FEATURE

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Regional economic indicators

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with a focus on household income

SUMMARY

This quarter, the regional economic indicators (REI) article focuses on gross disposable household income per head and the decomposition of this indicator into three components. The analysis investigates the development of this indicator from 1996 to 2006. The regular part of the article then gives an overview of the economic activity of UK regions in terms of their GVA, their GVA per head and their labour productivity. This is followed by a presentation of headline indicators of regional welfare and of various drivers of regional productivity. At the end of this article labour market data are presented. 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 household income

Gross disposable household income (GDHI) per head is a useful indicator of prosperity and well-being of the people living in the regions and countries of the United Kingdom. Presenting GDHI on a per head basis allows the making of reliable comparisons of regional income levels as it takes into account the population distribution both within and between regions.

This 'focus' section looks at explanations for the differences in GDHI per head estimates between UK NUTS1 regions from 1996 to 2006 (Figure 1). London, the South East and the East of England were the only regions with a GDHI per head above the UK average since 1996. The regions with the lowest GDHI per head were Northern Ireland, the North East and

Wales. It can be seen that until 2000 GDHI per head has been diverging from the UK average in most regions. However, after 2000 all regions except London have either converged to the UK average or remained at the same level relative to the UK average.

GDHI is derived from the balances of primary and secondary income and can therefore be decomposed into several components. These different components can help explain the GDHI per head divergences from the UK average across regions. For a detailed discussion of the definition and methodology of GDHI, see the article on regional gross disposable household income in this edition of *Economic & Labour Market Review*.

The analysis in this 'focus' section decomposes GDHI per head into three components:

Notes:

1 UK less Extra-regio.
2 Provisional.

Source: Office for National Statistics

Figure 2
Headline gross disposable household income per head:
by NUTS1 region, 2006¹

Percentage difference from the UK² average

Notes:

1 Provisional.

2 UK less Extra-regio.

Source: Office for National Statistics

Figure 3
Headline gross disposable household income per head and its
components: by NUTS1 region, 2006¹

Percentage difference from the UK² average

Notes:

1 Provisional.

2 UK less Extra-regio.

Source: Office for National Statistics

- The balance of primary income per head
- The balance of social benefits/contributions per head (secondary income)
- The balance of remaining secondary income per head

The balance of primary income per head consists of wages and salaries; rental income; income from self-employment; and property income receipts less property income paid on a per head basis (referred to as primary income in the rest of the article). The balance of secondary income per head consists of social benefits less social contributions; and other current transfers less taxes on income and wealth on a per head basis. This article splits the balance of secondary income into two components – the balance of social benefits/contributions per head and the balance of remaining secondary income per head (in the rest of the article these two components

are referred to as 'net social benefits' and 'remaining secondary income', respectively). To compare GDHI and its components with each other and across regions, each component is expressed as per head of population.

Figure 2 shows the distribution of GDHI per head across all UK NUTS1 regions in terms of each region's percentage difference from the UK average in 2006. By decomposing this GDHI per head measure into its three components, the differences in household income per head across regions can be explained.

Figure 3 shows GDHI per head (left bar) and additionally the decomposition into the three components that add up to form GDHI per head – primary income, net social benefits, and remaining secondary income (right bar).

Primary income per head makes up the largest component of GDHI per head. 70 to 80 per cent of primary income in each region is accounted for by wages and

salaries. In 2006 London, the South East and the East of England had the highest primary income per head far above the UK average. All other regions had primary incomes per head below the UK average. The North East, Wales and Northern Ireland had the lowest primary incomes per head.

The divide between primary incomes per head across the UK NUTS1 regions in 2006 was significantly larger than the divide in terms of GDHI per head, which includes the distribution of secondary incomes.

In terms of secondary incomes per head, all regions except the three regions of the 'Greater South East', London, the South East and the East of England, received net social benefits above the UK average. In the three south eastern regions, net social benefits were below the UK average in 2006, with London being furthest below average. London was the only region in 2006 where residents paid more in social contributions than they received in social benefits on average.

The remaining secondary income per head, which is current transfers (other than social benefits) less taxes on income and wealth, was below average in London, the South East and the East of England in 2006. All other regions benefited from above average remaining secondary income.

Figure 3 shows that secondary income helps to equalise household income across regions, but also that the divergences caused by the large differences in primary income, in particular between the three south eastern regions (London, the South East and the East of England) and the rest of the UK, remain despite the distribution of secondary income.

Figure 4 shows GDHI per head and its components in 1996 and serves as a comparison to **Figure 3**. In 1996 London, the South East and the East of England were already the top three GDHI per head performers. However, their divergences in primary incomes per head from the UK average, especially in London, were much lower than in 2006. All other regions were below the UK average in terms of primary incomes per head; however, the differences were much smaller. In terms of net social benefits, the percentage differences to the UK average were smaller in each region and the East Midlands and the West Midlands even had below average net social benefits, unlike in 2006. The distribution of remaining secondary income contributed slightly less to GDHI per head in 1996 than it did in 2006 in most of the regions.

Figure 4

Headline gross disposable household income per head and its components: by NUTS1 region, 1996 **Note:**

1 UK less Extra-regio.

Source: Office for National Statistics

Regional overview

Key figures on a regional basis indicate that:

- in 2006, London was the region with the highest GVA per hour worked, 22.9 percentage points above the UK average. Northern Ireland had the lowest GVA per hour worked, 16.1 percentage points below the UK average
- London and the South East had the highest levels of gross disposable household income (GDHI) per head in 2006 at £16,939 and £15,367, respectively, but among the lowest average annual percentage growth at 4.0 and 3.5 per cent, respectively. The North East (£11,846), Northern Ireland (£12,041) and Wales (£12,312) had the lowest GDHI per head
- the South East had the highest employment rate in the first quarter of 2008 at 79.5 per cent; Northern Ireland had the lowest rate at 69.6 per cent, compared with the UK employment rate of 74.9 per cent

Headline indicators

This section presents a selection of regional economic indicators that provide an overview of the economic activity of UK regions. Firstly, absolute GVA and GVA per head are presented as measures of regional economic performance. Subsequently, two labour productivity indicators, GVA per filled job and GVA per hour worked are discussed.

