ARTICLE

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Regional economic indicators

with a focus on differences in sub-regional economic performances

SUMMARY

This quarter, the regional economic indicators article focuses on explaining the differences in sub-regional Gross Value Added (GVA) per head between 2002 and 2007. This time series analysis splits the differences into five explanatory factors: productivity (defined as GVA per hour worked), hours worked per job, employment rate, commuting rate and activity rate. The regular part of the article then gives an overview of the economic activity of UK regions in terms of their GVA, GVA per head and labour productivity. This is followed by a presentation of headline indicators of regional welfare, other drivers of regional productivity and regional labour market statistics. The indicators cover the nine Government Office Regions of England and the devolved administrations of Northern Ireland, Scotland and Wales. These 12 areas comprise level 1 of the European Nomenclature of Units for Territorial Statistics (NUTS level 1) for the UK. The term 'region' is used to describe this level of geography for convenience in the rest of this article.

Focus on differences in sub-regional economic performance

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

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

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

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

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

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

- GVA per hour worked
- hours worked per job

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Figure 1

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

Percentage difference from UK average

Source: Office for National Statistics

Figure 1 continued

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

Percentage difference from UK average

Source: Office for National Statistics

Figure 2

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

Percentage difference from UK average

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

Source: Office for National Statistics

Figure 3

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

Percentage difference from UK average

(a) West Yorkshire

(b) Derbyshire and Nottinghamshire

(c) West Midlands

Source: Office for National Statistics

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

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

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

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

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

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

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

Regional overview

Key figures on a regional basis indicate that:

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

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

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

Headline indicators

In order to gain an overview of the economic performance of UK regions, this article discusses a selection of economic indicators. Currently, the most widely used indicator of regional economic performance is Gross Value Added (GVA) per head. Policymakers frequently use GVA per head as a headline indicator of regional productivity and of regional incomes when comparing and benchmarking regions that differ in geographical size, economic output and population. However, as Dunnell (2009) has explained, productivity and income are very different concepts.

GVA per head is calculated as the simple ratio of the economic activity in a region divided by the number of people living in a region, while productivity is defined as the ratio of GVA divided by the labour input (jobs or hours worked) used to create it. GVA per head does not take account of:

- people commuting in and out of regions to work
- regional differences in the percentages of residents who are not directly contributing to GVA, such as young people or pensioners, and
- different labour market structures across regions, such as full- and part-time working arrangements

Therefore, GVA per hour worked or GVA per filled job are more appropriate productivity indicators. It needs to be noted that these indicators also depend on pricing thus productivity can fall/rise with decreasing/increasing prices. As regional price deflators do not yet exist, GVA estimates used in productivity figures

are in nominal, not real terms, therefore it is not possible to isolate volume changes from price changes.

Similarly, Gross Disposable Household Income (GDHI) per head is a better measure of regional incomes than GVA per head. For example, due to commuting, residents might derive their incomes from economic activity in another region, which is not captured by GVA per head of their region. They may also have sources of income which are unrelated to current work, such as pensions and investment incomes. GDHI, therefore, is one of the determinants of the welfare of the people in the region.

Regional performance

GVA is a good measure of the economic output of a region. In December 2009, ONS published GVA estimates for 2008 and revised estimates for previous years. **Table 1** shows the regional economic performance in terms of workplace-based GVA and GVA per head and their respective average annual growth over the period 1998 to 2008. Although GVA per head is not a good indicator of regional productivity or income, it does take account of variations in geographical size among UK regions and therefore allows better comparisons than using GVA in total.

The estimates show that London had the highest GVA (£266.8 billion) and GVA per head (£35,000) in 2008, followed by the South East (£182.1 billion and £21,700, respectively). London's GVA per head was 71 per cent above the average for the UK, while that of South East was 6 per cent above the average. The North West generated the third highest GVA (£119 billion), but was eighth in terms of its GVA per head (£17,300). Northern Ireland had

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

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

Labour productivity

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

GVA per hour worked and GVA per filled job take account of commuting effects and different age profiles, and the former also accounts for variations in labour market structures, such as full- and part-time working arrangements and job share availability.

In February 2010, productivity estimates for 2008 and revised estimates for previous years are being published. These estimates make use of the GVA figures presented in Table 4, and updated 'filled jobs' and 'hours worked' estimates.

