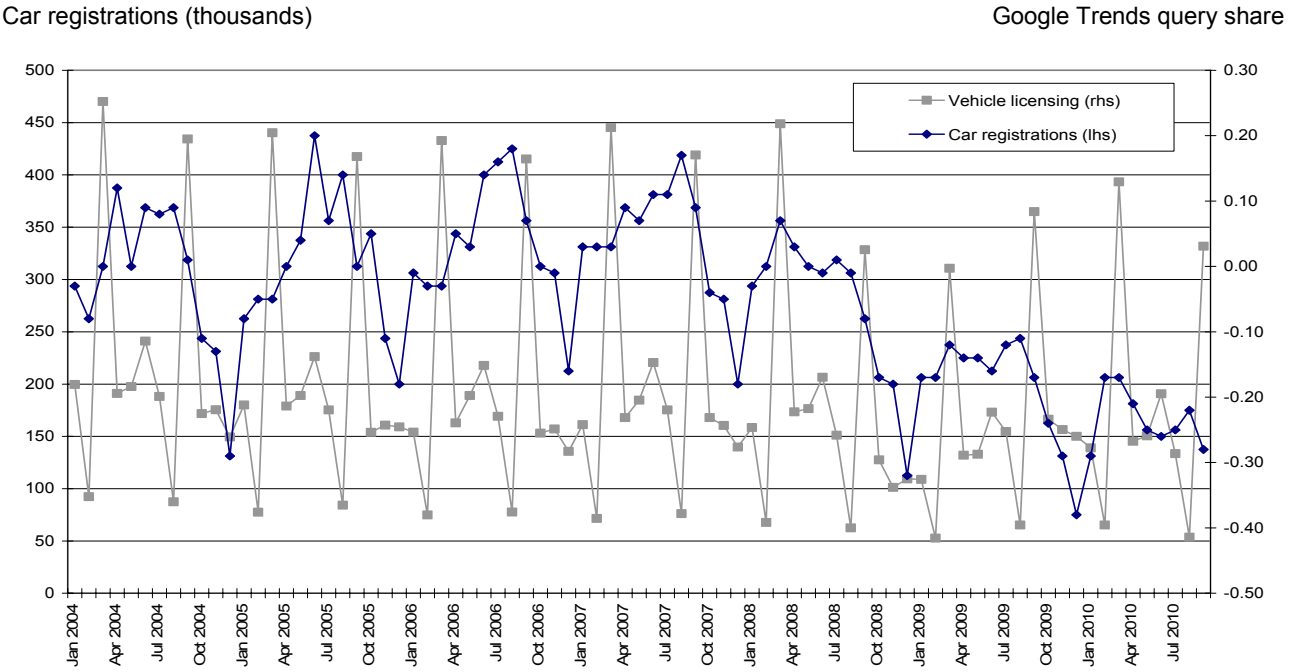
Dependent Variable: Non-store retailing (large firms)				
Sample: 2004M02 2010M10				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	0.001096	0.005620	0.194989	0.8459
Non-store retailing (large firms) (-1)	-0.070876	0.063717	-1.112358	0.2694
Non-store retailing (large firms) (-12)	0.809537	0.062435	12.96605	0.0000
Shopping portals and search engines	0.039925	0.016244	2.457776	0.0162

Motor car registrations

Data on car registrations comes from the DVLA. **Figure 21** shows this to follow a very distinct seasonal pattern, with peaks in March and September each year coinciding with the latest new registration. Google Trends data on 'Vehicle licensing and registration' includes DVLA as the highest search, but does not match the strong seasonal pattern in the DVLA data and is insignificant in the regression. In fact the twelve month lag of the dependent variable itself is found to have a coefficient close to unity, implying that the time series is strongly related to its own past

seasonal behaviour. Car registration is ranked fairly low among the search queries making up the 'Vehicle licensing and registration' category which might explain its low significance. Other aspects of DVLA business including number plates, licensing and tax were also found to be among the top searches and show that the category consists of a broader array of search queries than just car registrations.

Figure 21 Car registrations and Vehicle licensing and registrations



Source: DVLA Car Registrations and Google Trends

Dependent Variable: Car registrations (DVLA)				
Sample: 2004M02 2010M09				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.002254	0.010093	-0.223284	0.8239
Car registrations (DVLA) (-1)	-0.002951	0.015267	-0.193269	0.8473
Car registrations (DVLA) (-12)	1.008680	0.015127	66.67939	0.0000
Vehicle licensing and registrations	-0.180889	0.121163	-1.492935	0.1396

Testing Google Trends data as an explanatory variable for motor car sales would be more interesting than registrations. Choi and Varian (2009) do just this in their paper by investigating the relationship between sales and query shares for different vehicle brands.

There are a number of Google Trends categories which may be useful for analysing car sales, including:

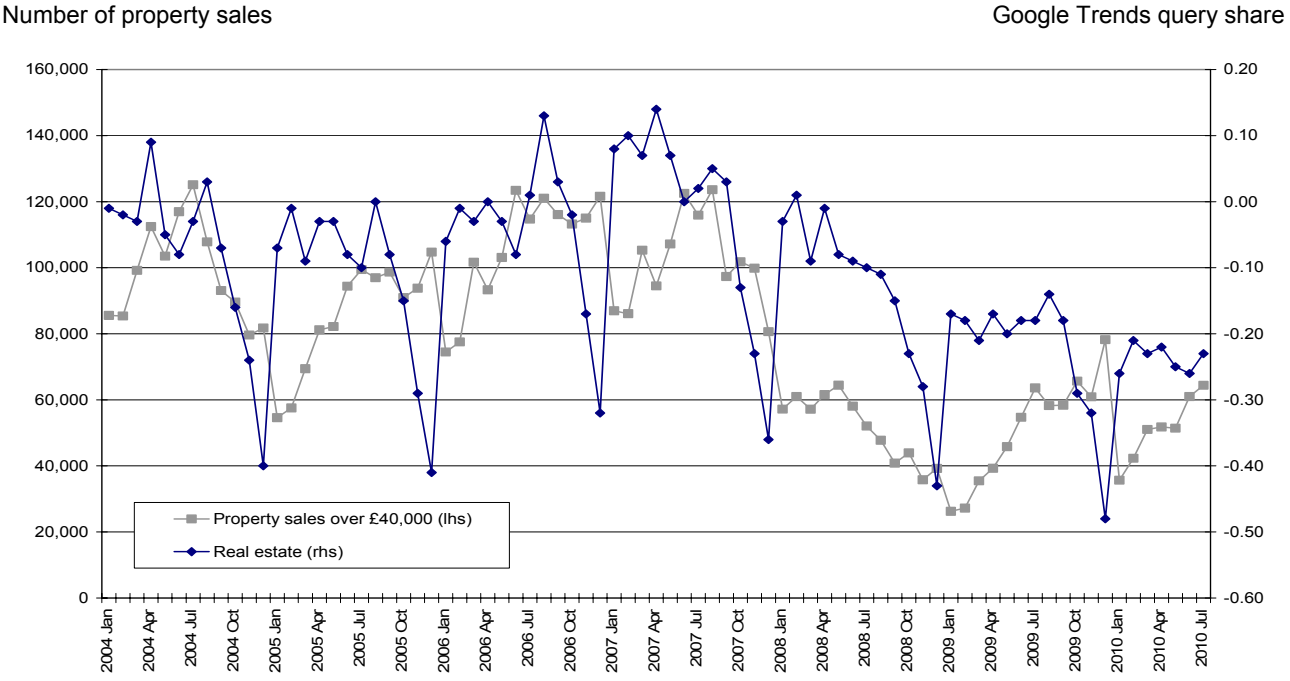
- ‘Vehicle shopping’ – with Autotrader as the top search
- ‘Vehicle brands’ – which includes all the main vehicle manufacturers among the top searches
- ‘Auto financing’ – with top searches orientated towards leasing arrangements, and
- ‘Automotive’ – a general top level category of search queries

Monthly data on car sales in the UK is published by the Society of Motor Manufacturers and Traders (SMMT) although it is not made freely available to the public. Alternative sources of data might include quarterly spending on motor cars reported in ONS *Consumer Trends*, and the output of the distribution of motor vehicles industry in the monthly Index of Services.

Property transactions

The number of property transactions each month in England and Wales over £40,000 is published by the Land Registry. Google Trends data that are found to be significant include the categories of ‘Real estate’ and ‘Home inspections and appraisals’ (**Figure 22**). Top searches in the ‘Real estate’ category are estate agents, with the property website Rightmove not far behind. Other key words such as property, houses and mortgage also feature highly. Price comparison and property search websites feature among the rising searches, reflecting the increasing role the Internet is playing in both searching for properties and in finding the best financing options. The ‘Home inspections and appraisals’ category is a logical choice of indicator as these are usually carried out prior to transactions being completed.