Regional performance

The February edition of this article presented the latest data on economic performance in terms of workplace-based nominal GVA and GVA per head for all UK NUTS1 areas. These nominal figures do not take account of inflation or regional differences in prices. The data demonstrated that the regional breakdown of GVA changed little in 2006. London and the South East remained the regions with the largest share of UK GVA (at 19.2 per cent and 14.9 per cent, respectively) while Northern Ireland and the North East had the smallest (at 2.4 and 3.4 per cent, respectively).

Table 1 shows that all regions experienced annual nominal growth in GVA and GVA per head in 2006. Compared with 2005, annual nominal growth in GVA was considerably higher for every UK region except London, where the growth rate further declined. However, the 2006 growth rates were still below their 2004 levels for ten of the 12 regions. Only the East Midlands and the South East had higher growth rates in 2006 compared with 2004. In 2006, overall UK growth in nominal GVA was 5.1 per cent compared with 4.1 per cent in 2005 and 6.0 per cent in 2004. The East Midlands, the South East, Northern Ireland and Wales had the highest annual percentage growth (above 6.0 per cent) in 2006. While Northern Ireland and the North East had the smallest absolute values of GVA, their annual nominal growth in 2006 was higher than the growth of the region that had by far the largest value of GVA (London).

Due to the wide variations in geographical size among the UK regions, comparisons are generally expressed in terms of GVA per head of population, rather than absolute values. The February edition of this article demonstrated that in 2006, GVA per head for the UK was £18,631. London was the region with the highest GVA per head in 2006 at £28,813, well above the UK average (by 55 per cent). GVA per head for the South East was also above the UK average (by 10 per cent) at £20,452 per head. Wales, the North East and Northern Ireland had the lowest GVA per head at £14,462, £15,181 and £15,320, respectively. Despite these figures being less than 85 per cent of the UK average, Table 1 shows that annual nominal growth in Wales, Northern Ireland and the North East was high at 5.7, 5.1 and 4.9 per cent. The North West had one of the weakest growth rates in 2006 at 3.4 per cent. The

Table 1

Annual nominal growth of workplace-based gross value added and gross value added per head: by NUTS1 region

													Percentages
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
GVA annual percentage growth													
2004	6.0	8.2	6.5	6.6	5.1	5.2	6.7	5.9	4.6	6.4	6.7	6.1	6.4
2005 ²	4.1	4.6	2.9	2.3	3.5	3.5	3.4	5.7	4.5	4.6	2.1	4.7	5.5
2006 ²	5.1	5.2	3.6	4.6	6.7	4.8	4.6	4.4	6.3	5.1	6.1	5.9	6.2
GVA per head annual percentage growth													
2006 ²	4.5	4.9	3.4	3.9	5.8	4.5	3.7	3.6	5.6	4.3	5.7	5.4	5.1

Notes:

1 UK less Extra-regio.

2 Provisional.

Source: Regional Accounts, Office for National Statistics

Figure 5

Comparison of regional economic indicators: by NUTS1 region, 2006¹

Notes:

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

Source: Office for National Statistics

Figure 6

GVA per hour worked: by NUTS1 region

Notes:

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

Source: Office for National Statistics

East Midlands (5.8 per cent), Wales (5.7 per cent), the South East (5.6 per cent) and Scotland (5.4 per cent) were the best performers in terms of GVA per head growth rates in 2006.

Labour productivity

Labour productivity indicators provide the most effective comparisons of regional economic performance. Due to a methodological change that was introduced in the February edition of this article, GVA per head is now presented on a workplace basis instead of the previously used residence basis. This switch mainly affects the estimates for London, the South East and the East of England as these regions experience significant levels of net commuting.

Figure 5 compares estimates for GVA per head, GVA per filled job and GVA per hour worked for 2006. While GVA per head looks at the entire regional population and GVA per filled job looks at regional workforce jobs, GVA per hour worked additionally takes into account

any variations in labour market structures across regions, such as the proportions of full- and part-time workers or job share availability. Due to these reasons, GVA per hour worked is the preferred indicator of productivity. **Figure 5** shows that GVA per hour worked generally exhibits fewer and smaller differences in regional economic performance when compared with the other two indicators. Furthermore, **Figure 5** shows that London and the South East were the only two regions where the productivity indicators were above the UK average.

Figure 6 shows the regional GVA per hour worked productivity index on a time series basis. The five regions that improved their productivity relative to the UK average between 2002 and 2006 were London, the South East, the East of England, the South West and Northern Ireland. Generally, the chart suggests that, since 2002, regional productivity differences between the highest and the lowest performing regions have widened. Productivity in London was the highest in all years and by 2006 was above the UK average by 4.2 percentage points

more than it was in 2002. The opposite occurred in Wales, where GVA per hour worked in 2006 was below the UK average by 4.9 percentage points more than it was in 2002. The lowest productivity was experienced in Northern Ireland. In terms of the annual change in the GVA per hour worked indicator, six regions experienced declining productivity against the UK average in 2006: the East of England, the North East, Wales, the North West, Scotland and the West Midlands.

Welfare

Gross disposable household income (GDHI) by region gives an indication of regional welfare. New GDHI estimates up to 2006 were published in May 2008 and are available at www.statistics.gov.uk/statbase/Product.asp?vlnk=14651. GDHI estimates are published at current basic prices and so do not take inflation effects or regional price differences into account.