It should be noted that the productivity figures presented here use unsmoothed GVA as their output measure as opposed to headline GVA, which is calculated as a five-year moving average. The unsmoothed measure is used to ensure consistency with the labour input data (Dey-Chowdhury et al 2008), but raises some concerns about increased volatility of productivity estimates compared to those based on headline GVA. The question of whether to smooth productivity figures after dividing unsmoothed GVA by labour data, and presenting these as headline estimates, is one which will be addressed by ONS in the coming months.

Figure 4 shows that in 2008 GVA per filled job and GVA per hour worked exhibited smaller differences from the UK average than the catch-all indicator GVA per head. This is mainly due to commuting patterns. London, for example, has a very high GVA per head, mainly due to incoming workers generating a high GVA, which is then divided by a much lower resident population. Productivity indicators, on the other hand, divide regional GVA by the jobs or hours worked used to create it.

Figure 5 shows the regional GVA per hour worked productivity index on a time series basis from 2000 to 2008. In 2008, London, the South East and the East of England were the only three regions with a productivity performance above the UK average. The East of England saw the strongest improvement in its relative performance from below the UK average in 2000 to above average in 2008. London continued to improve its relative performance, therefore diverging further from the UK average. Relative productivity in the South East weakened

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

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

Notes:

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

Source: Regional Accounts, Office for National Statistics

Figure 4

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

Notes:

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

Source: Office for National Statistics

Figure 5

GVA per hour worked: by NUTS1 region

Indices (UK¹=100)

Notes:

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

Source: Office for National Statistics

slightly in 2008, but it remained above the UK average over the period. Northern Ireland and Wales had the lowest relative productivity compared to the UK average in 2008. Relative productivity in most regions diverged from the UK average between 2000 and 2008. The strongest divergence below the UK average productivity over this period was experienced in the North West, Wales and Northern Ireland. This indicates that these regions' productivity grew by less than the UK average, therefore widening the productivity gap between regions.

Income of residents

The previous section discussed the economic activity and productivity in the

regions. This section discusses regional incomes, which give an indication of the welfare of residents living in the region.

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

In order to make reliable comparisons of regional income levels, the analysis needs to take account of relative sizes of regions. Therefore, GDHI per head, which is a residence-based measure, is used as an

indicator of the welfare of people living in the region.

The May 2009 edition of this article discussed the latest data on GDHI in detail, therefore this section presents a brief overview of those analyses.

Figure 6 presents indices of GDHI per head for 2001, 2003, 2005 and 2007, showing movements in regional household income relative to the UK average over time. It is evident that the GDHI per head is above the UK average only in the regions of the 'Greater South East'. Of these regions, London has consistently had the highest GDHI per head since 2001 and is diverging from the national average. The South East and East of England, on the other hand, are getting closer to the

Figure 6

Headline gross disposable household income per head: by NUTS1 region

Indices (UK¹=100)

Notes:

- 1 UK less Extra-regio.
2 Provisional.

Source: Office for National Statistics

Figure 7

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

Note:

- 1 Residents of the respective region.

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

national average as they experienced the lowest growth in household income compared to other regions between 2001 and 2007. Similarly, improvements against the national average are evident in most regions with lower household income, particularly the North East and the devolved administrations. This indicates greater parity across regions in terms of household income.

Gross median weekly earnings represent another indicator of regional welfare.

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

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

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

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

Drivers of productivity

HM Treasury and Department for Business, Innovation and Skills (BIS) formerly known as Department for Business Enterprise and Regulatory Reform (BERR) have identified five key drivers of productivity – investment, innovation, enterprise, competition and skills – that can help explain differences in productivity across regions.

Alongside these five key drivers, other factors, such as connectivity, industrial structure and region-specific assets can have a strong influence on regional productivity performance.

This article uses expenditure on Research and Development (R&D) by businesses as a measure of innovation; the numbers of business births and deaths

and survival rates as an indicator for enterprise; UK regional trade in goods serves as a measure of competition; and the qualifications of the current working-age population and those of young people, who represent the future workforce, to provide an indicator for the skills driver.

Innovation

Innovation is a necessary, although not sufficient, condition for economic success and is therefore recognised as an important driver of productivity. Innovation comprises, among others, the development of new technologies that increase efficiency and the introduction of new, more valuable goods and services. It also includes intangibles such as new methods of working and improvements to services.