Figure 22 Property transactions and Real estate



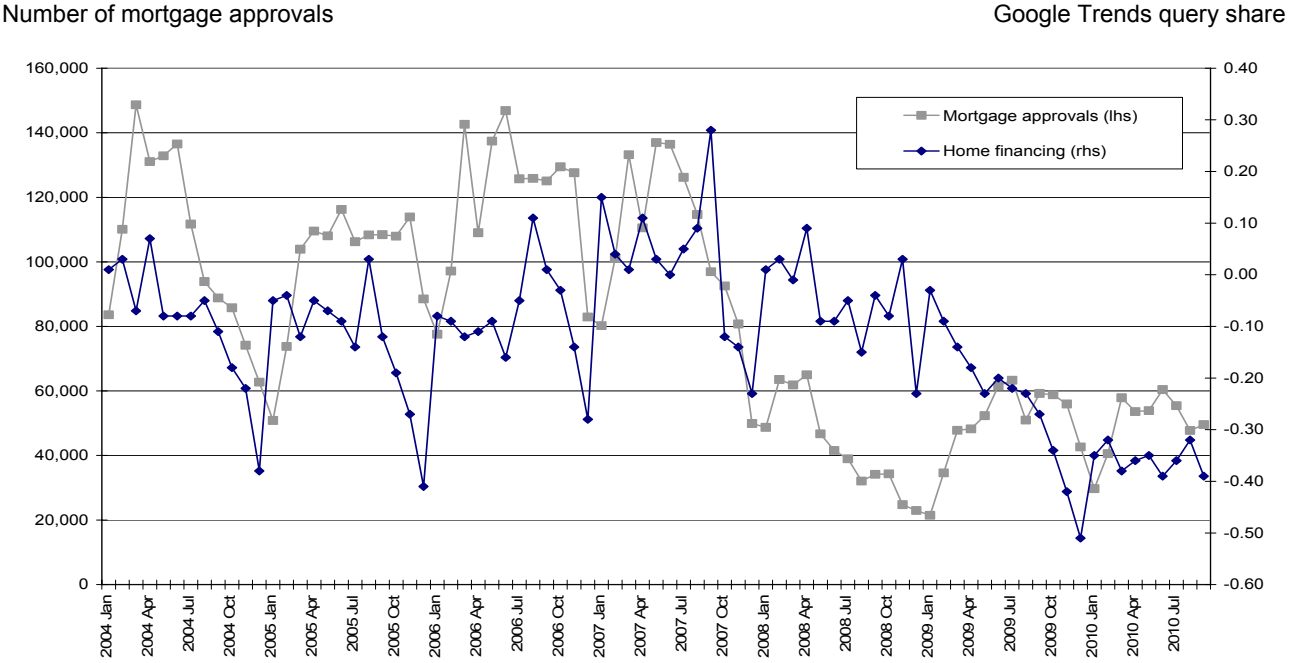
Source: Land Registry and Google Trends

Dependent Variable: Property sales (Land Registry)				
Sample: 2004M02 2010M07				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.003316	0.013665	-0.242686	0.8089
Property sales (Land Registry) (-1)	-0.157477	0.079126	-1.990209	0.0503
Property sales (Land Registry) (-12)	0.619341	0.115115	5.380191	0.0000
Real estate	-0.284405	0.145466	-1.955129	0.0544
Home inspections and appraisals	-0.286356	0.105654	-2.710324	0.0084

Mortgage applications

The number of mortgage approvals for house purchase is published each month by the Bank of England and relates to the Google Trends category of 'Home financing'. However, in the regression, a lag of the Google Trends data is found to be more significant than if the variable entered the regression contemporaneously which is evident in **Figure 23**. This probably reflects the time period between searching and approval when mortgage applications are completed and then processed (for example credit checks, proof of income, homebuyer surveys and so on). Price comparison websites like moneysupermarket.com are among both the top and rising searches.

Figure 23 Mortgage approvals and home financing



Source: Bank of England Monetary and Financial Statistics and Google Trends

Dependent Variable: Mortgage approvals (Bank of England)				
Sample: 2004M02 2010M09				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.005760	0.016813	-0.342565	0.7329
Mortgage approvals (Bank of England) (-1)	0.060705	0.089004	0.682042	0.4973
Mortgage approvals (Bank of England) (-12)	0.575170	0.102099	5.633439	0.0000
Home financing (-1)	0.280539	0.149869	1.871891	0.0651

It should also be noted that not all Internet searches for home financing necessarily lead to approvals as factors on both the supply and demand side of financial markets are important. For example, a tightening in lending conditions, as appears to be the case now, may lower the correlation between volumes of search queries and eventual approvals. The data in Figure 23 tends to show a sharper fall in mortgage approvals than 'Home financing' queries at the height of the financial crisis in the second half of 2008. Queries could fall with a slight lag relative to approvals as potential borrowers may not be immediately aware of changes in lending conditions.

International travel and tourism

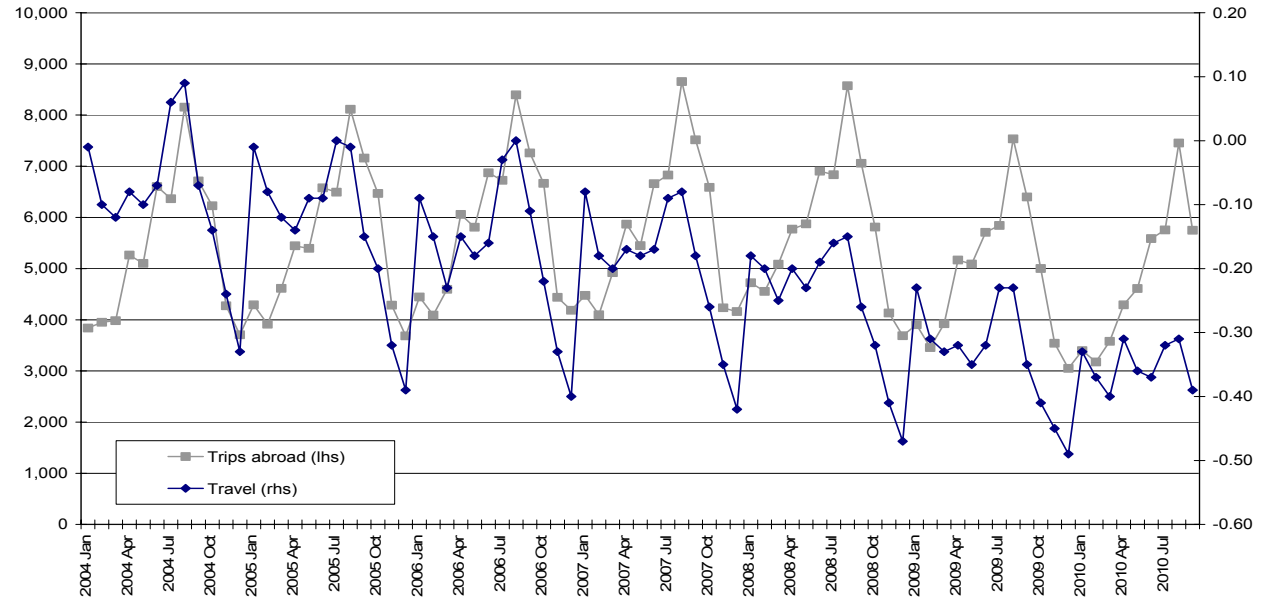
ONS's monthly Travel and tourism statistical bulletin reports on the number of visits overseas by UK residents and their expenditure as collected from the International Passenger Survey (IPS). Several Google Trends categories report on queries relating to this activity. 'Travel' is a high level category consisting of search items like hotel, flights, holidays, trains and travel. Top searches in 'Vacation destinations' are New York, Las Vegas, Paris, Orlando, Barbados and Disneyland. In their article, Choi and Varian (2009) test the number of visits to Hong Kong as reported monthly by the Hong Kong Tourism Board against the 'Hong Kong' subcategory under 'Vacation destinations' and find a positive and significant relationship. 'Hotels and accommodation' is strongly concentrated in hotel chains with the Trip Advisor website among the rising searches. 'Air travel' picks up on queries for (cheap) flights, Easyjet, Ryan Air, British Airways among the top searches. And 'Cruises and charters' focuses on water transport with top searches including cruises, ferries, P&O, Royal Caribbean and Stena.

Despite there being a number of relevant Google Trends categories none were found to be significant in a regression with numbers of foreign trips, although the 'Travel' category does show similar seasonal movements (**Figure 24**). Other monthly data that might be worth testing with these indicators could be the output of the Air transport industry in the Index of Services and Airport passenger numbers as reported by the Civil Aviation Authority.

Figure 24 Foreign trips and Travel

Number of foreign trips by UK residents

Google Trends query share



Source: ONS Travel and Tourism (IPS) and Google Trends

Dependent Variable: Visits abroad (IPS)				
Sample: 2004M02 2010M09				
	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.001077	0.007636	-0.140976	0.8883
Visits abroad (IPS) (-1)	-0.027541	0.043301	-0.636027	0.5267
Visits abroad (IPS) (-12)	0.930934	0.051045	18.23764	0.0000
Travel	0.083728	0.089440	0.936140	0.3522

Conclusions

This article has outlined the increasing use of the Internet by UK individuals and businesses as a means for finding out information and purchasing goods and services. It has then investigated whether the search queries made by people in a geographic area bear any resemblance to actual reported activity. As this search data from Google Trends is available in real time, any significant relationship could be potentially exploited for nowcasting. Google Trends data may also be used informally to pick up on changing patterns and rising trends in search queries and the implications they have for types of economic activity and spending.

Google Trends arranges search queries into categories, but the use is not just limited to these. Any user can form their own indicators, consisting of either individual or groups of search queries – and this may be particularly useful. For example, this article has found that Google Trends categories where large retailers are among the top searches are often significant indicators in a regression with retail sales. Therefore, composite indicators formed from search queries of major retailers or providers of goods and services in a particular field may provide useful advance information on changing patterns of spending.

Further information

Internet Access – shows information about both households with home access to the Internet and individuals' use of the Internet.
www.statistics.gov.uk/StatBase/Product.asp?vlnk=5672

E–Commerce – describes the use of Information and Communication Technology (ICT) and e–commerce activity by UK businesses.
www.statistics.gov.uk/statbase/Product.asp?vlnk=6645

Google Trends – Google Insights for Search can be used to compare search volume patterns across specific regions, categories, time frames and properties.
www.google.com/insights/search/

Contact

elmr@ons.gov.uk

References

Choi H and Varian H (2009) 'Predicting the present with Google Trends', Google Inc, available at http://static.googleusercontent.com/external_content/untrusted_dlcp/www.google.com/en//googleblogs/pdfs/google_predicting_the_present.pdf

McLaren C (2009) 'An experimental measure of Internet retail sales: changes to methods', available at www.statistics.gov.uk/cci/article.asp?ID=2358

Wallis G (2006) 'Internet spending: measurement and recent trends', *Economic Trends*, March 2006, pp 65–75, available at www.statistics.gov.uk/cci/article.asp?ID=1449