Table 2 shows GDHI per head estimates from 2000 to 2006. In 2006 London (£16,939), the South East (£15,367) and the East of England (£14,584) were the only regions with GDHI per head greater than the UK average. However, the South East and the East of England also had the lowest average annual growth rates over this period (at 3.5 and 3.8 per cent, respectively), while London's average annual growth rate was 4.0 per cent. The only region that had a level of GDHI per head lower than £12,000 was the North East (£11,846). However, the North East also had an average annual growth rate of 4.2 per cent, with only Wales, Northern Ireland and the East Midlands having stronger average annual growth rates between 2000 and 2006 (at 4.5, 4.4 and 4.3 per cent, respectively).

Compared with the GDHI estimates published in May 2007, the revisions made to the May 2008 estimates are small. The biggest GDHI per head revision took place in London – partly due to new data and partly due to revised population estimates, which included a significant downward revision for London.

Gross median weekly earnings represent another indicator of regional welfare. The latest estimates were published in November 2007. These estimates take account of a small number of methodological changes which improve the quality of results. These include changes to the sample design itself, as well as the introduction of an automatic occupation coding tool, called ACTR.

Figure 7 shows the gross median weekly pay for all full-time employees and a

Table 2

Headline gross disposable household income per head at current basic prices: by NUTS1 region

	£ per head and percentages												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2000	10,906	9,277	9,982	9,969	9,985	9,960	11,681	13,391	12,508	10,812	11,122	9,442	9,275
2001	11,588	9,810	10,567	10,529	10,653	10,549	12,500	14,190	13,320	11,511	11,818	10,070	9,827
2002	11,930	10,139	10,885	10,814	11,022	10,855	12,877	14,556	13,613	11,861	12,150	10,512	10,165
2003	12,409	10,565	11,310	11,262	11,516	11,292	13,333	15,173	14,082	12,331	12,627	10,924	10,701
2004	12,771	10,922	11,657	11,604	11,914	11,628	13,642	15,667	14,362	12,695	12,986	11,318	11,091
2005 ²	13,390	11,462	12,245	12,151	12,527	12,180	14,237	16,440	14,987	13,309	13,605	11,943	11,697
2006 ²	13,778	11,846	12,655	12,504	12,853	12,546	14,584	16,939	15,367	13,673	13,994	12,312	12,041
Average annual percentage growth, 2000–2006 ²	4.0	4.2	4.0	3.8	4.3	3.9	3.8	4.0	3.5	4.0	3.9	4.5	4.4

Notes:

1 UK less Extra-region.

2 Provisional.

Source: *Regional Accounts, Office for National Statistics*

breakdown into its gender components, female and male full-time employees, in each region in 2007. In terms of all employees, only London and the South East had a gross median weekly pay above the UK average of £456.7. However, when looking at male full-time employees, the gross median weekly pay was higher than the UK average in nine of the 12 NUTS1 regions, while for female full-time employees it was above the UK average only in London and substantially below it in all other regions. Concerning the gross median weekly pay for all full-time employees, Northern Ireland (£401.9), the North East (£402.9) and Wales (£404.7) experienced the lowest earnings in 2007.

Drivers of productivity

The following indicators represent the drivers of productivity as identified by HM Treasury and the Department for Business, Enterprise & Regulatory Reform (BERR). These drivers include innovation, enterprise, competition and

skills. Investment, which influences the physical capital stock and consequently the quantity that can be produced by one unit of labour, is another driver of productivity. However, due to quality concerns regarding the regional allocations of investment (net capital expenditure), this variable is not included.

Innovation is measured by business expenditure on research and development (R&D); the enterprise driver is measured by net change of VAT registrations and de-registrations and business survival rates; competition is measured in terms of UK regional trade in goods; and the qualifications of the current working age population and those of young people 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 other things,

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 is one of the determinants to the innovation process and is defined by the OECD as 'creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society and the use of the stock of knowledge to devise new applications'. Statistics on Business Expenditure on Research and Development (BERD), consistent with these internationally agreed standards, were published in November 2007 and provide estimates of business expenditure on R&D for NUTS1 regions up to 2006.

Table 3 presents expenditure on R&D performed in UK businesses by region in 2006. It also shows the regional percentage shares of the UK total in 2006 and the percentage growth from 2005 to 2006. The East of England and the South East had the highest business expenditure on R&D in 2006, with expenditures above £3 billion, thus making up the largest percentage share of total expenditure in the UK. Northern Ireland, Wales and the North East remained the regions with the lowest R&D expenditure (below £300 million). London had the highest annual percentage growth in 2006 at 82.2 per cent. The West Midlands and Yorkshire and The Humber were the regions with the second highest growth in 2006 at 29.8 and 12.2 per cent, respectively, although their respective percentage shares of the UK total were among the lowest. The strongest decline in R&D expenditure took

Figure 7

Gross median weekly pay of full-time employees: by NUTS1 region, 2007 Source: *Annual Survey of Hours and Earnings, Office for National Statistics*

Table 3

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

£ million and percentages													
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
2006	14,306	293	1,627	386	977	933	3,570	980	3,279	1,316	222	579	145
Percentage share of UK total in 2006	100.0	2.0	11.4	2.7	6.8	6.5	25.0	6.9	22.9	9.2	1.6	4.0	1.0
2006 percentage growth ¹	7.5	1.4	-14.0	12.2	-2.4	29.8	8.6	82.2	8.0	5.4	-4.7	-1.2	6.6

Note:

1 Year-on-year.

Source: *Statistics on Business Expenditure on Research and Development*, Office for National Statistics

Figure 8

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

1 Provisional.

Source: *Office for National Statistics*

place in the North West (by 14.0 per cent), followed by Wales, the East Midlands and Scotland.

R&D as a percentage of GVA is a measure commonly used in international comparisons and can further explain the above trends. **Figure 8** shows that since 2002 the East of England has been the region with the highest share of R&D expenditure in terms of GVA, with 3.6 per cent in 2006. London had the lowest share in 2006 (0.45 per cent) followed by Yorkshire and The Humber (0.47 per cent), Wales (0.52 per cent) and Northern Ireland (0.54 per cent). The very low share for London may not be suggestive of low levels of innovation but could reflect how regional industry composition affects R&D as an indicator of innovation. London has a large concentration of service industries, but service industries may not be R&D intensive (within the OECD definition) if, for example, they rely heavily on human capital. If innovation occurs in other forms, it may not be captured by the R&D measure.