R&D represents one of the determinants to the innovation process and is defined by the Organisation for Economic Co-operation and Development (OECD) in its Frascati Manual, which proposes a standard practice for surveys on R&D, as 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to create new applications'. The OECD definition of R&D covers the following:

- basic research: experimental and theoretical work to obtain new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view

- applied research: work undertaken to acquire new knowledge, which is directed primarily towards a specific practical aim, and
- experimental development: systematic work, drawing on existing knowledge, which is directed at producing new materials, products or devices, installing new processes, systems and services, or at improving substantially those already produced or installed

The OECD definition excludes education, training and any other related scientific, technological, industrial, administrative or supporting activities. However, innovation depends on a wider set of inputs than R&D, including skills training, design, software and organisational investment by firms. HM Treasury Economics Working Paper No. 1 quantifies these broader knowledge economy inputs at UK level; more work is needed before these factors can be measured effectively at regional level.

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

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

London had the lowest R&D expenditure as a share of its regional GVA in 2008 (0.4 per cent). Yorkshire and the Humber, Wales and Scotland had the second lowest shares in the UK in 2008, at 0.5 per cent each. London's very low share of expenditure on R&D does not necessarily suggest low levels of innovation but may be due to it having a large concentration of service industries, which may be less R&D intensive (within the OECD definition) if, for example, they rely heavily on human capital. It may also reflect the choice businesses make over locating their R&D activities.

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

Enterprise

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

Figure 8

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

Percentages

Notes:

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

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

Figure 9

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

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

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

Figure 10

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

Note: Source: Business Demography, Office for National Statistics

1 Provisional.

of new business opportunities by both start-ups and existing firms. New enterprises can bring innovative processes and technologies to the market, forcing existing ones to improve their productivity in order to remain competitive. A relatively large proportion of enterprises joining and leaving the stock can be seen as desirable, as new enterprises entering the market are considered to bring innovative processes and technologies that drive up productivity and force unproductive enterprises to leave the market.

The February 2009 edition of this article focused on business demography in UK regions, using the newly published ONS series of enterprise births and deaths, which includes enterprises registered for VAT and also those registered for pay-as-you-earn (PAYE). It needs to be noted that enterprise statistics relate to the place of registration of the enterprise, even though the enterprise may consist of more than one local unit, possibly in different regions.

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

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

As well as analysing births and deaths of enterprises, it is useful to look at how long these enterprises survive. The Business Demography series contains data showing the number of years survived by enterprises born in the years 2003 to 2005.

Figure 11 shows the proportion of

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

Patterns were similar across regions. In most regions enterprises born in 2004 had the highest three year survival rates compared to 2003 and 2005. Northern Ireland had the highest three year survival rates which were above the UK average for the enterprises born in all three years while London stands out as the region with the lowest rates. Figure 11 has shown that London had the highest percentage of births and deaths of enterprises and that survival rates were relatively low. They could be an indication of London's ability to exploit short-term business opportunities. At the same time, it may suggest that many of the new enterprises born will not provide long-term growth and employment.

Competition

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

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

Table 2 presents the latest quarterly estimates up to September quarter 2009. The total value of UK goods exports to all destinations decreased by approximately 9.0 per cent between September 2008 and September 2009. The total value of goods exports also decreased in all the regions except in Scotland, but there were significant differences among regions. West Midlands had the largest percentage decline in the value of goods exports