Appendix: Top and rising searches in Google Trends categories

Shopping		**Food retailers**		**Mass merchants and department stores**		**Apparel**	
All retailing (large firms)		Non-specialised food stores (large firms)		Non-specialised non-food stores		Textiles, clothing and footwear (large firms)	
Top searches		Top searches		Top searches		Top searches	
ebay	100	tesco	100	marks spencer	100	shoes	100
argos	35	asda	50	john lewis	95	boots	75
ebay uk	25	tesco direct	15	marks and spencer	85	dress	55
next	20	morrisons	10	debenhams	75	clothes	45
shoes	15	sainsburys	10	times	60	next	40
boots	10	aldi	5	next	45	dresses	35
debenhams	10	clubcard	5	river island	45	nike	35
dress	10	george asda	5	m&s	25	river island	35
john lewis	10	lidl	5	marks spencers	25	watches	35
marks and spencer	10	ocado	5	woolworths	25	new look	30
river island	10	sainsbury	5	dorothy perkins	20	watch	30
topshop	10	supermarket	5	marks and spencers	20	asos	25
amazon	5	tesco clubcard	5	matalan	20	fancy dress	25
dresses	5	tesco online	5	next directory	20	topshop	25
fancy dress	5	tesco uk	5	miss selfridge	15	adidas	20
littlewoods	5	tescos	5	costco	10	debenhams	20
new look	5	waitrose	5	great universal	10	bags	15
nike	5	asda direct	0	harrods	10	dorothy perkins	15
shopping	5	asda uk	0	kays	10	monsoon	15
watches	5	online shopping	0	marks & spencer	10	trainers	15
Rising searches		Rising searches		Rising searches		Rising searches	
new look	300%	asda direct	4250%	m and s	400%	asos	950%
river island	200%	tesco direct	2900%	next sale	250%	new look	300%
amazon	150%	tesco deals	1100%	m&s	170%	river island	250%
topshop	120%	tesco clubcard	400%	river island	150%	dorothy perkins	170%
next	80%	clubcard	350%	times	110%	monsoon	170%
ebay	70%	asda online	190%	miss selfridge	90%	topshop	160%
ebay uk	70%	george asda	80%	dorothy perkins	80%	debenhams	130%
littlewoods	70%	asda	50%	halfords	70%	next	130%
dress	60%	sainsburys	50%	next	50%	dresses	80%
dresses	60%	ocado	40%	next directory	40%	dress	60%

Clothing retailers		**Clothing labels and designers**		**Lighting**		**Home and garden**	
Textiles, clothing and footwear (large firms)		Textiles, clothing and footwear (large firms)		Furniture and lighting		Furniture and lighting	
Top searches		Top searches		Top searches		Top searches	
urban	100	jeans	100	lighting	100	furniture	100
urban outfitters	75	abercrombie	95	lights	40	ikea	95
bicester	50	fitch	70	lamp	30	b&q	65
bicester village	40	zara	65	bulbs	25	homebase	60
mcarthur glen	20	abercrombie fitch	60	lamps	25	argos	40
designer outlet	15	abercrombie and fitch	50	light bulbs	15	b q	40
marshalls	15	north face	50	fluorescent	10	beds	30
outlet village	15	gap	45	halogen	10	kitchen	30
roupas	15	diesel	35	light bulb	10	diy	25
ashford	10	hollister	35	ceiling light	5	b and q	20
ashford outlet	10	superdry	35	ceiling lights	5	blinds	20
bicester outlet	10	karen millen	30	energy saving bulbs	5	john lewis	20
bicester shopping	10	nike	30	garden lights	5	kitchens	20
clothing stores	10	vans	30	gu10	5	lighting	20
gap kids	10	armani	25	light fitting	5	sofa	20
outlet swindon	10	burberry	25	light fittings	5	sofa sofa	20
urban rivals	10	hartlepool	25	lighting uk	5	wickes	20
bicester shopping village	5	paul smith	25	solar lights	5	focus	15
mens clothing	5	hugo boss	20	thorn	5	fridge	15
vintage clothing	5	reebok	20	wall lights	5	mfi	15
Rising searches		Rising searches		Rising searches		Rising searches	
roupa	Breakout	superdry	3250%	energy saving bulbs	160%	next	160%
roupas	Breakout	hollister	750%	gu10	140%	argos	90%
urban rivals	Breakout	h&m	200%	led bulbs	130%	ikea uk	70%
urban	180%	aldo	160%	led lights	110%	b and q	60%
urban outfitters	160%	abercrombie and fitch	140%	lamp shades	100%	john lewis	60%
hollister clothing	150%	karen millen	120%	ceiling light	90%	laura ashley	50%
vero moda	110%	abercrombie	90%	ceiling lights	60%	curtains	40%
bista village	70%	fitch	80%	solar lights	60%	homebase	40%
urbanoutfitters	70%	abercrombie fitch	70%	table lamp	50%	mattress	40%
banana republic	50%	fred perry	70%	light fitting	40%		

Home making		**Home furnishings**		**Home appliances**		**Home improvement**	
Furniture and lighting		Furniture and lighting		Electrical household appliances		Hardware, paints and glass	
Top searches		Top searches		Top searches		Top searches	
blinds	100	furniture	100	fridge	100	b&q	100
mfi	70	ikea	80	hotpoint	80	homebase	100
curtains	60	beds	35	bosch	75	b q	70
curtains curtains curtains	55	bed	25	dyson	70	b and q	40
bedroom	50	lighting	25	washing machine	70	diy	35
ikea	40	sofa	20	oven	55	b & q	30
colour	30	sofa sofa	20	cooker	50	kitchen	30
room	30	table	20	cookers	50	kitchens	30
decorating	25	chairs	15	dishwasher	45	wickes	30
colours	20	dfs	15	fridge freezer	40	focus	25
mirrors	20	laura ashley	15	hoover	40	paint	20
wallpaper	20	sofas	15	miele	40	dulux	15
bedroom furniture	15	carpets	10	washing machines	40	focus diy	15
bedrooms	15	chair	10	comet	35	insulation	15
kitchens	15	citizens advice	10	freezers	35	bq	10
mosaic	15	habitat	10	zanussi	35	homebase uk	10
plant	15	john lewis	10	microwave	30	tools	10
plants	15	lights	10	ovens	30	wicks	10
wardrobes	15	mattress	10	radiators	30	machine mart	5
interior design	10	tables	10	whirlpool	30	screwfix	5
Rising searches		Rising searches		Rising searches		Rising searches	
samsung pc studio	Breakout	homebase	80%	casas bahia	Breakout	wilkinsons	170%
decoracion	550%	scs	80%	you yube	Breakout	bq	150%
laura ashley	160%	furniture village	70%	beko	70%	screwfix	110%
hillarys blinds	60%	land of leather	70%	fridge freezer	40%	bandq	100%
bedroom ideas	40%	john lewis	60%			howdens	70%
curtains	40%	harveys	50%			b and q	50%
ikea uk	40%	ikea uk	50%			homebase uk	40%
		laura ashley	50%				
		dfs	40%				
		harveys furniture	40%				

Music streams and downloads		**Music retailers**		**Audio equipment**		**Consumer electronics**	
Audio and video equipment and recordings		Audio and video equipment and recordings		Audio and video equipment and recordings		Audio and video equipment and recordings	
Top searches		Top searches		Top searches		Top searches	
itunes	100	hmv	100	ipod	100	ipod	100
download	75	cd wow	10	mp3	20	tv	70
music	70	hmv uk	10	sony	20	sony	65
mp3	60	albums	5	apple	15	lcd	40
downloads	45	cds	5	ipod nano	15	panasonic	35
free music	40	cdwow	5	ipod touch	15	samsung	25
free downloads	30	hmv music	5	speakers	15	lcd tv	20
music downloads	30	new releases	5	apple ipod	10	speakers	20
free mp3	25	records	5	creative	10	apple	15
itunes download	25	virgin megastore	5	dab	10	ipod nano	15
download music	20	virgin megastores	5	headphones	10	ipod touch	15
music downloads free	20	amazon music	0	hifi	10	richer sounds	15
musica	20	fopp	0	mp3 player	10	apple ipod	10
download mp3	15	htfr	0	richer sounds	10	bose	10
i tunes	15	new albums	0	dab radio	5	creative	10
musicas	15	new music	0	hi fi	5	currys	10
midi	10	richard branson	0	i pod	5	headphones	10
mp3 downloads	10	virgin music	0	iphone	5	iphone	10
mtv	10	virgin store	0	mp3 players	5	mp3 player	10
اغاني	10	zavvi	0	sennheiser	5	toshiba	10
Rising searches		Rising searches		Rising searches		Rising searches	
baixar musicas	Breakout	zavvi	Breakout	iphone	Breakout	iphone	Breakout
musicas	Breakout	maximo	200%	ipod nano	Breakout	ipod nano	Breakout
ouvir musicas	Breakout	amazon music	70%	ipod shuffle	Breakout	ipod touch	Breakout
escuchar musica	5000%	hmv	60%	ipod touch	Breakout	samsung	200%
musica	3400%	hmv uk	60%	mp4	250%	lcd tv	180%
itunes download	850%	new releases	60%	bose	130%	currys	130%
free itunes	800%	new releases music	50%	ipod	70%	lcd	130%
itunes	300%	new albums	40%	apple ipod	50%	ipod	80%
طرب	300%			headphones	50%	tv	60%
i tunes	160%			apple	40%	apple	50%

Home video		**Book retailers**		**Personal electronics**		**Consumer electronics**	
Audio and video equipment and recordings		Books, newspapers and stationery		Computers and telecommunications		Computers and telecommunications	
Top searches		Top searches		Top searches		Top searches	
tv	100	amazon	100	palm	100	ipod	100
lcd	60	amazon uk	70	ipaq	80	tv	70
lcd tv	40	books	35	pda	70	sony	65
sony	35	waterstones	30	windows mobile	65	lcd	40
panasonic	30	amazon books	15	pocket pc	55	panasonic	35
samsung	25	whsmith	10	sync	50	samsung	25
dvd player	15	abe	5	blackberry	45	lcd tv	20
hdmi	15	abe books	5	gadgets	45	speakers	20
projector	15	amazon books uk	5	activesync	40	apple	15
toshiba	15	amozon	5	gadget	30	ipod nano	15
tvs	15	blackwells	5	hp ipaq	30	ipod touch	15
blu ray	10	book people	5	firebox	25	richer sounds	15
dvd recorder	10	bookshop	5	htc	25	apple ipod	10
hd tv	10	borders	5	treo	25	bose	10
lg	10	the book people	5	active sync	20	creative	10
plasma tv	10	waterstones books	5	gadget shop	20	currys	10
samsung lcd	10	wh smith	5	ebook	15	headphones	10
samsung tv	10	wh smiths	5	o2 iphone	15	iphone	10
sony tv	10	whsmiths	5	smartphone	15	mp3 player	10
televisions	10	isbn	0	xda	15	toshiba	10
Rising searches		Rising searches		Rising searches		Rising searches	
hd tv	Breakout	lea walker	Breakout	blackberry apps	Breakout	iphone	Breakout
blu ray	4500%	saraiva	Breakout	htc	Breakout	ipod nano	Breakout
hdmi	1550%	lea	1000%	o2 iphone	Breakout	ipod touch	Breakout
samsung lcd	700%	imogen	400%	blackberry	550%	samsung	200%
samsung tv	500%	play.com uk	350%	windows mobile	500%	lcd tv	180%
samsung	250%	amzon	110%	ebook	140%	currys	130%
lcd tv	170%	amazon uk	80%	firebox	90%	lcd	130%
lcd	130%	amazon	70%	sync	70%	ipod	80%
lg	90%					tv	60%
tvs	90%					apple	50%

