The East Midlands in 2006 – Evidence Base for the East Midlands Regional Economic Strategy 2006-2020: The East Midlands Labour Market

A report prepared by *emda*

2006

Three

The East Midlands labour market

LABOUR MARKET

The East Midlands labour market

1. Introduction

This section looks at the East Midlands labour market, with a particular focus on skills as a driver of productivity – introduced in Section 2, *Economy and productivity*. It focuses on those who are currently engaged in the labour force (the economically active). Economic inactivity will be discussed in Section 4, Deprivation and economic inclusion, which will examine the barriers to participating and progressing in the labour market experienced by some groups.

We will look first at the performance of the UK labour market as it compares with its major European and international competitors. This will include a comparison of national employment trends and workforce skill levels. Attention will then focus on the East Midlands region, firstly with an assessment of labour market participation followed by a discussion of the skills profile of the region's workforce. We will then look at the region's occupational structure and projections for change over the next decade. To further investigate the demand side of the labour market, the East Midlands Learning and Skills Council has provided content on employer views of skills shortages and training activity. Finally, we will discuss the earnings of workers and residents in the region.

2. The international context

2.1 International comparisons of employment

As Chart 1 illustrates, the employment rate[1] in the UK currently exceeds all of its major competitors:

- The UK has consistently recorded higher rates of employment than France and Germany. According to estimates from the Organisation for Economic Cooperation and Development (OECD), employment in the UK increased from a low point of 68.2% of the working age population in 1993, to 72.7% in 2004. In France the employment rate increased from 59.1% to 62.4% between 1993 and 2004, whilst the employment rate in Germany only increased from 65.1% to 65.5%;

- The UK employment rate exceeded that of the United States of America for the first time in 2002. The 2004 employment rate in the UK represented a modest increase on the 2002 and 2003 rates, whilst it decreased slightly in the USA from 71.9% in 2002 to 71.2% in 2004.

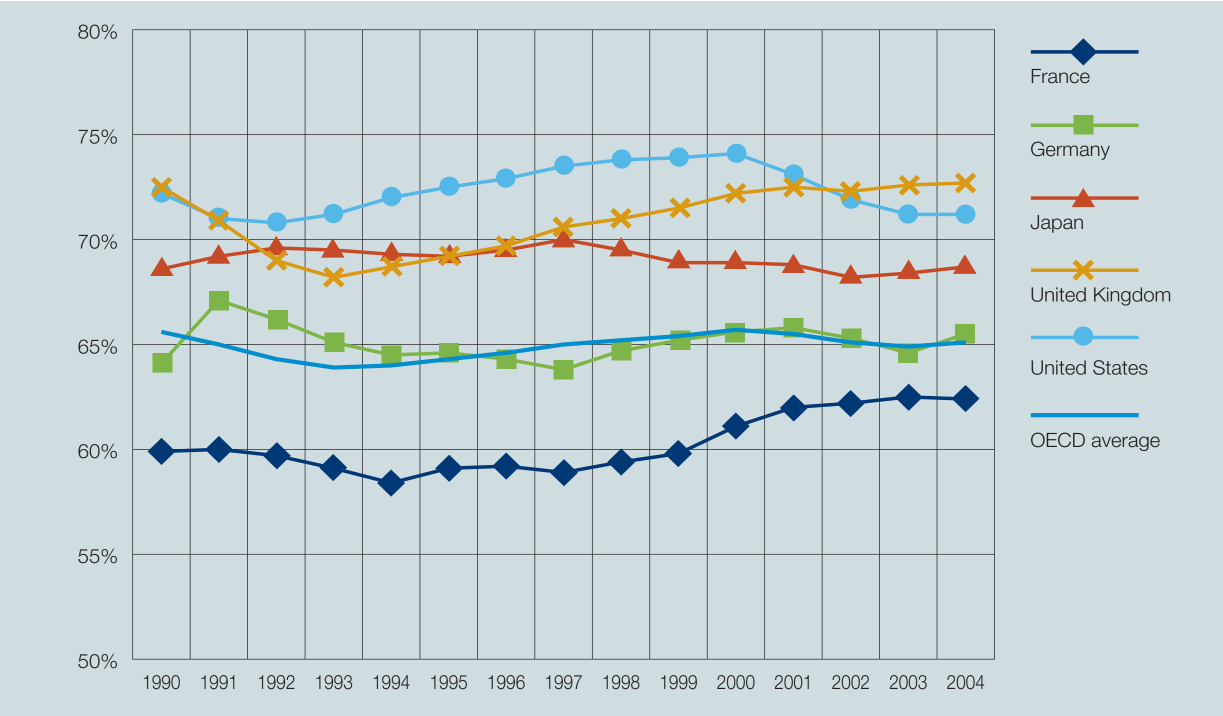
[1] The employment rate refers to the percentage of the total working age population who are employed or self-employed. The above employment rates are based on OECD estimates published in *OECD Employment Outlook* (2005). The definition of the working age population used in OECD international comparisons, 15-64, differs from the working age definition used in UK labour market statistics, of 16-59 for women and 16-64 for men. The above rates for the UK are thus slightly lower than the national averages referenced later in this section.

UK employment growth from the mid 1990s represented a recovery from the recession of the early 1990s and is an exceptional level of growth compared to European and global competitors. The UK was the only major developed economy which did not experience a period of negative growth during the global downturn of 2000-2003. Employment in the UK reached the highest level on record by the end of 2003. Latest monthly data from the UK Labour Force Survey (LFS) has shown slight falls in the employment rate, accompanied by several consecutive increases in monthly estimates of unemployment. This may suggest that the UK labour market is weakening, although the numbers of people in employment have remained fairly stable.[2] Employment forecasts for the next ten years anticipate slower employment growth in the UK than over the last decade. This is in part a reflection of the high base from which this growth is projected.

Employment in the UK reached the highest level on record by the end of 2003

CHART 1

Employment rate (% of working age population, 15-64), 1990-2004



Source: OECD, 'Labour Market Statistics-Indicators', LFS by Sex and Age, employment/population ratio, men and women aged 15 to 64, 1990-2004, from OECD Corporate Data Environment, 22nd February 2006

[2] Office for National Statistics (ONS) Crown Copyright, *First Release: Labour Market Statistics*, monthly releases, October 2005-February 2006.

2.2 International comparisons of workforce qualifications

The HM Treasury paper, *Productivity in the UK*, outlines the '5 drivers' of productivity. It discusses the contribution of human capital to economic performance in terms of the 'quantity of labour' (the proportion of the population in employment) and the 'quality of labour' (principally the level of skill available in the workforce). It argues that the growth in the number of people in work in the UK, averaging 1.4% per annum from 1997 to 2001, contributed a substantial proportion of GVA growth in this period.[3] However, it is estimated that workforce skills contribute to 12% of the continuing gap between UK and French productivity, and 20% of the gap between UK and German productivity.[4] Tight labour market conditions caused by high levels of employment and low levels of unemployment mean that there is now little room for the UK to improve economic performance simply by getting more people into work.[5]

To look at how the UK compares to European and international competitors, we will use data on workforce education levels published by the OECD. Throughout this section, education and qualification levels will be used as a proxy measure of skill. It is recognised that these are imperfect measures. Qualifications are 'one step removed' from skills. They represent the certifiable outcome of a process (i.e. education or training) aimed to develop skill. Qualifications often represent educational attainment in quite discrete subjects, and fail to measure 'tacit' skills gained through experience, or more general skills, such as communication or customer service. Nevertheless, qualifications are arguably the most useful indicators of skills trends and the 'mix' of different levels of skills in the workforce. Additionally, the ready availability and general comparability of qualifications data makes it the most regularly used source for assessing differences in skill between geographical areas and population groups.[6]

Chart 2 provides international comparisons of the educational level held by each country's adult population (in this case, aged 25-64 to represent adults who have finished publicly funded education). This is expressed in terms of all those educated to 'at least upper secondary' level[7] and '1st degree or equivalent'.[8] From this we can make the following observations:

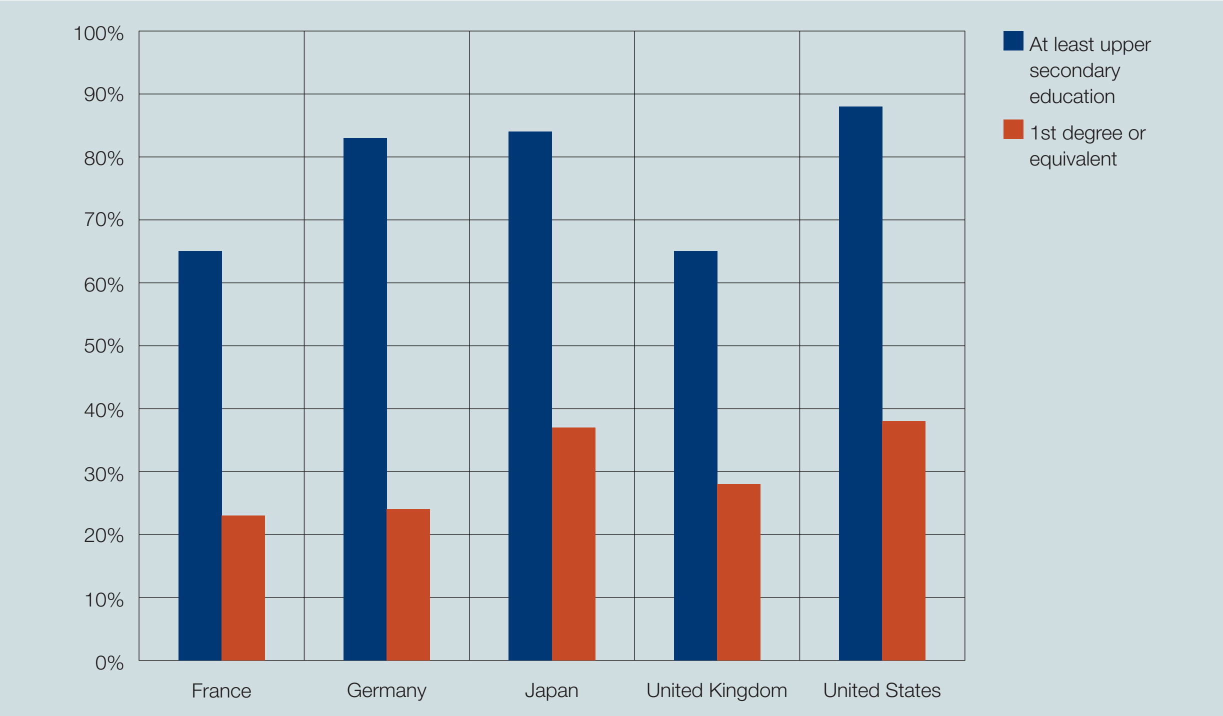
- The UK lags all the comparator countries except France in the proportion of adults educated to 'at least upper secondary' level. In the UK, 65.1% of the adult population are educated to this level, compared to 64.9% in France, 83.4% in Germany, 83.9% in Japan, and 87.5% in the United States;
- The UK performs better in the proportion of adults with a 1st degree or equivalent, where the differences between the comparator countries are less significant. On this measure, the UK exceeds both France and Germany, at 28% compared to 23.4% and 24% respectively. However, the UK still underperforms Japan and the United States by about 10 percentage points in each case;
- Time series data shows that the proportion of adults educated to first degree or equivalent in the UK has increased by 5.3 percentage points between 1997 and 2003. Only Japan has seen a larger increase, whilst Germany has hardly recorded any increase in this period.

Workforce skills contribute to 12% of the gap between UK and French productivity, and 20% of the gap between the UK and Germany

[3] HM Treasury (HMT), *Productivity in the UK: The Evidence and the Government's Approach*, 2001.
[4] HMT, Department for Education and Skills (DfES), Department for Work and Pensions (DWP), Department of Trade and Industry (DTI), *Skills in the Global Economy*, December 2004. For a discussion of the UK's relative performance in measures of productivity, see Section 2: Economy and Productivity.
[5] Professor Michael Porter and Christian Ketels, Institute of Strategy and Competitiveness, Harvard Business School, on behalf of the DTI and ESRC, *DTI Economics Paper No. 3: UK Competitiveness: Moving to the Next Stage*, May 2003.
[6] Department for Education and Employment (now DfES), *Skills for All: Research Report from the National Skills Taskforce*, 2000.
[7] Defined by the OECD as the final stage of secondary education. In the UK this roughly corresponds to an NVQ Level 2, equivalent to 5 or more GCSEs, one A Level, or an intermediate vocational qualification such as a GNVQ intermediate or BTEC First or General Diploma. For definitions, refer to OECD, *Education at a Glance 2005*, July 2005.
[8] This is referred to by the OECD as 'tertiary education'. In the UK this describes those qualified to an equivalent of an NVQ Level 4 or higher, such as a first or masters degree.

CHART 2

Level of educational attainment (% of population aged 25-64), 2003



Source: OECD, 'Education at a Glance: OECD Indicators – 2005 Edition', 2005

Therefore the UK significantly underperforms Germany, the United States and Japan in intermediate education, and the United States and Japan in higher level education. This suggests a more 'polarised' skills profile than other countries, with a higher proportion of the workforce with low or no skills alongside stronger performance in higher level skills. This has been explained by the low proportion of young people in the UK who go on to non-academic post-compulsory education compared to other countries, combined with limited skills progression and training (leading to a qualification) once in work.[9] On the other hand, the UK has experienced rapid growth in participation in higher education, increasing from 13% of 18-30 year olds in 1980 to 41.5% in 2003.[10]

2.3 International comparisons of education level by age group

Although it continues to lag some of its major competitors, the overall qualification profile of the UK has been improving for a number of years. This has mainly been due to improvements in the qualifications of young people flowing into the workforce while older, less well-qualified people retire.[11] As the majority of publicly funded education is focused on the young, the impact of any improvements in national education provision is concentrated on the youngest age cohorts. Research undertaken on behalf of the European Commission found that most of the growth in education levels for workers over the age of 30 has been due to more qualified younger people replacing less qualified older people, whilst the proportion of people improving their qualifications after 30 remains very small.[12] Looking at different age bands is therefore a useful means of assessing how embedded levels of education are within a national workforce.

[9] HMT, DfES, DWP, DTI, *Skills in a Global Economy*, December 2004.
[10] Ian Walker, Yu Zhu, *Education, Earnings and Productivity: Recent UK Evidence*, in ONS, Labour Market Trends, March 2003.
[11] The Leitch Review of Skills, HM Treasury, *Skills in the UK: The long-term challenge – Interim Report*, December 2005.
[12] Centre for Economic Performance, London School of Economics, on behalf of the DTI and DfES, *International Comparisons of Qualifications: Skills Audit Update*, 2004.

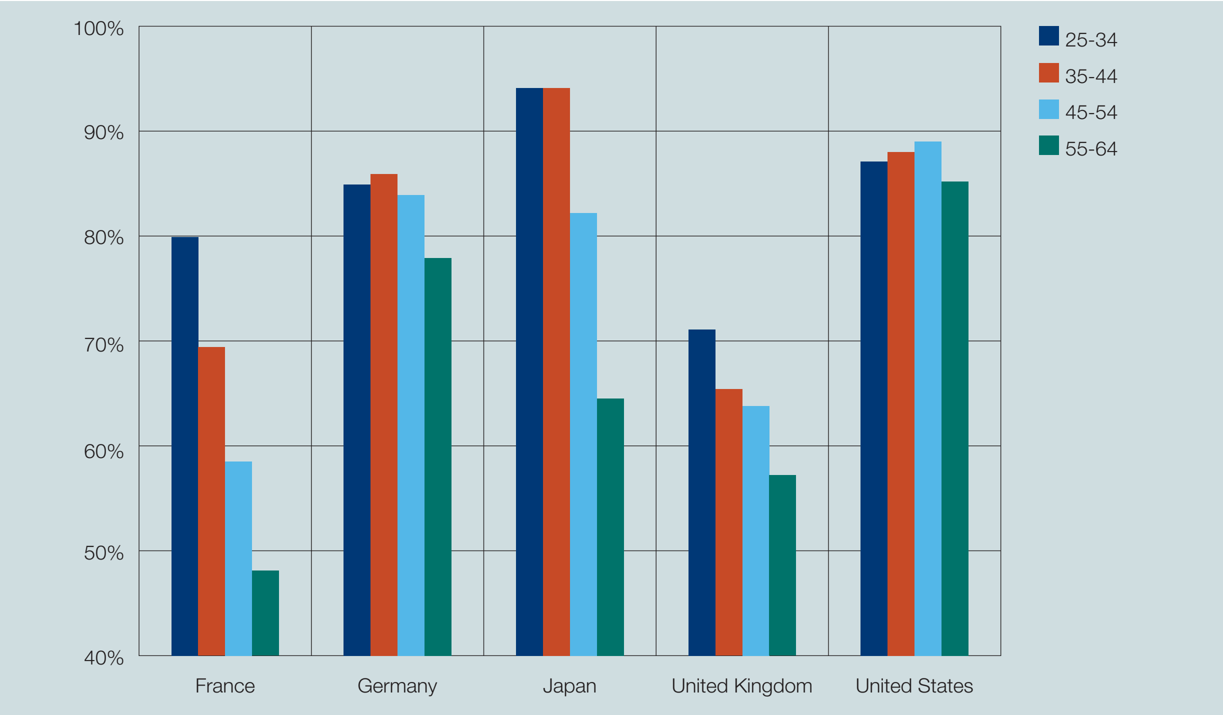
Chart 3 shows international comparisons of intermediate education ('at least upper secondary') by age group:

- The youngest cohort (25-34) performs best of all age groups in the UK, with 71.1% educated to at least an upper secondary level – 6 percentage points above the average level for the adult population (25-64). However, even in this case, the UK falls behind all the comparator countries;
- There is a steep drop after this youngest age group (only France records a bigger difference), with 65.4% of the 35-44 age group, 63.8% of the 45-54 age group, and 57.2% of the 55-64 age group educated to an upper secondary level;
- This raises concern when compared to Germany and the United States, which have consistently high levels of attainment across all four cohorts. Given the projected ageing of the UK workforce in combination with moves towards later retirement ages, older workers with limited qualifications will remain in the UK labour market for longer.

Literature on trends in international education attribute these differences to significant investment in vocational qualification routes over a prolonged period in Germany (although the current poor performance of the German economy must be borne in mind in any assessment of relative strength in education and training systems), and historically high proportions of the population completing High School and continuing to post-secondary education in the United States.[13] Although the education level of UK school leavers continues to improve, there remains a substantial 'tail' of poorly qualified workers in older age groups.

CHART 3

Attainment of 'at least upper secondary' education (% of population by age band), 2003



Source: OECD, 'Education at a Glance: OECD Indicators-2005 Edition', 2005

[13] Ibid 12.

2.4 The benefits of skills for the individual, the business and the economy

To put the UK skills profile into the context of economic performance, this sub-section will conclude with a short summary of the literature on the benefits of skills. There is a significant amount of empirical work that seeks to demonstrate the benefit of education and skills to the individual, but evidence on the benefits to the firm and the wider economy is more fragmentary. Analysis of the UK Labour Force Survey has suggested that individuals receive an earnings return of between 5% and 10% per year of post-16 education.[14] It has also been demonstrated that qualifications play a key role in increasing an individual's employability. Those with higher levels of qualifications are more likely to be in employment than those with low or no qualifications. It is also suggested that the higher an individual's level of qualification, the more likely they are to receive additional training or be promoted, whilst those without qualifications are less likely to receive training. This implies that the differences in earnings between those with and without qualifications are likely to increase over time.[15] As the structure of UK employment changes, overall demand for skills is expected to increase. This suggests that those with low skill levels will be increasingly at risk of becoming locked in a cycle of worklessness or low paid, poor quality employment.[16]

To investigate the benefits businesses gain from investing in workforce skills, researchers have applied a number of comparative methods. One such approach compares the wage increases gained by employees who have received training to the benefits accrued by the employer from associated improvements in productivity. This found that firms recorded a productivity gain from each employee trained valued at twice the wage increase paid to those employees.[17] Another method of assessing the role of skills in business performance has been through so-called 'matched plant' studies. A series of such studies carried out by the National Institute of Economic and Social Research (NIESR) compared UK manufacturing firms with equivalent companies in Europe. These concluded that higher levels of labour productivity in Continental European plants were closely related to greater levels of skills and knowledge amongst the workforce.[18]

Research into the benefits of workforce skills to the wider economy has tended to concentrate on 'spill overs' or 'externalities' additional to the benefits gained by the individual employee or business. Higher skilled workers raise the skills of those around them through spreading good practice and creating an environment where informal learning takes place continuously.[19] Similarly, businesses with higher skilled staff demand more from their suppliers, thus affecting the skills demands of other businesses. Other research suggests that a more highly skilled workforce can increase the chances of a firm's survival.[20] In addition, high workforce skill levels increase the capacity of the economy to adapt to change, as highly skilled workers are more able to move from one sector to another and take advantage of technological and process improvements. There is also evidence to suggest that a reputation for high skills is a key factor in attracting physical capital and inward investment.[21]

Finally, the interim report of the Treasury's recent review of skills, led by Lord Leitch, identified a number of risks for productivity performance associated with the UK's comparatively poor skills profile. If workforce skills are key to adopting innovative processes or new technology, firms whose employees lack the necessary skills to adopt these innovations must add the cost of training to the direct costs of investment and innovation. This raises the return required in order to make an investment profitable, and may act as a strong disincentive. Thus the relatively poor skill levels of the UK workforce may be acting as a constraint on both investment and innovation. In addition, lower levels of skill in the workforce may affect the type of investment businesses undertake. Businesses may invest in equipment to enable poorly skilled workers to undertake basic tasks more easily, and thus investment becomes a 'coping' response to poor skills, rather than opening up more productive ways of working.[22]

High workforce skill levels increase the capacity of the economy to adapt to change

[14] Ian Walker, Yu Zhu, *Education, Earnings and Productivity: Recent UK Evidence*, in ONS, Labour Market Trends, March 2003.
[15] Penny Tamkin, the Institute of Employment Studies (IES), on behalf of the DfES, the Chartered Institute of Personnel and Development (CIPD), Investors in People UK, and the Skills for Business Network, *The Contribution of Skills to Business Performance*, 2005.
[16] HMT, DfES, DWP, DTI, *Skills in a Global Economy*, December 2004.
[17] L Dearden, S Machin, H Reed, and D Wilkinson, *Who Gains when Workers Train?*, Institute for Fiscal Studies, 2000, summarised in: DfES, *Developing a National Skills Strategy and Delivery Plan: Underlying Evidence*, 2003.
[18] 'Matched plant' studies carried out by the National Institute of Economic and Social Research (NIESR), 1985-1994, summarised in: DfEE, *Skills for All: Research Report from the National Skills Taskforce*, 2000.
[19] N Gemmel, *Evaluating the impact of human capital stocks and accumulation on economic growth: some new evidence*, in, *Oxford Bulletin of Economics and Statistics*, 58, 1996, summarised in: DfEE, *Skills for All: Research Report from the National Skills Taskforce*, 2000.
[20] GC Reid, *The Development and Survival of Small Businesses*, 2000, summarised in, Penny Tamkin, IES, *The Contribution of Skills to Business Performance*, 2005.
[21] Findings from a survey of inward investors on significant factors informing decisions on investment location, carried out by KPMG for their *Competitive Alternatives Report*, 2002, summarised in: Chris Humphries, Director General of City and Guilds, *Proposals for UK Skills Policy*, January 2006.
[22] The Leitch Review of Skills, HM Treasury, *Skills in the UK: The long-term challenge – Interim Report*, December 2005.

3. Employment in the East Midlands

Having noted that the UK has sustained consistently high levels of employment compared to international competitors, we will now go on to examine key indicators of engagement in the labour market – economic activity, employment and unemployment rates – at a regional level.

3.1 Economic activity

Economic activity rates are used to describe overall participation in the labour market, and refer to the proportion of the population who are employed, self-employed, or unemployed. Those who are not included in these groups are described as 'economically inactive'. The economically inactive includes full-time students, those who do not work due to parental or elder-care responsibilities, the retired and those claiming Incapacity Benefits. Economic inactivity will be discussed in more detail in Section 4, Deprivation and economic inclusion.

> The East Midlands is the only one of the northern and midlands regions with above average rates of economic activity

Chart 4 presents working age economic activity rates in 2004 for the UK and the English regions:

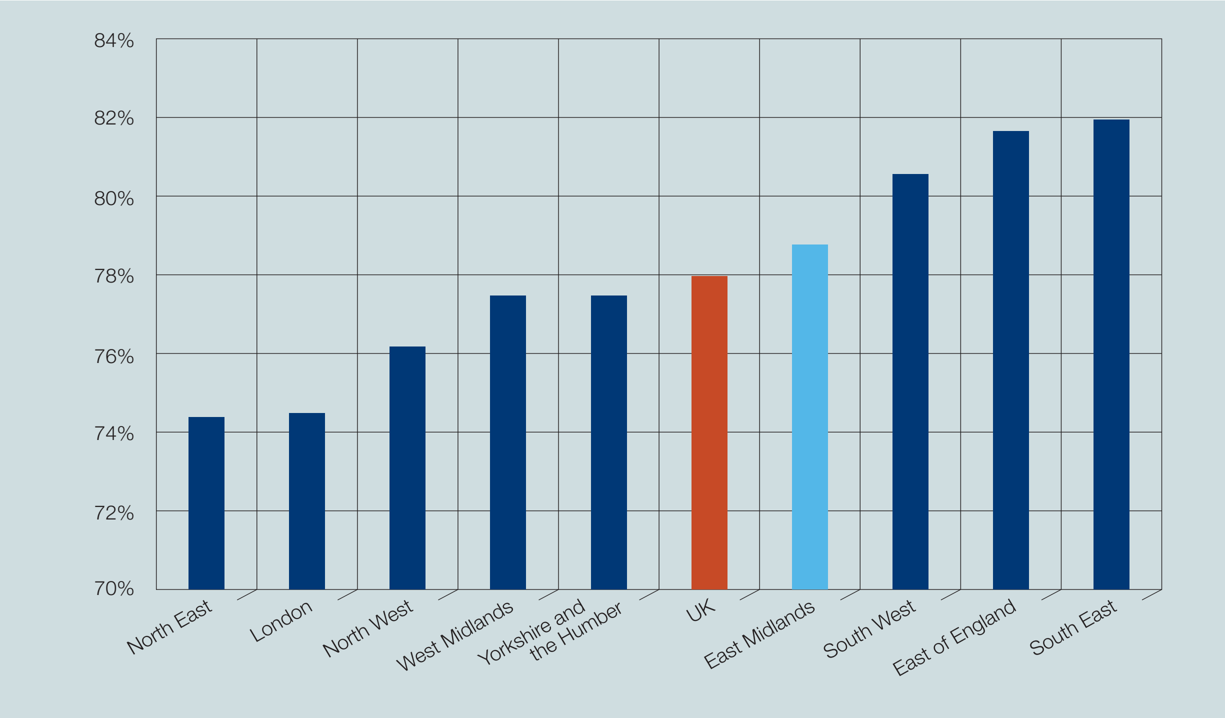
- The economic activity rate in the East Midlands exceeds the UK average, at 78.8% compared to 78%. The East Midlands is the only one of the northern and midlands regions with above average rates of economic activity;

- Economic activity is lowest in the North East, at 74.4%, and is also significantly below average in London, at 74.5%. London is an atypical region in this case. It is a highly successful and productive regional economy, accounting for the largest share of national output. It attracts skilled workers from all other regions as the centre for Government and financial and business services, but also has high levels of worklessness amongst its resident population and pockets of acute deprivation. This is reflected in low economic activity rates, which are also affected by the large number of students resident in the capital;

- Economic activity rates are highest in the South East, at 82%. This not only reflects the buoyant economy and labour market in the region, but also the fact that significant numbers of those working in London commute from the South East.