Figure 11

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

Source: Business Demography, Office for National Statistics

Table 2

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

£ million

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
Exports													
EU Exports													
2007 Q4	32,952	1,557	2,854	1,725	2,058	2,314	3,196	2,152	4,891	1,725	1,331	1,527	855
2008 Q1 ²	34,980	1,634	3,182	1,744	2,196	2,405	3,314	2,304	4,937	1,817	1,485	1,493	880
2008 Q2 ²	37,251	1,629	3,365	1,885	2,119	2,506	3,595	2,438	5,354	1,937	1,631	1,492	971
2008 Q3 ²	35,742	1,619	3,283	1,913	2,013	2,137	3,222	2,850	5,096	1,707	1,647	1,536	874
Total to September 2008	140,925	6,439	12,684	7,268	8,386	9,362	13,327	9,744	20,278	7,185	6,093	6,048	3,579
2008 Q4	32,677	1,442	2,859	1,826	1,904	1,993	2,895	2,377	5,156	1,562	1,329	1,519	840
2009 Q1 ²	31,098	1,334	3,093	1,615	1,851	1,791	2,822	2,435	4,908	1,666	1,188	1,328	787
2009 Q2 ²	29,295	1,310	2,959	1,462	1,782	1,697	2,894	2,391	4,364	1,566	1,178	1,224	759
2009 Q3 ²	29,837	1,353	2,891	1,479	1,673	1,622	2,920	2,704	4,524	1,416	1,158	1,314	711
Total to September 2009	122,907	5,439	11,802	6,382	7,211	7,104	11,531	9,907	18,953	6,209	4,853	5,385	3,097
Non-EU exports													
2007 Q4	25,138	1,261	2,462	1,762	1,784	1,801	2,001	3,595	4,125	1,155	912	1,894	578
2008 Q1 ²	23,867	1,164	2,452	1,641	1,743	1,767	2,167	3,195	3,892	1,053	869	1,833	555
2008 Q2 ²	27,803	1,335	2,862	1,712	1,941	1,989	2,509	3,660	4,993	1,178	1,074	2,066	639
2008 Q3 ²	28,265	1,357	2,936	1,707	1,914	2,142	2,267	3,577	5,173	1,373	1,312	2,103	623
Total to September 2008	105,073	5,118	10,712	6,822	7,381	7,699	8,943	14,026	18,183	4,758	4,167	7,896	2,394
2008 Q4	28,181	1,112	2,807	1,522	2,089	1,900	2,252	3,749	5,430	1,306	1,298	2,224	806
2009 Q1 ²	22,910	977	2,766	1,260	1,958	1,209	1,893	2,711	4,090	1,149	1,074	1,978	510
2009 Q2 ²	24,811	881	2,540	1,263	1,995	1,504	2,001	2,933	4,722	1,164	1,241	2,336	606
2009 Q3 ²	24,993	1,014	3,383	1,365	1,751	1,588	1,955	2,883	4,654	1,078	932	2,502	454
Total to September 2009	100,894	3,984	11,495	5,410	7,792	6,201	8,101	12,276	18,896	4,698	4,545	9,040	2,376
Total Exports													
2007 Q4	58,090	2,819	5,316	3,488	3,842	4,114	5,197	5,747	9,015	2,879	2,242	3,421	1,433
2008 Q1 ²	58,847	2,798	5,634	3,385	3,939	4,171	5,480	5,499	8,829	2,869	2,354	3,327	1,435
2008 Q2 ²	65,054	2,964	6,227	3,596	4,060	4,495	6,104	6,098	10,347	3,114	2,705	3,558	1,609
2008 Q3 ²	64,008	2,976	6,219	3,620	3,927	4,279	5,490	6,426	10,269	3,080	2,959	3,639	1,498
Total to September 2008	245,998	11,557	23,396	14,090	15,768	17,060	22,271	23,770	38,460	11,944	10,261	13,944	5,974
2008 Q4	60,858	2,555	5,666	3,349	3,993	3,893	5,147	6,126	10,586	2,868	2,627	3,742	1,645
2009 Q1 ²	54,007	2,311	5,859	2,874	3,809	3,001	4,715	5,146	8,998	2,815	2,262	3,305	1,298
2009 Q2 ²	54,106	2,191	5,498	2,725	3,777	3,201	4,895	5,324	9,086	2,730	2,419	3,561	1,364
2009 Q3 ²	54,829	2,366	6,274	2,844	3,423	3,210	4,875	5,588	9,178	2,494	2,091	3,815	1,166
Total to September 2009	223,801	9,423	23,297	11,792	15,003	13,305	19,632	22,183	37,849	10,907	9,398	14,424	5,473

Notes:

Source: UK Regional Trade in Goods Statistics, HM Revenue & Customs

1 Components may not sum to totals as Regional Trade Statistics includes estimates made for EU trade below the Intrastat threshold which are included in the 'unknown' region and not displayed in this table.

2 Provisional.

(down by 22 per cent), followed by North East (down by 18 per cent) and Yorkshire and the Humber (down by 16 per cent). The smallest decline occurred in the North West (down by 0.4 per cent).

As the European Union (EU) is the main export destination for UK goods, the table separates exports to EU and non-EU destinations. In the UK as a whole, the value of exports to the EU dropped by 13 per cent between September 2008 and September 2009. With the exception of London (up by 2 per cent), all the regions recorded decreases in the value of goods exports to the EU. West Midlands reported the highest drop, by 24 per cent.

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

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

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

of the regional economy was greatest in the North East and lowest in London. It needs to be noted that these figures show exports of goods as a percentage of headline GVA which also includes services and therefore is likely to underestimate the export performance of some regions with a large share of services industries such as London.