Mobile and wireless		**Mobile phones**		**Telecommunications**		**Shopping portals and search engines**	
Computers and telecommunications		Computers and telecommunications		Computers and telecommunications		Non-store retailing (large firms)	
Top searches		Top searches		Top searches		Top searches	
mobile	100	nokia	100	mobile	100	argos	100
nokia	90	mobile	80	nokia	85	additions	5
o2	65	phones	60	bt	65	argos uk	5
phones	55	sony	50	o2	65	empire	5
samsung	45	carphone	45	orange	65	littlewoods	5
sony	45	samsung	45	phones	50	littlewoods direct	5
vodafone	40	ericsson	40	broadband	45	mercado libre	5
carphone	35	sony ericsson	40	samsung	45	woolworths	5
sony ericsson	35	carphone warehouse	35	sky	45	additions direct	0
blackberry	30	iphone	35	vodafone	40	argos additions	0
carphone warehouse	30	mobile phone	30	carphone	35	argos direct	0
iphone	30	mobile phones	30	iphone	35	argos toys	0
mobile phone	30	o2	30	yahoo	35	asda direct	0
mobile phones	25	orange	25	blackberry	30	empire direct	0
orange	25	motorola	20	bt yahoo	30	empire stores	0
motorola	20	vodafone	15	carphone warehouse	30	freemans	0
sms	15	2	10	mobile phone	30	mercado livre	0
t mobile	15	htc	10	sony ericsson	30	mercadolibre	0
twitter	15	lg	10	iplayer	25	tesco direct	0
virgin	15	phones 4 u	10	mobile phones	20	toys r us	0
Rising searches		Rising searches		Rising searches		Rising searches	
claro	Breakout	htc	Breakout	iphone	Breakout	mercado libre	Breakout
iphone	Breakout	iphone	Breakout	iplayer	Breakout	mercado livre	Breakout
twitter	Breakout	n95	Breakout	twitter	Breakout	mercadolibre	Breakout
oi	4950%	2	80%	blackberry	400%	asda direct	4850%
htc	4600%	lg	70%	skype	350%	tesco direct	2500%
blackberry	400%	carphone	50%	bt yahoo	250%	littlewoods direct	900%
lg	70%	carphone warehouse	50%	yahoo	200%	argos direct	70%
vodafone	60%	samsung	50%	tomtom	130%	empire stores	40%
virgin	50%	vodafone	50%	sky	70%		
carphone warehouse	40%	o2	40%	virgin	70%		

Vehicle licensing and registration		**Automotive**		**Vehicle shopping**		**Vehicle brands**	
Car registrations		Car registrations		Car registrations		Car registrations	
Top searches		Top searches		Top searches		Top searches	
dvla	100	car	100	autotrader	100	bmw	100
driving	40	autotrader	50	car	55	ford	85
number plates	20	cars	40	auto	45	audi	80
driving licence	10	insurance	40	trader	45	vw	75
dvla plates	10	ford	30	auto trader	40	cars	55
dvla tax	10	auto	25	cars	40	peugeot	45
car registration	5	car insurance	25	parkers	15	renault	45
car tax	5	auto trader	20	used cars	15	mercedes	40
driving lessons	5	bmw	20	autotrader uk	10	fiat	35
driving school	5	dvla	20	ford	10	honda	35
driving test	5	trader	20	used car	10	nissan	35
dvla car tax	5	audi	15	audi	5	toyota	35
dvla number plates	5	ebay	15	bmw	5	volvo	35
number plate	5	honda	15	car dealers	5	porsche	30
private plates	5	mercedes	15	car sales	5	volkswagen	30
provisional	5	vauxhall	15	cars for sale	5	citroen	25
registrations	5	vw	15	cars sale	5	mazda	25
road tax	5	halfords	10	parkers guide	5	mini	25
tax disc	5	renault	10	toyota	5	land rover	20
vehicle	5	toyota	10	vauxhall	5	vauxhall	20
Rising searches		Rising searches		Rising searches		Rising searches	
dvla address	450%	pistonheads	2000%	ebay motors	600%	fiat 500	550%
dvla car tax	450%	car games	300%	autos	250%	chevrolet	190%
car tax	300%	ebay	200%	car giant	110%	bugatti	160%
dvla tax	300%	car tax	180%	autotrader	90%	what car	70%
tax disc	300%	autotrader	140%	cargiant	80%	auto trader	50%
provisional licence	190%	halfords	60%	ebay cars	60%	audi a4	40%
vosa	120%	trader	60%			kia	40%
provisional	110%	auto trader	50%			parkers	40%
car check	70%	auto	40%			range rover	40%
road tax	70%	what car	40%				

Auto financing		**Real estate**		**Home inspections and appraisals**		**Home financing**	
Car registrations		Property transactions		Property transactions		Mortgage approvals	
Top searches		Top searches		Top searches		Top searches	
leasing	100	estate agents	100	whats my	100	mortgage	100
lease	80	property	85	assessor	55	nationwide	80
leasing car	70	rightmove	75	assessors	45	money	45
finance	60	houses	55	appraisal	35	mortgages	45
lease car	40	mortgage	35	whats car worth	25	money supermarket	40
car finance	30	housing	30	home inspector	15	mortgage calculator	35
black horse	15	right move	30	appraiser	10	moneysupermarket	20
contract hire	15	houses for sale	25	assesor	10	northern rock	20
lease cars	15	nationwide	25	energy assessor	10	compare	15
lease hire	15	property for sale	20	home inspection	10	buy to let	10
black horse finance	10	mortgages	15	home inspectors	10	car insurance	10
blackhorse	10	flats to rent	10	treasurer	10	loans	10
car credit	10	gumtree	10	assesors	5	mortgage rates	10
car loan	10	halifax	10	assessor jobs	5	best mortgage	5
car loans	10	house prices	10	cedae	5	capital gains	5
contract hire leasing	10	houses to rent	10	e-vision	5	compare car insurance	5
contract leasing	10	land registry	10	investment appraisal	5	morgage	5
fipe	10	money supermarket	10	scottish assessors	5	mortgage deals	5
lex	10	mortgage calculator	10	whats my angle	5	mortgage rate	5
vehicle leasing	10	real	10	whats my speed	5	mortgage uk	5
Rising searches		Rising searches		Rising searches		Rising searches	
consorcio	Breakout	gumtree	3750%	assessor jobs	Breakout	compare the market	Breakout
fipe	Breakout	money supermarket	500%	energy assessor	Breakout	compare car insurance	850%
tabela fipe	Breakout	moneysupermarket	400%	home inspector	Breakout	car insurance	550%
lease car deals	400%	rightmove	350%	whats car worth	500%	money supermarket	500%
car leasing deals	350%	right move	250%	home inspectors	200%	moneysupermarket	400%
audi leasing	140%	nationwide	80%	assessor	180%	money	350%
lease a car	120%	house prices	70%	whats my	180%	compare	170%
audi lease	100%	houses to rent	70%	home inspection	130%	bbc mortgage	160%
loan calculator	60%	swansea	70%	assesor	120%	nationwide	80%
lease bmw	50%	savills	50%	assessors	120%	pret	80%

Travel		**Vacation destinations**		**Hotels and accommodation**		**Air travel**		**Cruises and charters**	
Overseas visits		Overseas visits		Overseas visits		Overseas visits		Overseas visits	
Top searches		Top searches		Top searches		Top searches		Top searches	
hotel	100	holidays	100	hotel	100	flights	100	cruises	100
flights	70	new york	95	hotels	50	cheap flights	40	ferries	100
holidays	65	last minute	75	holiday	20	easyjet	40	cruise	85
hotels	50	vegas	75	london	20	airlines	35	ferry	85
train	40	las vegas	70	edinburgh	15	ryanair	35	p&o	40
travel	40	paris	50	cottages	10	british airways	20	thames	20
holiday	30	virgin holidays	45	hilton	10	heathrow	20	ferries france	15
cheap flights	25	orlando	40	holiday inn	10	gatwick	15	p and o	15
easyjet	25	barbados	35	premier inn	10	virgin	15	p&o ferries	15
national rail	20	disneyland	35	travelodge	10	airport parking	10	royal caribbean	15
ryanair	20	jamaica	35	blackpool	5	ba	10	stena	15
train times	20	disney	30	cheap hotels	5	belfast	10	dover calais	10
virgin	20	disneyland paris	30	dubai	5	bmi	10	ferry dover	10
edinburgh	15	florida	30	holidays	5	easy jet	10	ferry france	10
gatwick	15	lastminute	30	ibis	5	flybe	10	ferry to france	10
heathrow	15	new york hotel	30	london hotels	5	manchester airport	10	irish ferries	10
thomas cook	15	cuba	25	marriott	5	monarch	10	p & o	10
trains	15	all inclusive	20	travel inn	5	ryan air	10	p o ferries	10
cheap holidays	10	caribbean	20	travel lodge	5	stansted	5	princess cruises	10
weather	10	hong kong	20	trip advisor	5	virgin atlantic	5	stena line	10
Rising searches		Rising searches		Rising searches		Rising searches		Rising searches	
premier inn	750%	travelzoo	Breakout	trip advisor	1100%	travel supermarket	2050%	cruises 2010	Breakout
trainline	130%	travel zoo	3750%	premier inn	800%	skyscanner	800%	norfolkline	450%
first choice	120%	panama	180%	tripadvisor	750%	thomas cook	140%	cruise deals	250%
national rail	120%	virgin atlantic	120%	laterooms	250%	jet2	120%	royal caribbean	250%
thomson	120%	queens	80%	premier travel inn	250%	thomson	110%	ncl	130%
thomson holidays	110%	all inclusive	70%	late rooms	200%	virgin atlantic	80%	norfolk	120%
thomas cook	100%	last minute deals	70%	travelodge	100%	baa	70%	norfolk line	120%
travelodge	100%	virgin holidays	70%	last minute	50%	ryanair	60%	caribbean cruises	100%
national express	60%			harrogate	40%	aer lingus	50%	celebrity cruises	80%
ryanair	50%			hotel reviews	40%	ba	50%	princess cruises	80%

Producer prices and services producer prices: implementation of SIC 2007

Simon Woodsford
Office for National Statistics

Summary

This article provides information about producer price index (PPI) and services producer price index (SPPI) implementation of the United Kingdom Standard Industrial Classification of All Economic Activities 2007 (UK SIC 2007). Classification systems are used to record business establishments and other standard units by the type of economic activity in which they are engaged.