CHART 4

Economic activity rates by region (% working age), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 21st March, 2006

3.1.1 Sub-regional variations in economic activity

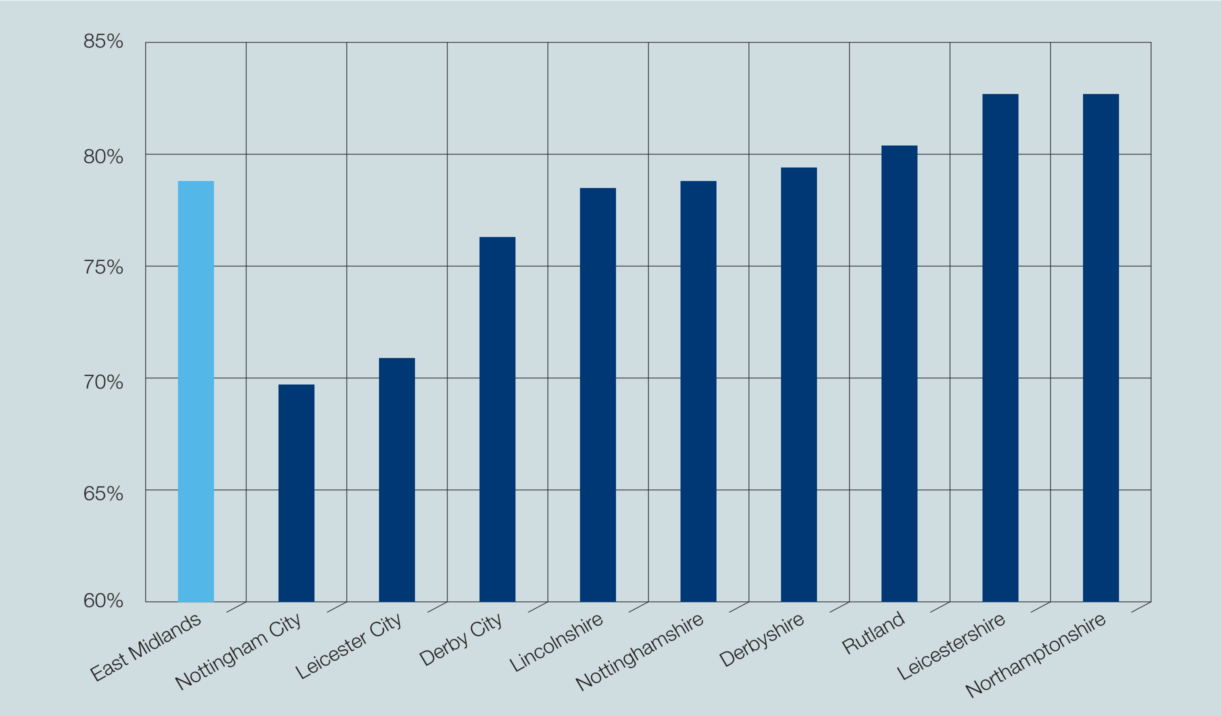
Chart 5 shows how economic activity rates vary sub-regionally, according to estimates for the 9 counties and Unitary Authorities (UAs) in the region:

- The extent of intra-regional variation within the East Midlands exceeds the extent of inter-regional variation observed above. There is a difference of 13 percentage points between the economic activity rates of Nottingham City and Northamptonshire. This is compared to the 7.6 percentage points difference between the North East and the South East;
- Economic activity rates are significantly lower than the regional average in the two largest cities, Nottingham and Leicester, at 69.7% and 70.9% respectively. Although this does reflect comparatively high levels of worklessness in these cities, it is also affected by the large student populations. In the 2001 Census, 13.6% of the population aged 16-64 in Nottingham and 9.7% in Leicester were classed as students, compared to just 5.1% in the East Midlands overall;[23]
- The highest economic activity rates were in the south of the region, with 82.7% in both Northamptonshire and Leicestershire and 80.4% in Rutland. This reflects the high rates of labour market participation in these areas.

[23] Source: ONS Crown Copyright, *2001 Census*, economically inactive students aged 16-64 as a proportion of the total resident population, aged 16-64, from NOMIS, 22nd March, 2006.

CHART 5

Sub-regional economic activity rates (% working age), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 21st March, 2006

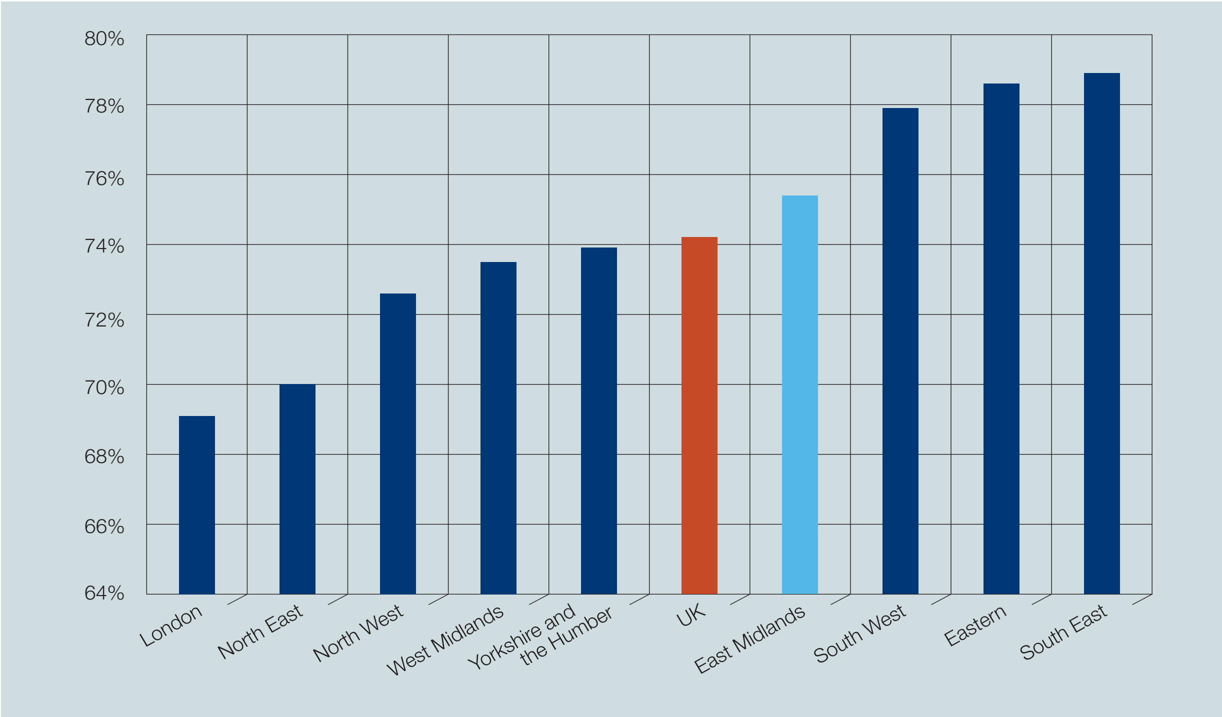
3.2 Employment

Chart 6 shows those in employment (which includes full time, part time and self-employed) as a proportion of the total working age population for each of the English regions and the average for the United Kingdom in 2004:

The highest economic activity rates are in the south of the region

CHART 6

Employment rates by region (% working age), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 17th February 2006

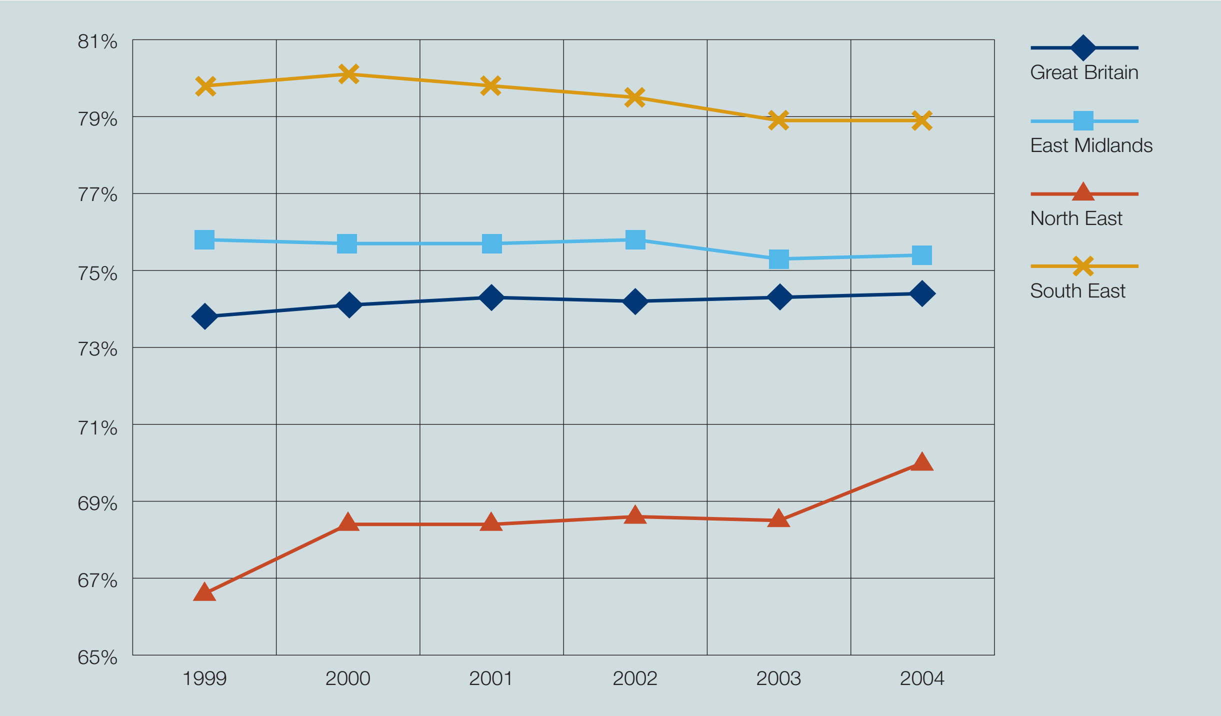
- The East Midlands is the only region out of the five northern and midlands regions to exceed the national average. The East Midlands employment rate was 75.4% in 2004, compared to 74.2% in the UK;

- With the exception of London, the regions in the south of the country considerably exceed the national average. The employment rate is highest in the South East, at 78.9% of the working age population, followed by the East of England, at 78.6%. The employment rate is lowest in London, at 69.1%, followed by the North East, at 70%.

> The East Midlands is the only northern or midlands region with an employment rate in excess of the UK average

CHART 7

Employment rates, 1999-2004



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 1999-Feb 2000 to Mar 2003-Feb 2004, and, 'Annual Population Survey', January-December 2004, from NOMIS, 2nd March, 2006

Chart 7 illustrates the time series from 1999, showing how the East Midlands has compared to the Great Britain average, the South East (the leading English region), and the North East (the lagging English region until 2004). Great Britain is the national average excluding Northern Ireland, which was not included in the LFS until 2003. Great Britain is therefore used for time series, whilst the United Kingdom (the national average including Northern Ireland) will be used as the national comparator when commenting on the latest data:[24]

- The East Midlands has had consistently higher employment rates than the national average since 1999;
- However, there has also been convergence. In 1999 the East Midlands exceeded the national average by 2 percentage points, at 75.8%. In 2004 this gap had decreased to 1 percentage point. Other leading regions have also converged with the national average. The South East has converged from 6 percentage points above the average for Great Britain in 1999 to 3.5 percentage points above in 2004;
- Additionally, a number of regions that have historically lagged the national average have closed the gap in recent years. This is particularly the case for the North East, which had the lowest employment rate of all English regions in 1999, at 66.6%, lagging the average for Great Britain by 7.2 percentage points. In 2004 this had increased to 70%, 4.4 percentage points lower than the average for Great Britain.

[24] The source for time series data on employment and unemployment used in this section is the Labour Force Survey (LFS) produced by the Office for National Statistics (ONS). In 2004 the LFS was incorporated into the new Annual Population Survey (APS), providing a boosted annual sample of at least 5,000 economically active people per Local Authority District/Unitary Authority. The LFS is available to a Local Authority District level from 1999 to 2003, and is updated in 2004 by the APS. The APS is fully comparable with LFS time series, with the one caveat that the annualised APS dataset relates to the calendar year (January-December), whilst the annualised LFS results cover 12 months from March to February. Annualised data from the LFS/APS is used in preference to the quarterly releases because of the larger sample size and the reduction of seasonal variation.

Despite this convergence, two general observations remain valid:

- Employment rates have remained very stable across the country, despite population growth in many regions;
- Employment rates continue to vary significantly between regions, even though the gap between the leading and lagging regions has narrowed from 13.2 percentage points in 1999 to 9.8 percentage points in 2004.

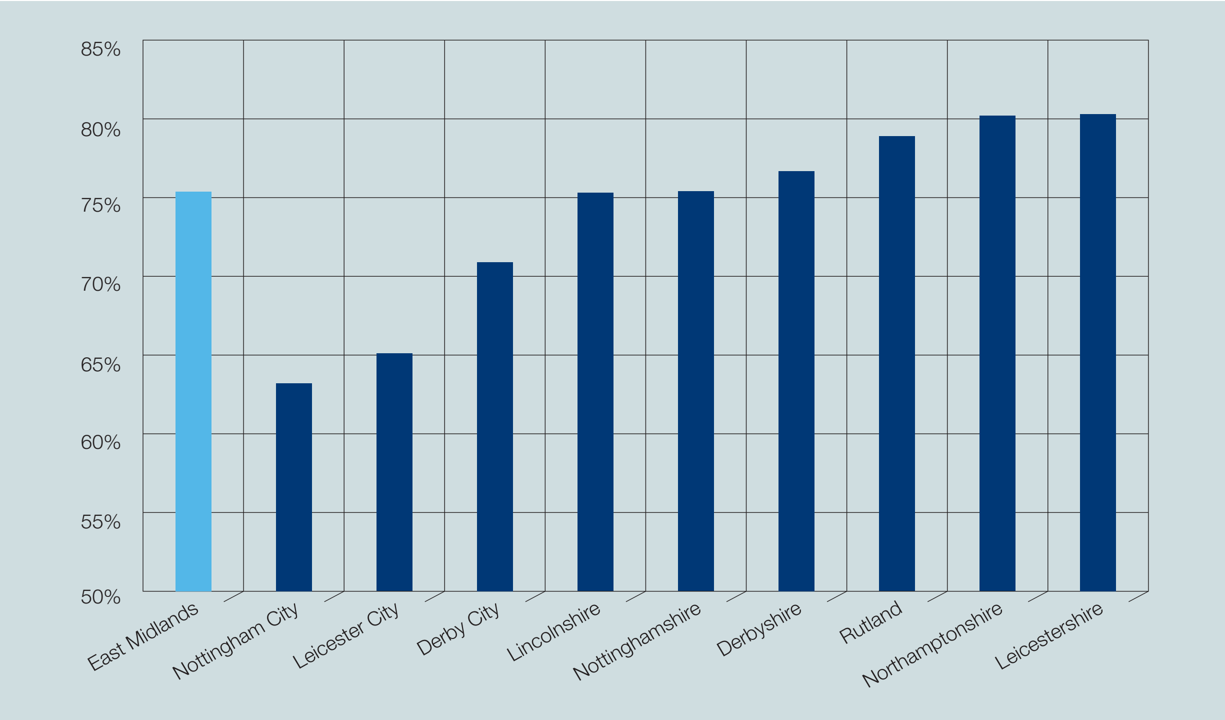
3.2.1 Sub-regional variations in employment

If we turn our attention to the sub-regional level, the picture is far from uniform. Chart 8 presents employment rates by county and UA:

- Employment rates tend to be lower in the cities, as represented by the UAs of Derby, Nottingham and Leicester. This is particularly the case for Nottingham and Leicester cities: the respective employment rate estimates were 63.2% and 65.1% in 2004, over 10 percentage points below the regional average in both cases;
- Employment is highest in the south of the region, with Leicestershire, Northamptonshire and Rutland all recording rates significantly above the regional average, at 80.3%, 80.2% and 78.9% respectively;
- The very high employment rates in Leicestershire and Northamptonshire can be attributed to their proximity to the buoyant labour markets of the Greater South East. In their 2002 assessment of the region's labour market, Alan Felstead et al cite earlier research which attributes the strong population growth and high employment rates in Northamptonshire to its residential appeal to London commuters.[25]

CHART 8

Sub-regional employment rates (% working age), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 24th November, 2005

[25] Alan Felstead, Martin Quinn and Johnny Sung, Centre for Labour Market Studies (CLMS), University of Leicester, on behalf of *emda*, *Baseline Labour Market Information for the East Midlands, 2002*, October 2002.

Map 1 shows these variations in more detail at a Local Authority District (LAD) level:

- The county and UA data presented above establishes that employment rates are lowest in the cities of Nottingham and Leicester, but the LAD level data illustrated here shows that employment rates are also lower on the Lincolnshire coast and in the former coalfields areas. East Lindsey, on the Lincolnshire coast, had an employment rate of 70.9% in 2004, whilst the districts of Bolsover and Mansfield had rates of 67.8% and 71.3% respectively;

- The highest employment rates are distributed across the southern half of the region. South Northamptonshire, the most southerly district in the East Midlands, had the highest employment rate in 2004, at 85.9%. Employment rates were above 78% in all the districts in Northamptonshire, whilst the districts of Harborough, Blaby, Hinckley and Bosworth, and Melton in the south and east of Leicestershire all had employment rates higher than 80%.

Generally, rural areas have above average employment rates

3.2.2 Urban and rural variations in employment

In July 2005, the Department for Environment, Food and Rural Affairs (DEFRA) published classifications of Local Authority Districts according to their urban or rural character based on the size of settlements.[26] This enables us to talk in broad terms about differences between the urban and rural parts of the region:

- Consistent with the above picture for counties and UAs, the employment rate is higher in rural areas and lower in urban areas;

- The average employment rate for all East Midlands rural LADs is 78.2%, 2.8 percentage points above the regional average, whilst the average employment rate for urban LADs is 72%, 3.4 percentage points below the regional average.

However, these aggregate figures mask significant local variations. There are a number of rural districts with low employment rates indicative of a dependence on weak local labour markets, which are often a function of relative isolation and poor transport links. As Map 1 shows, the employment rate in the rural district of East Lindsey was 4.5 percentage points lower than the regional average. There are also areas of the former coalfields classified as rural, such as Bolsover, which exhibit employment rates that are significantly below average. In this case, this is due more to the continued effects of de-industrialisation.

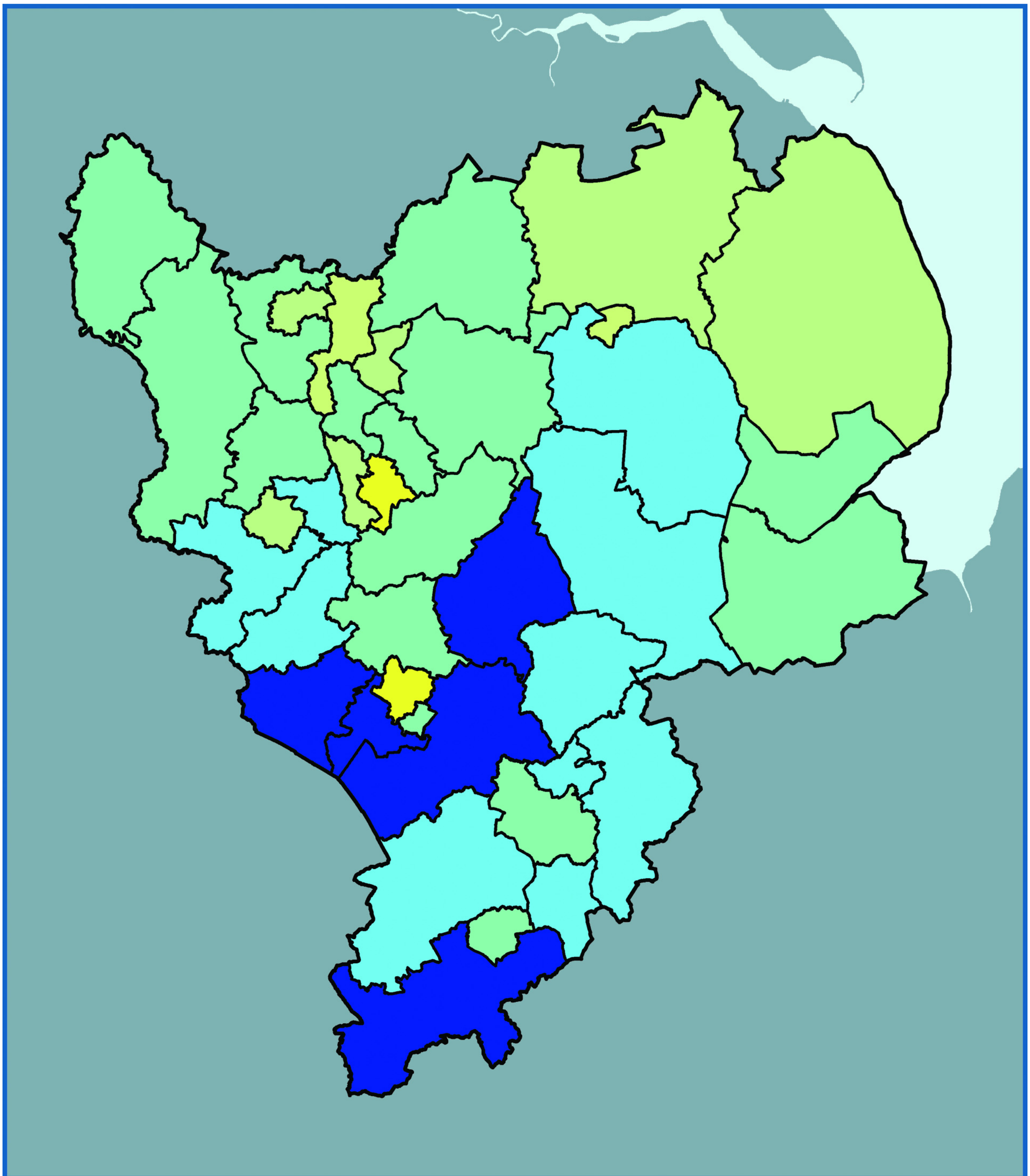
The case of East Lindsey, when compared to more affluent rural areas in the region, is consistent with the portrait of rural East Midlands in *Change in the Countryside*.[27] This makes a clear distinction between accessible rural areas, where towns and villages account for the majority of the population, and less accessible areas, where large proportions of the population live in more sparsely populated hamlets and isolated dwellings. The towns and villages are relatively prosperous, with high levels of employment. Employment deprivation in these areas is confined to a small proportion of individuals outside the economic mainstream. However, the sparsely populated areas, predominantly in Lincolnshire, have quite different characteristics, and experience much wider deprivation. This is a function of their relative isolation and reliance on agriculture and associated activities for employment.

[26] Rural Evidence Research Centre, Birckbeck College, University of London, on behalf of Department for Environment, Food and Rural Affairs (DEFRA), *DEFRA Classification of Local Authority Districts and Unitary Authorities in England*, July 2005. Full information on the Rural and Urban classifications by Local Authority District can be found on: **http://statistics.defra.gov.uk/esg/rural_resd/rural_definition.asp**
Please note: this is a different methodology than the sparsity index used to define settlement types at a Census Output Area level. The district definition is designed to classify districts, rather than apportion population by urban and rural.

[27] RES commission evidence by Glyn Owen, on behalf of *emda*, *Change in the Countryside: raising economic wellbeing through targeted intervention*, August 2005.

MAP 1

Employment rates (% working age), 2004



63 to 67
67 to 71
71 to 75
75 to 79
79 to 83
83 to 87

Employment Rate of Working Age Population 2004 (%)

0 10 20 miles N

east midlands development agency
the catalyst for change

Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004

3.3 Unemployment

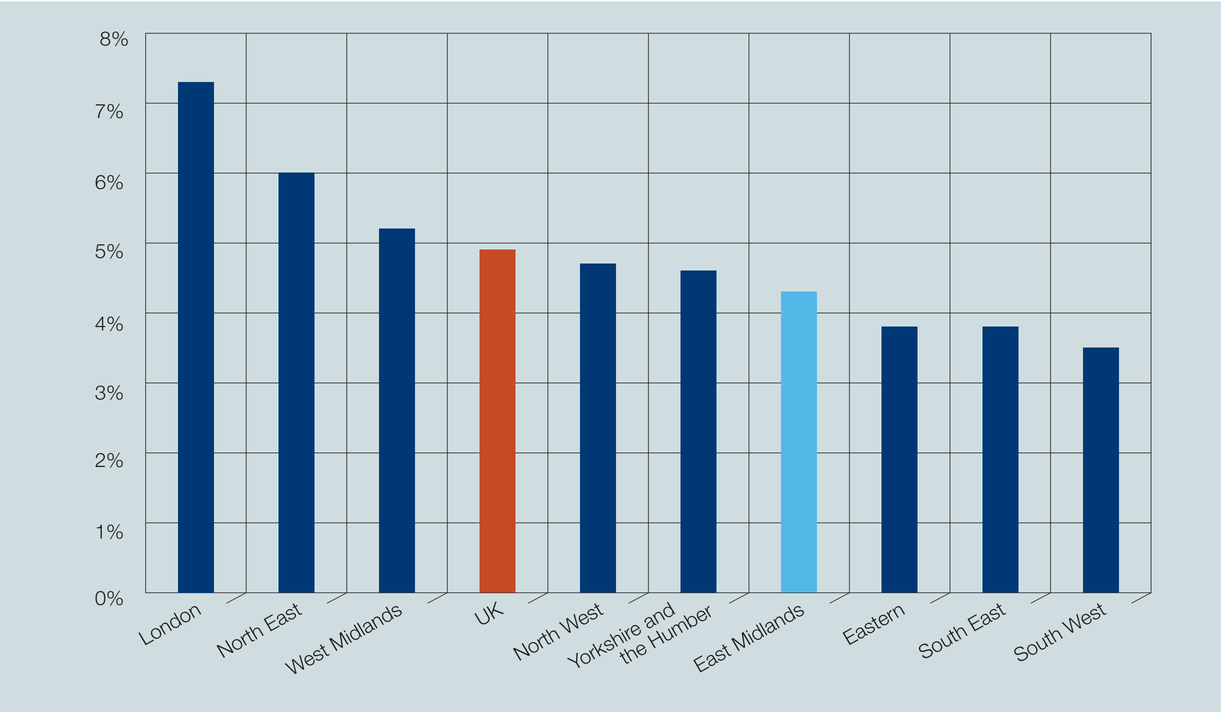
On the preferred measure of unemployment, based on the International Labour Organisation (ILO) definition, the East Midlands has also consistently outperformed the national average.[28] Chart 9 shows unemployment as a proportion of the working age, economically active population for the English regions and the UK average in 2004:[29]

- Although recent data suggests that levels of unemployment in the region are levelling off after falling sharply since the late 1990s, the 2004 annual estimate for unemployment in the East Midlands remains below the national average, at 4.3% of the economically active population, compared to 4.9% in the UK;
- The East Midlands is fourth out of the nine English regions, behind the South West (3.5%), the South East (3.8%), and the East (3.8%), but outperforms Yorkshire and the Humber (4.6%), the North West (4.7%), the West Midlands (5.2%), the North East (6%), and London (7.3%).

> Since 1999 unemployment rates in the East Midlands have remained below the UK average

CHART 9

Unemployment rates by region (% economically active working age), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 24th November, 2005

[28] The ILO definition of unemployment covers those who are not currently in employment, but are seeking and available for work. This is the preferred measure of unemployment as it is not affected by changes in the benefit system. For further details, refer to: ONS Crown Copyright, *How Exactly is Unemployment Measured?*, Fifth Edition, August 2004.

[29] Sub-regional variations in unemployment are discussed in detail in: *emda*, *The East Midlands in 2006*: Section 4, Deprivation and economic inclusion, as part of a wider analysis of worklessness.

Chart 10 shows unemployment in the East Midlands compared to the average for Great Britain between 1999 and 2004:

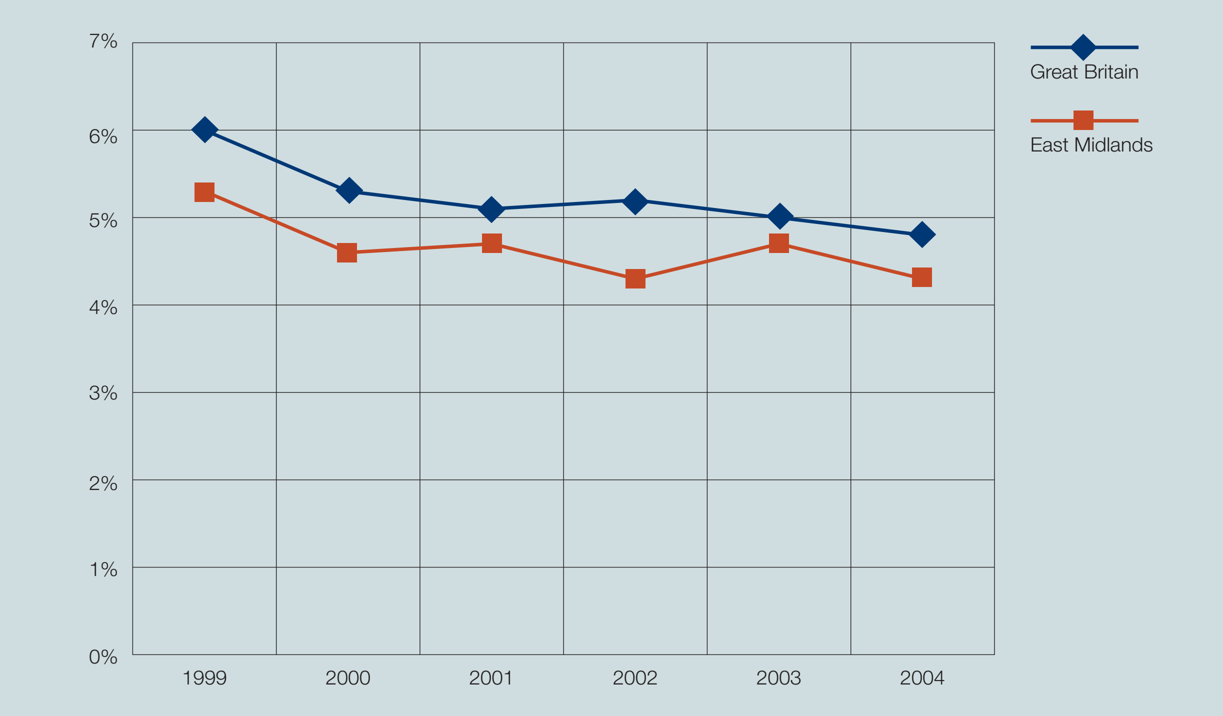
- As in the case of employment rates, there has been convergence between regions, with lagging regions like the North East closing the gap significantly with the national average between 1999 and 2004;

- The trend in unemployment rates in the East Midlands has followed the national trend quite closely, although the region has consistently outperformed the average. In 1999 the East Midlands unemployment rate was 0.7 percentage points lower than in Great Britain as a whole, whilst in 2004 there was a difference of 0.5 percentage points.