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

Skills

The skills of workers influence productivity as they define the capabilities that the labour force can contribute to the production process. The concept of skills includes attributes of the workforce, such as 'softer' or interpersonal skills, which are difficult to measure or to compare in different situations or over time. Therefore, qualifications are often used as proxy indicators. By examining the qualifications, such as degree or equivalent, of the current workforce as well as those of young people, who represent the future capabilities of the labour market, a view of how skills are changing over time and their potential impact on productivity can be analysed. However, as characteristics

of local economies dictate which labour skills are required, comparability between regions might be difficult. An alternative approach is to compare the percentage of the working-age population that has no recognised qualifications.

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

Above average proportions of working-age people without a qualification do not necessarily mean that regions have the most unqualified workforce. Due to differing regional skill requirements, people with recognised qualifications might migrate into other regions, where demand for their qualifications is high, while those without any recognised qualifications might migrate out of these other regions. Also, if employers have a strong demand for lower skills and a good supply of appropriate workers, a low skill equilibrium is created in a region.

Regional Skills Partnerships (RSPs) are groups brought together by Regional Development Agencies in each region of England in response to the National Skills Strategy. RSPs aim to strengthen regional structures to make skills provision more relevant to the needs of employers and individuals, covering private, public and voluntary sectors of the economy. They

Figure 12

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

Percentages

Notes:

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

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

Figure 13

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

Source: Labour Force Survey, Office for National Statistics

- 1 For summary of qualifications and equivalents see www.statistics.gov.uk/statbase/Product.asp?vlnk=836.

Figure 14

Pupils achieving five or more grades A* to C at GCSE level or equivalent in (i) all subjects and (ii) subjects including English and Mathematics: by NUTS1 region, 2008/09¹ **Notes:**

Source: Department for Children, Schools and Families

- 1 Revised data, includes attempts and achievements by these pupils in previous academic years.
 2 The England average includes all schools, not only local authority maintained schools.

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

Table 3 presents the RSP core indicators, which help to monitor the health of regional and local labour markets and progress towards national skills targets such as those documented in the Leitch Report. These core indicators will be supported by local, more specific, indicators identified by individual RSPs. The choice of '19 to state pension age' for some of the indicators in Table 3 has been influenced by: the increased emphasis on education and training after the age of 16; the plan to raise the standard school leaving age to 18; and alignment with indicators specified in the Local Area Agreements.

In order to assess the future capabilities of the labour force, the percentage of pupils achieving five or more grades A* to C at GCSE level or equivalent in each

English region can be used as an indicator². Recent focus on literacy and numeracy has led to a new measure being published, of five or more GCSEs grade A* to C in subjects including English and Mathematics. **Figure 14** shows the percentage of pupils achieving at least five grades A* to C at GCSE level or equivalent in any subjects, and in subjects including English and Mathematics. In 2008/2009, the England average for pupils in all schools achieving five or more grades A* to C in any subjects was 70.0 per cent, while it was down to 50.9 per cent if the subjects included English and Mathematics. These were increases of 4.7 and 3.3 percentage points from 2007/08, respectively. Across all English regions, the percentage of pupils achieving at least five grades A* to C in subjects including English and Mathematics was substantially lower compared with achieving the same

in any subjects. Also, regional differences were more pronounced when subjects included English and Mathematics.

In the North East the percentage of pupils achieving five or more grades A* to C in any subjects was 2.8 percentage points above the England average, but the percentage dropped 2.8 points below the average when the subjects included English and Mathematics. The opposite held for the South West and the East of England, where the proportion of pupils achieving at least five grades A* to C increased above the England average if the subjects included English and Mathematics while it dropped below national average for achieving five or more grades A* to C in any subject. London and South East were the only two regions which performed above the national average on both measures.

Investment

Investment in physical capital, such as machinery, equipment and buildings, enables workers to produce more and higher quality output. Therefore, investment can have a significant positive impact on productivity. Due to quality concerns regarding the regional allocations of investment, which is recorded at the level of the enterprise and not at the local level, this article does not currently include data on investment.

Nevertheless, as Dunnell (2009) has pointed out, inflows of foreign direct investment (FDI) projects and estimated numbers of associated jobs by region can serve as a narrow indicator of investment. However, FDI does not cover all investment in a region and there is no requirement to notify UK Trade & Investment when undertaking FDI.

The labour market

Table 4 shows the seasonally adjusted employment rate, the number of people of working age in employment, expressed as a proportion of the population, from the Labour Force Survey (LFS).