The large increase in R&D expenditure in London and the West Midlands in 2006 (identified in Table 3) is also reflected when R&D expenditure is analysed as a

percentage of GVA, with these regions' percentage shares both increasing by 0.2 percentage points in 2006. Despite this increase however, London remains the region with the lowest business expenditure on R&D as a percentage of GVA, as pointed out above.

Enterprise

Enterprise is another driver of productivity. It stands for the presence of a positive entrepreneurial culture, the ease of starting-up and overcoming the barriers to enterprise, a sustainable stock of enterprise activity in an economy, and the ability of firms to grow. In order to investigate the pattern of business start-ups and closures, VAT registrations and de-registrations are the best official indicator to use as they point out the level of entrepreneurship and the health of the business population. Among the many factors that influence the pattern of business start-ups, the most important is economic growth, which encourages new ventures and creates demand for business. Table 4 shows the net changes in VAT registered businesses for UK regions in the years 2002 to 2006. Estimates for 2006 and revisions to previous years were published in November 2007 by

BERR.

Table 4 shows positive net changes in VAT registrations and de-registrations from 2002 to 2006 for all UK NUTS1 regions, meaning that more enterprises were registered than de-registered during that period. All regions except Northern Ireland exhibited an increasing positive net change from 2002 to 2006. Northern Ireland had a much lower positive net change in 2006 (at 575) than in 2002 (at 1,110). Also, the North East and Wales experienced low net changes in 2006 (at 1,155 and 1,305, respectively). London and the South East had the highest net change in 2006, with 7,250 and 6,015, respectively.

Compared with 2005, half of the regions (East of England, Northern Ireland, the West Midlands, Wales, the North East and the North West) saw a smaller net change in 2006. However, due to the other half of the regions experiencing a stronger increase in the net change in 2006, the UK average was left with a larger net increase (of 935) in 2006 than in 2005.

It should be noted that regions with high registration rates tend to also have high de-registration rates. Part of the reason for this is, of course, the sheer difference in the sizes of the regions – regions with larger populations and economies would be expected to have higher absolute numbers of registrations and de-registrations if all other factors were equal. However, this could also be due to the effects of market sorting (when competitive entrants push the unproductive ones out of a market) being more significant in some regions than others. Another reason could be the industrial mix in each region, with some sectors prone to higher rates of turnover than others.

The regional variations were linked geographically in that five of the six regions with a net change over 3,000 are situated next to each other (London, East of England, East Midlands, South East and South West), with the exception (the North West) interestingly being situated next to

the North East – the region with the lowest net change in England.

In addition to the net change in VAT registrations and de-registrations, business survival rates give an indication of the entrepreneurship of a region. The latest available three-year business survival rates show the proportion of businesses registered in 2002 that remained registered for VAT in 2005. (Updated estimates of this indicator will not be available until at

least early 2009.) Although there has been a general increase in business survival rates since 1995, these rates vary greatly between regions. Northern Ireland had the highest survival rate (78.5 per cent) for businesses registered in 2002 and London had the lowest (66.9 per cent).

Competition

Vigorous competition enhances productivity by encouraging firms to strive

for efficiency gains. According to the HM Treasury's definition, trade in goods and services as a percentage of GDP serves as an indicator for competition.

HM Revenue & Customs (HMRC) publishes regional trade statistics on export trade in goods to the European Union and non-EU by statistical value. Trade in goods by definition excludes intangibles and services. The statistical value of export trade is calculated as the value of the goods

Table 4

Net change¹ in VAT registrations and de-registrations: by NUTS1 region

	Numbers												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
2002	22,135	580	1,835	1,375	2,265	2,470	2,975	1,695	4,220	2,450	270	880	1,110
2003	36,915	1,140	3,935	3,325	2,790	2,915	3,610	6,205	5,875	3,320	850	1,900	1,055
2004	32,470	845	3,340	2,510	2,425	2,720	2,870	5,685	4,700	2,860	1,430	1,975	1,100
2005	38,200	1,195	4,265	2,675	2,800	3,145	4,050	7,160	5,065	3,255	1,375	2,120	1,095
2006	39,135	1,155	4,250	2,775	3,140	2,945	3,475	7,250	6,015	3,650	1,305	2,600	575

Note:

1 Net change is the net gain or loss in the stock of registered enterprises each year – equal to registrations less deregistrations.