Unemployment in the East Midlands has followed the UK trend quite closely

CHART 10

Unemployment in the East Midlands and Great Britain, 1999-2004



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 1999-Feb 2000 to Mar 2003-Feb 2004, and, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 2nd March, 2006

3.4 The structure of employment in the East Midlands

This section will describe the structure of employment in the UK and the East Midlands in terms of gender and employment status. To look at developments over time, and likely developments in the future, the following commentary is based on the latest *Working Futures* 2004-2014 projections of sectoral and occupational employment. This replaces the first publication of *Working Futures* 2002-2012 projections described in the interim version of the Evidence Base.[30]

3.4.1 Employment by gender

Much of the growth in employment across the UK in the 1990s can be attributed to a dramatic increase in the number of women joining the labour market. In 1984, women accounted for 43% of those in employment in the UK. By 1994 this had risen to 47.5%. This shift in employment towards women was partly driven by changes in industrial structure. The contraction of the primary, utilities and manufacturing sectors, as described in Section 2, has led to the loss of many full-time jobs traditionally held by men. In contrast, the number of jobs traditionally occupied by women has increased with the growth of services, and the increase in part-time jobs has made employment more accessible to many women. This has been accompanied by social and attitudinal changes, leading to an increasing proportion of women taking an active role in the labour market and an increasing tendency to combine child care responsibilities with part and full-time employment.

This trend now appears to have stabilised. Although industries traditionally dominated by men have continued to decline, by 2004 the male share of total employment had recovered to a level comparable to the start of the 1990s. This is due to increasing proportions of men moving into activities previously dominated by women.[31] In 2004, 46.5% of jobs in the UK were held by women, representing very little change from 1994. The *Working Futures* projections to 2014 suggest that this share will remain very stable over the next decade.

In the East Midlands, the earlier *Working Futures* 2002-2012 projections suggested that male employment would suffer very heavily from the continued decline of manufacturing in the region, and female employees would account for more than half of all jobs by 2012.[32] The new 2004-2014 projections moderate this picture considerably. Chart 11 shows that the new projections for the East Midlands follow the UK trend fairly closely:

- We now expect the share of jobs held by men in the East Midlands to recover significantly after the contractions experienced in the mid-to-late-1990s. More men are expected to occupy a greater proportion of jobs in the service sector than previously estimated. This presents a fairly stable picture, with the increased role of women in the labour market consolidating at just under half of all jobs in the region;
- In 1994 women represented a smaller proportion of the region's workforce than the UK average, at 46.7% compared to 47.5%;
- By 2004, the East Midlands slightly exceeded the national average, with women making up 46.7% of the region's workforce compared to 46.5% in the UK;
- The female share of employment in the region is projected to remain very stable and very slightly above the national average, at 46.8% in the East Midlands compared to 46.7% in the UK by 2014.[33]

> Women make up a slightly larger share of the workforce in the East Midlands than in the UK overall

[30] *emda, East Midlands Regional Economic Strategy: Creating a Flourishing Region Together – Interim Evidence Base: The East Midlands in 2005*, September 2005.

[31] Institute of Employment Research (IER) and Cambridge Econometrics, on behalf of the Sector Skills Development Agency, the Learning and Skills Council, and the Department for Education and Skills (DfES), *Working Futures 2004-2014: National Report*, January 2006.

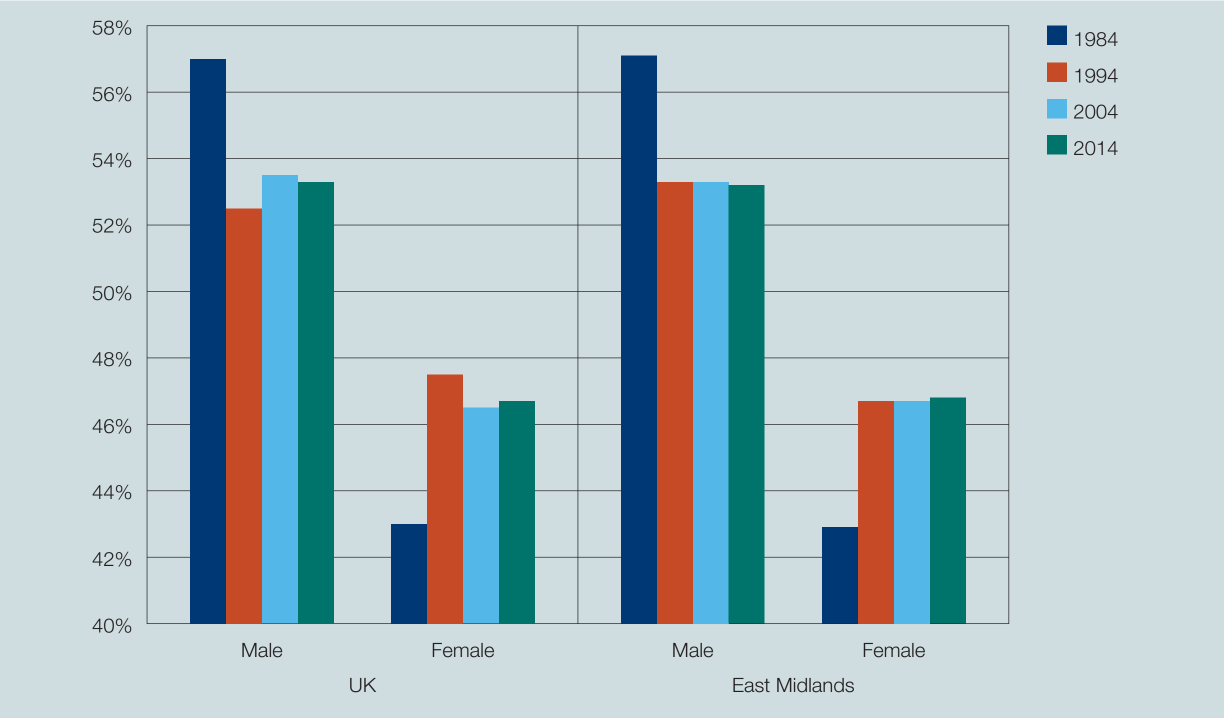
[32] IER and Cambridge Econometrics, *Working Futures: Volume 2- Regional Report, 2002-2012*, January 2004.

[33] IER and Cambridge Econometrics, *Working Futures 2004-2014: Spatial Report*, January 2006.

Note: The employment forecasts used in this section are different from those in *emda*, *The East Midlands in 2006*: Section 2 Economy and productivity. That chapter contains data from the *emda*/Experian *Scenario Impact Model*, which provides detailed projections of output and productivity by industry, which are unavailable from the *Working Futures* model. The *Working Futures* projections are used in this section because of their detailed focus on the occupational structure of employment.

CHART 11

Employment by gender (% total employment), 1984-2014



Source: Institute of Employment Research (IER) and Cambridge Econometrics, on behalf of the SSDA, 'Working Futures, 2004-2014', January 2006

3.4.2 Employment status

Chart 12 shows that the breakdown by employment status[34] in the East Midlands is quite similar to the national average and is expected to remain so in the future. However, a number of differences can be observed:

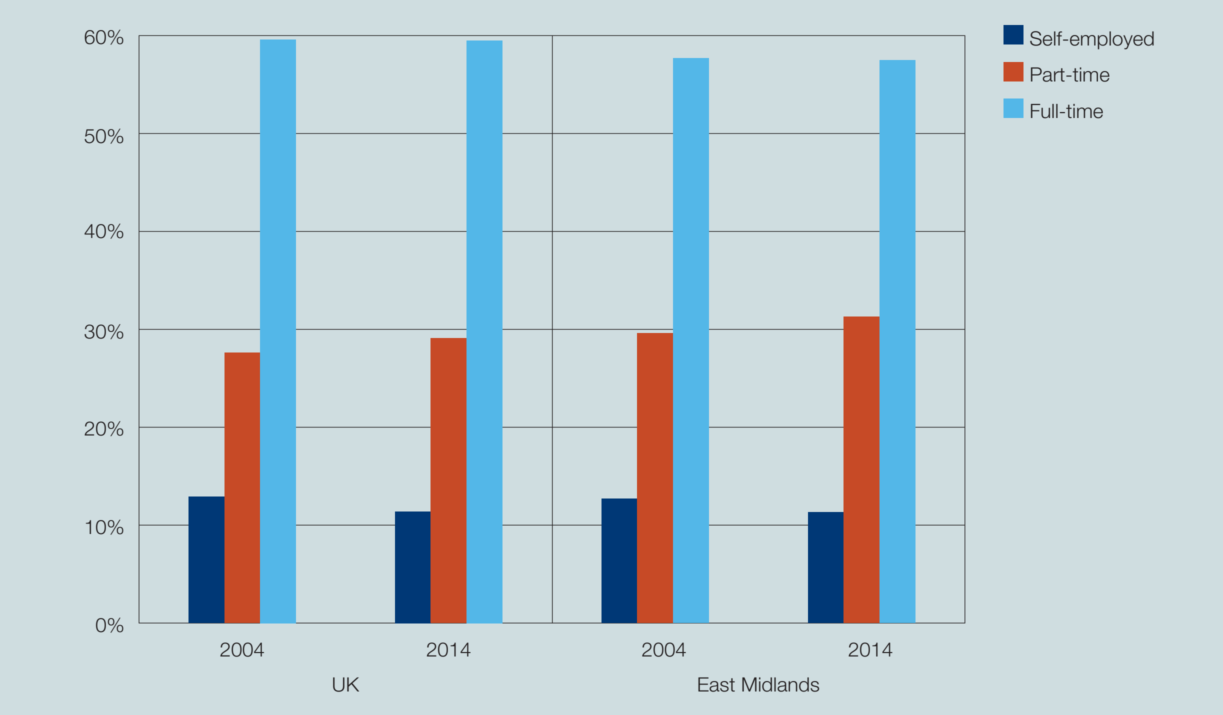
- The self-employed make up a slightly lower proportion of jobs in the region, at 12.7% in the East Midlands compared to 12.9% in the UK in 2004. This is projected to decrease both regionally and nationally by 2014, to 11.3% and 11.4% respectively. It should be noted that this should not be regarded as an indication of entrepreneurial activity. Self-employment does not necessarily denote business ownership, and is sometimes pursued when other employment opportunities are limited (i.e. self-employment may be a positive, 'voluntary' choice associated with entrepreneurialism, or can be a choice of 'last resort' when options in the mainstream labour market appear limited);
- Individuals working in the East Midlands are slightly more likely to work part-time than in the UK overall. This is expected to remain the case in the future, with an increase in part-time jobs representing a significant driver of total employment growth in the region. In 2004, 29.6% of jobs in the East Midlands were accounted for by employees working part-time, compared to 27.6% in the UK. By 2014, 31.3% of employment in the region is expected to be part-time, compared to 29.1% in the UK. This is closely associated with the slightly higher proportion of women working in the East Midlands, who account for the majority of part-time jobs.

In summary, women already play a far larger part in the labour market than they did twenty years ago, although this increase has stabilised in recent years. Women now account for a slightly higher proportion of jobs in the East Midlands than in the UK. This is expected to remain the case in 2014. Additionally, part-time jobs will account for almost a third of all jobs in the region by 2014. This is also a higher proportion than for the UK as a whole.

[34] 'Employment status' classifies employed people according to whether they are working for someone else (as an 'employee') or themselves (are 'self-employed'). Additionally, employees are classified on the basis of whether they work full-time or part-time.

CHART 12

Employment status (% of total employment), 2004-2014



Source: Institute of Employment Research and Cambridge Econometrics, on behalf of the SSDA, 'Working Futures, 2004-2014', January 2006

4. Skills and qualifications in the East Midlands

This section looks at measures of adult skills in the East Midlands. The region has been described as being in a 'low pay low skill equilibrium', characterised by, "a combination of low wages and high employment."[35] The concept can be used to describe much of the UK, and implies a vicious circle, where a low demand for workforce skills presents little incentive for individuals to invest in their own education, and in turn a supply side weighted towards lower skills arguably influences businesses in the products they produce and processes they employ.[36] Although this may be a rational decision at the level of the individual firm, large numbers of businesses competing on the basis of cost alone is not sustainable if the region is to remain competitive in a global environment.

In the following analysis we will look at the supply side. As before, we will use indicators of qualifications and educational attainment as proxy measures for workforce skills. In doing so, we will refer to the following qualifications bands:

- No Qualifications: refers to those who lack formal qualifications. Although this does not necessarily signify basic skill requirements (i.e. poor numeracy and literacy skills) in individual cases, it is a good indicator of the proportion of people in the labour market with limited skills;[37]

- Level 2: equivalent to an NVQ Level 2, 5 GCSEs at grades A*-C, a single A-Level, or a BTEC 1st diploma. Level 2 is described by the March 2005 Skills White Paper as "the right level of skills for successful employment in many jobs", and is roughly equivalent to the level regarded by the OECD as an entry level for successful participation in the labour market;[38]

[35] IER, *DTI Skills Research Programme: Tackling the Low Skills Equilibrium*, November 2003.
[36] Alan Felstead, Martin Quinn and Johnny Sung, CLMS, University of Leicester, on behalf of *emda*, *Baseline Labour Market Information for the East Midlands, 2002*, October 2002.
[37] This section does not cover those with highest qualifications at Level 1 (such as Part 1 of a City and Guilds Foundation or a foundation GNVQ) or those with 'other qualifications' (which cannot be assigned to an NVQ Level equivalence), in order to concentrate on qualification levels that reflect key areas of policy focus. Therefore it should be noted that the highest qualification levels presented here will not add up to 100% of the economically active population.
[38] DfES, DTI, HMT, DWP, *Skills: Getting on in Business, Getting on in Work*, Part 1 of the 2005 Skills White Paper, March 2005.

- Level 3: equivalent to an NVQ Level 3 (GNVQ Advanced), 2 or more A-Levels, an ONC BTEC National, etc. This is referred to as a 'higher intermediate qualification';

- Level 4 and above: equivalent to an NVQ Level 4, a First or Masters Degree, or higher vocational qualifications such as HND, BTEC, or RSA higher diplomas. This is often used to refer to those with graduate level, or 'higher level' qualifications.

4.1 Qualifications of young people entering the labour market

Chart 13 shows how the East Midlands compares to the UK in the attainment of 16-19 year olds and 19-21 year olds. It presents those qualified to at least a Level 2 or equivalent and includes those who have gone on to achieve higher levels of qualification. This is expressed as a proportion of the total population of those age groups, so includes those still in full-time education, as well as those in employment, the unemployed or otherwise economically inactive. From the estimates presented below, we can make the following observations about the performance of the East Midlands:

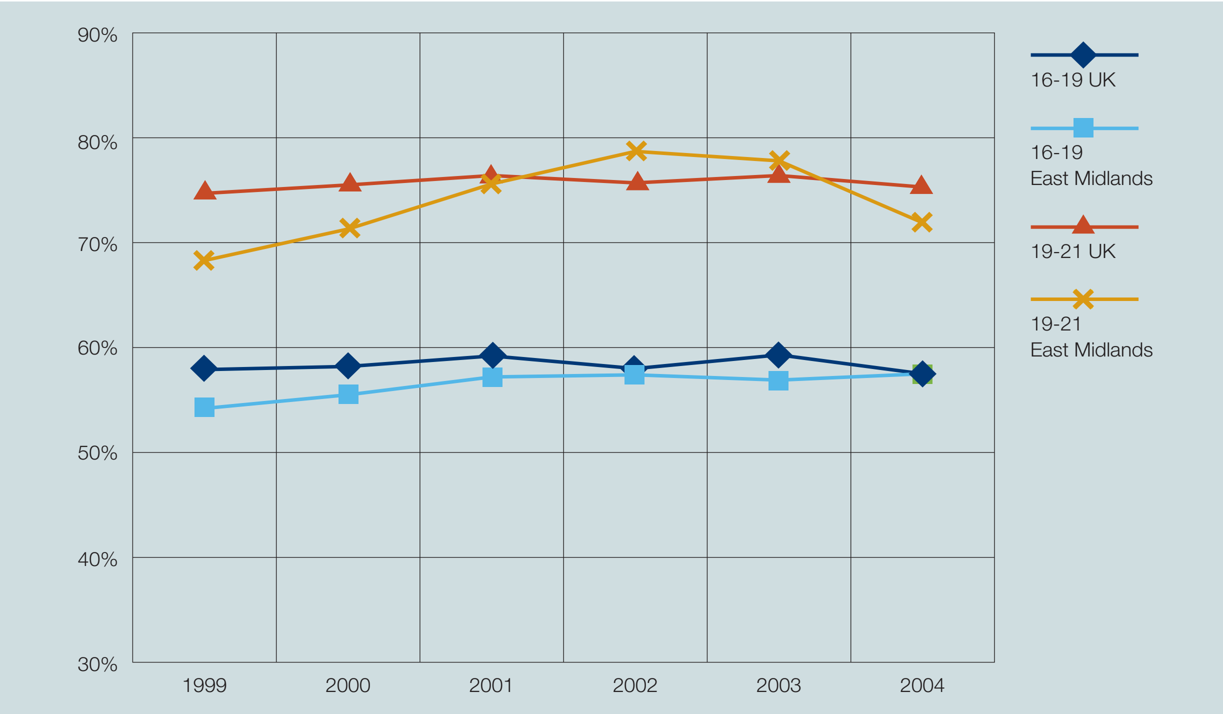
- The East Midlands has experienced considerable improvements in both the 16-19 and 19-21 age groups, closing the gap with the UK average in both cases;[39]

- For 16-19 year olds, the East Midlands has gone from lagging the national average by 3.7 percentage points in spring 1999, to being in line with the UK at 57.5% in spring 2004. This is an increase of 3.3 percentage points in 5 years, compared to a fairly static picture for the UK;

- In the case of 19-21 year olds, the East Midlands has also experienced greater increases than the UK average, improving by 3.6 percentage points in 5 years, compared to under 1 percentage point in the UK.

CHART 13

16-19 year olds and 19-21 year olds educated to a Level 2 or higher (% of total population in age band), spring 1999-spring 2004



Source: Department of Trade and Industry, Tables 9a (i) and (ii), 'Regional Competitiveness and State of the Regions', April 2005

[39] These estimates come from the DTI's *Regional Competitiveness and State of the Regions Indicators*, and are derived from the quarterly Labour Force Survey, so are more volatile than annualised estimates. Therefore the fact that the figure for the East Midlands drops sharply between spring 2003 and 2004 for 19-21 year olds is more likely to be due to sampling variability in the quarterly estimates than a significant real decrease.

This suggests that improvements in publicly funded training and education have had visible impacts on increasing the proportion of qualified young people entering or soon to be entering the labour market.

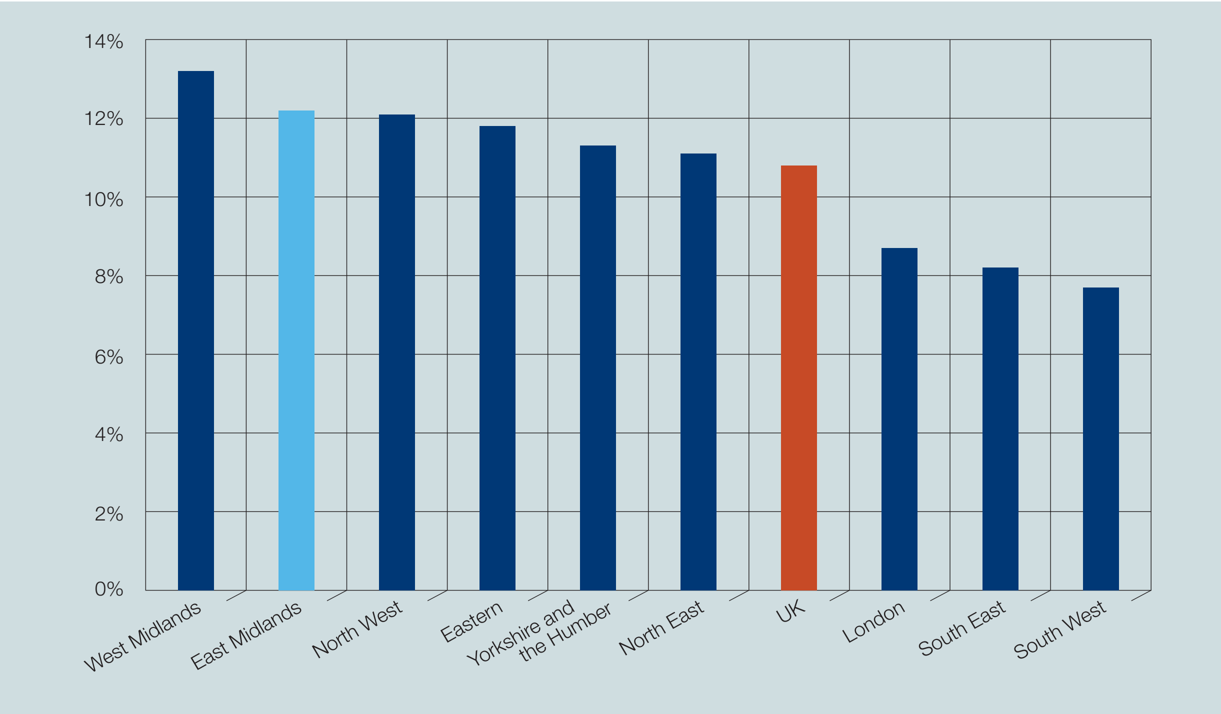
4.2 The qualifications of the workforce

We will now look at the qualifications of economically active adults (aged 16-59/64). This will be used as an indicator of skill levels in the current workforce. Chart 14 presents the proportion of economically active adults with no qualifications in the UK and the English regions in 2003:[40]

- The East Midlands has the second highest proportion of people with no qualifications of all the English regions, at 12.2% compared to a UK average of 10.8%. The West Midlands has the highest proportion, at 13.2%;
- Although the proportion with no qualifications has fallen steeply from 14.4% in 1999, the East Midlands continues to lag the leading regions significantly. Despite London's relatively poor performance in employment and unemployment rates, only 8.7% of economically active adults resident in the capital have no qualifications. In the South West, the leading region in this case, only 7.7% have no qualifications.

CHART 14

Economically active adults with no qualifications (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

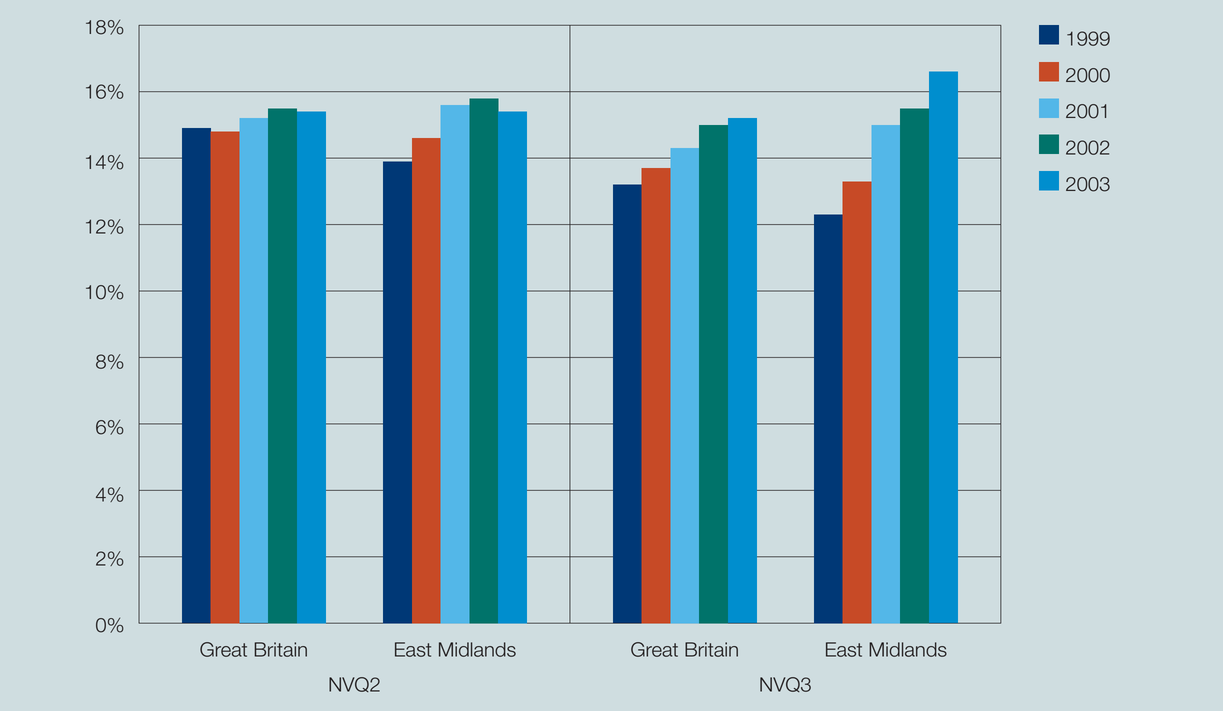
[40] The latest annualised data for regional and sub-regional workforce qualifications presented here is sourced from the 2003 Labour Force Survey, as qualifications data from 2004 is currently unavailable from the ONS due to surveying difficulties.

Chart 15 presents the proportion of the workforce with highest qualifications at Level 2 and Level 3 from 1999 to 2003. This refers to those qualified to a given level but no higher – so the proportion of adults with a highest qualification of a Level 3 is much lower than the total with a Level 3 as many go on to a higher level. Only the 'Level 4 and above' band includes those with a qualification higher than Level 4, or at least a Level 4:

- In the proportion of economically active adults qualified to Level 2, the East Midlands was 1 percentage point below the average for Great Britain in 1999, at 13.9%. In 2003, the region was in line with the national average, at 15.4%. This is the largest increase of all English regions in this period;
- Even more marked improvements were achieved in those qualified to Level 3, suggesting that a higher proportion of individuals had progressed from Level 2 to Level 3 in the East Midlands than the national average;
- In Level 3, the East Midlands increased from below to above the national average between 1999 and 2003. In 1999, 12.3% of economically active adults in the region were qualified to Level 3, compared to 13.2% in Great Britain. In 2003, 16.6% were qualified to Level 3 in the East Midlands. This was over 1 percentage point higher than in Great Britain overall and only 0.1 percentage points behind the South West, the leading English region. Again, this represents the largest increase of all the English regions.

CHART 15

Economically active adults with highest qualifications at level 2 and level 3 (% working age), 1999-2003

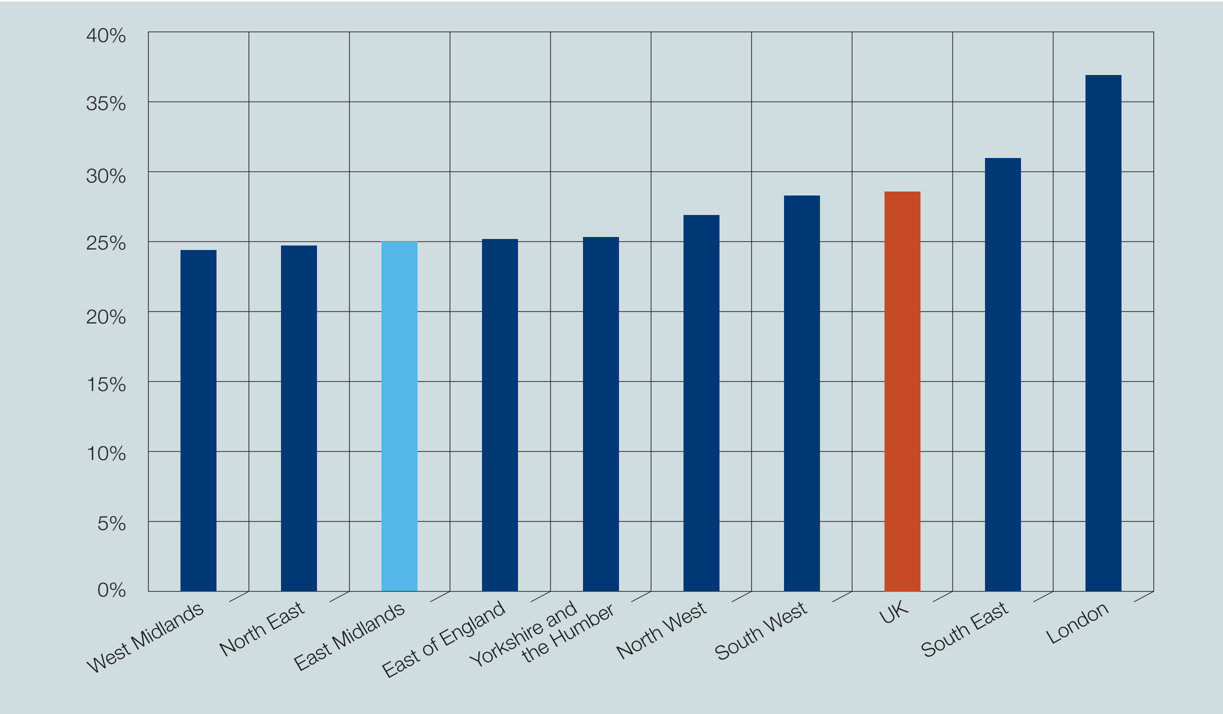


Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 1999-Feb 2000 to Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

The East Midlands has made clear progress in increasing numbers qualified to Level 2 and 3 in recent years, but there is evidence to suggest that the 'polarisation' of employment in the region means that these levels of qualification are the least necessary for employees to carry out their current jobs. Regional survey evidence suggests that the qualification levels that were most appropriate for jobs held by East Midlands residents were either 'no qualifications' or qualifications at Level 4.[41] Of respondents with no qualifications, 76.5% felt that this was the right level of qualification for the job they did, whilst 52.1% of respondents with a Level 4 felt that they were appropriately qualified for their current job. Those with Level 2 or Level 3 qualifications were far less likely to feel that their qualifications were necessary for their jobs. This is especially the case for respondents with a Level 3, only 24.1% of which felt that they were appropriately qualified for their current job. The East Midlands figures are consistent with findings from previous national surveys with comparable questions, indicating the 'underemployment' of a significant proportion of people with intermediate qualifications.[42] This suggests that employers seek either higher or lower qualification levels, indicating an increasing polarisation in skill requirements.[43]

CHART 16

Economically active adults with a level 4 and above (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

[41] The 2003 East Midlands Life and Work Survey (EMLWS) provided data on the qualifications held by respondents compared to the qualifications needed to get their current jobs and to carry them out effectively. These questions were based on the succession of national surveys, the latest of which was the 2001 Skills Survey. The 2003 EMLWS was undertaken on behalf of the East Midlands Observatory (now Intelligence East Midlands) and a number of regional partner organisations, focussing principally on employment, learning and skills issues. The survey comprised of 16,967 completed interviews, 10,453 of which were with people in employment. More information on the survey, including regional, sub-regional and thematic reports, can be accessed on: **http://www.emintelligence.com**

[42] The relevant questions were designed to enable comparisons to be drawn with the following national surveys: the 1986 Social Change and Economic Life Initiative Survey, the 1992 Employment in Britain Survey, and the 1997 and 2001 Skills Surveys.