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

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

Table 3

Regional Skills Partnerships core indicators: by NUTS1 region

											Percentages
	Time period	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England
Skills outcome indicators											
Percentage of employers with business or training plan, or budget for training	2007	70.6	69.2	69.6	67.9	67.5	67.3	70.0	70.6	68.4	69.1
Percentage of staff with skill gaps	2007	6.3	5.3	4.8	6.8	5.4	7.8	6.7	5.8	6.2	6.1
Skill shortage vacancies (SSVI) as percentage of all vacancies	2007	18.8	17.6	20.1	20.2	15.5	19.6	26.1	22.5	20.9	20.9
Percentage of KS4 pupils achieving 5+ A* to C GCSE (inc Maths and English)	2007/08	44.9	47.4	44.4	47.0	46.1	50.3	50.6	51.7	49.2	47.6
Percentage of 19 year olds qualified to Level 2 or above1	2008	75.9	74.3	73.2	73.1	74.9	77.0	77.0	79.6	77.0	76.7
Percentage of 19 year olds qualified to Level 3 or above1	2008	43.7	46.1	44.4	46.0	46.9	52.4	51.9	56.9	51.0	49.8
Percentage of 19 to state pension age with Level 2+	2008	69.3	68.1	67.6	67.0	65.8	67.6	71.0	73.1	72.2	69.4
Percentage of 19 to state pension age with Level 3+	2008	46.9	47.1	47.1	46.3	45.2	46.5	55.0	53.7	51.7	49.5
Percentage of 19 to state pension age with Level 4+	2008	25.4	27.4	26.6	27.0	26.2	27.8	40.6	33.6	30.2	30.5
Percentage of 19 to state pension age with no qualifications	2008	13.2	14.4	12.9	12.8	15.6	11.5	11.6	8.5	8.4	11.9
Percentage of working-age population who undertook job-related training in last 13 weeks	2008	20.9	18.9	19.4	20.2	19.4	18.7	18.2	22.2	23.1	20.0
Percentage of 17 year olds in education or work-based learning	end-2007	78.0	77.0	74.0	74.0	78.0	77.0	86.0	77.0	77.0	78.0

Note:

1 Provisional data from DCSF matched datasets.

Source: Office for National Statistics; Labour Force Survey; Department of Business Enterprise and Regulatory Reform; Department for Children, Schools and Families; Department for Innovation Universities and Skills; National Employers Skills Survey 2007.

Table 4

Employment¹ rates for persons of working age: by NUTS1 region

Per cent, seasonally adjusted														
		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2006	Jul-Sep	74.6	71.0	73.6	73.5	77.0	73.9	77.2	69.8	78.8	77.9	74.8	72.0	69.3
	Oct-Dec	74.5	70.9	72.8	73.7	76.5	73.0	77.0	70.0	78.7	78.2	74.6	71.8	69.9
2007	Jan-Mar	74.3	71.0	72.5	72.8	75.9	72.5	77.3	70.1	78.2	78.0	74.4	71.7	70.6
	Apr-Jun	74.5	71.4	72.6	73.3	76.0	72.7	77.4	69.7	78.5	78.1	74.5	72.1	70.6
	Jul-Sep	74.6	72.0	72.5	73.3	75.7	73.0	77.3	70.7	78.8	78.7	74.7	71.5	69.9
	Oct-Dec	74.8	71.5	72.9	73.8	75.7	73.2	78.2	70.3	79.0	79.3	74.9	71.6	69.7
2008	Jan-Mar	74.8	70.2	72.4	74.0	76.4	73.3	77.7	71.0	79.4	78.9	75.0	72.0	69.9
	Apr-Jun	74.8	70.5	72.1	73.3	75.8	72.5	77.7	71.8	79.4	78.8	74.9	72.4	70.3
	Jul-Sep	74.4	70.2	71.7	73.2	76.2	71.8	77.5	71.1	79.0	78.8	74.6	70.6	69.8
	Oct-Dec	74.0	69.9	71.0	72.1	76.2	71.6	77.7	71.5	78.6	78.0	74.3	70.5	68.6
2009	Jan-Mar	73.5	69.5	71.4	71.6	75.5	70.3	77.7	70.3	78.1	77.8	73.8	70.3	66.8
	Apr-Jun	72.7	67.3	71	71.1	75.2	70.2	77	69	77.3	76.6	73	69.6	65.7
	Jul-Sep	72.5	68.0	70.8	71.2	74.9	70.0	77.2	69.0	77.0	75.7	72.8	69.2	66.1

Note:

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

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

Table 5 shows the unemployment rate (according to the internationally-consistent International Labour Organisation definition) for persons aged 16 and over from the LFS. The UK rate in the third quarter of 2009 was 7.8 per cent, up 1.9 percentage points from a year ago and unchanged from the last quarter. Regionally, the rates ranged from 10.0 per cent in the West Midlands to 6.0 per cent in the South East.