Overview

Since 1948 the United Kingdom Standard Industrial Classification of All Economic Activities (UK SIC) has been revised six times in 1958, 1968, 1980, 1992, 1997 and 2003 (the changes in 1997 and 2003 were not full-scale revisions). The introduction of the SIC 2007 represents the first major revision since 1992. These revisions are motivated by the need to adapt the classifications to changes in the world economy. In essence, the introduction of this latest classification change reflects the growing importance of service activities in the economy of the last 15 years and in particular the developments in information and communication technologies.

Producer prices (PPI) and service producer prices (SPPI) both implemented the change onto UK SIC 2007 in November 2010. The most significant change to PPI output prices is the reclassification of recovered secondary raw materials (recycling) and publishing out of manufacturing and into the service sector. The SIC 2007 project has included fundamental changes made to the classification of the PPI trade surveys, import price indices (IPI) and export price indices (EPI). The collection of these is now on a SIC basis, a switch from the Standard International Trade Classification (SITC) and Combined Nomenclature (CN) previously used. As a result PPI trade surveys are now compliant with Eurostat short term statistics regulation. This change of classification used will have a direct impact on the framework structure of PPI input prices, as IPI's account for a large proportion of total input price sales. For SPPI, apart from adopting recovered secondary raw materials and publishing, changes resulting in the implementation of SIC 2007 will be largely cosmetic.

Effects of reclassification on PPI output prices

Output (or factory gate) prices measure change in the price of goods produced by UK manufacturers. These are weighted together using 2005 sales from PRODCOM (for gross sector output) and National Accounts supply/use tables (for net sector output). The series still have a reference year of 2005=100.

For many of the SIC division level output prices the effect on index levels and growth rates due to the reclassification from SIC 2003 to SIC 2007 is minimal. This is due to the majority of component products remaining broadly, and in some cases exactly, in the same divisional classification framework. The areas of greatest change to output prices are due to:

- **recovered secondary raw materials and publishing** – under SIC 2007 these products are no longer classified as manufacturing activities and have been reclassified within the service sector. As a result the collection, sales and weight of all recycling and publishing items are now excluded from the PPI. These activities have been removed from the historical series published back to 1996
- **repair, installation and maintenance of machinery and equipment** is a new division which has been formed under SIC 2007. The size of this activity now warrants its own SIC division within the manufacturing sector. Under SIC 2003 these activities were included but only as part of each specific manufacturing industry, in particular in machinery and equipment not elsewhere classified, computers, electronic and optical equipment, and transport equipment

Figure 1 shows the comparison of net sector output index levels and **Figure 2** shows the comparison of net sector output 12 month rates. **Table 1** identifies the weighting structure for 'all manufacturing net sector output' on an SIC 2003 and SIC 2007 basis.

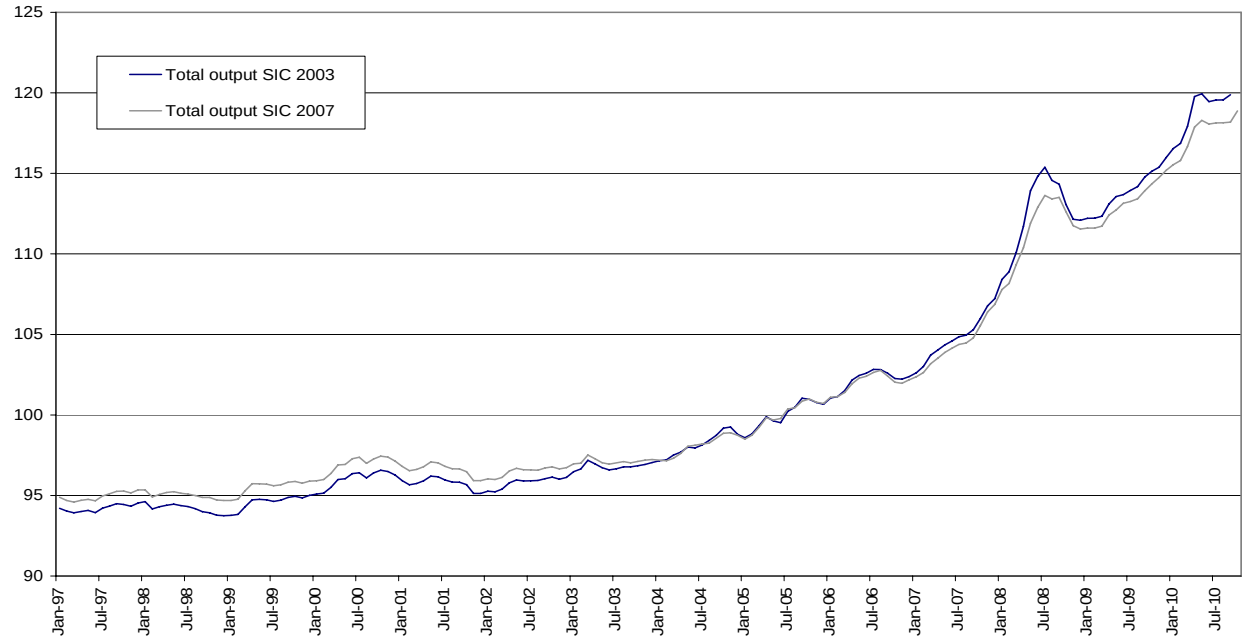
Effects of reclassification on PPI trade prices (IPI and EPI)

The largest impact on PPI trade prices will be the switch of collecting IPI and EPI on an SIC basis, from the Standard International Trade Classification (SITC) for IPI, and Combined Nomenclature (CN) for EPI. This change means that both trade surveys are now compliant with Eurostat short term statistics regulation. It also makes the classification used in all PPI surveys consistent. IPI has also been separated into EU and Non–EU and so are now also consistent with the EPI structure.

SITC is a hierarchy classification derived by the United Nations concerned with dividing products firstly by materials used (for example all meat products are classified together irrespective of how they arrived at that point). It is more commonly known as classification by 'material composition by degree of transformation'.

Figure 1 Output PPI index values (SIC 2003 and SIC 2007)

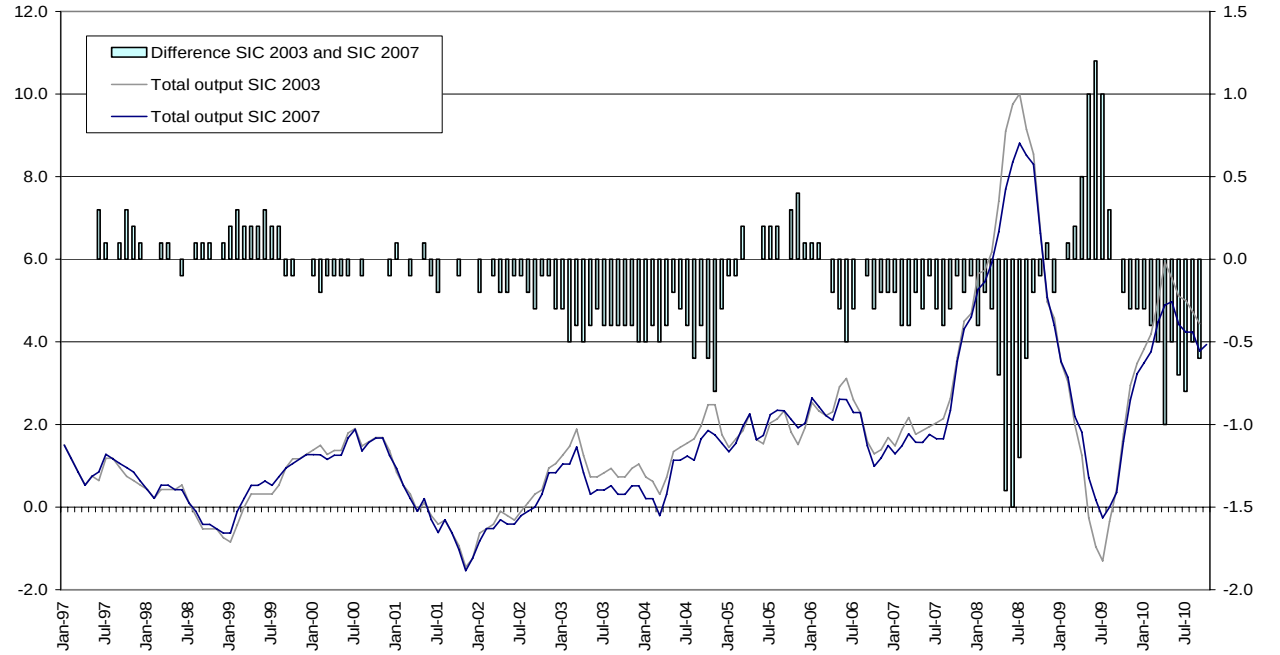
Output prices (2005=100)



Source: Producer prices

Figure 2 Output PPI 12 month percentage changes (SIC 2003 and SIC 2007)

Per cent, month on same month 1 year ago Difference %



Source: Producer prices

Table 1 All manufacturing net sector weights in SIC 2003 and SIC 2007

SIC 03		SIC 07		Difference (%)
Description	**Weight (%)**	**Description**	**Weight (%)**	
Mineral Water and Soft Drinks	1.1	Mineral Water and Soft Drinks	1.2	0.1
Food Products	14.2	Food Products	14.9	0.7
Alcohol Products (inc duty)	6.1	Alcohol Products (inc duty)	6.4	0.3
Tobacco Products (inc duty)	3.1	Tobacco Products (inc duty)	3.3	0.2
Textile Products	3.1	Textile Products	3.3	0.2
Clothing Products	6.9	Clothing Products	7.2	0.3
Leather Products	1.7	Leather Products	1.8	0.1
Wood and Wood Products	1.1	Wood and Wood Products	1.2	0.1
Pulp, Paper and Printing	1.8	Pulp, Paper and Printing	1.9	0.1
Printing and Recording Services	5.1	Printing and Recording Services	2.1	-3.0
Petroleum Products	8.8	Petroleum Products	9.2	0.4
Chemical Products	7.7	Chemical Products	8.1	0.4
Rubber and Plastics	2.8	Rubber and Plastics	2.9	0.1
Other Non Metallic Minerals	2.9	Other Non Metallic Minerals	3.0	0.1
Metals and Metal Products	2.4	Metals and Metal Products	2.9	0.5
Machinery & Equipment n.e.c	3.4	Machinery & Equipment n.e.c.	0.6	-2.8
Computers, Electronic & Optical Products, Electrical Equipment	8.7	Computers, Electronic & Optical Products, Electrical Equipment	9.6	0.9
Transport Equipment	11.4	Transport Equipment	11.1	-0.3
Other Manufactured Goods n.e.c.	7.7	Other Manufactured Goods n.e.c.	6.5	-1.2
		Repair and Maintenance and installation of machinery and equipment	2.8	2.8
All Manufactured Products	**100.0**	**All Manufactured Products**	**100.0**	

Harmonised Description and Coding System (HS) is an international trade classification set up by World Customs Organisation designed for customs tariffs and trade negotiations. The CN classification is specifically designed for the EU region and is concerned with the grouping of products as they would be categorised at customs borders. The CN classification is consistent with the HS classification structure at the 6 digit level. CN is more commonly referred to as classification by 'degree of transformation by material composition'.