[43] Nottinghamshire Research Observatory, on behalf of *emda*, *Analysis of Qualifications in the East Midlands Life and Work Survey 2003,* August 2004.

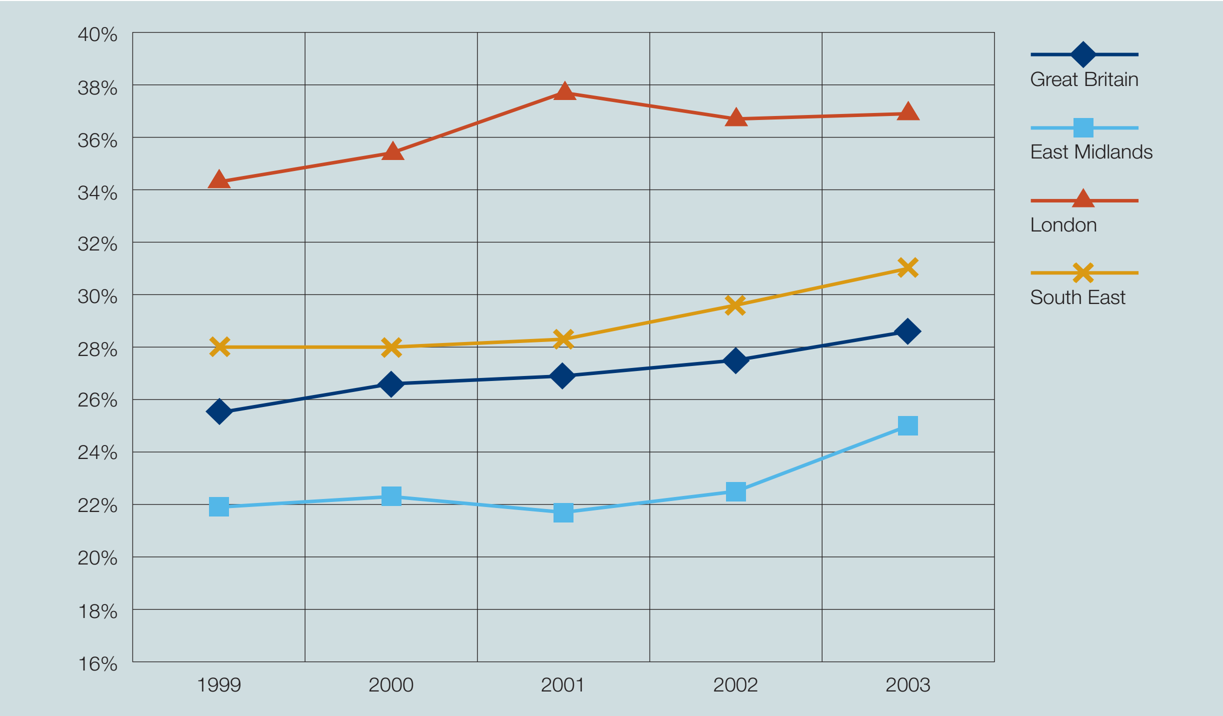
Chart 16 shows the proportion of economically active adults with a Level 4 and above. From this we can observe that:

- The East Midlands had one of the lowest proportions qualified to a Level 4 of all regions, at 25% compared to 28.6% in the UK in 2003;
- London is an outlier, with 36.9% of the workforce qualified to at least a Level 4, over 5 percentage points higher than the South East. This can be associated with the concentration of employment in managerial and professional jobs in financial and business services and Government;
- The proportion qualified to a Level 4 was lowest in the West Midlands, at 24.4%. Only London and the South East exceed the UK average. Differences between regions other than London and the South East are relatively small, falling within 4 percentage points.

Of all regions the East Midlands has one of the lowest proportions of the workforce qualified to Level 4

CHART 17

Economically active adults with a level 4 and above (% working age), 1999-2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 1999-Feb 2000 to Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

Chart 17 illustrates change since 1999 for the East Midlands, London, the South East and Great Britain:

- London has consistently remained an outlier, almost 10 percentage points above the national average, which demonstrates the 'pulling power' of the capital for individuals with graduate level qualifications;

- The East Midlands was lowest out of the nine English regions in 2001 and 2002, but experienced the largest increase between 2002 and 2003 – an increase of 2.5 percentage points, over twice that of Great Britain overall. However, because the proportion qualified to Level 4 decreased in the region between 2000 and 2001, the longer term trend is less promising. In 1999, the East Midlands lagged the average for Great Britain by 3.6 percentage points. This gap was unchanged in 2003.

The analysis of qualifications from the East Midlands Life and Work Survey suggests that those with a Level 4 are more likely to be appropriately qualified for the job they do when compared to those with intermediate qualifications. The inverse of this, however, is that almost half of those with a Level 4 believed themselves to be over qualified for their current jobs. This raises a question about how effectively individuals with graduate level qualifications are deployed in the region's workforce.[44]

4.2.1 Sub-regional variations in qualifications

The adult skills profile varies considerably across the East Midlands. Chart 18 shows the proportion of working age adults with no qualifications by county and UA:

- Leicester City and Nottingham City have the highest proportions with no qualifications, at 17% and 15.6% respectively, considerably above both the regional and UK averages. Northamptonshire and Derbyshire are also above average;

- Lincolnshire is 0.1 percentage points below the UK average and more significantly below the regional average, at 10.7%;

- As would be expected with its high employment rates and higher earnings, Rutland has a very small proportion of adults with no qualifications, at 4.4%;

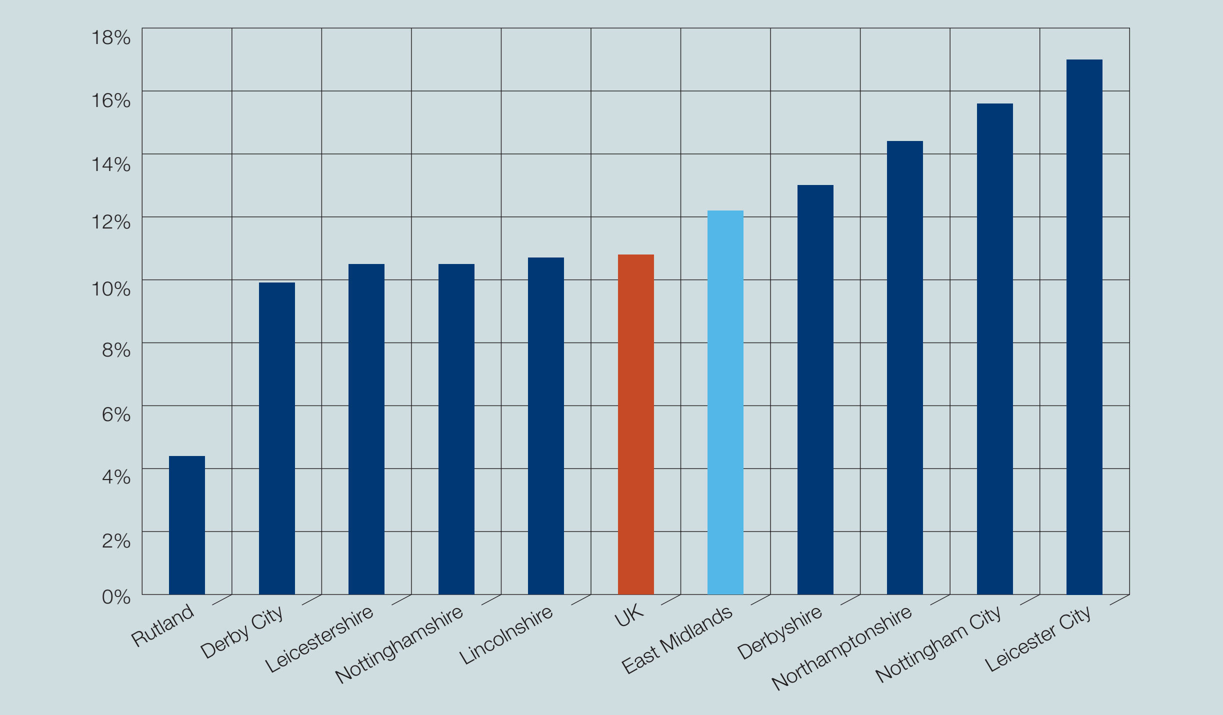
- As in the case of other labour market variables, the degree of intra-regional variation far exceeds the difference between regions. The proportion of economically active adults with no qualifications in Leicester City exceeds that of Rutland by 12.6 percentage points.

> Leicester and Nottingham cities have the highest proportions of the workforce with no qualifications in the region

[44] Ibid 43.

CHART 18

Sub-regional variations in economically active adults with no qualifications (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

Map 2 shows this in more detail at the level of Local Authority District:

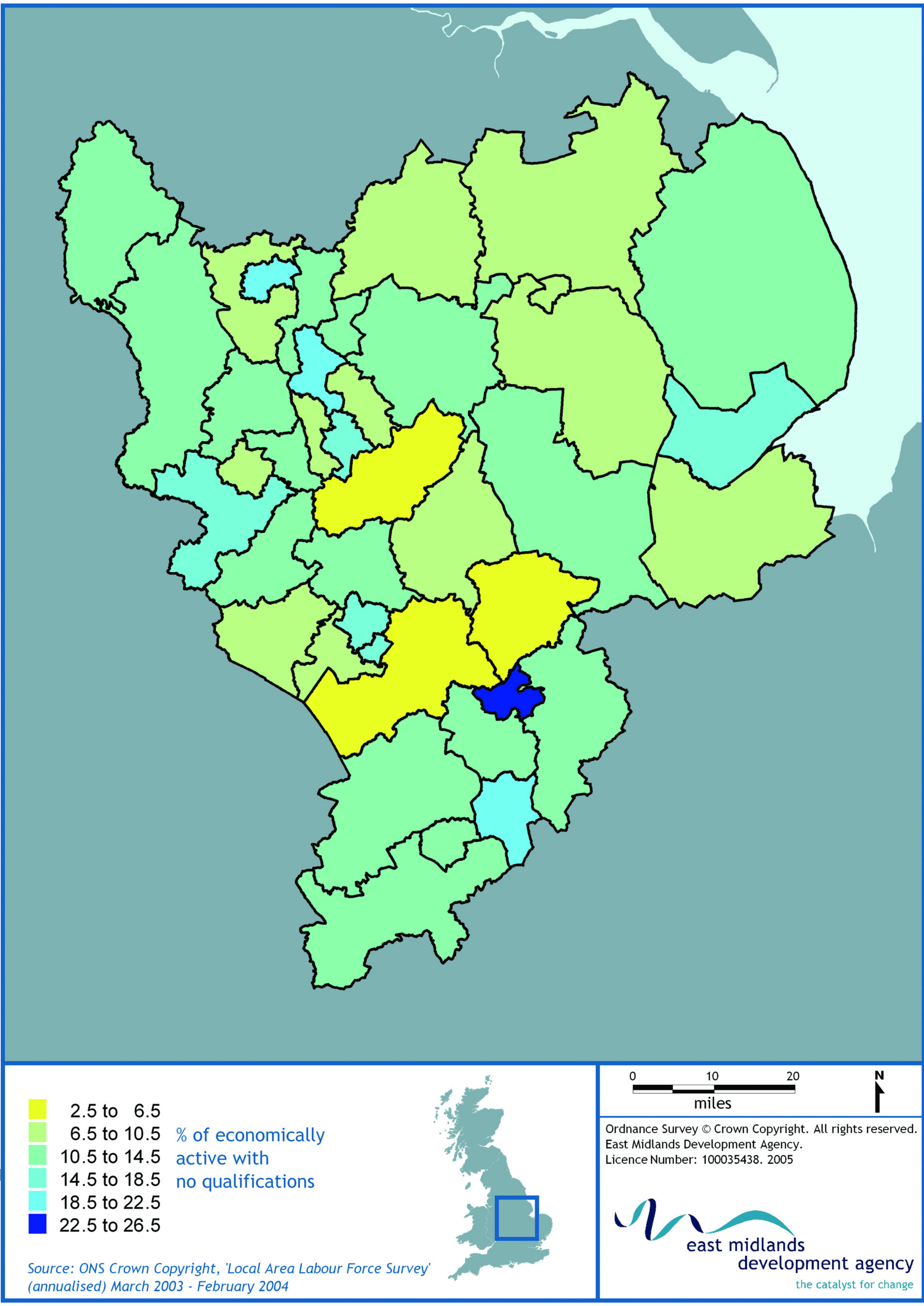
- Generally the map presents a picture that is consistent with the one described above. It indicates that there are higher proportions with no qualifications in Leicester and Nottingham Cities, and also in districts in Northamptonshire and Derbyshire. For example, 19.5% of economically active adults in the district of Chesterfield in Derbyshire had no qualifications in 2003;

- However, Map 2 highlights a number of local extremes. In Corby, 26.6% of economically active adults had no qualifications – over twice the regional average. Conversely, Harborough, in Leicestershire, and Rushcliffe, in Nottinghamshire, have very low proportions with no qualifications, at 2.5% and 5.5% respectively.

In Corby, the proportion of the workforce with no qualifications was over twice the regional average

MAP 2

Economically active adults with no qualifications (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised) March 2003 - February 2004

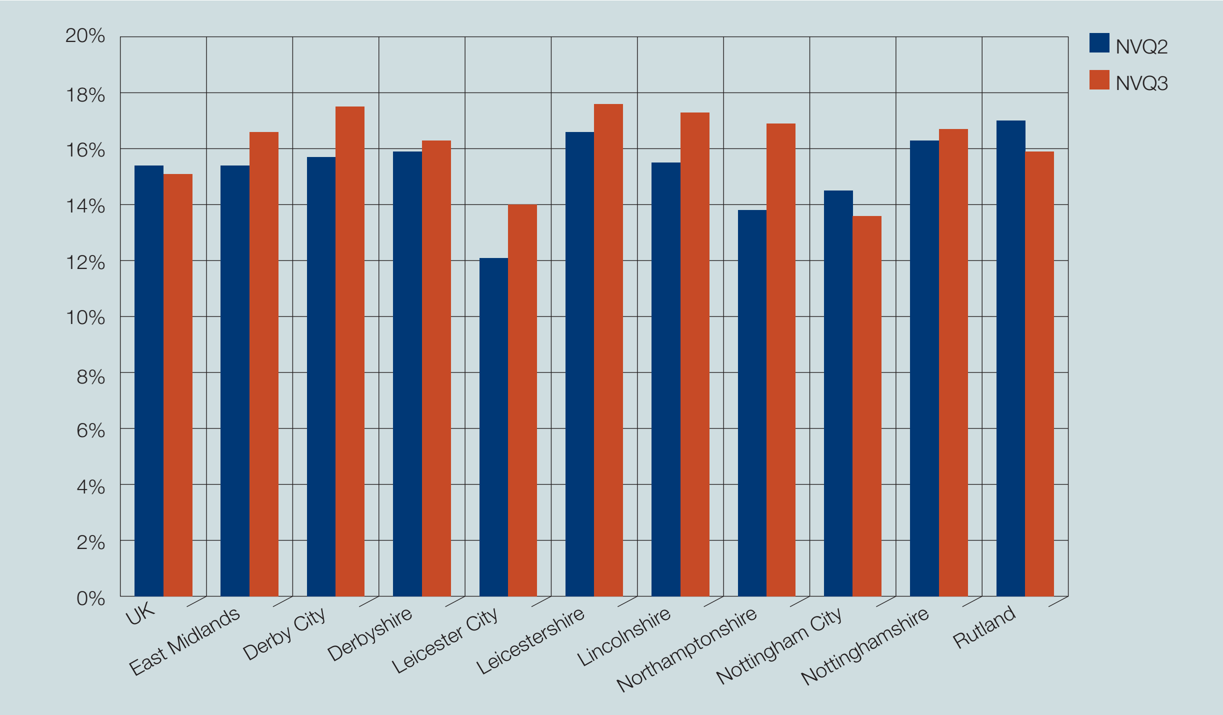
east midlands development agency
the catalyst for change

Chart 19 shows sub-regional variations at Levels 2 and 3:

- Again, both Leicester and Nottingham Cities under perform relative to the regional and UK averages. Only 13.6% of the economically active adult population in Nottingham had a highest qualification at Level 3 in 2003, and only 14.5% had a highest qualification at Level 2. In Leicester, 14% of the economically active adult population had a highest qualification at Level 3, and only 12.1% had a highest qualification at Level 2;
- Derby City, Leicestershire, Lincolnshire and Nottinghamshire all exceeded the regional average in both Level 2 and Level 3.

CHART 19

Sub-regional variations in economically active adults with highest qualifications at level 2 and level 3 (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

Chart 20 shows sub-regional variations at Level 4 and above:

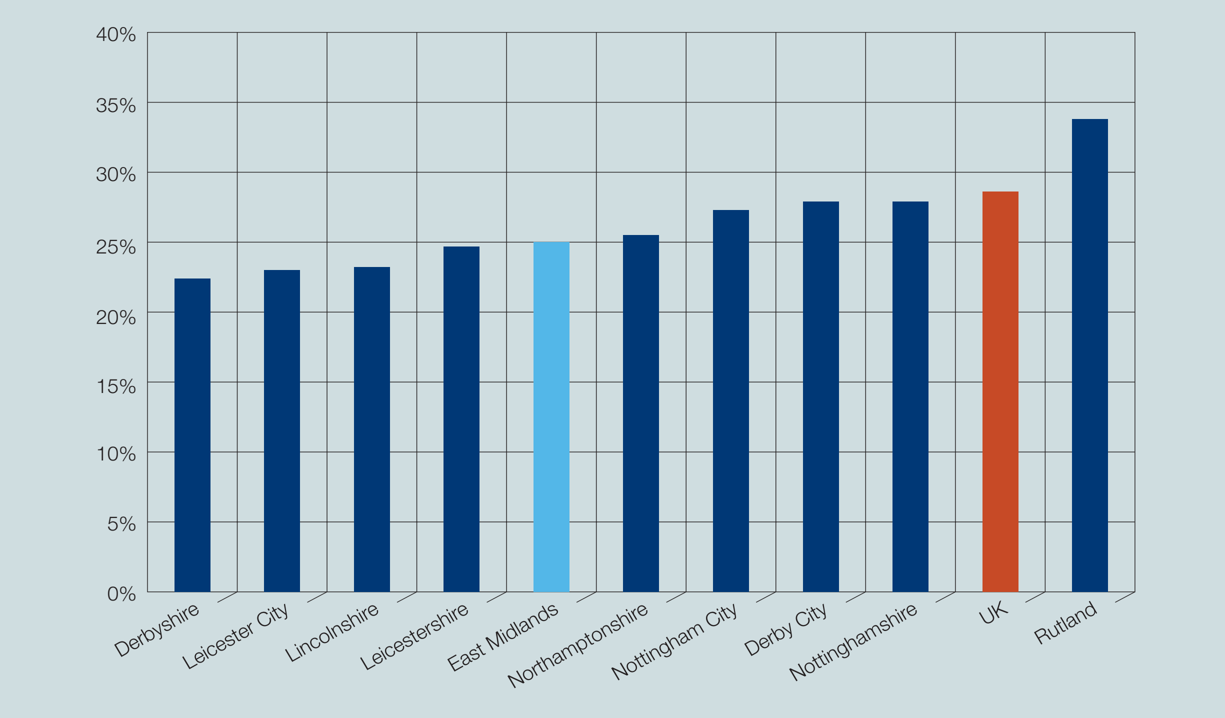
- Only Rutland exceeds the national average, with 33.8% of economically active adults resident in the county educated to a Level 4 or higher. This is 8.8 percentage points above the East Midlands average;
- The proportion of economically active adults qualified to a Level 4 in both Nottinghamshire and Nottingham City is over 2 percentage points above the regional average. This is in contrast to the high proportions with no qualifications in Nottingham City and the lower employment rates in both the county and the city. This can be attributed to the presence of the region's two largest universities, the University of Nottingham and Nottingham Trent University, which between them account for 35% of all under- and post-graduate students studying in the East Midlands.[45] This can also be associated with local variations in industrial structure, as Nottingham has a larger proportion of employment in business services and public administration than elsewhere in the region;
- Derby City exceeds the regional average quite significantly, with 27.9% of its economically active adult population educated to at least a Level 4. This is consistent with above average proportions educated to Level 2 and Level 3 and lower proportions with no qualifications. This can be associated with the industrial structure of Derby City, with significant proportions of high-value employment in the aerospace and rail manufacturing sectors. However, Derbyshire county had the lowest proportion educated to Level 4 and above, at 22.4%;
- Leicester City, Leicestershire and Lincolnshire also fall below the East Midlands average. Only 23% of economically active adults in Leicester City were educated to a Level 4, which is 2 percentage points below the regional average.

Nottingham and Derby cities exceed the regional average in the proportion of the workforce qualified to Level 4

[45] Higher Education Statistics Agency (HESA), *Table 0a- All students by institution, mode of study, level of study, gender and domicile 2003/04*, 2005.

CHART 20

Sub-regional variations in economically active adults with a level 4 and above (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 18th May, 2005

Map 3 shows this in more detail at a Local Authority District level:

- Higher proportions qualified to Level 4 tend to be distributed around the three cities or in districts bordering other regions. Rushcliffe, adjacent to Nottingham, has the highest proportion, at 41.6%, consistent with the district's role in housing many professionals working in Nottingham City, or who commute further via the M1 or A60;

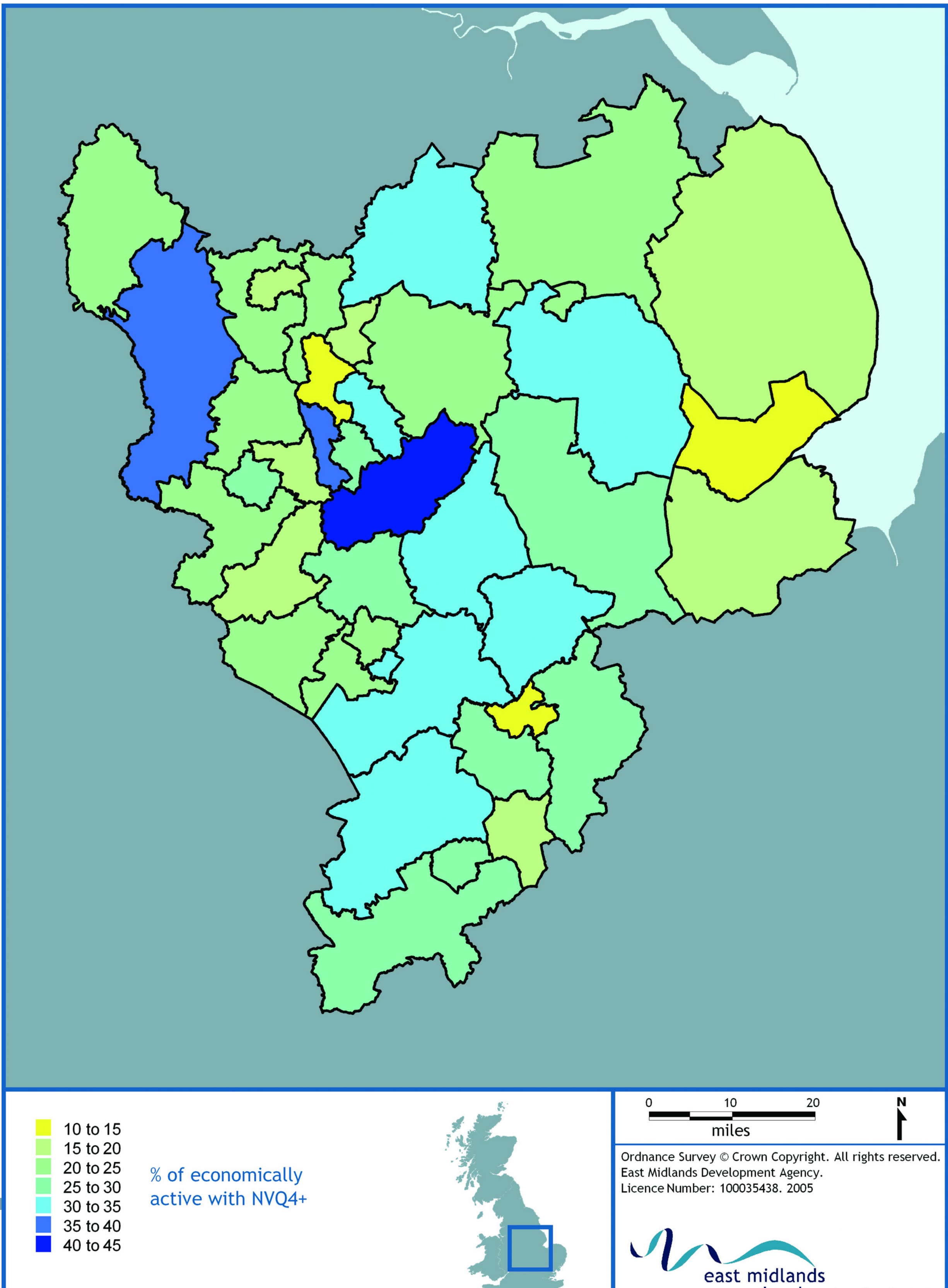
- The Derbyshire Dales was also estimated to have high proportions qualified to a Level 4 and above, at 37.7%. This could be a combination of the appeal of the area to professionals due to attractive surroundings and relative accessibility to Derby, as well as Stoke-on-Trent, Birmingham and Manchester;[46]

- Map 3 shows that many of the districts in Lincolnshire and the former coalfields area have low proportions qualified to a Level 4 (with the notable exception of Bassetlaw, in north Nottinghamshire, where proximity to Sheffield, Rotherham and Doncaster could be a factor explaining relatively high proportions of the workforce qualified to Level 4). Estimates are particularly low for East Lindsey, at 15.8%, and Boston, at 10.6% – the lowest in the East Midlands. Corby, in Northamptonshire, also stands out, with only 13.2% of economically active adults qualified to Level 4.

[46] According to Land Registry data for October to December 2005, the average price of property sold in the Derbyshire Dales was £231,177, compared to an East Midlands average of £155,286.

MAP 3

Economically active adults with a level 4 and above (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised) March 2003 - February 2004

4.2.2 Urban and rural variations in qualifications

The rural areas of the region generally have higher proportions of the economically active population with higher level qualifications and smaller proportions with no qualifications. However, the Labour Force Survey is essentially a household survey, and so describes the qualifications of residents living in such areas. Comparisons of earnings later on in this section indicate that there are substantial differences between the populations who live and those who work in an area. This suggests that many individuals in better paid, higher skilled employment live in rural areas and commute to work elsewhere:

- On average, rural districts have significantly lower proportions with no qualifications, at 10.9% of economically active adults. This is 1.3 percentage points below the regional average, and 3 percentage points below the average for urban districts. However, there are a number of rural districts in which high proportions of the population have no qualifications. For example, 18.7% of residents in Wellingborough are estimated to have no qualifications;

- Rural districts also exceed the regional average in the case of Level 4 and above, whilst urban districts are more likely to be below average. The average proportion qualified to a Level 4 and above in rural districts was 25.7%. This exceeded the average for urban districts of 23.4%, and slightly exceeded the estimate for the East Midlands overall. Again this aggregation masks a number of rural districts with very small proportions of the workforce with higher level qualifications: the district of Boston had less than half the regional average qualified to a Level 4, whilst East Lindsey was estimated to have only 15.8% qualified to a Level 4.