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

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

Northern Ireland.

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

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

Table 5

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

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2006	Jul-Sep	5.5	6.7	5.5	6.0	5.3	6.1	4.8	7.8	4.5	3.8	5.6	5.4	5.0	4.7
	Oct-Dec	5.5	6.7	5.4	6.0	5.7	6.7	4.5	7.7	4.3	3.9	5.6	5.3	5.2	4.2
2007	Jan-Mar	5.5	6.8	5.8	6.3	5.5	6.5	4.8	7.1	4.7	4.0	5.6	5.6	4.9	4.1
	Apr-Jun	5.4	6.3	5.8	5.5	5.0	6.7	4.6	7.4	4.3	4.0	5.5	5.5	4.7	3.8
	Jul-Sep	5.3	6.0	6.0	5.3	5.7	6.5	5.2	6.1	4.5	4.0	5.4	5.2	4.9	3.9
	Oct-Dec	5.2	5.8	5.8	5.4	5.3	5.8	4.4	6.6	4.5	3.7	5.3	5.1	4.9	4.2
2008	Jan-Mar	5.2	6.6	6.0	5.1	5.3	6.1	4.5	6.9	3.9	3.7	5.3	5.3	4.7	4.4
	Apr-Jun	5.4	7.5	6.4	6.0	5.6	6.2	4.6	6.7	4.1	3.8	5.5	5.2	4.2	4.1
	Jul-Sep	5.9	8.0	6.8	6.8	5.9	6.6	4.9	7.3	4.5	4.2	6.0	6.5	4.7	4.2
	Oct-Dec	6.4	8.5	7.8	6.8	6.3	7.9	5.5	7.3	5.0	4.8	6.5	7.0	5.3	5.2
2009	Jan-Mar	7.1	8.4	7.9	8.0	7.1	9.2	6.0	8.2	5.4	5.8	7.2	7.7	6.0	6.1
	Apr-Jun	7.8	9.8	8.5	8.8	7.3	10.5	6.5	8.8	5.9	6.4	7.9	7.7	7	6.8
	Jul-Sep	7.8	9.5	8.6	8.7	7.5	10.0	6.5	9.0	6.0	6.6	7.9	8.7	7.2	7.2

Source: Labour Force Survey

Table 6

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

Per cent, seasonally adjusted

		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2006	Jul-Sep	21.0	23.9	22.0	21.7	18.6	21.2	18.8	24.1	17.5	18.9	20.7	23.8	20.5	27.2
	Oct-Dec	21.1	23.9	22.9	21.5	18.7	21.6	19.1	24.0	17.7	18.5	20.8	24.0	19.6	27.0
2007	Jan-Mar	21.2	23.7	22.9	22.2	19.6	22.3	18.6	24.4	17.9	18.6	21.1	23.9	19.4	26.3
	Apr-Jun	21.2	23.8	22.7	22.3	20.0	21.8	18.8	24.6	17.8	18.5	21.1	23.5	19.1	26.6
	Jul-Sep	21.1	23.3	22.8	22.4	19.6	21.7	18.4	24.6	17.3	17.9	20.8	24.5	19.4	27.2
	Oct-Dec	21.0	24.0	22.4	21.9	19.9	22.1	18.2	24.5	17.2	17.6	20.8	24.5	19.4	27.1
2008	Jan-Mar	20.9	24.8	22.9	22.0	19.2	21.7	18.5	23.6	17.2	18.0	20.7	23.8	19.6	26.8
	Apr-Jun	20.8	23.7	22.8	21.8	19.5	22.5	18.4	22.9	17.0	18.0	20.6	23.5	20.0	26.5
	Jul-Sep	20.8	23.5	22.9	21.2	18.9	22.9	18.4	23.1	17.1	17.6	20.5	24.3	19.9	27.1
	Oct-Dec	20.8	23.4	22.7	22.5	18.6	22.0	17.7	22.8	17.2	17.9	20.4	23.9	20.3	27.6
2009	Jan-Mar	20.7	23.9	22.2	21.9	18.5	22.3	17.3	23.3	17.3	17.3	20.3	23.6	20.2	28.7
	Apr-Jun	21	25.2	22.2	21.7	18.7	21.2	17.5	24.1	17.7	18	20.6	24.4	20.3	29.4
	Jul-Sep	21.1	24.5	22.3	21.8	18.9	21.8	17.3	24.0	17.9	18.7	20.7	23.9	20.2	28.7