Source: Department for Business, Enterprise & Regulatory Reform

Table 5

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

	£ million												
	United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	Wales	Scotland	Northern Ireland
EU ¹ exports													
2006 Q2	46,100	1,449	4,774	2,292	3,248	3,652	3,510	5,576	5,185	1,748	1,517	1,858	814
2006 Q3	31,854	1,285	3,063	1,580	2,483	2,677	2,647	2,181	4,295	1,587	1,368	1,709	804
2006 Q4	31,086	1,398	2,566	1,694	2,152	2,171	2,793	2,164	4,708	1,641	1,307	1,694	835
2007 Q1 ²	31,741	1,303	2,791	1,765	2,296	2,267	3,163	2,243	4,598	1,725	1,440	1,569	847
12 months ending													
March 2007	140,781	5,435	13,194	7,331	10,179	10,767	12,113	12,164	18,786	6,701	5,632	6,830	3,300
2007 Q2 ²	31,226	1,285	2,946	1,696	2,037	2,331	2,985	2,064	4,602	1,579	1,413	1,632	849
2007 Q3 ²	30,611	1,329	2,766	1,647	2,042	2,037	2,895	2,178	4,479	1,635	1,312	1,375	830
2007 Q4 ²	32,834	1,556	2,836	1,729	2,059	2,302	3,166	2,138	4,871	1,726	1,319	1,521	853
2008 Q1 ²	34,161	1,634	3,086	1,718	2,163	2,370	3,242	2,256	4,827	1,789	1,450	1,453	864
12 months ending													
March 2008	128,832	5,804	11,634	6,790	8,301	9,040	12,288	8,636	18,779	6,729	5,494	5,981	3,396
Non-EU exports													
2006 Q2	24,312	701	2,633	1,247	1,830	1,797	2,058	4,147	3,965	1,071	952	1,766	483
2006 Q3	21,910	713	2,301	1,254	1,742	1,534	1,826	3,137	3,655	1,074	981	1,624	460
2006 Q4	23,575	848	2,421	1,313	1,791	1,579	2,022	3,939	3,531	1,113	947	1,495	505
2007 Q1 ²	21,183	807	2,261	1,247	1,622	1,479	1,775	3,477	3,112	917	839	1,683	469
12 months ending													
March 2007	90,980	3,069	9,616	5,061	6,985	6,389	7,681	14,700	14,263	4,175	3,719	6,568	1,917
2007 Q2 ²	23,944	1,009	2,484	1,564	1,654	1,607	2,004	3,448	4,003	992	957	1,991	521
2007 Q3 ²	22,979	1,021	2,417	1,402	1,685	1,595	1,843	3,400	3,667	1,100	851	2,012	520
2007 Q4 ²	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	23,754	1,164	2,452	1,641	1,743	1,767	2,169	3,194	3,892	1,052	869	1,835	555
12 months ending													
March 2008	95,815	4,455	9,815	6,369	6,866	6,770	8,017	13,637	15,687	4,299	3,589	7,732	2,174

Notes:

1 EU data refer to EU25 up to 2006 Q4 and EU27 from 2007 Q1.

2 Provisional.

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

Figure 9

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

Note:

1 Provisional.

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

Figure 10

Working-age population with no qualifications: by NUTS1 region, fourth quarter 2007

Source: Department for Innovation, Universities and Skills; Labour Force Survey, Office for National Statistics

plus the cost of movement to the country's border. **Table 5** presents the latest estimates for the first quarter of 2008.

The total value of UK exports for the 12 months ending March 2008 dropped by 3.1 per cent compared with the 12 months ending March 2007. The value of UK exports to the EU decreased by 8.5 per cent over this period. Four UK regions increased their exports to the EU; the North East by 6.8 per cent, Northern Ireland by 2.9 per cent, the East of England by 1.4 per cent and the South West by 0.4 per cent. While UK exports to the EU deteriorated, the value of UK exports to countries outside the EU increased by 5.3 per cent, with only three NUTS1 areas – London, Wales and the East Midlands – experiencing declines in their export value in the year ending March 2008 compared with the year ending March 2007. The strongest increases in export value to non-EU countries are found in the North East (45.2 per cent), Yorkshire and The Humber (25.8 per cent), Scotland (17.7 per cent) and Northern Ireland (13.4 per cent).

In terms of the latest quarter estimates

(2008 Q1) compared with the previous quarter, Scotland, the South East and Yorkshire and The Humber saw a decline in their value of exports to the EU. All other regions experienced an increase in the value of their EU exports, with Wales and the North West having the strongest increases at 9.9 and 8.8 per cent, respectively.

Concerning the values of exports to countries outside the EU, the last quarter estimates (2008 Q1) showed that all regions, except the East of England, experienced a decline. London saw the largest decrease (at 11.2 per cent) followed by the South West (at 8.9 per cent). The East of England was the only region that experienced an increase in its exports to non-EU countries, at 8.4 per cent.

In order to take into account the differing sizes of regional economies instead of only investigating the absolute numbers of export value, **Figure 9** shows the value of export goods as a percentage of headline workplace-based regional GVA. In 2006 exports from the East Midlands accounted for the highest percentage of GVA (at 23.9 per cent), 2.3 percentage points above the

UK average. Compared with 2002 this percentage has been increasing by 2.4 percentage points. The region where exports accounted for the smallest percentage of GVA in 2006 was the South West, with 12.2 per cent, although the percentage has been rising since 2002. The most significant drop was in Scotland, where exports in 2006 accounted for 6.3 percentage points less in terms of GVA than they did in 2002.

Skills

The skills of workers are important to productivity as they define the capabilities that the labour force can put into the production process. In order to analyse skills, it is useful to examine the qualifications of the current working-age population and the qualifications of young people representing the future capabilities of the labour force.

The latest estimates on the highest qualifications (degree or equivalent) of the working-age population (males aged 16 to 64 and females aged 16 to 59) are based on the fourth quarter 2007 Labour Force Survey (LFS) estimates. However, due to the fact that the characteristics of local economies dictate which labour skills are required, the comparability of these estimates is undermined. This problem can be overcome by investigating the percentage of the working-age population that has no qualifications. **Figure 10** compares the proportions for each region against the UK average. Northern Ireland had the highest proportion of population with no qualifications (8.4 percentage points above the UK average), whereas the South West and the South East had the lowest proportions at 3.9 and 3.3 percentage points below the UK average. This does not necessarily mean that these regions have the most qualified working-age population, but that they have the lowest proportion without a qualification. A reason for this might be the differing regional skill requirements, which might induce a significant number of those with qualifications to migrate into these regions. At the same time those without qualifications might have migrated out of these regions.

In order to assess the future capabilities of the labour force, **Figure 11** shows data on the percentage of pupils achieving five or more grades A* to C at GCSE level or equivalent in each English region in 2006/07. A definition for equivalent levels of qualifications can be found in Notes and Definitions: Education & Training on the ONS Regional Snapshot web pages

Figure 11

Pupils achieving five or more grades A* to C at GCSE level or equivalent: by NUTS1 region, 2006/07¹ **Note:**

1 Revised data, includes attempts and achievements by these pupils in previous academic years.

Source: Department for Children, Schools and Families

(www.statistics.gov.uk/statbase/Product.asp?vlnk=14712). Each region is compared to the England average of 60.1 per cent; this average only takes into account local authority maintained schools. A second average can be calculated when taking into account information on the devolved administrations, which is based on all schools. This yields an average of 62.0 per cent. The average is higher when calculated on all schools, implying that pupils in non-local authority establishments achieve higher results.