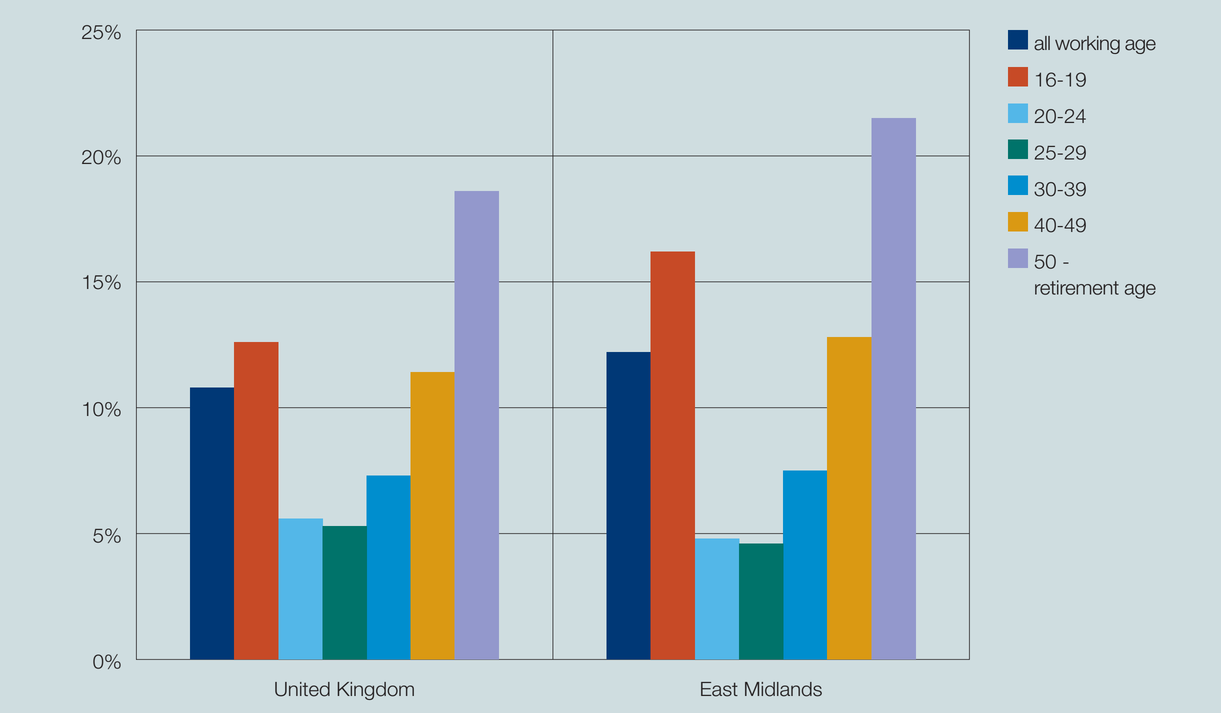
4.3 Qualifications by age group in the East Midlands

Earlier in this section we looked at the UK's comparative performance in workforce qualifications across different age groups. We observed that much of the improvement in recent years has been concentrated in the younger age groups, leaving older workers in the UK significantly lower qualified than their equivalents in Germany and the United States. We now go on to discuss how the supply of qualifications is distributed amongst different age bands in the East Midlands compared to the national average.

The rural areas of the region generally have higher proportions of the workforce qualified to Level 4

CHART 21

Economically active with no qualifications (% by age band), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 7th July, 2005

Chart 21 presents the proportion of the economically active population (and therefore excludes those in full-time education) with no qualifications by age band:

- Larger proportions of the youngest age group (16-19 year olds) have no qualifications in the East Midlands compared to the UK. In 2003, 16.2% of 16-19 year olds in the East Midlands had no qualifications, 4 percentage points above the average for all of working age. In the UK, 12.6% had no qualifications, only 1.8 percentage points more than the average for all working age. The fact that people in this youngest age group are more likely to lack qualifications in the East Midlands is concerning, as this represents the latest cohort moving from compulsory education into the workforce;

- The picture improves sharply when one looks at the 20-24 and 25-29 age groups. The proportion of economically active 20-24 year olds with no qualifications in the East Midlands is estimated to be 4.8%, compared to a UK average of 5.6%. In the case of economically active 25-29 year olds, 4.6% are estimated to have no qualifications in the region, compared to 5.3% in the UK. Bearing in mind that the East Midlands has a higher proportion of individuals with no qualifications in the working age population overall, the estimates for 20-24 and 25-29 year olds suggest that the region has been somewhat more successful than the UK overall in addressing the skills needs of these two cohorts;

- The picture worsens considerably in both the East Midlands and the UK for the older age groups. The 50-retirement age group has by far the highest proportion with no qualifications, both regionally and nationally. In the UK, the estimate for 50-retirement age exceeds the working age average by 7.8 percentage points. In the East Midlands it exceeds the working age average by 9.3 percentage points;

- Research suggests a far lower take-up of training by older age-groups, possibly due to the unwillingness of employers to fund training for older workers.[47] The data points to a more substantial 'tail' of older workers with no qualifications in the East Midlands than the UK overall.

In the case of intermediate qualifications by age band, there is an interesting difference at Level 2 when compared to the Regional Competitiveness Indicator (RCI) for young people discussed in section 4.1:

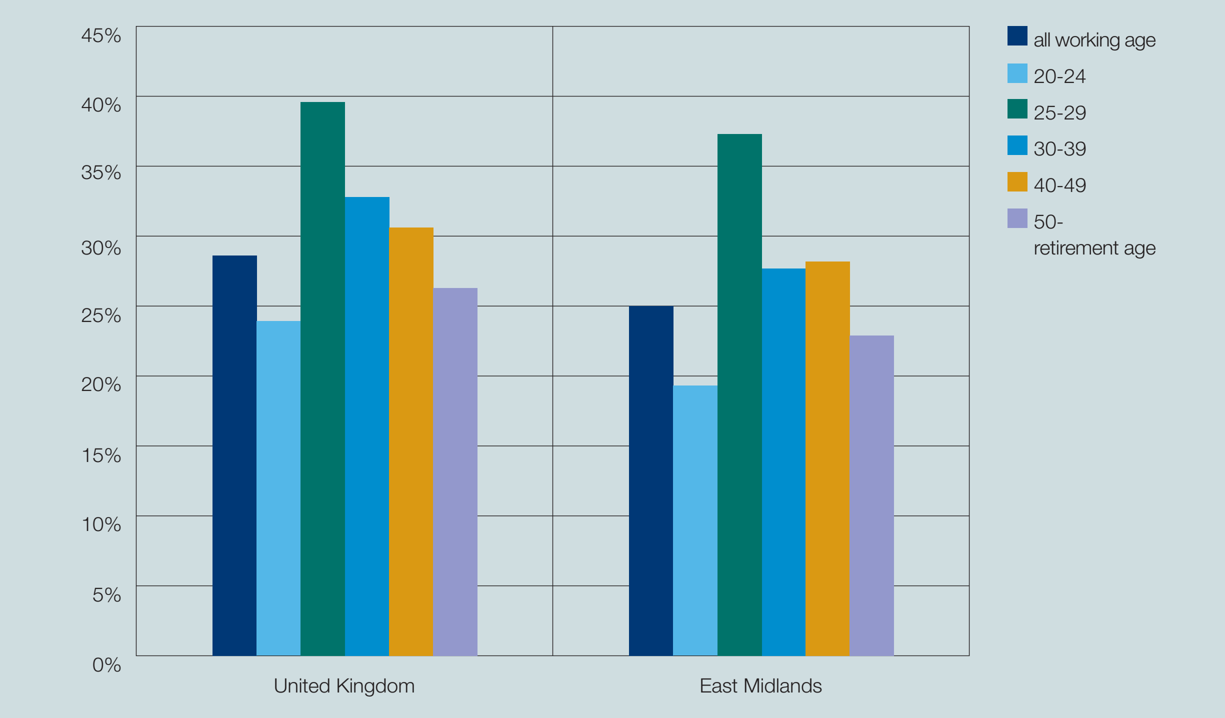
- The region falls below the UK average in economically active 16-19 year olds with a Level 2 as their *highest* qualification, at 33.3% compared to 36.3%. This raises questions when viewed alongside the RCI for 16-19 year olds qualified to *at least* a Level 2, where the East Midlands is in line with the national average. The RCI is based on the total population of 16-19 year olds, rather than just those who are economically active, and includes those who have gone on to attain higher qualifications;

- 'Economically active' excludes those in full-time education. This suggests that 16-19 year olds in work or seeking work in the East Midlands are both less likely to be qualified to Level 2 than their equivalents nationally and less likely to have a Level 2 qualification than those who are still in education.

The older age bands in the workforce are far more likely to have no qualifications

CHART 22

Economically active qualified to a Level 4 and above (% by age band), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, from NOMIS, 8th July, 2005
Note: this does not include the 16-19 age band, as the number of individuals in this age group qualified to an equivalent of NVQ4 and above is too small to provide sufficient cell sizes for disaggregation by region.

[47] DFEE, *Skills for All: Research Report from the National Skills Taskforce*, 2000.

Chart 22 shows the proportion of economically active qualified to a Level 4 and above by age band:

- The 25-29 age group has the largest proportion qualified to a Level 4 in both the East Midlands and the UK. This reflects the outcome of the recent expansion of higher education combined with the greater likelihood for individuals to engage in learning and training prior to 30 years of age. The East Midlands is quite close to the national average in this age group, with 37.3% of the economically active population with a Level 4 or above, compared to 39.6% in the UK overall;

- However, there is a significant gap between the East Midlands and the UK for 20-24 year olds. With only 19.3% of economically active 20-24 year olds educated to a Level 4 and above, the region is 4.6 percentage points below the UK average. This represents the most recent cohort of 'traditional' graduate age individuals, and presents a picture consistent with the East Midlands' status as a 'net exporter' of recent graduates, with older graduates from the East Midlands returning to work after a number of years labour market experience elsewhere;[48]

- In the UK, the proportion of the economically active population with a Level 4 and above drops fairly uniformly for each age group over 30. This is not the case in the East Midlands, as the proportion of 40-49 year olds with a Level 4 and above (28.2%) is slightly higher than for 30-39 year olds (27.7%). This could be due to older more qualified workers with families moving to the region later in their careers for affordability and quality of life reasons.

4.4 Qualifications, employment and earnings in the East Midlands

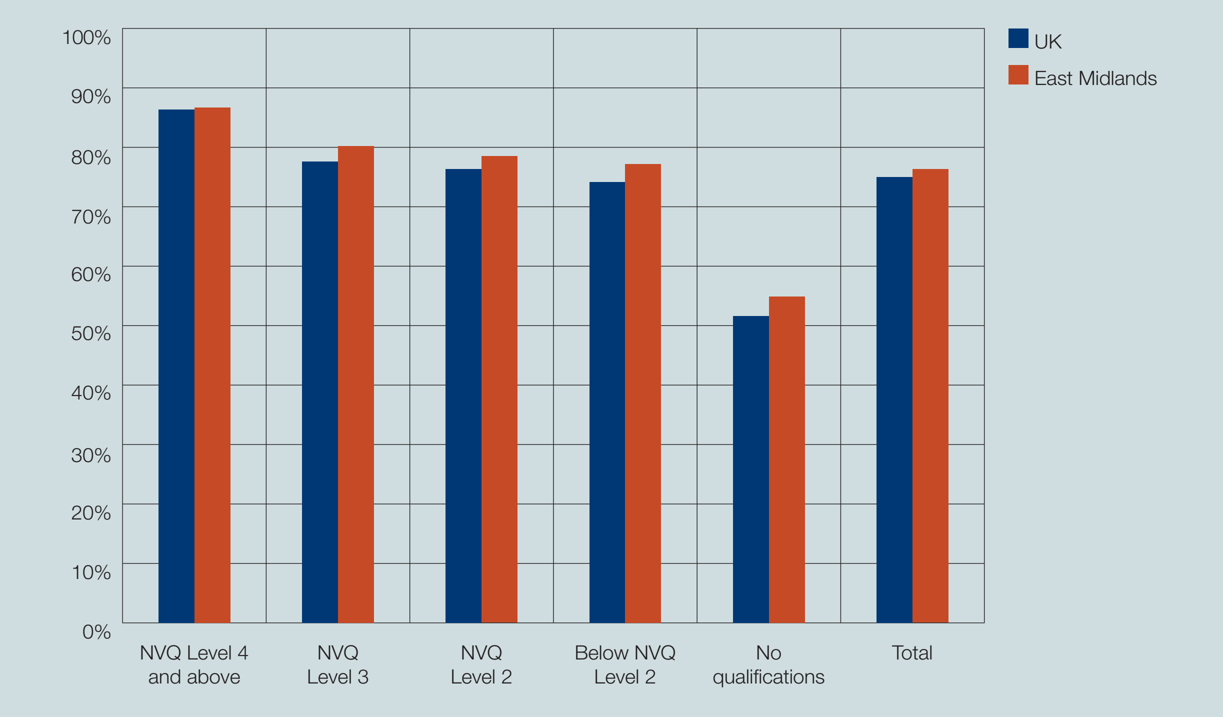
Finally we will discuss the relationship between qualifications, employability and earnings. Data from the 2003 Labour Force Survey clearly illustrates that individuals with higher level qualifications are more likely to be in employment, whilst those with no qualifications are least likely to be in employment, as shown in Chart 23:

> Individuals with higher level qualifications are more likely to be in employment, whilst those with no qualifications are least likely to be in work

[48] In the East Midlands more graduates from East Midlands Higher Education Institutions leave the region than move to the region from elsewhere. For a detailed investigation of graduate retention, please refer to: Institute of Employment Studies, on behalf of *emda*, *Graduate Employment Choices in the East Midlands*, July 2004, **http://www.emda.org.uk/uploaddocuments/glm1582emdafull.pdf**

CHART 23

Employment rate by highest qualification (% working age), 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, derived from data requested from the LFS Dataservice, 17th June 2005

- Although the overall employment rate in the East Midlands is higher than the UK average, a Level 4 qualification and above appears to have marginally less impact on employment rates in the region than nationally. The employment rate for respondents with a Level 4 and above in the East Midlands was 10.4 percentage points higher than the average for all qualification levels. In the UK, it was 11.4 percentage points higher. However, this could be a result of the higher employment rates for those with no qualifications in the East Midlands, which causes a less disparate distribution of employment by qualification level;

- Intermediate qualifications are associated with higher than average employment rates. Employment rates increase for each level of qualification, but the increase from a Level 2 to a Level 3 is considerably smaller than the increase from a Level 3 to a Level 4. This suggests that there is a considerable 'jump' in employability associated with a Level 4 qualification;

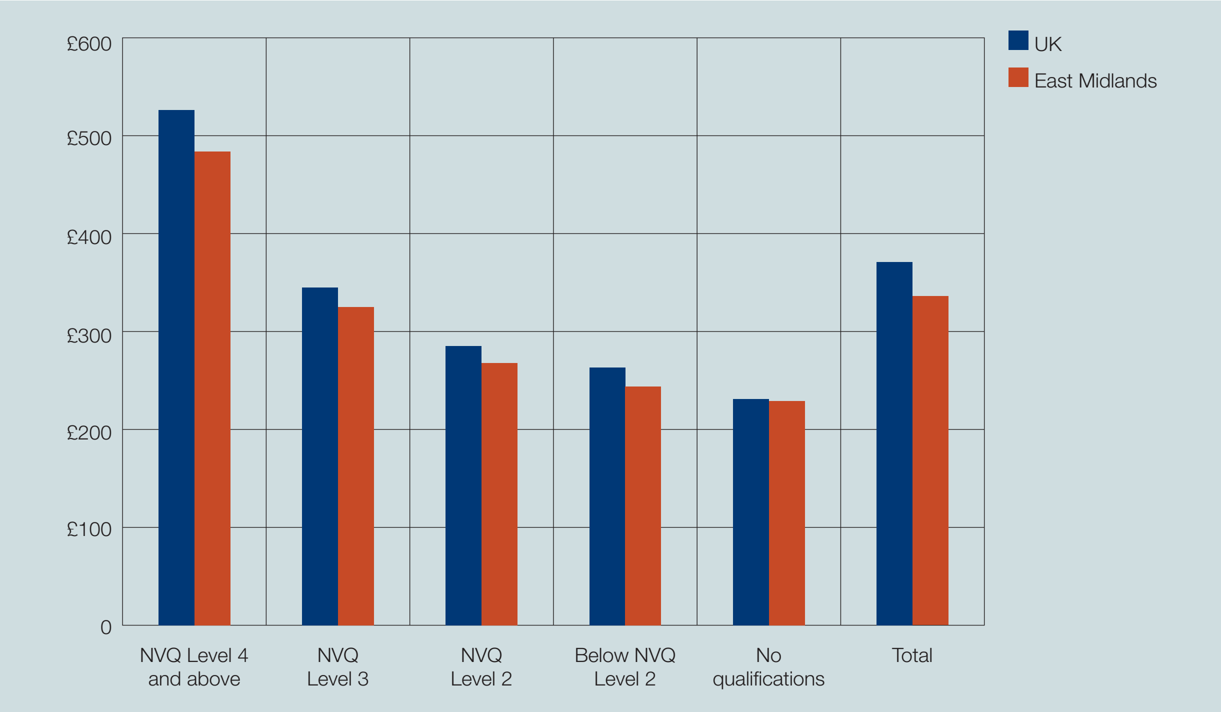
- Predictably, respondents with no qualifications had the lowest employment rates, at 54.9% in the East Midlands and 51.6% in the UK. There is a smaller gap between the employment rate for respondents with no qualifications and the average employment rate in the East Midlands than for the UK. Therefore those with no qualifications are proportionately more likely to be employed in the East Midlands than nationally. This implies that those with no qualifications benefit disproportionately from tight labour market conditions associated with high overall employment rates. In a 'slack' labour market, we might expect more differentiation in employment rates by qualification level. This may also be associated with the structure of employment in some parts of the region.

Chart 24 shows estimates of gross weekly earnings from the Labour Force Survey against the highest level of qualification reported by the respondent:[49]

- In both the East Midlands and the UK, only respondents educated to a Level 4 or above earn more than the average. In the East Midlands, respondents qualified to a Level 4 or higher earned £148 a week more than the regional average, and in the UK they earned £155 a week more than the national average;
- As in the case of employment rates, there is a substantial difference between the earnings of those qualified to a Level 4 and a Level 3 and those with no qualifications. In the East Midlands, those with highest qualifications at Level 3 earned £96 per week more than those with no qualifications, whilst in the UK they earned £114 more than those with no qualifications;
- The gap between those with qualifications at Level 2 and those with no qualifications is relatively small, suggesting that only higher and upper intermediate level qualifications have a significant impact on earnings;
- There is very little difference between the East Midlands and the UK in the earnings of people with no qualifications. In the East Midlands, individuals with no qualifications are paid £229 per week, £107 less than average, compared to £231 per week in the UK, £140 less than average.

CHART 24

Gross weekly pay by highest qualification, 2003



Source: ONS Crown Copyright, 'Local Area Labour Force Survey' (annualised), Mar 2003-Feb 2004, derived from data requested from the LFS Dataservice, 17th June 2005

[49] Please note that the preferred source for earnings estimates is the Annual Survey of Hours and Earnings (ASHE), which is referred to in sub-section 7. Earnings estimates from the Labour Force Survey should be treated with caution and are used here to enable comparisons with level of qualification held by respondents.

5. Occupational structure of employment in the East Midlands

The term 'occupation' describes what individuals do in the workplace, and reflects where they sit in the employment hierarchy.[50] As the industrial structure of the economy has changed, the occupational structure of employment has also changed. Broadly speaking, the decline of the primary and manufacturing sectors has been accompanied by a shift from more traditional 'blue collar' manual activities towards more service orientated non-manual activities. There has also been a steady increase in management activities – not only through an increased number of people employed primarily as managers, but also through an increase of management responsibilities in many non-management roles.[51]

These broad trends have contributed to changing skills requirements across occupations, as the nature of activities have become less reliant on physical ability and more reliant on cognitive skills – communication, reasoning and the use of knowledge.[52] This shift doesn't always lead to a higher level of skill demand, as many manual jobs, such as craft and technical jobs, require high levels of skill, whilst many non-manual jobs, such as some administrative activities, can require very low levels of skill. However, there is a general consensus that the overall outcome of occupational change has been to push skill demands upwards.[53]

5.1. Current profile of occupational employment in the East Midlands

Chart 25 shows the current structure of employment by broad occupational group (in Standard Occupational Classifications – or SOC groups) according to the 2004 APS:

- The data shows that the East Midlands has a greater proportion of employment in Elementary Occupations,[54] at 13.1% of the region's workforce, compared to 11.6% in the UK. When employment in this group is combined with Process, Plant and Machine Operatives,[55] the East Midlands exceeds the UK average considerably, with 22.6% employed in these two groups, compared to 19.1% nationally;

- Sales and Customer Service Occupations and Personal Service Occupations[56] make up very similar proportions of the workforce in the East Midlands and the UK. Sales and Customer Services account for 7.9% and 7.8% of employment in the East Midlands and the UK respectively, whilst Personal Service Occupations account for 7.8% in the East Midlands and 7.7% in the UK;

- Associated with higher employment in manufacturing, the East Midlands has a larger proportion of employment in the Skilled Trades.[57] This occupational group accounts for 12.1% of regional employment, compared to 11.4% in the UK;

- Conversely, lower employment in the service sector in the region contributes to lower employment in Administrative and Secretarial Occupations,[58] which account for 11.3% of employment in the East Midlands, compared to 12.7% in the UK;

The region has a higher proportion of employment in lower tier occupations

[50] Job descriptions are often complex and varied, and can incorporate a range of tasks specific to an industry or individual business. For the purposes of analysis we will use the nine occupational categories known as the Standard Occupational Classification (SOC) Major Groups – these describe similar job types which have elements in common across many sectors. The SOC system classifies jobs by their skill level and skill content, encompassing the qualifications, training and work experience required to be competent to perform tasks associated with that job. The structure of employment in terms of SOC is therefore a useful way of assessing the range of different skill levels required in the workplace, rather than the 'stock' of skills available in the workforce indicated by qualification levels.

[51] The Learning and Skills Council, *Skills in England 2004 Volume 2: Research Report*, July 2005.

[52] DfEE, *Skills for All: Research Report from the National Skills Task Force*, 2000.

[53] Ibid 52.

[54] Elementary Occupations describe jobs predominated by routine tasks, usually requiring no formal educational qualifications, such as unskilled factory operatives, cleaners, porters, bar staff. The descriptions and examples of occupational groups in this section are based on the explanation notes for interviewers used in the 2005 National Employer Skills Survey (NESS), IFF Research on behalf of the Learning and Skills Council, 2005.

[55] Process, Plant and Machine Operatives describes occupations where knowledge is required to operate and monitor machines or tools, but require no particular standard of education – such as product line assemblers or road construction workers.

- The difference between the East Midlands and the UK is more significant for Associate Professional Occupations,[59] a group which makes up 12.4% of regional employment, 1.4 percentage points less than in the UK;

- Professional Occupations are under-represented in the East Midlands compared to the UK overall,[60] accounting for 12.4% of employment in the UK but only 10.9% of employment in the East Midlands;

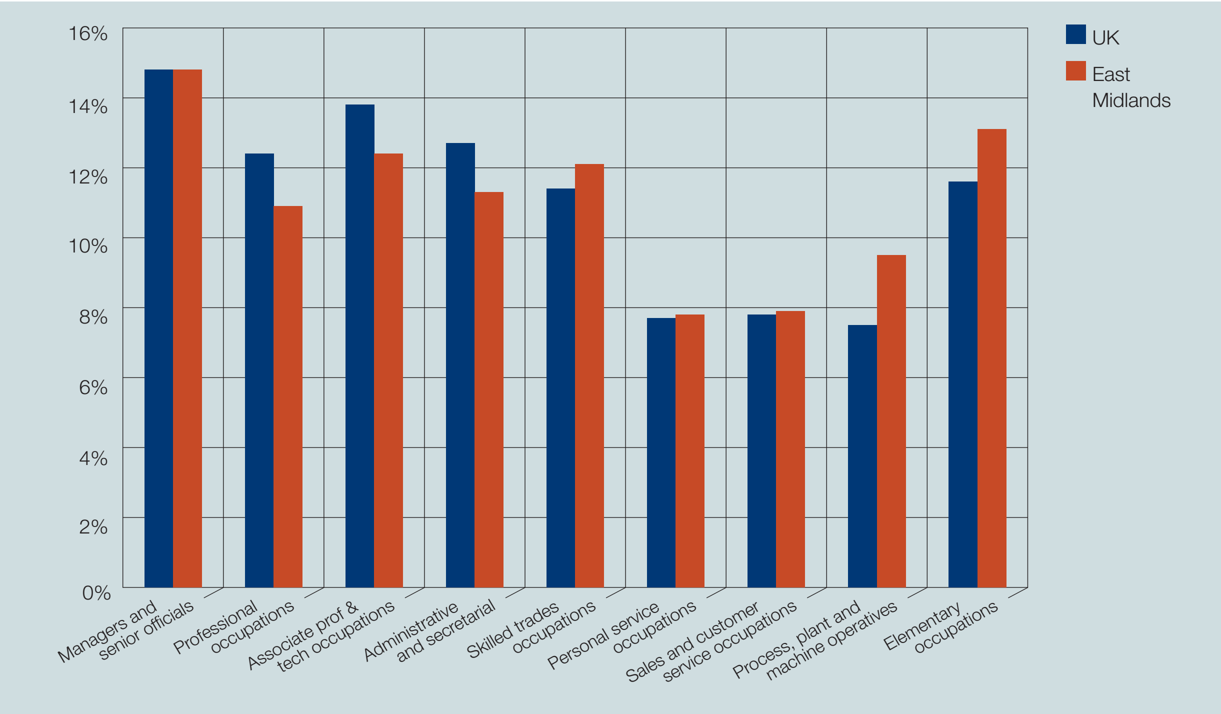
- Managers and Senior Officials[61] make up 14.8% of employment in both the East Midlands and the UK. Managers and Senior Officials, Professionals and Associate Professionals make up a total of 38.1% of employment in the region, compared to 41% in the UK.

5.2 Future prospects for occupational change

The *Working Futures* 2004-2014 projections enable us to comment on the long term occupational trends for the East Midlands and the UK, and allow for some estimation of future skill demands. As in the UK, numbers of Managers and Professionals are expected to increase in the East Midlands, whilst numbers of Elementary Occupations are projected to decline. Even though lower tier occupations are expected to decline, they will continue to account for more significant proportions of employment in the region than nationally. Moreover, the Skilled Trades, closely associated with manufacturing, are projected to decline markedly. Conversely, occupations associated with the service sector, namely the Personal Service and Sales and Customer Service

CHART 25

Employment by broad occupational group (% of total employment), 2004



Source: ONS Crown Copyright, 'Annual Population Survey', January 2004-December 2004, from NOMIS, 24th November, 2005

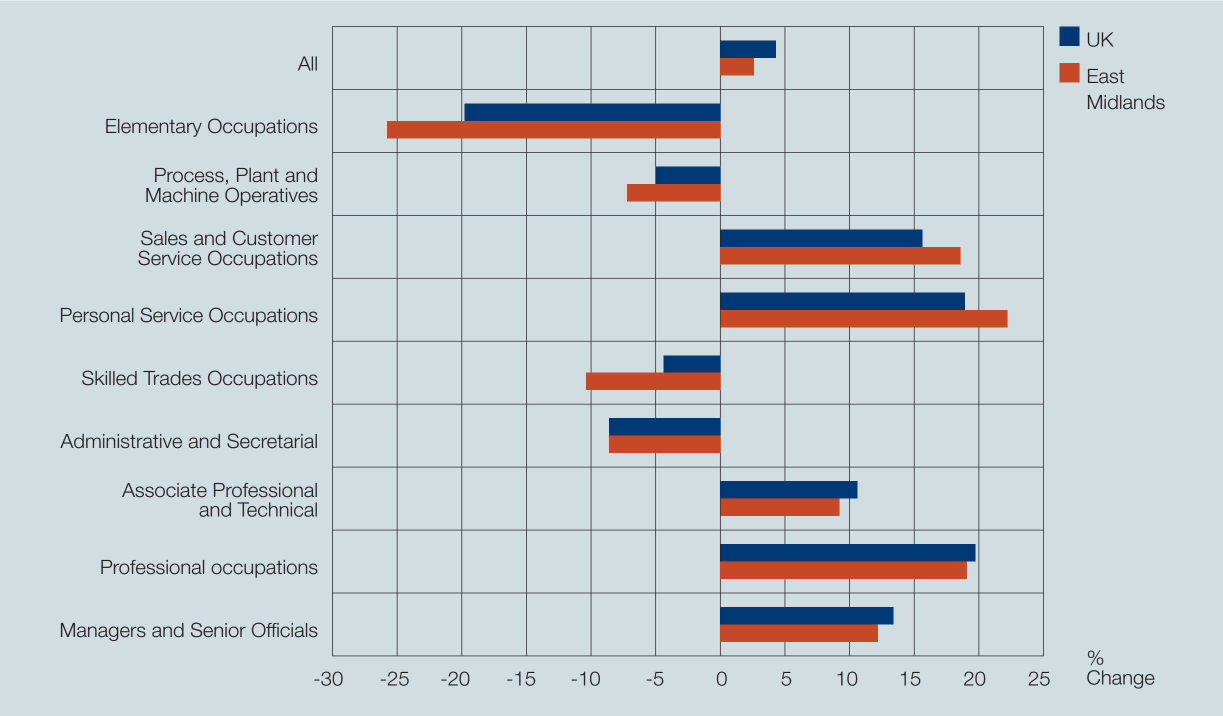
[56] Sales and Customer Services Occupations covers jobs such as cashiers, telephone sales people and call centre agents, whilst Personal Services Occupations describes jobs such as nursing or teaching assistants or home carers.
[57] Skilled Trades include occupations where the individual performs often complex manual tasks, requiring a level of experience and sometimes formal vocational training, such as tool makers and fitters, electricians or metal workers.
[58] Administrative and Secretarial Occupations include jobs involving clerical or administrative work, generally requiring a good standard of general education, such as administration assistants, and secretaries.
[59] Associate Professionals describes jobs which require experience and knowledge to support professionals and managers, often requiring a high level of vocational qualification, such as lab or IT technicians, marketing or HR executives.
[60] Professional Occupations describes jobs involving the application of theoretical knowledge, usually requiring a degree or equivalent, such as teachers, accountants, and engineers.
[61] Managers and Senior Officials describes jobs where the main task consists of the direction and co-ordination of the organisation or business, such as directors, functional or corporate managers.