Source: Labour Force Survey

Table 7

Employee jobs¹: by NUTS1 region

Thousands, not seasonally adjusted

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

Note:

Source: Employer surveys

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

Table 8
Claimant count rates:¹ by NUTS1 region

		Per cent, seasonally adjusted												
		United Kingdom	North East	North West	Yorkshire and the Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2004		2.7	4.0	2.8	2.8	2.5	3.3	2.0	3.5	1.6	1.6	2.6	3.0	3.4
2005		2.7	3.9	2.9	2.9	2.5	3.4	2.1	3.4	1.6	1.6	2.6	3.0	3.2
2006		2.9	4.1	3.3	3.3	2.8	3.9	2.3	3.5	1.8	1.8	2.9	3.1	3.2
2007		2.7	4.0	3.1	3.0	2.6	3.7	2.1	3.0	1.6	1.6	2.7	2.8	2.8
2008		2.8	4.5	3.4	3.3	2.8	3.8	2.2	2.8	1.7	1.7	2.8	3.2	3.2
2008	Dec	3.6	5.7	4.3	4.4	3.7	4.9	3.0	3.3	2.4	2.5	3.6	4.3	4.2
	Jan	3.9	6.0	4.6	4.7	4.0	5.2	3.2	3.5	2.6	2.7	3.8	4.7	4.5
	Feb	4.3	6.5	5.0	5.2	4.5	5.8	3.7	3.8	3.0	3.1	4.2	5.1	4.8
	Mar	4.5	6.7	5.2	5.4	4.7	6.0	3.9	4.1	3.1	3.3	4.5	5.3	5.1
2009	Apr	4.6	6.9	5.4	5.6	4.8	6.2	4.0	4.2	3.3	3.4	4.6	5.5	5.3
	May	4.7	7.0	5.5	5.7	4.9	6.3	4.1	4.3	3.3	3.4	4.7	5.5	5.5
	Jun	4.8	7.1	5.6	5.8	5.0	6.4	4.1	4.4	3.4	3.5	4.8	5.6	5.7
	Jul	4.9	7.2	5.6	5.9	5.0	6.5	4.2	4.5	3.4	3.5	4.8	5.6	5.9
	Aug	4.9	7.2	5.7	6.0	5.1	6.6	4.2	4.6	3.5	3.5	4.9	5.7	6.1
	Sep	5.0	7.3	5.8	6.1	5.1	6.7	4.3	4.7	3.5	3.5	5.0	5.8	6.2
	Oct	5.0	7.3	5.8	6.1	5.2	6.7	4.3	4.7	3.6	3.5	5.0	5.8	6.2
	Nov	5.0	7.2	5.7	6.1	5.1	6.6	4.2	4.7	3.5	3.5	4.9	5.7	6.2
	Dec	5.0	7.2	5.6	6.0	5.1	6.5	4.2	4.6	3.5	3.4	4.9	5.6	6.3

Note:

Source: Jobcentre Plus administrative system

1 Count of claimants of Jobseeker's Allowance expressed as a percentage of the total workforce - i.e. workforce jobs plus claimants.

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

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

Table 8 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 5.0 per cent in December 2009, unchanged from November 2009, and up 1.4 percentage points on a year earlier. This national rate masks large variations between regions and component countries of the UK. For December 2009, the North East had the highest claimant count rate in the UK at 7.2 per cent. The North East was followed by the West Midlands (6.5 per cent), and Northern Ireland (6.3 per cent). The lowest claimant count was measured in the South West at 3.4 per cent followed by the South East at 3.5 per cent). The claimant count rate was 4.9 per cent in Scotland, 4.9 per cent in England and 5.6 per cent in Wales.

All regions had an increase in the claimant count rate compared with a year ago. The largest increases were in Northern Ireland (2.1 percentage points) and the West Midlands and Yorkshire and The Humber (both 1.6 percentage points).

Notes

- 1 UK Regional Trade in Goods Statistics, Quarter 3 2009, HM Revenue and Customs at www.uktradeinfo.com/index.cfm?task=td_regstats_press
- 2 For a summary of all different levels of qualifications see 'Notes and definitions' at www.statistics.gov.uk/statbase/product.asp?vlnk=836

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TECHNICAL NOTE A

Methodology for decomposing GVA per head

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

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

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

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

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

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

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

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

TECHNICAL NOTE B

Smoothing of component estimates

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

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