Within local authority maintained schools in English regions, the South East, the East of England, London, the North East and the North West performed above the England average, while Yorkshire and The Humber, the East Midlands, the West Midlands and the South West were the

lowest performing regions in England. When taking into account all schools, all English regions except the South East perform below the average of 62.0 per cent. In the South East, 62.0 per cent of pupils achieve five or more grades A* to C at GCSE level or equivalent.

The labour market

Table 6 shows the LFS seasonally adjusted employment rate (that is, the number of people of working age in employment) expressed as a proportion of the population.

In quarter one of 2008 the UK employment rate was 74.9 per cent, up 0.6 percentage points from a year ago and up 0.1 percentage points from quarter four of 2007. Regional rates varied from 79.5 per cent in the South East to 69.6 per cent in Northern Ireland.

Eight regions had an increase in the employment rate over the year. The South East had a rise of 1.3 percentage points and the rates for London and Yorkshire and The Humber both increased by 1.1 percentage points. Three regions experienced falls in their employment rate. Northern Ireland had an annual fall of 1.0 percentage points, the North East had an annual fall of 0.7 percentage points and Scotland decreased by 0.2 percentage points.

Table 7 shows the LFS unemployment rate (according to the internationally-consistent definition of the International Labour Organisation) for persons aged 16 and over. The UK rate in the first quarter of 2008 was 5.2 per cent, unchanged from the previous quarter and down 0.3 percentage points on a year earlier. Regionally, the rates ranged from 6.8 per cent in London to 3.6 per cent in the South West.

Over the year, the unemployment rate had decreased in nine regions. Two regions had a fall of more than 0.5 percentage points: Yorkshire and The Humber down 1.2 percentage points, and the South East down 0.7 percentage points. The unemployment rate rose in two regions: Northern Ireland had an increase of 0.5 percentage points while the North West showed a rise of 0.2 percentage points.

Table 8 shows the LFS economic inactivity rates for persons of working age. The UK rate in the first quarter of 2008 was 20.9 per cent, down 0.1 percentage points from the previous quarter and down 0.3 percentage points on a year earlier. Across the regions, rates varied from 17.2 per

Table 6

Employment¹ rates for persons of working age: by NUTS1 region

												Percentages, seasonally adjusted			
		United Kingdom ¹	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2005	Jan-Mar	74.9	70.6	73.3	74.6	76.4	74.7	78.8	69.9	78.9	78.9	75.2	71.7	75.3	68.8
	Apr-Jun	74.7	70.3	73.2	74.3	76.6	74.5	78.8	69.4	78.9	78.9	75.1	71.4	75.0	68.4
	Jul-Sep	74.8	69.7	73.6	74.6	77.2	74.0	78.6	69.7	78.8	78.4	75.1	72.2	75.3	70.1
	Oct-Dec	74.4	70.1	72.8	74.2	77.2	73.4	77.6	69.4	78.7	77.7	74.6	71.9	75.3	69.0
2006	Jan-Mar	74.7	71.3	73.5	74.4	77.0	73.9	77.3	69.9	78.9	78.3	75.0	71.6	75.1	69.4
	Apr-Jun	74.6	71.6	73.2	74.2	77.0	73.9	77.0	69.7	78.9	78.6	74.9	71.3	74.7	69.9
	Jul-Sep	74.5	70.8	73.5	73.4	77.0	73.8	77.3	69.7	78.8	77.9	74.8	72.0	75.4	69.3
	Oct-Dec	74.5	70.9	72.8	73.7	76.5	73.0	77.1	70.0	78.7	78.2	74.6	71.7	76.2	69.9
2007	Jan-Mar	74.3	71.1	72.5	72.9	76.0	72.6	77.4	70.0	78.2	78.1	74.4	71.5	76.7	70.6
	Apr-Jun	74.5	71.3	72.6	73.3	75.9	72.6	77.3	69.8	78.7	78.1	74.5	72.2	77.1	70.6
	Jul-Sep	74.5	72.0	72.2	73.3	75.7	73.0	77.3	70.6	78.8	78.6	74.7	71.3	76.4	70.0
	Oct-Dec	74.8	71.8	72.8	73.7	75.8	73.3	78.2	70.4	78.9	79.3	75.0	71.6	76.5	69.8
2008	Jan-Mar	74.9	70.4	72.5	74.0	76.4	73.4	77.8	71.1	79.5	79.1	75.1	71.8	76.5	69.6

Note:

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

Source: Labour Force Survey, Office for National Statistics

cent in the South East to 26.9 per cent in Northern Ireland.

Compared with a year earlier, nine regions had a decrease in their inactivity rate, and thus a corresponding increase in the working-age activity rate. London had the largest annual fall of 1.0 percentage points. Three regions had an increase in the economic inactivity rate over the year. The largest annual rise was in the North East with 1.1 percentage points.

Table 9 shows the number of employee jobs, not seasonally adjusted, from the Employers Surveys. The number of UK employee jobs was 27,111,000, an increase of 230,000 over the year since March 2007. In percentage terms, this was a 0.9 per cent

increase.

There were annual increases in ten regions. The largest percentage rise was in the East of England (1.7 per cent).