Occupations, are projected to experience very significant growth. Although these occupations often require a level of skill in areas like communication and team working, in broad terms they require far more limited specific or technical levels of skill when compared to more 'traditional' intermediate tier occupations like the Skilled Trades. This development leads commentators to talk about a 'hollowing out of the middle' of the labour market, associated with the changing sectoral balance of the economy.

It is important to balance this by briefly addressing the two different ways jobs are created. The following analysis focuses on jobs that are created through expansion demand generated by sectoral growth – i.e. new jobs that are created. Jobs are also created in sectors and associated occupations through 'replacement demand'. These are not new jobs, but jobs that need filling as their current occupants leave the labour market (predominantly into retirement). All occupations are expected to have a large and positive replacement demand. Broad estimates based on the first publication of *Working Futures* suggest that around 80% of the workforce required for 2012 is already in employment. This suggests that replacement demand will considerably exceed the number of jobs created by economic growth.[62] Therefore although the Skilled Trades will shrink in absolute terms, there will still be a large number of vacant posts that will need filling as their current occupants retire.

CHART 26

Projected change in employment by major occupational group (total % change), 2004-2014



Source: IER and Cambridge Econometrics, on behalf of the SSDA, 'Working Futures 2004-2014 ', January 2006

[62] Brian Peto, Nottinghamshire Learning and Skills Council, *A Synopsis of Industrial and Occupational Change in the East Midlands Region, 2002-2012*, August 2004.

Forecasts for occupational employment in the East Midlands follow the UK fairly closely, as illustrated in Chart 26. However, there are some important differences:

- Although the region will see an overall increase in employment in higher tier occupations between 2004 and 2014, this increase will be less significant than the corresponding change in the UK as a whole. This means that higher tier occupations will remain comparatively under-represented in the East Midlands labour market;
- The declining occupations are predominantly lower level, with lower associated skill requirements. However, in the East Midlands the lower tier occupations will continue to account for a larger share of employment compared to the UK overall.

In 2014, the three occupational groups of Managers and Senior Officials, Professionals and Associate Professionals are projected to account for a combined total of 42.3% of regional employment, which is 3 percentage points less than the UK average – this is unchanged from the gap in 2004.[63] Of these, Professional Occupations are projected to increase most in percentage terms, at 19.1% in the East Midlands between 2004 and 2014, which is similar to the UK rate of growth. The biggest difference between the East Midlands and the UK is in the growth of Associate Professionals. This group will increase by 10.6% in the UK and 9.2% in the East Midlands. In 2014, Associate Professionals will account for 13.4% of the region's workforce, almost 2 percentage points less than in the UK.

Personal Service Occupations will experience the largest percentage increase of all occupational groups. Regional employment in this group is expected to increase by 22.2%, exceeding the UK increase of 18.9%. Personal Service Occupations will account for 10.1% of the total regional workforce in 2014, compared to 8.5% in the UK. *Working Futures* expect the majority of this growth to occur in the Caring Personal Services sub-group, closely connected to the ageing population and the associated need for care workers. As the East Midlands is expected to experience an above average growth in the number of inhabitants over retirement age, the demand for care services is likely to be greater than in the UK overall.[64]

The East Midlands is forecast to have one of the fastest rates of growth in the Sales and Customer Services Occupations, which will increase by 18.6% in the region between 2004 and 2014, compared to 15.6% in the UK. This will mean that the occupation will account for a larger share of total employment in the region by 2014 than nationally, at 9.6% compared to 8.9%. Women are projected to fill the majority of these new jobs.

Employment in Administrative and Secretarial Occupations will decline. This is the only occupation expected to decline that cannot readily be associated with the contraction of manufacturing. This is principally due to the impact of ICTs in making routine administrative tasks redundant. Employment in this occupational group is projected to contract by 8.6% in both the East Midlands and the UK between 2004 and 2014. Women are expected to account for virtually all of these job losses.

The decline of the Skilled Trades is closely related to the decline of manufacturing. Jobs held by men will dominate these losses. Skilled Trades are projected to decline from 12.1% of regional employment in 2004 to 10.6% in 2014. This decline will bring the proportion of total employment accounted for by the Skilled Trades closely into line with the UK average. This represents a fall of 10.4% in the East Midlands between 2004 and 2014, compared to a decrease of 4.4% in the UK.

The largest declines both regionally and nationally will be experienced by the Elementary Occupations. In the East Midlands this occupational group will decline by 25.8% between 2004 and 2014, compared to 19.8% in the UK. This will mean that Elementary Occupations will account for a slightly smaller proportion of total employment in the East Midlands than in the UK in 2014, at 8.2% compared to 8.7%. However, although the Process, Plant and Machine Operatives occupational group will also decline at a faster rate in the East Midlands than in the UK overall, this group will still account for a significantly larger proportion of employment in the region, at 9% compared to 7.2% in the UK by 2014. This means that employment in these two occupational groups will continue to represent a greater combined share of employment in the East Midlands than in the UK.

Growth in higher tier occupations will be less significant in the East Midlands than in the UK

[63] Note: the baseline for 2004 for the percentage share of employment for each occupation in the *Working Futures* 2004-2014 projections will differ slightly from the 2004 APS cited in part 5.1 of this section, as the *Working Futures* projections are based on modelled data, drawing from additional sources to the APS, such as the Annual Business Inquiry (ABI). For this reason, the APS is used to assess the extent to which the region's current occupational structure differs from the national average, whilst the *Working Futures* data describes possible future developments. The 2004 baseline from *Working Futures* should therefore not be directly compared with 2004 APS data.

[64] IER and Cambridge Econometrics, *Working Futures 2004-2014: Spatial Report*, January 2006.

6. Employer demand for skills

The skills profile of the region's workforce can be associated with lower employment in occupations that require a higher level of skill. This sub-section goes on to discuss a number of measures of employer demand for skills, to further investigate the characteristics of the low pay low skill equilibrium in the East Midlands. Firstly we look at the 'knowledge intensity' of employment in the East Midlands. Secondly we will discuss findings from employer surveys on the role of skills in recruitment difficulties, skills gaps amongst current members of staff, and the measures employers take to address skills deficiencies.

6.1 The 'knowledge intensity' of employment in the East Midlands

The European Commission proposed a method for assessing the 'knowledge intensity' of employment by calculating the distribution of individuals with higher level skills across different industry sectors.[65] Sectors are classified according to the proportion of graduates they employ: those employing 40% or more of their workforce with a graduate level (Level 4 and above) qualification are classed as 'K1' sectors; those employing 25-40% graduates are classed as 'K2'; those employing 15-25% graduates are classed as 'K3'; and those employing less than 15% graduates are classed as 'K4'. When expressed in aggregate form (e.g. total employment in all K1 sectors) it is possible to compare the 'knowledge intensity' of regional employment.[66]

Chart 27 presents the proportion of total employment for the UK and the 9 English regions by the K1-K4 classifications:

- Employment in the most knowledge intensive 'K1' sectors is lower in the East Midlands than the UK average, at 24.3% of employment in all sectors, compared to 32.1% in the UK. Chart 27 shows that this is higher than the West Midlands, and very slightly higher than Yorkshire and the Humber and the East of England. However, it is significantly below the South East, the North West, and the South West. London and the South East are the only regions with more employment in K1 than K4 sectors. London is an outlier, with 58.1% of employment in K1 sectors;

- In the East Midlands, the sectors employing more than 40% graduates in their workforce include: Manufacture of Medical, Precision and Optical Equipment; Manufacture of Other Transport Equipment (which includes rail and aerospace); Air Transport Services; Computing; Research and Development; Education; Health and Social Work;

- There is a higher proportion of employment in the least knowledge intensive 'K4' sectors in the East Midlands than in the UK overall, at 38.7% compared to 30.9%. This proportion is one of the highest of all regions – exceeded only by the North East and the East of England. There is less variation between regions in K4 employment than in K1 employment. With the exception of London and the South East, variation in the proportion of employment in K4 sectors in all other English regions falls within 5 percentage points. This supports the view that employment across much of the country is more heavily concentrated in less knowledge intensive activities, and that the idea of the 'low pay low skills equilibrium' can be applied to a number of regions other than London and the South East;

- In the East Midlands, sectors with less than 15% graduates in their workforce include: Textile Manufacture; Construction; Retail; Hospitality; Transport by Land; Motor Trades;

- The East Midlands is fairly close to the UK average with 19.6% of employment in K2 sectors and 17.1% in K3 sectors, compared to 20.6% and 16.3% respectively in the UK. The East of England has the highest proportion of employment in K2 sectors, at 33%, whilst the South East has the highest proportion of employment in K3 sectors, at 30.6%. A number of the sectors that are in the least knowledge intensive K4 classification in most other regions, such as Construction and Retail, are K3 sectors in the South East, which may be a function of the location of head-offices in that region.

Employment in the most knowledge intensive 'K1' sectors is lower in the East Midlands than in the UK

[65] *Employment in the Knowledge Based Economy*, in European Commission, *Employment in Europe*, 2000.

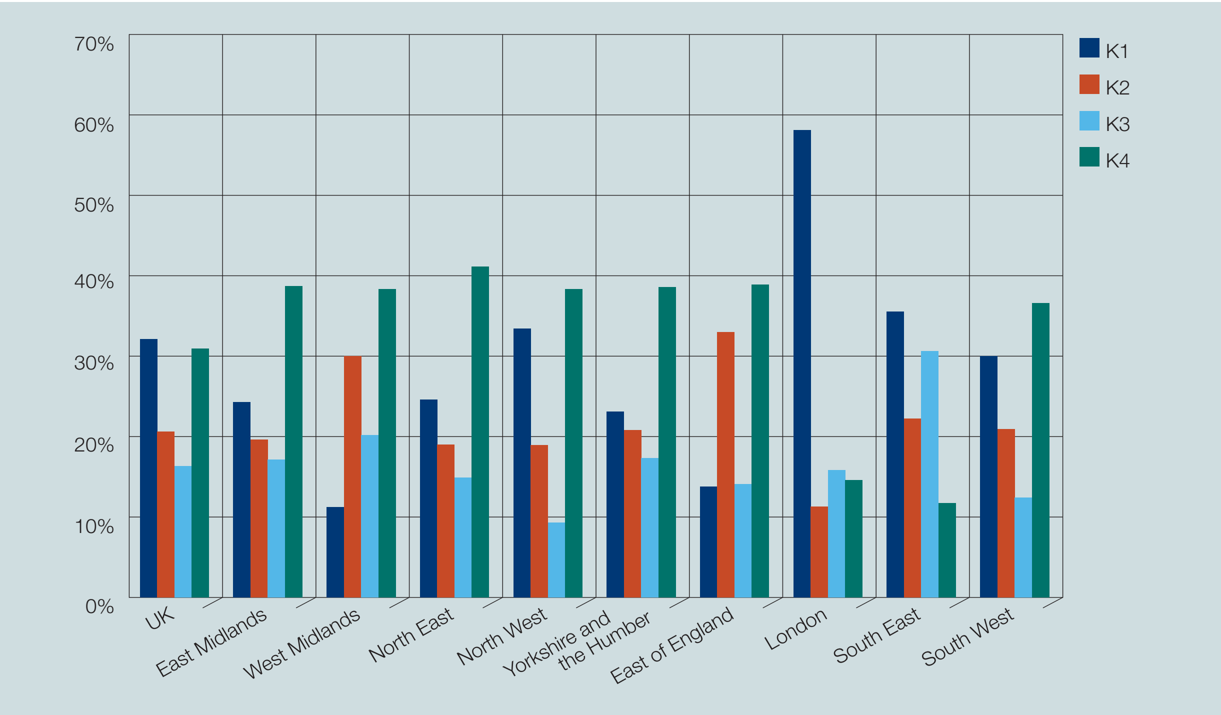
[66] As the K1-4 method is based on the proportion of graduates employed in a given sector, it is accepted that this is a very broad proxy measure of 'knowledge intensity'. However, it enables an assessment of the demand for higher level skills produced by the industrial structure of employment in a region, and allows the identification of specific regional strengths.

Overall, this supports the view that there is a lower demand for skilled employment in the East Midlands, with the largest bulk of employment in sectors that employ a very small proportion of staff with Level 4 qualifications. This picture of higher proportions of employment in the least knowledge intensive sectors and lower employment in high skilled sectors is true for other English regions outside London and the South East, and is a key concern for the East Midlands. However, this method of analysis also highlights some regional strengths, consistent with the priority sectors highlighted in the Economy and Productivity Section of *The East Midlands in 2006*. Other Transport Equipment is a K1 sector in the East Midlands whilst it is a K2 sector in the UK overall. This represents the aerospace and rail elements of the wider Transport Equipment priority sector described in the Economy and Productivity section. Additionally, the Manufacture of Medical and Precision Equipment is also a K1 sector in the region but a K2 sector in the UK overall, and along with Health and Social Work (a K1 sector in both the East Midlands and the UK), represents a significant element of the Health priority sector.

Elements of regional priority sectors, Health and Transport Equipment, are more ‘knowledge intensive’ in the East Midlands than in the UK

CHART 27

Employment by knowledge intensity, K1-4 sectors (% of total employment), 2003



Source: ONS Crown Copyright, ‘Local Area Labour Force Survey’ (annualised), March 2003-February 2004. Derived from data provided by the LFS Dataservice on 7th March, 2006.

6.1.1 The public sector and 'knowledge intensity' in the East Midlands

A key characteristic of knowledge intensive employment in the East Midlands is the importance of the public sector. The Education and Health and Social Work sectors together account for 82% of all K1 employment in the region, compared to just 62.8% in the UK. Moreover, Education, Health and Social Work, and Public Administration and Defence together account for 59.3% of the combined total of K1 and K2 in the East Midlands, almost 10 percentage points more than in the UK. This means that not only is employment in knowledge intensive sectors in the East Midlands lower than in other regions, but the public sector accounts for a substantially greater proportion of knowledge intensive employment compared to other regions. This implies a weaker private sector demand for higher level skills.

6.2 Skills demand from an employer perspective

To investigate employer perceptions of workforce skills, the East Midlands Learning and Skills Councils were invited to contribute an analysis of the key findings of the 2003 and 2004 National Employer Skills Surveys (NESSs).[67] The following sub-section summarises this contribution. The principal areas of interest in the NESS concerned employers' experiences of the external labour market, the extent to which skills shortages in the wider labour force hampered recruitment, and the nature, extent and impact of skills weaknesses amongst existing staff.

6.2.1 Recruitment and vacancies

To assess the importance of skills demand in recruitment, employers were asked if they had encountered any difficulties in filling vacant posts. Those which had not been filled because of a lack of applicants or a lack of applicants of a sufficient standard were categorised as 'hard-to-fill'. Those which were hard-to-fill because of a lack of applicants with the required skills, qualifications, or work-experience were described as 'skills shortage vacancies' (SSVs). Chart 28 presents data from the 2003 NESS, as its larger sample size enables a more detailed level of analysis:

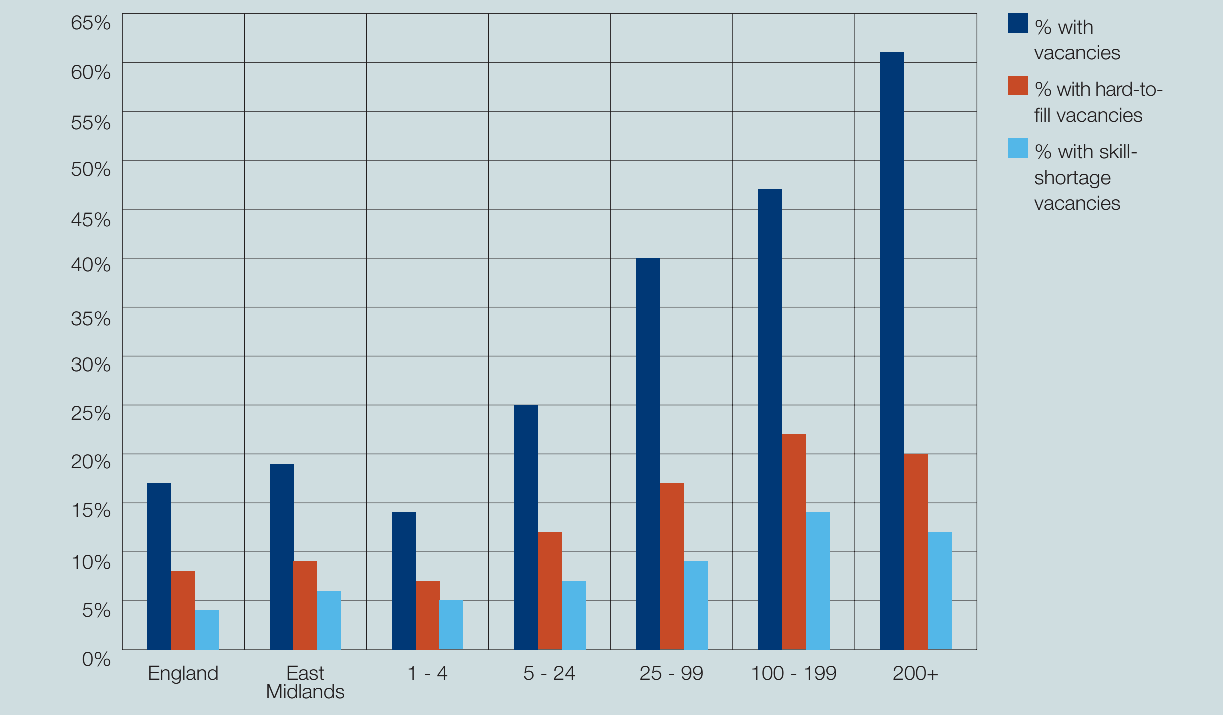
- Just under 20% of employers tried to recruit staff in both the East Midlands and England, and around 9% of employers reported that a vacancy was 'hard-to-fill';
- Overall, 6% of employers reported SSVs in the East Midlands, somewhat higher than the English average of 4%;[68]
- When SSVs are analysed by the size of employer, and expressed as a proportion of all hard-to-fill vacancies, their impact becomes more obvious. 67.8% of the hard-to-fill vacancies reported by employers with 1-4 employees were due to skills-related issues. This reduces across the other size bands to just 26.9% of the hard-to-fill vacancies reported by employers with 200+ staff.[69] This suggests that smaller companies find it considerably more difficult to recruit staff with the necessary skills.

In the East Midlands, 82% of all K1 employment is in the public sector, compared to 62.8% in the UK

[67] The NESS was commissioned by the LSC in partnership with the DfES, the Skills for Business Network, and Regional Development Agencies, and included a total of 72,000 employer interviews in England in 2003, 5,666 of which were in the East Midlands. A far smaller survey was conducted in 2004, which enabled headline analysis on change over time to be made at a national and regional level.
[68] IFF Research, *National Employer Skills Survey 2003: A Report of Findings for the East Midlands Region*, June 2004.
[69] Ibid 68.

CHART 28

Vacancies by size (base = all employers), 2003



Source: Learning and Skills Council (LSC), National Employer Skills Survey, 2003

Looking at vacancies by sector, the proportion of all employers reporting skills-shortage vacancies broadly follows that of hard-to-fill vacancies, although there are some sectors where the two types of vacancy vary considerably:

- For the four sectors with the lowest level of total vacancies (Motor Trade, Computing, Wholesale, Financial and Professional Services) the levels of hard-to-fill vacancies and skills shortage vacancies are very close, suggesting that the main reason for hard-to-fill vacancies in these sectors is skills related;

- However, SSVs make up a smaller proportion of hard-to-fill vacancies in the Transport and Communications and Hospitality sectors. This implies that there are other reasons for hard-to-fill vacancies in these sectors, such as low pay or less attractive employment conditions;

- Only 33% of vacancies in the Hospitality sector were classed as SSVs, again suggesting that recruitment difficulties in this sector are more to do with finding people prepared to work in this sector than finding people with the required skills.[70]

> Smaller companies are more likely to encounter difficulties in recruiting skilled staff

[70] Ibid 69.

The NESS provides data on the occupation of one hard-to-fill vacancy for each employer reporting recruitment difficulties. The greatest level of recruitment problems by occupation were reported in the Skilled Trades, Personal Services and Process, Plant and Machine Operatives. Over half the vacancies in these occupations are hard-to-fill. The largest proportion of vacancies that are related to skill shortages can be found in Skilled Trades. There are fewer vacancies and hard-to-fill vacancies for Managers, Professionals and Administrative, Clerical and Secretarial Occupations, which both reflects the lower overall employment in these occupations in the East Midlands, and suggests that where employers are recruiting to these positions, candidates are easier to find. However, where they do occur, skills shortages also contribute to a high proportion of recruitment difficulties in Managers and Professional Occupations.[71]

6.2.2 Sub-regional variations in recruitment difficulties

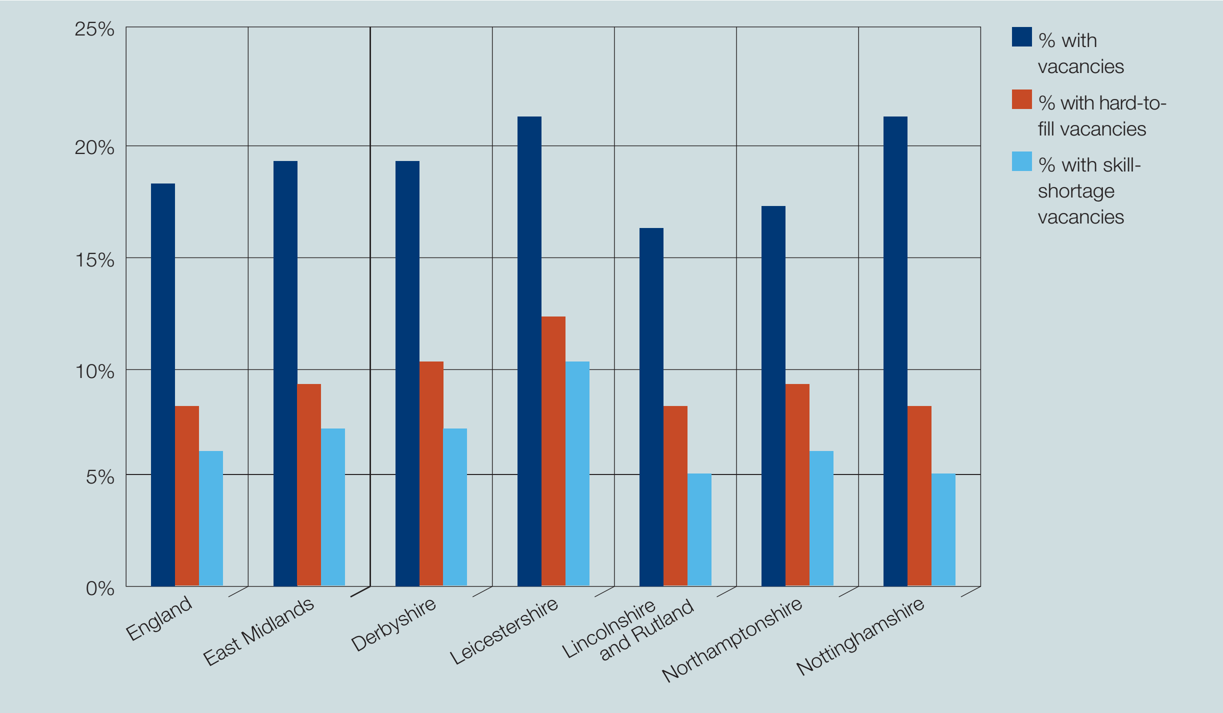
Although the overall regional results from the NESS are very close to the national picture, there are significant sub-regional variations. The 2004 NESS provides indicative results for Local LSC areas (Chart 29):

- Mirroring the general findings on hard-to-fill vacancies across the region, the level of SSVs was greatest in Leicestershire, with 10% of employers reporting at least one skills related vacancy, compared to the regional figure of 6.6%. Lincolnshire and Rutland had the lowest proportion of employers reporting vacancies overall, and the lowest proportion reporting at least one SSV, at 5%;

- In Leicestershire, 8% of employers cited skills reasons as the difficulty with the vacancy without prompting from the interviewer. The Leicester Shire Business Survey also records a high proportion of employers who felt skills shortages were having a serious impact on their business.[72]

CHART 29

Sub-regional variations in vacancies (base = all employers), 2004



Source: LSC, National Employer Skills Survey, 2004

[71] Ibid 70.
[72] Leicester Shire Intelligence, *Leicester Shire Business Survey,* Winter 04/05.

These local variations are linked to the distinct character of local labour markets. For example, Leicestershire has a fairly self-contained labour market, with many employees living and working within the county. Nottinghamshire tends to draw on a wider labour pool, attracting employees from across the East Midlands as well as other regions. Leicestershire also has a high proportion of employment in traditional manufacturing industries that require skilled staff to replace those that leave or retire, whereas Nottinghamshire has a higher proportion of service sector jobs, especially in the financial and business services which offer more low skill, entry level jobs.[73] The issues for Derbyshire are similar to those in Leicestershire, as a function of declining traditional industries.

In Northamptonshire, the issues are different again. The area has good transport networks on which the logistics sector has built. Its proximity to the South East and London is also influential. While some of the dynamism of the South East and London has spread to Northampton, it also means that the county's workforce loses qualified people to higher paid jobs in other regions within easy commuting distance.[74] For Lincolnshire and Rutland, the transport network is a barrier to development as the poor transport infrastructure creates problems of access. Lincolnshire is particularly affected by seasonal employment – two significant sectors for the area are agriculture and tourism, and both take on large numbers of transitory/seasonal workers at peak times of the year.[75]

6.2.3 Skills gaps within the existing workforce

The NESS also asked employers about the skills of their existing workforce. In the East Midlands in 2003, 25% of employers reported that they had 'skills gaps' within their workforce due to one or more employees not being 'fully proficient' in their jobs. This is slightly above the national figure of 22%. This represents 8.7% of those in employment in the East Midlands, some 185,000 people. Larger employers were more likely to report skills gaps, but the impact on smaller firms is likely to be proportionately greater.[76] The vast majority (72%) of these skills gaps arise from the job holder lacking experience, usually due to not having been in the job for a sufficient amount of time. Lack of staff motivation is also a significant factor (evident in 31% of skills gaps), as is pressure on existing staff due to recruitment difficulties (affecting 27% of skills gaps) – i.e. this describes staff not achieving full proficiency in their own role as they have to cover for vacant posts. Additionally, 22% of skills gaps were said to be related to employers' own failure to train staff.

At an occupational level, there are significant differences in the results for the East Midlands when compared to those for England:

- In England, 30% of skills gaps were reported in lower order occupations (Elementary staff, Process, Plant, and Machine Operatives and Sales and Customer Service staff) and a further 20% were in the Associate Professional occupations;
- For the East Midlands, only 8% were in the Associate Professional group, whereas 52% of skills gaps were in the 3 lower tier groups listed above, over 20% higher than the national figure;
- This does in part reflect the higher levels of employment in Elementary Occupations and Process, Plant and Machine Operatives, but the fact that over half of the skills gaps reported for the region are in these lower order occupations is a key issue for the region. Of equal significance is that the proportions of skills gaps in higher order occupations – Managers and Senior Officials and Professionals – are well below the national figure;
- These observations reflect both a low overall demand for skills in the East Midlands (both in lower and higher order occupations), and the high proportion of the labour force with no qualifications (most of whom will be employed in lower order occupations).

> In 2003, 25% of East Midlands employers reported 'skills gaps' amongst their current staff

[73] LSC Nottinghamshire, *Annual Plan,* 2005/2006.
[74] LSC Northamptonshire, *Annual Plan*, 2005/2006.
[75] LSC Lincolnshire & Rutland, *Annual Plan*, 2005/2006.
[76] IFF Research, *National Employer Skills Survey 2003: A Report of Findings for the East Midlands Region*, June 2004.