Within PPI specifically the use of SIC refers to who buys and produces that product, or more generally relates to where business establishments are classified by economic activity.

An example of how this change in classification method has affected hierarchal structures are the classifications of 'meat' and 'raw hides and skins'. 'Meat' is classified in SITC division 01 for 'bovine animals', while 'raw hides and skins' *are* classified in SITC division 21 for 'raw hides and skins', so in separate divisions. Under the SIC 2007 framework these are both classified as products of the meat industry and so fall in the same SIC Division 10 for 'food'.

Effects of Reclassification on PPI input prices

Input prices measure the change in the price of raw materials and fuels bought by UK manufacturers for processing. These are structured using 'home produced' and 'imported' components, and are weighted together using National Accounts supply/use tables. These also still have a reference year of 2005=100.

The areas of most significant change to the composition of the all manufacturing input structure are:

- the change in the classification system used for IPI from SITC to SIC. This change of classification method will have a direct impact on the framework structure of PPI input prices, as IPI's account for a large proportion of total input price sales
- the reclassification of input/output (I/O) groupings that form the basis of the PPI input structure onto an SIC 2007 basis have had a substantial effect on weighting structures. The impact is more evident where several I/O groups on an SIC 2003 basis have either been merged into one on a SIC 2007, or also vice–versa. For example, in SIC 2003 the component for imported motor vehicles, trailers and semi-trailers all fell in one I/O group, but on an SIC 2007 basis these are split between three I/O groups

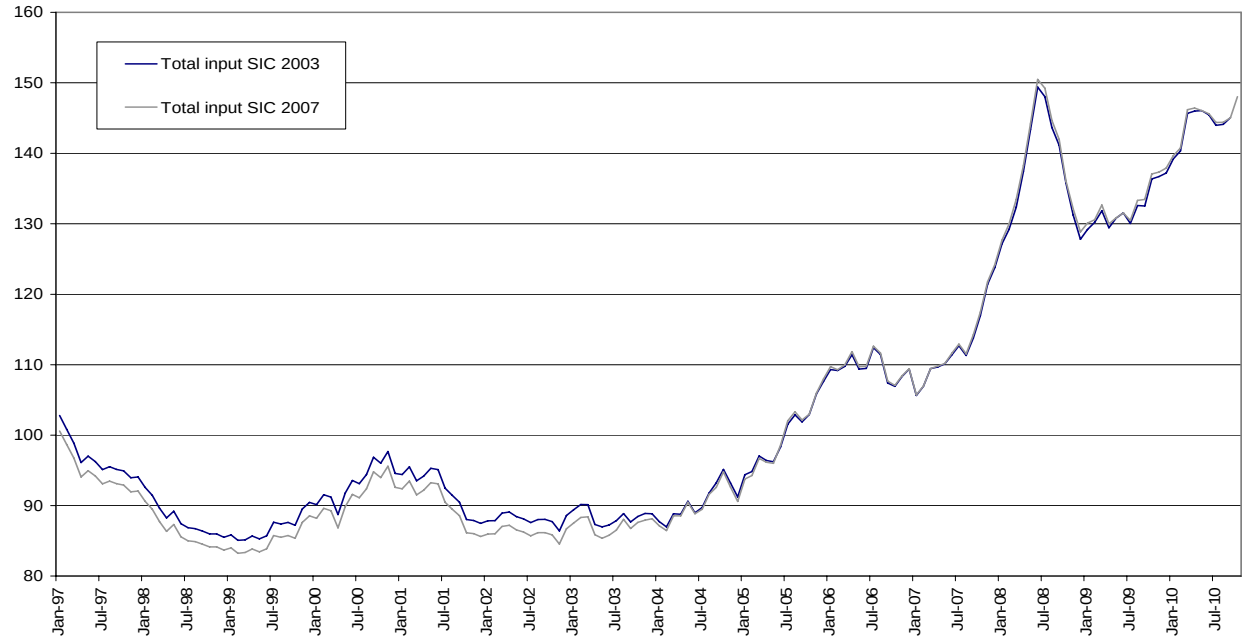
Such changes have had more of an effect on the 'imported components' of the input structure. However the 'home produced' element of input prices have also been effected by these changes to I/O groups albeit the impact is less. This is mainly due to the fairly stable structure of influential I/O groups within the home produced components, such as food. These I/O group changes have effected the home produced component the most in places where sales for I/O groups were previously excluded on an SIC 2003 basis due to not collecting any products within that specific I/O group, and which have now been merged with other I/O groups that products are collected. For example, sales for SIC 2003 group for 'mining of metal ores' was previously excluded from the input price structure due to not collecting any prices within the UK for these specific products. However the SIC 2007 I/O group for 'mining of metal ores has merged with the I/O group for 'other mining and quarrying products'. Therefore the sales for this new combined I/O group are used in the input price hierarchy and so will have a greater weight in the SIC 2007 structure than it did on a SIC 2003 basis.

All these changes will have an impact on the framework structure of input prices but it is impossible to separate the effects of these various changes.

Figure 3 shows the comparison of net sector output index levels and **Figure 4** shows the comparison of net sector output 12 month rates. **Table 2** shows the change to the weighting structure for components of all manufacturing net sector input.

Figure 3 Input PPI index values (SIC 2003 and SIC 2007)

Input prices (2005=100)

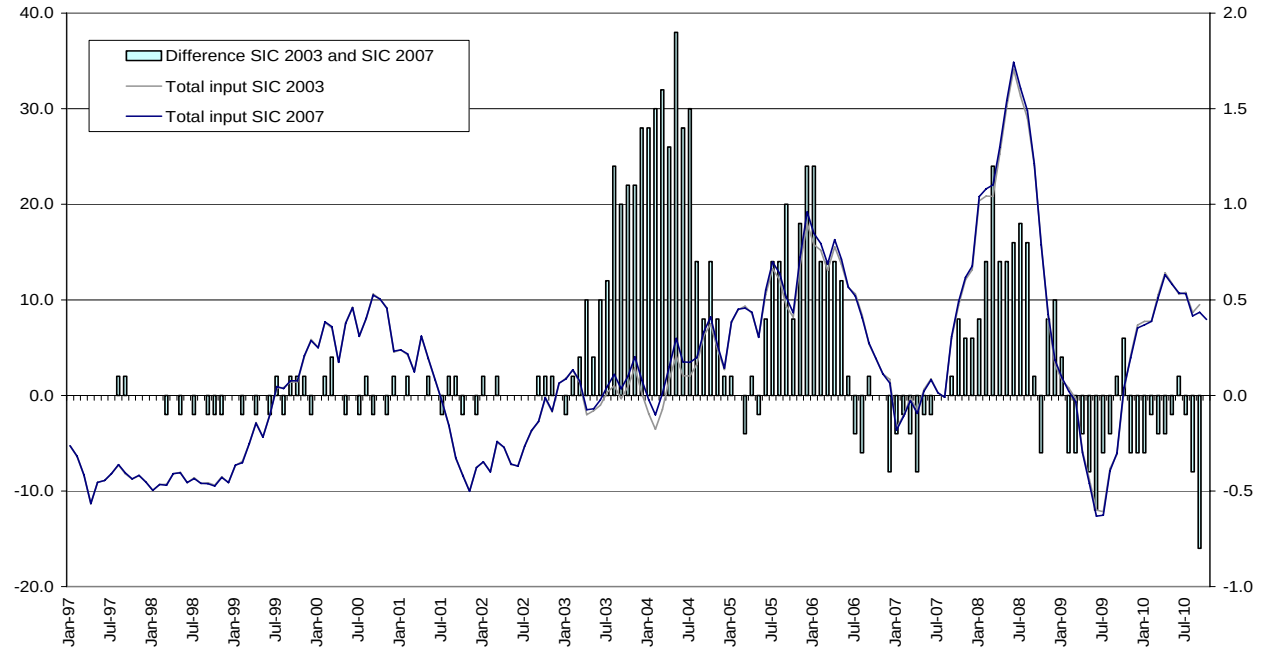


Source: Producer prices

Figure 4 Input PPI 12 month percentage changes (SIC 2003 and SIC 2007)

Per cent, month on same month 1 year ago

Difference %



Source: Producer prices

Table 2 **Changes to weights for all manufacturing net inputs, SIC 2003 and SIC 2007**

SIC 03		SIC 07		Difference (%)
Description	**Weight (%)**	**Description**	**Weight (%)**	
Home Produced Food	11.1	Home Produced Food	10.7	-0.4
Other Home Produced Materials	2.9	Other Home Produced Materials	4.9	2.0
Crude Oil	19.0	Crude Oil	19.4	0.4
Electricity	5.3	Electricity	5.5	0.2
Gas	3.5	Gas	3.6	0.1
Imported Food	5.5	Imported Food	5.5	0.1
Imported Metals	6.7	Imported Metals	7.0	0.3
Imported Chemicals	11.4	Imported Chemicals	12.1	0.6
Imported Parts & Equipment	23.4	Imported Parts & Equipment	19.8	-3.6
Other Imports	11.2	Other Imports	11.5	0.3
All Manufacturing	**100.0**	**All Manufacturing**	**100.0**	

Impact of reclassification of prices' on National Accounts estimates

National Accounts have announced that then plan to switch to SIC 2007 in September 2011. PPI (including IPI and EPI) and SPPI are widely used for deflation purposes within the National Accounts. In order to ensure that National Accounts estimates continue to be deflated using consistent SIC 2003 price deflators, Prices Division will continue to supply National Accounts with SIC 2003 PPI and SPPI deflators until September 2011. These SIC 2003 based price indices will not be routinely published on the Office for National Statistics website.