Table 10 shows the claimant count rate (referring to people claiming Jobseeker's Allowance benefits as a proportion of the workforce). The UK rate was 2.6 per cent in June 2008, unchanged from May 2008, but 0.1 percentage points down on a year earlier. This national rate masks large variations between regions and component countries of the UK. For June 2008 the North East had the highest claimant count rate in the UK at 4.1 per cent. The North East was followed by the West Midlands (3.6 per cent), the North West

(3.2 per cent) and Yorkshire and The Humber (3.1 per cent). The lowest claimant count rate was measured in the South West (1.5 per cent). The claimant count rate was 2.7 per cent in Scotland, 2.9 per cent in Wales and 3.0 per cent in Northern Ireland.

Compared with a year earlier, six regions had a lower claimant count rate, with two remaining the same and four regions showing an increase. The largest decrease was 0.3 percentage points, which occurred in London, while the largest increase of 0.2 percentage points occurred in Northern Ireland.

Table 7

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

Percentages, seasonally adjusted														
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2005	Jan-Mar	4.7	5.6	4.7	4.4	4.3	4.8	3.9	6.7	3.7	3.6	4.6	4.6	4.7
	Apr-Jun	4.8	6.8	4.4	4.8	4.3	4.6	3.9	7.1	3.8	3.2	4.7	4.5	5.0
	Jul-Sep	4.8	6.6	4.4	4.6	4.4	4.7	4.0	6.7	4.0	3.6	4.7	4.7	4.3
	Oct-Dec	5.2	6.6	5.0	5.5	4.5	5.3	4.6	7.3	4.2	4.0	5.2	5.0	4.5
2006	Jan-Mar	5.2	6.5	4.9	5.4	5.0	5.3	4.9	7.6	4.5	3.6	5.3	4.8	4.3
	Apr-Jun	5.5	6.1	5.3	5.8	5.5	5.6	5.0	7.8	4.7	3.8	5.5	5.6	4.3
	Jul-Sep	5.5	6.8	5.5	6.1	5.3	6.1	4.8	7.9	4.5	3.8	5.6	5.4	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	5.4	4.2
2007	Jan-Mar	5.5	6.7	5.8	6.2	5.4	6.4	4.8	7.0	4.6	4.0	5.6	5.6	4.1
	Apr-Jun	5.4	6.4	5.8	5.6	5.0	6.8	4.6	7.4	4.2	4.0	5.5	5.5	3.8
	Jul-Sep	5.4	6.3	6.1	5.5	5.7	6.4	5.1	6.2	4.5	4.0	5.5	5.3	3.9
	Oct-Dec	5.2	5.7	5.9	5.3	5.2	5.7	4.4	6.6	4.5	3.6	5.2	5.1	4.2
2008	Jan-Mar	5.2	6.3	6.0	5.0	5.4	6.2	4.5	6.8	3.9	3.6	5.2	5.4	4.6

Source: Labour Force Survey, Office for National Statistics

Table 8

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

Percentages, seasonally adjusted														
		United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Northern Ireland
2005	Jan-Mar	21.4	25.1	23.0	21.9	20.1	21.5	17.9	25.0	17.9	18.1	21.1	24.7	27.7
	Apr-Jun	21.5	24.5	23.3	21.8	19.9	21.8	18.0	25.2	17.9	18.4	21.1	25.2	27.9
	Jul-Sep	21.4	25.3	22.9	21.7	19.2	22.2	18.0	25.2	17.8	18.6	21.1	24.2	26.7
	Oct-Dec	21.4	24.9	23.3	21.4	19.0	22.3	18.6	25.0	17.7	19.0	21.2	24.3	27.6
2006	Jan-Mar	21.1	23.7	22.7	21.3	18.8	21.9	18.6	24.2	17.4	18.7	20.7	24.7	27.5
	Apr-Jun	21.0	23.6	22.6	21.2	18.4	21.5	18.8	24.3	17.1	18.3	20.6	24.3	26.9
	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	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	24.1	27.0
2007	Jan-Mar	21.2	23.7	22.9	22.2	19.5	22.3	18.5	24.5	17.9	18.6	21.1	24.1	26.4
	Apr-Jun	21.2	23.7	22.7	22.3	20.1	22.0	18.8	24.6	17.8	18.5	21.1	23.4	26.6
	Jul-Sep	21.1	23.1	23.0	22.4	19.5	21.9	18.5	24.6	17.3	18.1	20.9	24.6	27.1
	Oct-Dec	21.0	23.8	22.5	22.1	19.9	22.0	18.1	24.5	17.2	17.6	20.8	24.5	27.0
2008	Jan-Mar	20.9	24.8	22.8	22.1	19.1	21.6	18.4	23.5	17.2	17.9	20.6	24.0	26.9

Source: Labour Force Survey, Office for National Statistics

Table 9
Employee jobs:¹ by NUTS1 region

Thousands, not seasonally adjusted

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
Mar 04	26,231	1,007	2,972	2,198	1,744	2,303	2,291	3,897	3,606	2,132	22,150	1,117	2,283	681
Mar 05	26,650	1,028	3,003	2,212	1,811	2,332	2,303	3,960	3,641	2,165	22,454	1,152	2,348	696
Mar 06	26,795	1,042	2,952	2,208	1,825	2,335	2,325	3,980	3,682	2,203	22,551	1,172	2,367	705
Mar 07	26,881	1,047	2,986	2,223	1,839	2,358	2,347	3,998	3,631	2,195	22,624	1,182	2,362	713
Jun 07	27,030	1,050	3,002	2,238	1,841	2,371	2,360	4,018	3,657	2,208	22,744	1,192	2,377	717
Sep 07	27,106	1,053	3,002	2,237	1,859	2,375	2,373	4,027	3,664	2,222	22,813	1,195	2,380	717
Dec 07 ²	27,318	1,068	3,028	2,247	1,864	2,389	2,396	4,077	3,705	2,232	23,005	1,188	2,400	726
Mar 08	27,111	1,058	2,981	2,233	1,851	2,377	2,386	4,051	3,685	2,213	22,833	1,176	2,380	722

Note:

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

2 Revised.

Source: Employer Surveys

Table 10
Claimant count rates:¹ by NUTS1 region

Percentages, seasonally adjusted

	United Kingdom	North East	North West	Yorkshire and The Humber	East Midlands	West Midlands	East of England	London	South East	South West	England	Wales	Scotland	Northern Ireland
2003	3.0	4.5	3.2	3.3	2.8	3.5	2.1	3.6	1.7	1.9	2.9	3.3	3.7	4.1
2004	2.7	4.0	2.8	2.8	2.5	3.3	2.0	3.5	1.6	1.6	2.6	3.0	3.4	3.6
2005	2.7	3.9	2.9	2.9	2.5	3.4	2.1	3.4	1.6	1.6	2.6	3.0	3.2	3.3
2006	2.9	4.1	3.3	3.3	2.8	3.9	2.3	3.4	1.8	1.8	2.9	3.1	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	2.6	2.8	2.8	2.8
2007 Jun	2.7	4.0	3.1	3.1	2.7	3.7	2.1	3.0	1.6	1.6	2.6	2.8	2.8	2.8
Jul	2.6	4.0	3.1	3.0	2.6	3.6	2.1	3.0	1.6	1.6	2.6	2.8	2.7	2.7
Aug	2.6	3.9	3.1	3.0	2.6	3.6	2.1	3.0	1.6	1.5	2.6	2.8	2.7	2.7
Sep	2.6	3.9	3.1	3.0	2.6	3.6	2.0	2.9	1.5	1.5	2.6	2.8	2.7	2.7
Oct	2.6	3.9	3.1	2.9	2.5	3.6	2.0	2.8	1.5	1.5	2.5	2.7	2.6	2.7
Nov	2.5	3.9	3.0	2.9	2.5	3.5	2.0	2.8	1.5	1.4	2.5	2.7	2.6	2.7
Dec	2.5	3.8	3.0	2.9	2.4	3.5	1.9	2.8	1.5	1.4	2.5	2.7	2.6	2.7
2008 Jan	2.5	3.8	3.0	2.8	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.7
Feb	2.5	3.9	3.0	2.9	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.8
Mar	2.5	3.9	3.0	2.9	2.4	3.4	1.9	2.7	1.5	1.4	2.4	2.7	2.5	2.8
Apr	2.5	3.9	3.1	2.9	2.5	3.4	1.9	2.7	1.5	1.4	2.5	2.8	2.5	2.8
May	2.6	4.0	3.1	3.0	2.5	3.5	2.0	2.7	1.5	1.5	2.5	2.8	2.6	2.9
Jun	2.6	4.1	3.2	3.1	2.6	3.6	2.0	2.7	1.6	1.5	2.6	2.9	2.7	3.0

Note:

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

Source: Jobcentre Plus administrative system

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REFERENCES

Department for Business, Enterprise & Regulatory Reform (2007) *Business Start Ups and Closures: VAT Registrations and De-registrations in 2006* at stats.berr.gov.uk/ed/vat/index.htm

Department for Business, Enterprise & Regulatory Reform *Three Year Survival Rates of VAT Registered Business by Region* at stats.berr.gov.uk/ed/survival/

Department for Children, Schools and Families (2008) *GCSE and Equivalent Examination Results in England 2006/07 (Revised)* Statistical First Release at www.dfes.gov.uk/rsgateway/DB/SFR/s000768/index.shtml

Department for Innovation, Universities and Skills (2008) *The Level of Highest Qualification Held by Adults: England 2007* Statistical First Release at www.dfes.gov.uk/rsgateway/DB/SFR/s000777/index.shtml

HM Revenue & Customs (2007) *UK Regional Trade Statistics* at www.uktradeinfo.com/index.cfm?task=td_regstats_press

HM Treasury (2004) *Productivity in the UK 5: Benchmarking UK Productivity Performance. A Consultation on Productivity Indicators* at www.hm-treasury.gov.uk/consultations_and_legislation/productivity_indicators/consult_productivity_indicators_index.cfm

Office for National Statistics *Annual Survey of Hours and Earnings* at www.statistics.gov.uk/statbase/product.asp?vlnk=13101

Office for National Statistics *Business Expenditure on Research & Development by Government Office Region* at www.statistics.gov.uk/statbase/tsdataset.asp?vlnk=572

Office for National Statistics *Introduction of Automatic Occupation Coding in ASHE* at www.statistics.gov.uk/cc/article.asp?id=1843

Office for National Statistics *Regional Household Income March 2007* Statistical First Release at www.statistics.gov.uk/statbase/product.asp?vlnk=14651

Office for National Statistics *Regional Snapshot: Education and Training, Notes and Definitions* at www.statistics.gov.uk/statbase/Product.asp?vlnk=14712

Office for National Statistics (2006) *Regional Trends 39* at www.statistics.gov.uk/RegionalTrends39/

Office for National Statistics (2007) 'Regional Economic Indicators February 2007 with a focus on the differences in regional economic performance' *Economic & Labour Market Review* 1(2), pp 52-64 and at www.statistics.gov.uk/cc/article.asp?id=1729

Office for National Statistics (2007) 'Regional Productivity' *The ONS Productivity Handbook: A Statistical Overview and Guide*, Chapter 11, pp 147-156 and at www.statistics.gov.uk/about/data/guides/productivity/ch11.asp

Office for National Statistics (2008) 'Regional Economic Indicators February 2008 with a focus on regional productivity' *Economic & Labour Market Review* 2(2), pp 48-61 and at www.statistics.gov.uk/cc/article.asp?id=1945

Office for National Statistics (2008) 'Regional gross disposable household income' *Economic & Labour Market Review* 2(8), pp 32-40 and at www.statistics.gov.uk/cc/article.asp?id=2031

Organisation for Economic Co-operation and Development (2002) *Frascati Manual: Proposed Standard Practice for Surveys on Research and Experimental Development*

Organisation for Economic Co-operation and Development (2003) 'Identifying the Determinants of Regional Performances' *Working Party on Territorial Indicators*