6.2.4 Types of skill deficiencies

In explaining the nature of skills gaps, employers were asked to provide details of the kind of skills their employees lacked and the occupations lacking them. Generic skills, such as communication, customer-handling and team working were highlighted as contributing to skills gaps for the majority of occupations. Technical and practical skills were principally highlighted in the Skilled Trades. Associate Professionals were more likely to lack customer handling skills, as well as communication and team working. Foreign languages are not identified as a significant factor in skills gaps in any occupational group. This could either mean that few employers require such skills, or that when they are required, the majority of job holders have a sufficient level of proficiency. Additionally, over two thirds of Managers in the East Midlands were said to lack management skills, which is over double the rate for the rest of the country.

6.2.5 Actions taken to address skills problems

Employers were asked about the actions they had taken to combat these issues. Of the actions identified to address skills gaps, employers were far more likely to look externally, by recruiting new staff or reassessing current recruitment channels, rather than training existing staff or increasing overall investment in training. This could be related to the fear of trained staff leaving to work elsewhere, and thus the returns on training being 'poached' by another employer. East Midlands companies were almost identical to the England average in this respect. The greatest proportion, 54%, increased recruitment advertising spend and 49% also expanded the channels of recruitment.

> Communications, customer-handling and team working were identified as skills gaps in most occupations

However, employers in the East Midlands were more likely to cite training as a response to skills gaps than in England overall. In 2003, 62% of employers in the region (slightly higher than the 59% national figure) had funded or arranged any kind of training over the twelve months prior to the survey. In terms of training intended to lead to a formal qualification, the regional figure is also higher than the national, at 37% compared to 30%.

> Employers were more likely to recruit to address skills gaps than to train existing staff

The smaller the employer, the less likely they are to take action in response to skills gaps. In the East Midlands, 52% of small employers (with 1-4 employees) provided training to staff compared to 100% of employers with over 200 staff. The relationship also applies to training intended to lead to a qualification, with the gap between the largest and smallest employers even greater, at 83% of 200+ employers and only 28% of 1-4 employers.

On a sectoral basis, employers in the Public Services were by far the most likely to fund or arrange training overall (90%), and to fund training leading to a formal qualification (65%). Wholesale and Retail employers were least likely to either fund or arrange any training at all, or training leading to a qualification. Only 48% of Retail employers and 45% of Wholesale employers funded or arranged any training, whilst only 24% of employers in both these sectors funded training leading to a formal qualification.

Chart 30 presents the incidence of training by occupation, expressed as a percentage of all employers with staff in a given occupational group. This demonstrates that, with a number of exceptions (most notably Personal Services Occupations), staff in higher level occupations are more likely to receive training:

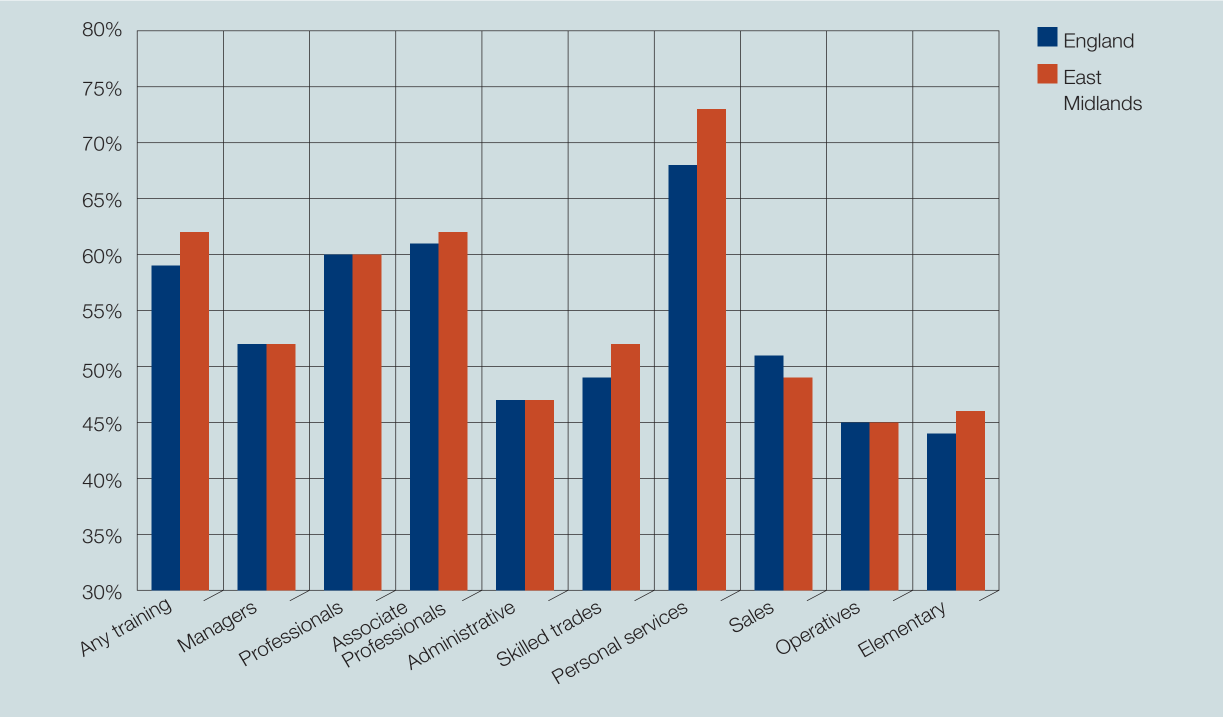
- Of those employers in the East Midlands who had staff in Professional Occupations, 60% provided training for these occupations, whilst 62% of organisations employing Associate Professionals provided training for these occupations. There was little difference from the English average in this case;

- However, 45% of employers with Process, Plant and Machine Operatives and 46% of employers with workers in the Elementary Occupations provided training for these staff. Again there was little difference from the English average;

- Personal Service Occupations are a very notable exception, with 73% of employers with staff of this occupation providing training. However, findings from the 2004 NESS suggest that a large proportion of training for occupations of this type was for health and safety – therefore to meet legal obligations, rather than for staff development and performance purposes.

CHART 30

Incidence of training by occupation (base = employers with staff in that occupational group), 2003



Source: LSC, National Employer Skills Survey, 2003

Finally, Chart 31 presents the types of training provided by employers. Employers were asked questions on the types of training they provided in both the 2003 and 2004 NESS. The results were very similar in both, but the sample size is sufficient to use the later 2004 data in this case:

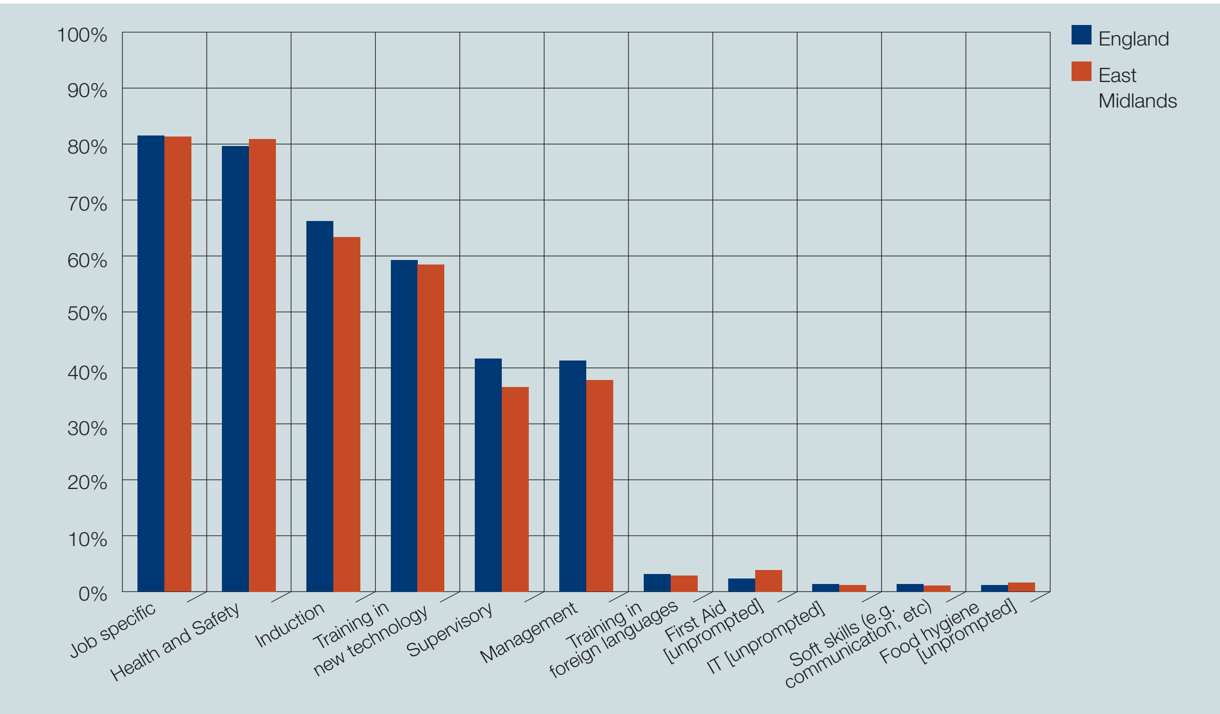
- Much of the training arranged or funded by employers is either job specific or health and safety. Job specific training was cited by the largest proportion of those employers in both the East Midlands and England, at 81.3% and 81.5% respectively. Health and safety training was the next most likely to be arranged, at 80.9% and 79.6% respectively;

- Lord Leitch's Review of Skills suggests that the predominance of these two areas is concerning because of the more limited value gained by the employees themselves in terms of the development of transferable skills, necessary for their sustained employability. Arguably the benefits of training primarily related to a specific job can be better retained by an employer, as it is more likely to be relevant to the individual company, and thus less transferable to other jobs. Therefore there is less risk of another employer 'poaching' staff who have received training and gaining the benefits whilst the original employer pays the cost. Statutory training, such as health and safety, is another area of training where the immediate needs of the employer are closest, whilst the employee themselves is less likely to gain transferable benefits;[77]

- More positively, training in new technology was cited by large proportions of employers, 58.5% in the East Midlands and 59.3% in England. However, other key areas that are highlighted as skills gaps by many employees are less likely to be addressed through training. Less than half of employers in both England and the East Midlands fund or arrange training related to management. Only 37.8% of those East Midlands employers who stated that they funded or arranged training mentioned training in management, compared to 41.3% in England;

CHART 31

Types of training (multiple responses, base = all employers who train), 2004



Source: LSC, National Employer Skills Survey, 2004

[77] The Leitch Review of Skills, HM Treasury, *Skills in the UK: The long-term challenge – Interim Report*, December 2005.

- A number of other areas were mentioned by very small proportions of employers: only 2.9% of employers in the East Midlands and 3.1% in England stated that they had arranged training in foreign languages, whilst only 1.1% of employers in the region and 1.4% in England said they had arranged training in communication – one of the biggest factors highlighted in both skills-shortage vacancies and skills gaps.

Median annual earnings in the East Midlands in 2005 were 6.6% lower than the UK median

7. Earnings in the East Midlands

This sub-section looks at earnings in the East Midlands. Although earnings reflect factors other than workforce skills, skills are an important determining factor. Empirical work on the variation in pay between regions contends that, ceteris paribus, identical workers would be paid identical wages.[78] We have established that the region lags on measures of workforce qualifications; it would be logical to expect lower overall earnings as a consequence.

We will use data from the 2005 Annual Survey of Hours and Earnings (ASHE), produced by the Office for National Statistics. This replaces the New Earnings Survey. The ASHE publishes estimates on the basis of the median – the mid-point of the distribution, if one imagines all results set out in a line. This is preferable to the mean (the arithmetic average) as it is not skewed by a small number of respondents reporting very high earnings.[79]

Chart 32 compares earnings estimates for men and women working in each of the English regions and the UK average:

- Median annual earnings for all people working in the East Midlands were significantly lower than the UK average, at £17,713 a year compared to £18,961 – a 6.6% difference;

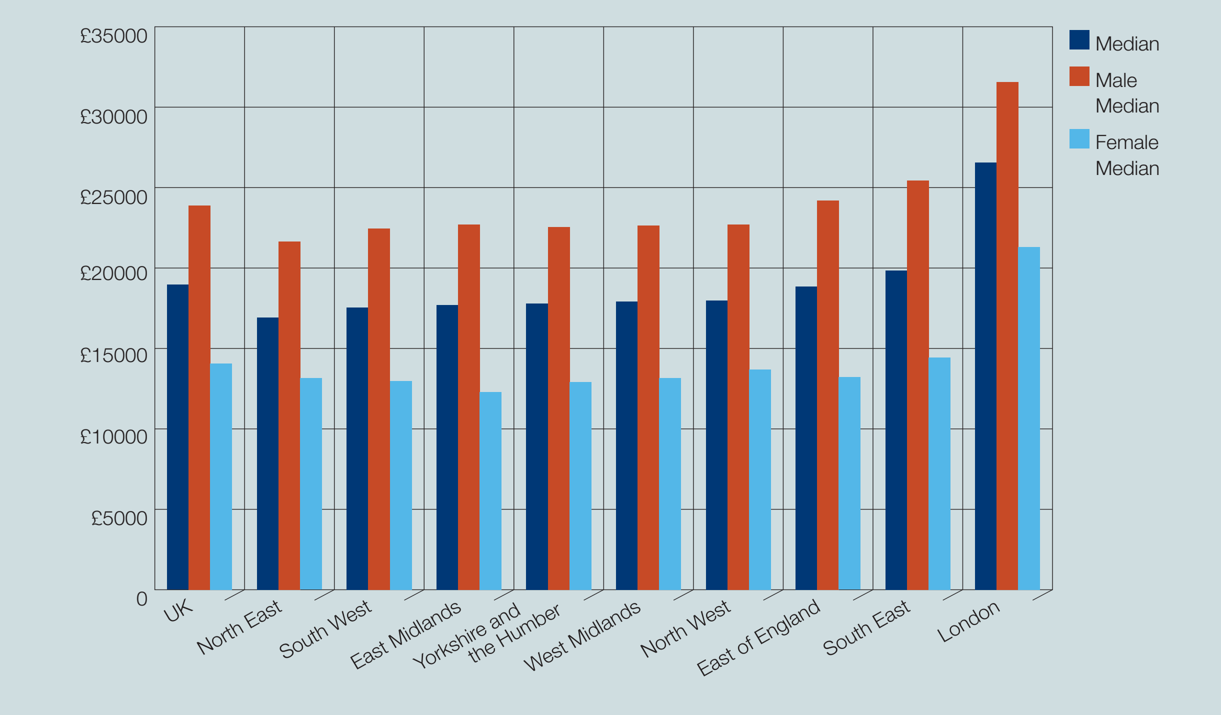
- The median earnings for men working in the East Midlands was £22,669, £10,401 a year more than the median for women – a 45.8% difference. The difference between male and female earnings is higher in the East Midlands than in the UK. Men in the UK are paid £9,844 a year more, a difference of 41.2%;

- The percentage difference in earnings between men and women in the East Midlands is the highest of all the English regions. The next highest differential is in the East of England, where women's earnings are 45.4% less than men. The smallest earnings differential is in London.

[78] Simpson, H, and Redding, SJ, ESRC Small Grant Research Report, *Regional Wage Inequality in the UK: Evidence and Explanations*, 2003.
[79] For detailed information on the ASHE, refer to ONS Crown Copyright, *Methodology for the 2004 Annual Survey of Hours and Earnings*, in, *Labour Market Trends*, November 2004.

CHART 32

Regional comparisons of gross annual earnings (median), 2005



Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings 2005', gross annual pay- workplace based median, from NOMIS, 8th March, 2006

7.1 Earnings and occupation

As higher level occupations tend to be associated with higher pay, lower levels of employment in these occupations goes some way to explaining why overall earnings are less in the East Midlands. Chart 33 shows comparative earnings for broad occupational groups:

- Across all occupational groups, with one exception, earnings are lower in the East Midlands than in the UK;
- The largest gap in earnings, in terms of pounds (£) per year, is for Managers and Senior Officials, where the median in the East Midlands is £29,998, £2,204 less than the median in the UK. Therefore not only are there fewer jobs at this level, but the associated earnings premium is less. This is consistent with earnings estimates for higher level qualifications, where the earnings increase associated with a Level 4 appears to be less than in the UK overall;
- However, the gap does not decrease uniformly going down the occupational hierarchy, reflecting the demands particular to the industrial structure of the East Midlands economy. The largest gap in percentage terms is for Administrative and Secretarial Occupations, where those working in the East Midlands are paid a median of £13,425 a year, compared to £14,629 in the UK, an 8.2% difference. This could be related to the lower demand for employment in this occupational group, as presented in part 5, associated with lower overall employment in the service sector;

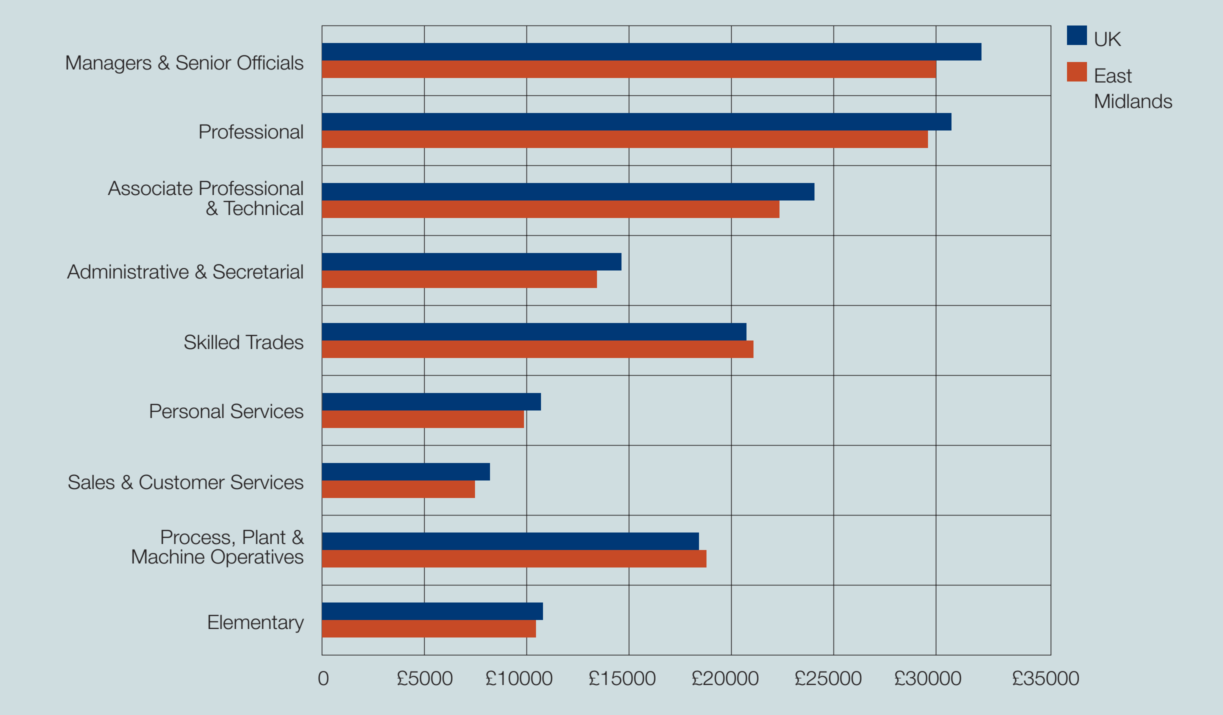
The earnings gap between men and women in the East Midlands is the largest of all the English regions

- There is only a very small gap between the earnings of Process, Plant and Machine Operatives, who are only paid £292, or 1.6%, less a year in the East Midlands than their UK equivalents;

- Moreover, the median for the Skilled Trades in the East Midlands is £21,082 a year, which is £360 more than the median for the UK. This could reflect the importance of this occupation given the level of employment in manufacturing sectors, and the difficulty in recruiting suitable staff in the Skilled Trades highlighted in part 6.

CHART 33

Gross annual earnings in the UK and East Midlands by broad occupational group (median), 2005



Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings 2005', gross annual pay- workplace based median. From Table 3.7a, Gross Annual Pay by Occupation, Government Office Regions, www.statistics.gov.uk, 8th March, 2006

7.2 Disparities between high and low earnings groups

The ASHE also provides estimates for earnings in bands from the lowest 10% of earners to the highest 10%. Overall, Chart 34 shows that earnings for people working in the East Midlands are slightly less disparate than they are nationally. This is principally due to lower earnings at the top end of the scale:

- The top 10% of earners in the UK earn £34,707 a year more than the bottom 10%, whilst the top 10% working in the East Midlands earn £30,850 more than the bottom 10%. Expressed as an index of the overall national or regional median, earners in the top 10% in the UK earn 214% of the UK median, whilst earners in the top 10% in the East Midlands earn 204% of the East Midlands median;

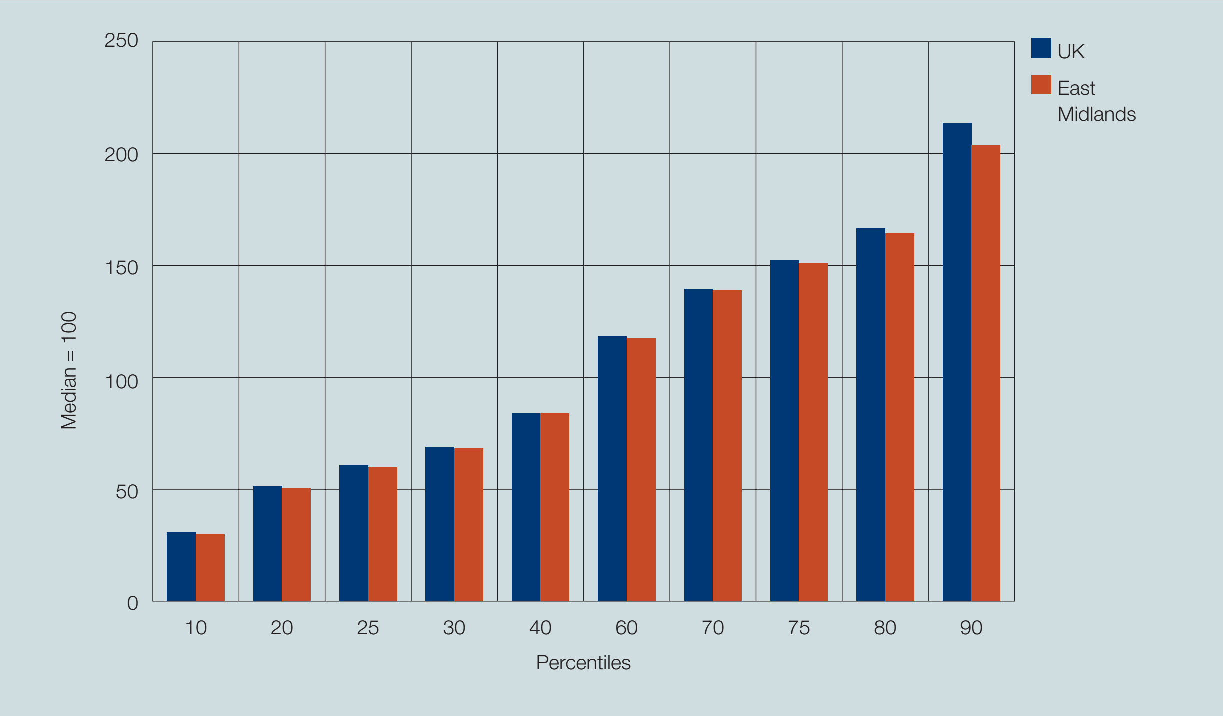
- There is hardly any difference between the UK and the East Midlands in the lower percentiles. The lowest group in both the UK and the East Midlands earn around 30% of the median, whilst the next lowest percentile in both cases earn between 51% and 52% of the median;

- The fact that there is a larger gap between the East Midlands and the UK in earnings for Elementary Occupations than in earnings in the lowest percentile group, could indicate that low earners are spread more widely across other occupational groups in the East Midlands. This is supported by the fact that along with Elementary Occupations, Administrative and Secretarial Occupations are also paid considerably less in the East Midlands, earning 8.2% less a year than their equivalents in the UK;

- Overall, the earnings profile for the region appears more 'evenly' distributed than elsewhere in the UK. This is principally due to the earnings of the better off being relatively depressed compared with other regions.

CHART 34

Gross annual earnings in the UK and East Midlands (percentile groups as an index of the UK and East Midlands median = 100), 2005



Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings 2005', gross annual pay- workplace based median, from NOMIS, 9th March, 2006

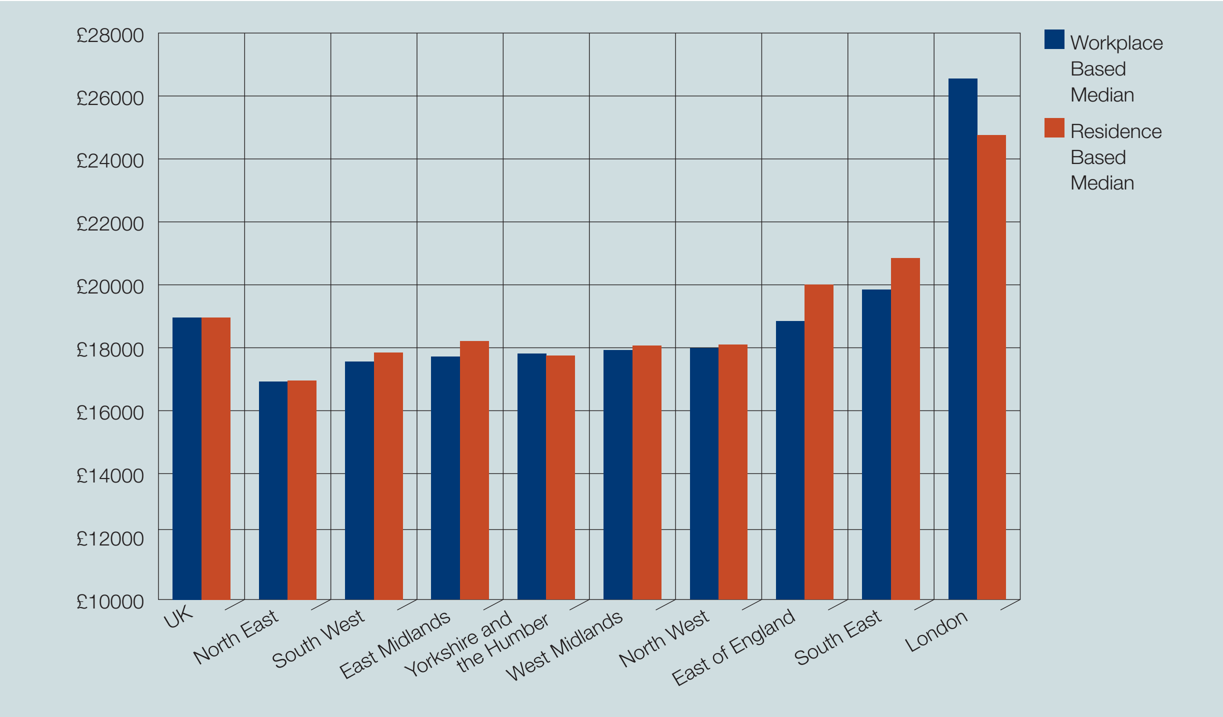
7.3 Workplace based compared to residence based earnings

The ASHE provides separate estimates based on individuals' place of residence and their workplace. Variation between the two estimates indicate the extent to which the residential and working populations of an area are different, and allow inferences to be drawn as to the impact of commuting. Chart 35 shows that:

- The residence based median for the East Midlands is higher than the workplace based estimate, with people who live in the East Midlands paid £18,210 a year compared to £17,713 for people who work in the East Midlands. This suggests that many higher paid workers commute to work outside the region;
- The gap between residence and workplace based earnings is greater in the East Midlands than in the North East (where estimates are virtually equal), the North West, and the West Midlands. In Yorkshire and the Humber, workplace earnings are very slightly higher than residence based earnings. This suggests that the East Midlands has a less self-contained labour market than the other northern and midlands regions, and is closer to the southern regions in this respect;
- Only London has a significantly higher workplace based earnings estimate than residence based estimate, reflecting the large numbers of individuals in higher paid jobs who commute to the city from adjoining regions.