Effects of reclassification on SPPI

Generally the effects of the switch to SIC 2007 to the details of SPPI will be very minimal and largely cosmetic as the structure of SPPI is not currently closely based on a SIC 2003 basis like the PPI. At the total net and gross sector SPPI level, these indices will adopt recovered secondary raw materials and publishing activities which previously fell in the manufacturing sector. We have taken this opportunity to also include historic and late data changes.

Contact

For further information about the implementation of SIC 2007 in PPI and SPPI please contact ppi@ons.gov.uk

Key time series

1. National Accounts aggregates

Last updated 24/11/10

Seasonally adjusted

	£ million		Indices (2006 = 100)						
	At current prices		Value indices at current prices		Chained volume indices			Implied deflators[3]	
	Gross domestic product (GDP) at market prices	Gross value added (GVA) at basic prices	GDP at market prices[1]	GVA at basic prices	Gross national disposable income at market prices[2]	GDP at market prices	GVA at basic prices	GDP at market prices	GVA at basic prices
	YBHA	ABML	YBEU	YBEX	YBFP	YBEZ	CGCE	YBGB	CGBV
2008	1,445,580	1,295,663	108.8	109.5	104.3	102.6	102.7	106.0	106.6
2009	1,392,634	1,255,192	104.8	106.0	98.9	97.5	97.8	107.5	108.4
2008 Q2	363,264	323,679	109.4	109.4	105.2	103.5	103.7	105.6	105.5
2008 Q3	361,466	325,041	108.8	109.8	103.8	102.6	102.6	106.1	107.1
2008 Q4	358,848	324,009	108.1	109.5	100.9	100.5	100.5	107.5	108.9
2009 Q1	349,324	316,469	105.2	106.9	99.8	98.1	98.3	107.2	108.8
2009 Q2	344,359	310,982	103.7	105.1	97.0	97.4	97.6	106.5	107.7
2009 Q3	347,372	312,536	104.6	105.6	98.9	97.1	97.4	107.7	108.4
2009 Q4	351,579	315,205	105.9	106.5	100.1	97.4	97.9	108.7	108.8
2010 Q1	359,302	320,301	108.2	108.2	98.4	97.9	98.2	110.6	110.3
2010 Q2	364,148	324,552	109.7	109.7	100.8	99.0	99.3	110.8	110.4
2010 Q3	367,818	327,636	110.8	110.7		99.8	100.1	111.0	110.6
			Percentage change, quarter on corresponding quarter of previous year						
			IHYO	ABML[4]	YBGO[4]	IHYR	ABMM[4]	IHYU	ABML/ABMM[4]
2008 Q2	3.9	3.9	3.9	3.9	2.1	1.0	1.1	2.9	2.8
2008 Q3	2.4	3.4	2.4	3.4	0.3	-0.4	-0.6	2.9	4.0
2008 Q4	0.5	1.6	0.5	1.6	-5.2	-2.7	-2.8	3.3	4.6
2009 Q1	-3.5	-2.0	-3.5	-2.0	-6.9	-5.5	-5.5	2.1	3.7
2009 Q2	-5.2	-3.9	-5.2	-3.9	-7.8	-6.0	-5.9	0.8	2.1
2009 Q3	-3.9	-3.8	-3.9	-3.8	-4.8	-5.4	-5.0	1.6	1.3
2009 Q4	-2.0	-2.7	-2.0	-2.7	-0.9	-3.0	-2.6	1.0	-0.1
2010 Q1	2.9	1.2	2.9	1.2	-1.4	-0.3	-0.1	3.1	1.4
2010 Q2	5.7	4.4	5.7	4.4	3.9	1.7	1.8	4.0	2.5
2010 Q3	5.9	4.8	5.9	4.8		2.8	2.8	3.0	2.0

Notes

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

2. Gross Domestic Product: by category of expenditure

Last updated 24/11/10

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

	Domestic expenditure on goods and services at market prices											
	Final consumption expenditure			Gross capital formation								
	Households	Non-profit institutions1	General government	Gross fixed capital formation	Changes in inventories2	Acquisitions less disposals of valuables	Total	Exports of goods and services	Gross final expenditure	less Imports of goods and services	Statistical discrepancy (expenditure)	Gross domestic product at market prices
	ABJR	HAYO	NMRY	NPQT	CAFU	NPJR	YBIM	IKBK	ABMG	IKBL	GIXS	ABMI
2008	842,174	32,338	293,464	232,777	130	1,290	1,402,173	372,104	1,774,277	411,138	0	1,363,139
2009	813,791	31,764	296,287	197,548	-15,416	1,222	1,325,195	330,809	1,656,004	360,749	-96	1,295,159
2008 Q1	213,214	8,292	72,104	59,619	3,228	206	356,664	93,858	450,522	105,712	0	344,809
2008 Q2	211,525	8,183	73,334	59,779	872	440	354,134	94,284	448,418	104,550	0	343,868
2008 Q3	210,330	8,018	73,473	57,254	645	367	350,088	93,918	444,005	103,226	0	340,780
2008 Q4	207,105	7,845	74,553	56,125	-4,615	277	341,287	90,044	431,332	97,650	0	333,682
2009 Q1	204,245	8,045	74,078	51,404	-4,454	420	333,737	82,533	416,271	90,373	-5	325,893
2009 Q2	202,770	7,956	74,129	48,578	-3,501	239	330,171	81,266	411,437	88,079	-15	323,343
2009 Q3	202,531	7,888	73,776	49,288	-4,139	212	329,556	82,002	411,558	89,138	-29	322,391
2009 Q4	204,245	7,875	74,304	48,278	-3,322	351	331,731	85,008	416,738	93,159	-47	323,532
2010 Q1	204,219	7,825	74,792	49,664	-1,112	267	335,654	84,416	420,070	94,992	-96	324,982
2010 Q2	205,585	7,878	75,545	50,352	88	375	339,824	86,328	426,152	97,269	-114	328,769
2010 Q3	206,112	7,860	75,812	50,664	482	210	341,140	88,266	429,406	97,997	-127	331,281
	Percentage change, quarter on corresponding quarter of previous year											
2008 Q1	2.9	0.1	0.8	-1.9			1.8	3.7	2.2	3.1		1.9
2008 Q2	1.4	-1.5	1.9	-1.4			1.2	2.7	1.5	3.1		1.0
2008 Q3	0.1	-4.1	1.2	-6.0			-1.3	0.5	-0.9	-2.5		-0.4
2008 Q4	-2.1	-6.9	2.5	-10.5			-4.4	-2.7	-4.1	-8.4		-2.7
2009 Q1	-4.2	-3.0	2.7	-13.8			-6.4	-12.1	-7.6	-14.5		-5.5
2009 Q2	-4.1	-2.8	1.1	-18.7			-6.8	-13.8	-8.2	-15.8		-6.0
2009 Q3	-3.7	-1.6	0.4	-13.9			-5.9	-12.7	-7.3	-13.6		-5.4
2009 Q4	-1.4	0.4	-0.3	-14.0			-2.8	-5.6	-3.4	-4.6		-3.0
2010 Q1	0.0	-2.7	1.0	-3.4			0.6	2.3	0.9	5.1		-0.3
2010 Q2	1.4	-1.0	1.9	3.7			2.9	6.2	3.6	10.4		1.7
2010 Q3	1.8	-0.4	2.8	2.8			3.5	7.6	4.3	9.9		2.8

Notes

1. Non–profit institutions serving households
2. This series includes a quarterly alignment adjustment

3. Labour Market summary

Last updated 17/11/10

United Kingdom (thousands) seasonally adjusted

	LFS household population[1]		Headline indicators: Employment		Unemployment		Inactivity	
			Level	Rate[2]	Level	Rate[3]	Level	Rate[4]
	All aged 16 & over	**All aged 16 to 64**	All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 to 64	All aged 16 & over	All aged 16 to 64
People	MGSL	LF2O	MGRZ	LF24	MGSC	MGSX	LF2M	LF2S
Jul–Sep 2008	49,102	39,599	29,429	72.6	1,783	5.7	9,090	23.0
Jul–Sep 2009	49,482	39,820	28,917	70.7	2,472	7.9	9,207	23.1
Oct–Dec 2009	49,580	39,870	28,905	70.6	2,460	7.8	9,296	23.3
Jan–Mar 2010	49,679	39,921	28,843	70.3	2,486	7.9	9,389	23.5
Apr–Jun 2010	49,777	39,972	28,980	70.5	2,469	7.8	9,346	23.4
Jul–Sep 2010	49,873	40,021	29,158	70.7	2,448	7.7	9,280	23.2
Change on quarter	94	46	167	0.3	-9	-0.1	-83	-0.2
Change on quarter %	0.2	0.1	0.6		-0.3		-0.9	
Change on year	388	198	286	0.1	-17	-0.1	23	-0.1
Change on year %	0.8	0.5	1.0		-0.7		0.2	
Men	MGSM	YBTG	MGSA	MGSV	MGSD	MGSY	YBSO	YBTM
Jul–Sep 2008	23,924	19,708	15,867	78.3	1,081	6.4	3,211	16.3
Jul–Sep 2009	24,129	19,821	15,415	75.5	1,526	9.0	3,347	16.9
Oct–Dec 2009	24,184	19,848	15,395	75.3	1,495	8.9	3,430	17.3
Jan–Mar 2010	24,238	19,875	15,360	74.9	1,542	9.1	3,463	17.4
Apr–Jun 2010	24,293	19,903	15,514	75.5	1,472	8.7	3,415	17.2
Jul–Sep 2010	24,346	19,928	15,649	76.0	1,432	8.4	3,374	16.9
Change on quarter	52	25	136	0.4	-40	-0.3	-41	-0.2
Change on quarter %	0.2	0.1	0.9		-2.7		-1.2	
Change on year	216	106	234	0.5	-94	-0.6	27	0.0
Change on year %	0.9	0.5	1.5		-6.2		0.8	
Women	MGSN	LF2P	MGSB	LF25	MGSE	MGSZ	LF2N	LF2T
Jul–Sep 2008	25,210	19,909	13,532	66.7	753	5.3	5,881	29.5
Jul–Sep 2009	25,386	20,016	13,488	65.9	940	6.5	5,899	29.5
Oct–Dec 2009	25,430	20,039	13,508	65.8	957	6.6	5,895	29.4
Jan–Mar 2010	25,473	20,063	13,478	65.6	964	6.7	5,938	29.6
Apr–Jun 2010	25,517	20,087	13,509	65.6	985	6.8	5,937	29.6
Jul–Sep 2010	25,558	20,108	13,540	65.7	1,016	7.0	5,895	29.3
Change on quarter	42	21	31	0.1	31	0.2	-42	-0.2
Change on quarter %	0.2	0.1	0.2		3.2		-0.7	
Change on year	172	92	51	-0.2	77	0.5	-4	-0.2
Change on year %	0.7	0.5	0.4		8.2		-0.1	

Notes

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

2. The headline employment rate is the number of people aged 16 to 64 in employment divided by the population aged 16 to 64.

3. The headline unemployment rate is the number of unemployed people (aged 16+) divided by the economically active population (aged 16+). The economically active population is defined as those in employment plus those who are unemployed.

4. The headline inactivity rate is the number of people aged 16 to 64 divided by the population aged 16 to 64.

Note on headline employment, unemployment and inactivity rates

The headline employment and inactivity rates are based on the population aged 16 to 64 but the headline unemployment rate is based on the economically active population aged 16 and over. The employment and inactivity rates for those aged 16 and over are affected by the inclusion of the retired population in the denominators and are therefore less meaningful than the rates for those aged from 16 to 64. However, for the unemployment rate for those aged 16 and over, no such effect occurs as the denominator for the unemployment rate is the economically active population which only includes people in work or actively seeking and able to work.

Note on headline employment, unemployment and inactivity levels

The headline employment and unemployment levels are for those aged 16 and over; they measure all people in work or actively seeking and able to work. However, the headline inactivity level is for those aged 16 to 64. The inactivity level for those aged 16 and over is less meaningful as it includes elderly people who have retired from the labour force.

4. Prices

Last updated 16/11/10

Percentage change over 12 months, Not seasonally adjusted

	Consumer prices						Producer prices			
	Consumer prices index (CPI)			Retail prices index (RPI)			Output prices		Input prices	
	All items	CPI excluding indirect taxes (CPIY)[1]	CPI at constant tax rates (CPI-CT)	All items	All items excluding mortgage interest payments (RPIX)	All items excluding mortgage interest payments and indirect taxes (RPIY)[2]	All manufactured products	Excluding food, beverages, tobacco and petroleum products	Materials and fuels purchased by manufacturing industry	Excluding food, beverages, tobacco and petroleum products
	D7G7	EL2S	EAD6	CZBH	CDKQ	CBZX	PLLU[3]	PLLv[3,4]	RNNK[3,4]	RNNQ[3,4]
2009 Jan	3.0	4.5	4.1	0.1	2.4	3.4	3.5	4.0	1.7	10.8
2009 Feb	3.2	4.6	4.2	0.0	2.5	3.5	3.0	3.7	0.8	8.9
2009 Mar	2.9	4.3	3.9	-0.4	2.2	3.2	2.0	3.2	-0.4	7.5
2009 Apr	2.3	3.8	3.4	-1.2	1.7	2.7	1.3	2.5	-5.8	2.6
2009 May	2.2	3.6	3.3	-1.1	1.6	2.6	-0.3	1.2	-8.8	0.2
2009 Jun	1.8	3.1	2.9	-1.6	1.0	1.9	-1.0	0.3	-12.0	-2.9
2009 Jul	1.8	3.1	2.8	-1.4	1.2	2.1	-1.3	0.2	-12.2	-3.4
2009 Aug	1.6	2.9	2.7	-1.3	1.4	2.3	-0.3	0.8	-7.7	-2.1
2009 Sep	1.1	2.2	2.1	-1.4	1.3	2.0	0.4	1.3	-6.2	-1.2
2009 Oct	1.5	2.6	2.5	-0.8	1.9	2.8	1.8	2.1	0.5	0.9
2009 Nov	1.9	3.0	2.9	0.3	2.7	3.5	2.9	2.0	4.2	0.8
2009 Dec	2.9	2.8	2.6	2.4	3.8	3.8	3.5	2.5	7.4	1.1
2010 Jan	3.5	1.9	1.7	3.7	4.6	3.3	3.8	2.6	7.7	1.4
2010 Feb	3.0	1.4	1.2	3.7	4.2	2.9	4.2	3.0	7.8	2.4
2010 Mar	3.4	1.8	1.6	4.4	4.8	3.5	5.0	3.7	10.5	4.4
2010 Apr	3.7	2.0	1.9	5.3	5.4	3.9	5.9	4.5	12.8	6.3
2010 May	3.4	1.7	1.6	5.1	5.1	3.8	5.5	4.4	11.7	7.2
2010 Jun	3.2	1.6	1.5	5.0	5.0	3.8	5.1	5.0	10.6	7.1
2010 Jul	3.1	1.4	1.3	4.8	4.8	3.5	5.0	4.7	10.8	7.6
2010 Aug	3.1	1.4	1.3	4.7	4.7	3.4	4.7	4.6	8.7	6.6
2010 Sep	3.1	1.5	1.4	4.6	4.6	3.4	4.4	4.6	9.5	6.4
2010 Oct	3.2	1.6	1.4	4.5	4.6	3.2				

Notes

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

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

3 Derived from these identification (CDID) codes.

4 These derived series replace those previously shown.

Notes to tables

Identification (CDID) codes

The four-letter identification code at the top of each data column is the ONS reference for this series of data on our time series database. Please quote the relevant code if you contact us requiring any further information 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 as shown. Although figures may be given in unrounded form to facilitate the calculation of percentage changes, rates of change etc by users, 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 (less than half the final digit shown)
P	provisional
—	break in series
R	revised
r	series revised from indicated entry onwards

Labour market statistics 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 force summary table

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

Weblink: www.statistics.gov.uk/StatBase/Product.asp?vlnk=14692

Title	Frequency of update
1. UK economic accounts	
Weblink: www.statistics.gov.uk/elmr/downloads/elmr1.pdf	
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 Index of Services	M
2. Selected labour market statistics	
Weblink: www.statistics.gov.uk/elmr/downloads/elmr2.pdf	
2.01 Summary of Labour Force Survey data	M
2.02 Employment by age	M
2.03 Full-time, part-time and temporary workers	M
2.04 Public and private sector employment	Q
2.05 Workforce jobs	Q
2.06 Workforce jobs by industry	Q
2.07 Actual weekly hours of work	M
2.08 Usual weekly hours of work	M

2.09 Unemployment by age and duration	M
2.10 Claimant count levels and rates	M
2.11 Claimant count by age and duration	M
2.12 Economic activity by age	M
2.13 Economic inactivity by age	M
2.14 Economic inactivity: reasons	M
2.15 Educational status, economic activity and inactivity of young people	M
2.16 Average weekly earnings - total pay	M
2.16A Average weekly earnings - bonus pay	M
2.17 Average weekly earnings - regular pay	M
2.18 Productivity and unit wage costs	M
2.19 Regional labour market summary	M
2.20 International comparisons	M
2.21 Labour disputes	M
2.22 Vacancies by size of enterprise	M
2.23 Vacancies by industry	M
2.24 Redundancies: levels and rates	M
2.25 Redundancies: by industry	Q
2.27 Employment levels by country of birth and nationality	M
2.28 Working age employment rates by country of birth and nationality	Q
2.29 Lone parent claimants of Jobseekers Allowance by age of youngest child	M
2.30 Key out of work benefits	M
2.31 Production industry employee jobs	M
2.32 Public sector employment by industry	Q

3. Prices

Weblink: www.statistics.gov.uk/elmr/downloads/elmr3.pdf

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

4. Selected output and demand indicators

Weblink: www.statistics.gov.uk/elmr/downloads/elmr4.pdf

4.01 Output of the production industries	M
4.02 Construction output	M
4.03 Construction new orders	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 Retail sales and credit business	M

5. Selected financial statistics

Weblink: www.statistics.gov.uk/elmr/downloads/elmr5.pdf

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 MFI lending to UK residents	M
5.08 Interest rates and yields	M
5.09 A selection of asset prices	M

6. Further labour market statistics

Weblink: www.statistics.gov.uk/elmr/downloads/elmr6.pdf

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 Workforce jobs by industry	M
6.05 Employee jobs by industry	Q
6.06 Workforce 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 (discontinued Q4 2007)	Q
6.12 Average Earnings Index by industry: excluding and including bonuses	M
6.13 Average Earnings Index: effect of bonus payments by industry	M
6.14 Median earnings and hours by main industrial sector	A
6.15 Median earnings and hours by industry section	A
6.16 Index of wages per head: international comparisons	M
6.17 Regional Jobseeker's Allowance claimant count rates	M
6.18 Claimant count area statistics: counties, unitary and local authorities	M
6.19 Claimant count area statistics: UK parliamentary constituencies	M
6.20 Claimant count area statistics: constituencies of the Scottish Parliament	M
6.21 Jobseeker's Allowance claimant count flows	M
6.22 Number of previous Jobseeker's Allowance claims	Q
6.23 Interval between Jobseeker's Allowance claims	Q
6.24 Average duration of Jobseeker's Allowance claims by age	Q

6.25 Vacancies and unemployment	M
6.26 Redundancies: re-employment rates	Q
6.27 Redundancies by Government Office Region	Q
6.28 Redundancy rates by industry	Q
6.29 Labour disputes: summary	M
6.30 Labour disputes: stoppages in progress	M

Notes
A Annual
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.nomis.web
- Labour Force Survey tables are available from www.statistics.gov.uk/statbase/Product.asp?vlnk=11771
- Annual Survey of Hours and Earnings data are available from www.statistics.gov.uk/StatBase/Product.asp?vlnk=13101

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- The UK's international investment position
- Regional gross value added
- Labour disputes in 2009
- The recording of financial intermediation services within sector accounts
- Healthcare productivity
- Methods explained: Real time data

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- Characteristics of the underemployed and overemployed in the UK
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- Services Producer Price Indices – First quarter 2010

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- A proposed methodology for nowcasting the demand and supply estimates of tourism activities
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- Volume of capital services: annual estimates for 1950 to 2008 and new quarterly series

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List is provisional and subject to change

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- Financial statistics for policy – an update
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