CHART 35

Regional comparisons of gross annual pay (median), by place of work and place of residence, 2005



Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings, 2005', gross annual pay, workplace and residence based medians, from NOMIS, 10th January, 2006

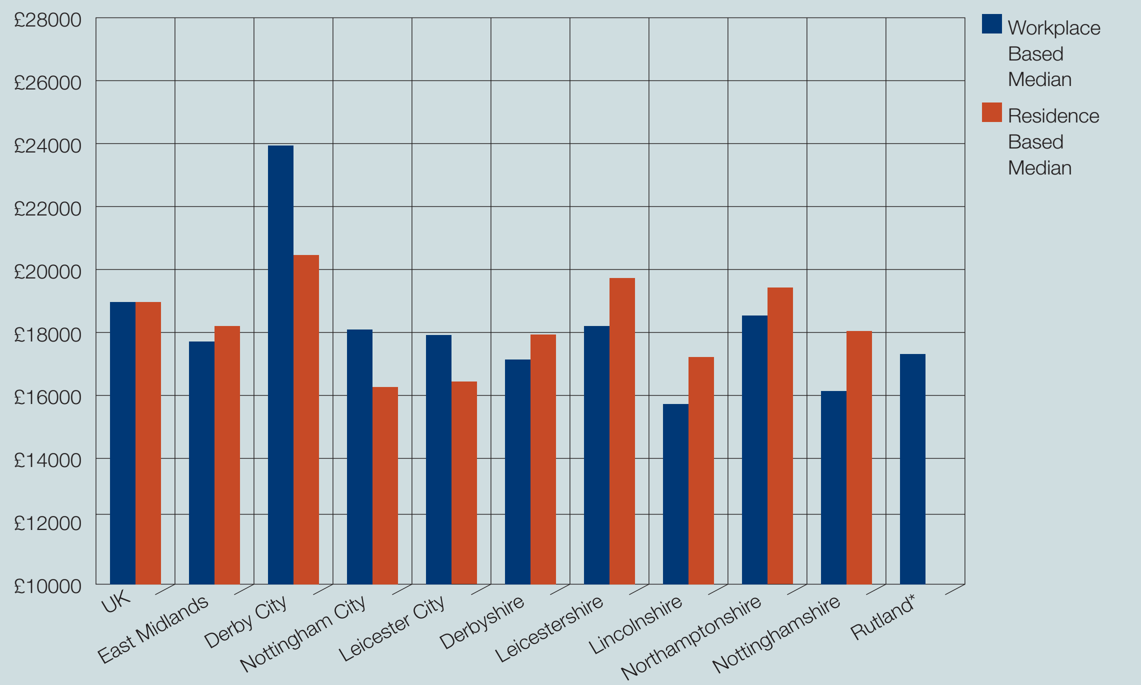
Variations between workplace and residence based earnings are more pronounced at a sub-regional level, as illustrated by Chart 36:

- Whilst residents of the East Midlands overall earn more than those who work in the region, the three city UAs all have higher workplace based earnings. This is reflected in the sub-regional Gross Value Added (GVA) estimates presented in the Economy and productivity section of *The East Midlands in 2006*, which are also above average for Nottingham, Derby and Leicester. Derby City has by far the highest workplace earnings of all Unitary Authorities and Counties, at £23,945, which is above the regional and national average. This is considerably greater than the residence based estimate for Derby, which at £20,465 is also above the regional and national average, and the highest within the East Midlands. Similarly, those working in both Nottingham and Leicester Cities earn more than those living in these cities;

- Generally there is much less variation in residence based earnings across the region. Nottingham City has the lowest residence based earnings, at £16,268, whilst Lincolnshire has the lowest workplace based earnings at £15,727.

CHART 36

Sub-regional gross annual pay (median), by place of work and place of residence, 2005



*Residence Based Estimates for Rutland UA are suppressed due to the small sample size.

Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings, 2005', gross annual pay, workplace and residence based medians, from NOMIS, 10th January, 2006

Map 4 presents workplace based estimates against residence based estimates as a ratio at an LAD level. A value of 1 represents an exact match between the two earnings estimates. A value of greater than 1 represents a higher workplace based estimate relative to residence. A value less than 1 reflects higher residence based earnings relative to workplace.[80] From this we can see that:

- The areas with the highest workplace to residence based earnings ratios are in and around the three cities of Nottingham, Derby and Leicester, suggesting that a significant proportion of individuals in higher paid jobs commute from elsewhere;

- The turquoise areas across much of Derbyshire, north Nottinghamshire and Lincolnshire indicate districts where the workplace and residence based estimates are almost equal, suggesting more self-contained labour markets. This is also the case for the districts of Boston, in Lincolnshire, and Corby, in Northamptonshire, where poor transport links contribute to particularly self-contained labour markets;

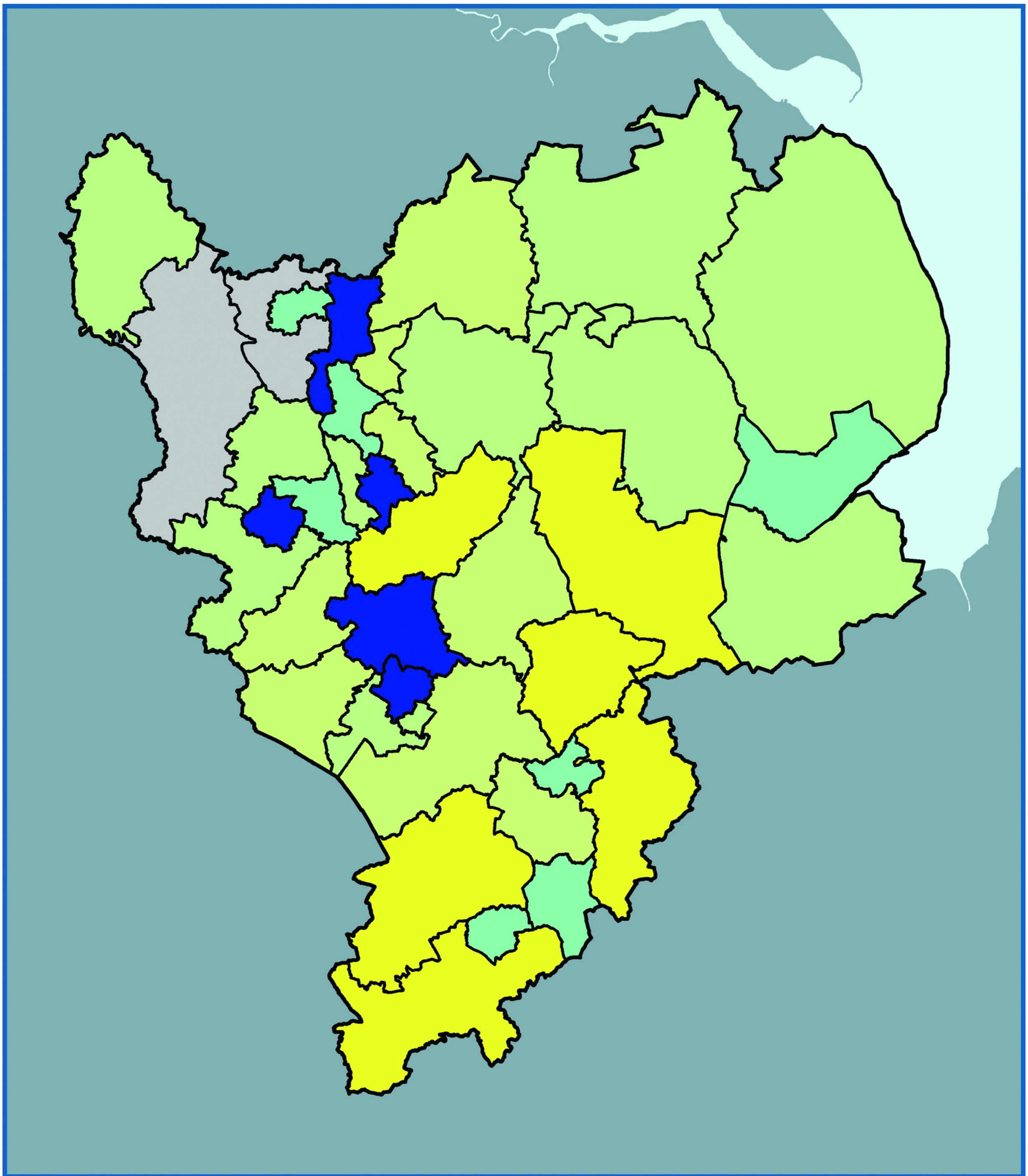
- The yellow shaded areas indicate those districts with the highest residence compared to workplace based earnings, suggesting areas where individuals in higher paid jobs commute to work elsewhere. These are principally those that border the East of England, the South East and the West Midlands. In Northamptonshire, the residence based earnings estimates in the districts of East and South Northamptonshire and Daventry are significantly higher than the workplace based estimates. This is also the case for the district of South Kesteven and Rutland, where proximity to the city of Peterborough and the location of the A1 corridor stimulate a significant degree of commuting to work outside the region. Finally residence based earnings estimates for the district of Rushcliffe are almost £6,000 higher than workplace based estimates. This can be related to Rushcliffe's location and popularity as a residential area adjacent to Nottingham and within commuting distance of Leicester.

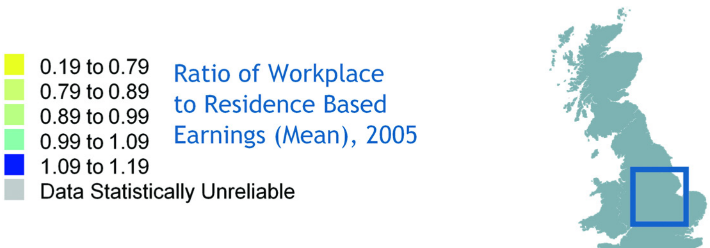
In the south of the region residence based earnings tend to be higher than workplace based earnings

[80] Map 4 presents workplace based earnings estimates by Local Authority District. Because of the sample size at this level of geography, the median is not available for sufficient numbers of districts. Therefore the mean is used to calculate the ratios of workplace to residence based earnings. The data used is therefore for illustrative purposes only, and should not be compared to the median based analysis elsewhere in Part 7.

MAP 4

Ratio of workplace to residence based earnings (mean), 2005





Source: ONS Crown Copyright, 'Annual Survey of Hours and Earnings', Gross annual pay for males and females, 2005 mean

0 10 20 miles N

east midlands development agency
the catalyst for change

7.3.1 Urban and rural variations in earnings

Using the DEFRA classification of urban and rural districts, the picture of higher earnings for those living outside the urban areas becomes clearer. As the classification of urban and rural areas is based on districts, the median from the ASHE is not available due to the small sample sizes at a district level. The following figures are therefore based on the mean[81] and should not be compared directly to earnings estimates referred to previously in this section:

- Earnings for people working in rural districts are below the regional and national means at £19,404 per year, compared to a £20,532 regionally and £23,400 in the UK. However, earnings for people living in rural districts are higher than both the estimate for people working in rural districts and the residence based mean for the East Midlands, at £22,070 per year, compared to £21,470 for the region overall;

- Workplace based earnings for urban areas are higher than residence based estimates. The workplace mean for urban areas is close to the regional mean at £20,511[82]; whilst the residence based estimate is below the regional average, at £20,301;

- This suggests that many better paid workers live in rural districts due to quality of life considerations and commute to urban areas to work, whilst much of the employment located in rural districts is lower paid. For urban districts, the differences are much smaller, but still suggest that many better paid jobs in towns and cities are often undertaken by people living elsewhere;

> In rural areas residence based earnings are higher than the regional average

- Looking at specific urban or rural districts, there are exceptions to this overall picture reflecting areas of low income in rural districts and relative affluence in some urban districts. The Local Authority District of Boston in Lincolnshire, classed as rural under the DEFRA classification, has earnings estimates for both residence and workplace that are significantly lower than average. However, the workplace based estimate is slightly higher than the residence based estimate, at £18,947 compared to £17,781. In South Kesteven, on the other hand, residents earn considerably more than those who work in the district: the residence based estimate for South Kesteven is £6,915 a year more than the workplace based estimate.

8. Policy implications

8.1 National context

Economic Growth is driven by changes in employment and productivity. The strong growth in the UK labour force contributed substantially to economic growth through the 1990s. However, tight labour market conditions associated with high employment rates mean that future growth cannot be driven simply by getting more people into work. Improving the 'quality' of employment and increasing productivity is therefore a key challenge if UK competitiveness is to be enhanced.

Data shows that the UK lags its international competitors on measures of workforce skills. It is estimated that workforce skills contribute to 12% of the productivity gap with France, and 20% of the gap with Germany.[83] The UK underperforms the United States and Japan on measures of higher level qualifications (although recent growth in higher education participation has led to marked improvements) and underperforms the US, Japan and Germany on measures of intermediate qualifications.

[81] As the mean is the arithmetic average, it can be skewed by a small number of individuals with very high earnings. This is why the median is the preferred expression of average in the ASHE. However, this is dependent on a larger sample size, so is not available for all districts. Therefore it must be borne in mind that the regional and national means are somewhat higher than the corresponding medians, so should not be used except for the purposes of comparison with smaller geographies.

[82] Note: the published mean for the East Midlands is slightly higher than the mean calculated from available district level data, as results from the 2005 ASHE are suppressed for a number of districts due to small cell size.

[83] HMT, DfES, DWP, DTI, *Skills in the Global Economy*, December 2004.

Additionally, the UK has a more substantial 'tail' of older workers with no qualifications compared to its competitors. Population forecasts predict that 80% of the workforce needed for 2012 is already in employment, which means that a significant proportion of older workers with no qualifications will remain in the labour market through the next decade.[84] Simply waiting for older workers to retire and be replaced by more qualified younger workers is not an option. This is a particular challenge to policy makers, as research suggests that the proportion of individuals over 30 improving their qualifications remains very small. This could be due to an unwillingness of employers to invest in the training of older workers.[85] Evidence from national evaluation of the Employer Training Pilots (ETPs)[86] suggests that where support for employers to train is provided, older workers with no qualifications made up a significant proportion of beneficiaries. The evaluation of the second year of the ETPs found that over one quarter of all learners were over 46, and most had left school before the age of 16. Attitudes to the value of the learning were positive and the majority indicated a wish to participate in future training.[87]

> The UK has a more substantial 'tail' of older workers with no qualifications than its competitors

8.2 Skills demand in the East Midlands

There is a higher demand for low or no qualifications compared to intermediate qualifications, and a small but growing demand for higher level skills. This 'hollowing out of the middle' in the demand for skills is associated with industrial and technological change – primarily the decline of employment in manufacturing and the automation of many processes in both manufacturing and the services (i.e. through the widespread adoption of ICTs).[88] There is a broad consensus that technological change has driven the demand for skills upwards, as have changes in the organisation of the workplace – with increasing emphases on communication, team working, and organisational skills at all levels of the occupational structure. However, recent research also suggests that the demand for lower skilled employees has also increased, at the expense of the middle ground of intermediate skills. Rising incomes have increased consumer demand for low skilled employment in Retail, Hospitality, and Healthcare. These are jobs that are dependent on physical proximity to the customer, and are therefore not as vulnerable to competition from low cost economies. Intermediate skilled jobs, like those in the Skilled Trades or in Administrative and Clerical occupations, are much more vulnerable to threats from automation and low cost competition, even though they require a far higher level of skill.[89]

In the case of the East Midlands, national surveys have suggested that demand for skills has actually got weaker, although supply (i.e. the qualifications held by the workforce) has continued to improve. Between 1992 and 1997, the proportion of residents in the East Midlands who thought that no qualifications was the right level of qualification required to get their current job rose significantly from 28% to 36%. The East Midlands fell from the top 3 according to four measures of skills demand in 1992 to the bottom three according to five measures in 1997, relative to the other UK regions and devolved administrations. The North East was the only other region to follow this downward trend.[90] This has been confirmed by more recent East Midlands survey data, in the 2003 Life and Work Survey.[91]

This development is of particular concern for regional policy for two additional reasons:

- It is in the area of intermediate skills that the East Midlands has recorded significant improvements: going from below to either level with or above the national average in the proportion of the workforce qualified to Level 2 and Level 3 between 1999 and 2003. However, survey evidence suggests that individuals qualified to a Level 2 and Level 3 are more likely to be overqualified for the jobs they do;

- The emphasis in the 2005 Skills Strategy White papers has been on sectorally relevant vocational qualifications at Levels 2 and 3, many of which will apply to the Skilled Trades. However, in overall terms, employment in these occupations is declining, and will make up a far smaller proportion of total employment in ten years time than it does currently. Although replacement demand will continue to generate a substantial requirement for employees in this occupational group, it is important to note that these will be jobs in occupations that, in aggregate terms, are declining.

[84] IER and Cambridge Econometrics, on behalf of the SSDA, *Working Futures, 2002-2012*, December 2003.
[85] Centre for Economic Performance, London School of Economics, on behalf of the DTI and DfES, *International Comparisons of Qualifications: Skills Audit Update*, 2004.
[86] The Employer Training Pilots were established in six Local Learning and Skills Council areas in 2002, including Derbyshire and Leicestershire. They aimed to provide training to a first Level 2 qualification and utilised combinations of paid time off to train, wage compensation for employers, free or subsidised training, information, advice and guidance. The key aim was to tackle the barriers preventing employers from offering training for their staff. The 2005 Skills White Paper announced that the pilots would be rolled out across England through 2006-7 as the National Employer Training Programme.
[87] Jim Hillage, George Loukas, Becci Newton, Penny Tamkin, Institute of Employment Studies (IES), on behalf of DfES, HMT and LSC, *Platform for Progression: Employer Training Pilots: Year 2 Evaluation Report*, 2005.
[88] David Ashton and Lorna Unwin, CLMS, on behalf of *emda*, *Skills, Government Intervention and Business Performance: Implications for the Regional Skills Partnership (RSP)*, August 2004.
[89] Alan Manning, *We Can Work it Out: The Impact of Technological Change on the Demand for Low-Skill Workers*, in, *Scottish Journal of Political Economy*, Vol. 51, No. 5, November 2004.

Although survey evidence indicates that individuals in the East Midlands with higher level qualifications (Level 4) are more likely to feel appropriately qualified for their current job, it is also important to note that almost half of all graduates in the East Midlands are in non-graduate work. In this sense they are underemployed in their current jobs and are theoretically not as productive as they would be if appropriately deployed.[92] Given the Government target to significantly increase the number of young people accessing higher education, the suggestion that supply may currently be outstripping demand is concerning.

> There is a higher demand for low or no qualifications compared to intermediate qualifications, and a small but growing demand for higher level skills

Therefore, the problem in the East Midlands is not so much one of low levels of qualifications in the labour force but the low level of demand for skills from employers. This is a function of the markets many East Midlands businesses operate in, and the business models and competitive strategies adopted.

8.3 Knowledge intensity in the public sector

The public sector accounts for the largest proportion of 'knowledge intensive' employment in the East Midlands, far more than in the UK as a whole. Moreover, public sector employers are more likely to identify skills gaps in their workforce, more likely to train as a solution to this and more likely to fund training leading towards a recognised qualification. The public sector is therefore the greatest source of 'quality' employment opportunities in the East Midlands, which implies that:

- Private sector organisations have a weaker demand for workforce skills in aggregate terms (recognising the fact that some individual companies in the region do invest heavily in developing the skills of their workforce);
- Public sector organisations can have a direct impact on the effective deployment of individuals with higher level skills, as they employ a substantial proportion of them.

8.4 Gender pay inequalities

Based on estimates for 2005, the East Midlands had the largest gap in workplace earnings between men and women. This is a particular concern, given that women play a slightly greater role in the regional workforce than nationally, and are forecast to continue to do so. Female employees are projected to account for the majority of new jobs in a number of the occupations forecast to experience significant growth, especially Personal Service Occupations – a sector which is often associated with low pay.

8.5 Urban and rural disparities

The rural areas of the East Midlands tend to perform better than either the regional average or urban areas in both employment rates and measures of workforce qualifications. Again, this is in aggregate terms, so masks pockets of low skills and employment which will be discussed in the following section. Employment rates, skill levels and average earnings are all higher in rural areas. However, it is important to note that these indicators relate to residents of rural areas. Measures of earnings for those working in rural areas are significantly lower, suggesting that many better paid, higher skilled individuals choose to live in rural areas and commute to work elsewhere. Many local labour markets in rural areas provide comparatively low paid, low skilled employment.

> In the East Midlands, the problem is not so much low levels of workforce skills, but low demand for skills from employers

[90] Alan Felstead, CLMS, *Putting Skills in Their Place: The Regional Pattern of Work Skills in Late Twentieth Century Britain*, in Evans, Hodkinson, and Unwin (eds), *Learning and the Workplace*, 2001.

[91] Nottinghamshire Research Observatory, on behalf of *emda*, *Analysis of Qualifications in the East Midlands Life and Work Survey 2003*, August 2004.

[92] Ibid 91.

8.6 The 'low pay low skills equilibrium'

Our assessment of the East Midlands contends that the 'quality' of employment is a particular challenge for the region. Employment rates are stable and above average, and much of the region can be described as being at, or near to, full employment (although there are a number of pockets of significant employment deprivation). However, the region underperforms the national average on most measures of workforce skill, and accordingly has consistently below average wages – especially for higher level occupations. Additionally, employment in higher tier occupations (specifically Professionals and Associate Professionals) is lower than in the UK, whilst the region has a greater proportion of employment in lower tier occupations (Elementary Occupations and Process, Plant and Machine Operatives). Overall, these differences are forecast to remain: higher tier occupations are forecast to grow in the East Midlands, but at a lower rate than in the UK.

This view is consistent with the concept of the 'low pay low skill equilibrium'. A ready supply of workers with low or no qualifications enables some businesses in the region to maintain competitive strategies based on low cost. This is supported by the fact that the largest concentration of employment in the East Midlands is in the lowest band of knowledge intensity (K4 sectors). This also applies to a number of regions outside London and the South East. The consequence of this is a less productive, less innovative regional economy, employing lower paid, lower skilled workers. This is not sustainable if the region is to hold its own in the face of competition from lower cost developing economies.

Summary

1. Introduction

This section assesses the labour market in the East Midlands, with a particular focus on skills as a driver of productivity. It focuses on the labour force, represented either by the economically active population or those in employment. Labour market participation among particular segments of the population is addressed in the section on Deprivation and Economic Inclusion in the East Midlands.

2. The international context

The East Midlands labour market has to be assessed in the context of UK and international developments. According to current data, employment rates in the UK exceed those of the USA, Japan, France and Germany. The UK labour force has grown considerably from the mid-1990s, contributing to a substantial proportion of GVA growth.

However, the UK lags its international competitors on measures of productivity and workforce skills: it is estimated that workforce skills contribute to 12% of the productivity gap with France and 20% of the gap with Germany. The UK lags the USA and Japan on measures of higher level qualifications and lags the US, Japan and Germany on measures of intermediate qualifications. Additionally there is a more substantial ‘tail’ of older workers with limited qualifications compared to other countries.

The high rates of employment in the UK mean that there is little room to improve future economic performance simply by getting more people into work. Hence improving the quality of employment and productivity is central to driving future growth.

3. Employment in the East Midlands

Employment rates in the East Midlands have remained very stable since 1999, and have consistently exceeded the national average. In 2004, 75.4% of the working age population in the East Midlands was in employment, compared to 74.2% in the UK. Although employment rates in the East Midlands have converged with the UK average since 1999, the region continues to have the fourth highest employment rate out of the nine English regions. Unemployment remains below the UK average, at 4.3% compared to 4.9% in 2004.

However, there are substantial sub-regional variations. Employment tends to be lower in the cities and higher in rural areas and in the south of the region. Nottingham City recorded the lowest employment rate in 2004, at 63.2% (this is influenced by the substantial student population), whilst Leicestershire had the highest at 80.3%. The employment rate for all rural districts was above the regional average at 78.2%. This is compared to the employment rate for all urban districts of 72.0%. However, these aggregate figures mask areas of deprivation in rural areas associated with remote rurality and dependence on weak local labour markets: East Lindsey had an employment rate that was 4.5 percentage points below the regional average in 2004.

Much of the region can therefore be described as being at, or near to, full employment. Nevertheless, substantial pockets of employment deprivation remain – especially in the major urban centres, former coalfields and remote rural areas.

Women make up a slightly larger proportion of employment in the East Midlands than in the UK, at 46.7% compared to 46.5%, and this is forecast to remain the case to 2014. The structure of employment in the East Midlands is very similar to the UK, with a slightly higher level of part-time employment and a slightly lower level of self-employment. The proportion of employees working part-time is projected to increase, with part-time jobs contributing to a significant proportion of all new jobs in the region between 2004 and 2014.

4. Skills and qualifications

The East Midlands can be described as being in a 'low pay low skill equilibrium', with a lower than average proportion of the workforce possessing higher level qualifications and an above average proportion with no qualifications:

- In the East Midlands, 12.2% of the economically active working age population have no qualifications, compared to 10.8% in the UK;
- As a measure of higher level skills, 25% of the region's workforce is qualified to Level 4 (equivalent to a first degree) compared to 28.6% in the UK;
- The region compares far better on measures of intermediate skills, at or above the UK average at Level 2 (equivalent to 5 GCSEs at A*-C) and Level 3 (equivalent to 2 or more A-Levels).

However, there is evidence of a lower level of demand for qualifications at an intermediate level. When surveyed, 76.5% of those with no qualifications felt they had the right level of qualification for the job they had, followed by 52.1% of respondents with a Level 4. Those with Level 2 and Level 3 qualifications were less likely to feel their qualifications were necessary. Only 24.1% of respondents with a Level 3 felt their level of qualification was appropriate for their job. This suggests that employers seek either higher or lower qualifications, pointing to an increased polarisation in the skills required from the workforce.

Sub-regionally, Leicester and Nottingham Cities have the highest proportion of economically active adults with no qualifications, whilst Rutland, Nottinghamshire, and Derby and Nottingham Cities have the highest proportions of adults qualified to Level 4 and above. At an aggregate level, rural districts, as opposed to urban districts, have significantly higher proportions of adults with higher level qualifications and lower proportions with no qualifications. However, these headline figures mask pockets of low skills in rural areas: in Boston the proportion of the working age population qualified to Level 4 is less than half the regional average.

The older age groups in the workforce are also significantly more likely to have no qualifications than in the UK. This is a key concern, as forecast data suggests that 80% of the workforce needed in 2012 is already in employment, meaning that a substantial number of older workers with no qualifications will remain in employment over the next decade.

5. Occupational structure of employment

The occupational structure of employment in the East Midlands is more heavily weighted towards lower tier occupations, requiring few or no qualifications, and comparatively under-represented in higher tier occupations, usually requiring higher level qualifications. The occupational structure of employment has shifted significantly, as the decline of primary and manufacturing sectors across the UK has been accompanied by a shift from 'blue collar' activities to more service orientated activities. These broad trends have contributed to changing skills requirements, with management, customer service, communication and team working all increasing in importance across all occupations.

These changes apply to the East Midlands, but the region is forecast to remain comparatively more reliant on lower-tier occupations than elsewhere in the UK. Although higher tier occupations are projected to grow in the East Midlands, this increase will be less significant than in the UK as a whole. Employment in the Skilled Trades will decline markedly between 2004 and 2014, whilst by far the greatest growth will be in Personal Service Occupations, closely linked to the increased demand for care provision associated with the ageing population. The projected decline in the Skilled Trades and the strong rise of employment in the Personal Services, suggest that the East Midlands skills profile could become more polarised in the future.

6. Employer demand for skills

The East Midlands has a lower than average proportion of total employment in the most knowledge intensive 'K1' sectors (employing more than 40% graduates) and one of the highest shares of employment in 'K4' sectors (employing less than 15% graduates). Moreover, the public sector accounts for a substantial majority of knowledge intensive employment, with Education and Health accounting for 59.3% of all 'K1' employment in the region, almost 10 percentage points more than the UK average. Therefore, knowledge intensive employment is more concentrated in the public sector than in other regions, whilst private sector demand for higher level skills appears weak when compared to other regions.

Over half of all the 'skills' gaps identified by East Midlands employers amongst their current staff were in three lower tier occupations – Elementary Occupations, Process, Plant and Machine Operatives and Sales and Customer Service Occupations – compared to just over 30% England.

Additionally, employers reported that over two thirds of managers in the East Midlands lack management skills, which is more than double the England average. However, East Midlands employers were more likely to look to recruitment to address their skills problems than to invest in training their current staff. Staff in higher tier occupations were more likely to receive training. Given that skills gaps in the East Midlands are more likely to be identified in lower tier occupations, this is a concern. Not only are there more staff in lower tier occupations who are not 'proficient' in their current jobs, but individuals in these levels of jobs are less likely to receive training to address their skills issues.

The Treasury's review of skills, undertaken by Lord Leitch, has highlighted a concern over the balance of training arranged or funded by employers. Survey data suggests that much of this is either exclusively related to specific aspects of the trainee's current job or is statutory health and safety training. The implication of this is that employers are less inclined to provide training that has transferable benefits for the individual employee beyond their current job role.

7. Earnings

Median earnings for people working in the East Midlands were 6.6% less than the UK median in 2005, at £17,713 a year compared to £18,961. Additionally, the difference between male and female earnings was greater in the East Midlands than in any other English region. The gap in pay between the East Midlands and the UK is greater for a number of higher level occupations, with the median annual earnings for managers in the region estimated to be over £2,000 less than the UK average. Therefore not only are there fewer jobs at this level in the East Midlands, but the associated earnings increase is lower than in other regions. Earnings are less dispersed in the East Midlands than in the UK, but this is principally due to more depressed earnings at the top end of the scale.

Residents in the East Midlands are paid more on average than those who work in the region, suggesting that many higher paid workers commute to work outside the region. The earnings of those resident in rural areas are substantially higher than those working in rural areas, suggesting that higher skilled workers living in rural areas commute to work in towns and cities or outside the region. Conversely, the earnings of those living in urban areas are below the earnings of those working in urban areas.

8. Policy implications

The analysis of the East Midlands labour market supports the view that the 'low pay low skill equilibrium' persists, with a low demand for skills coupled with high employment rates. A ready supply of workers with few or no qualifications enables some businesses in the region to maintain a competitive strategy on the basis of low cost. This is supported by the fact that the largest concentration of employment in the East Midlands is in the lowest band of knowledge intensity, K4 sectors which have workforces employing less than 15% graduate equivalents. The consequence of this is a less productive, less innovative regional economy, employing lower paid, lower skilled workers.

Therefore, the problem in the East Midlands is not so much one of low levels of qualifications in the labour force, but the low level of demand for skills from employers. This is a function of the markets in which many East Midlands businesses operate, and the business models and competitive strategies adopted.