



Report 4: Employment and Skills

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This report presents evidence on labour market conditions in the D2N2 area, examining the impacts of the recession on employment and unemployment, before investigating measures of employer demand for skills and the current profile of skills in the D2N2 workforce, in order to identify key challenges and opportunities for policy makers.

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4. Employment and Skills

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4.1 Introduction

4.1.1 The Role of Skills in Local Competitiveness

Although there is some debate around the exact nature and extent of the contribution of skills to a local area's productivity, there is strong consensus that a skilled workforce contributes to an area's 'competitive advantage'. Skilled workers may be better able to identify market opportunities, innovate and adapt to new technologies, attract and facilitate investment and improve leadership and management. Skills are therefore an important contributor to the 'adaptive capacity'¹ of an area – the ability to withstand economic shocks and take advantage of new opportunities. There are also close correlations, both internationally and locally, between higher levels of skill and higher levels of participation in the labour market. Some of the individual benefits of education and skills include higher wages, greater access to training and job progression opportunities and greater protection from long-term unemployment.²

The level and nature of workforce skills in a local area relate to a number of factors:

¹ 'Adaptive capacity' can be understood as an area's ability to respond to external forces whilst creating new paths of economic development from within. See: Ron Martin, University of Cambridge, on behalf of *emda*, 'Thinking about regional competitiveness: Critical Issues', October 2005.

² Lynn Gambin, Anne Green and Terrence Hogarth, Warwick Institute for Employment Research (IER), on behalf of *emda*, 'Exploring the Links between Skills and Productivity', March 2009.

- **Economic history and path dependency:** the current stock of skills in a local workforce are a result of the education and training decisions made by individuals over a number of generations. These decisions are influenced by changing job opportunities in different sectors and employer investment in training;
- The **quality and subject-specialisation of local schools, Further and Higher Education Institutions**, which are themselves affected by their relationships with employers and current and historic sectoral strengths; and
- **The ability of the local labour market to retain and attract skilled workers.** Young people are especially mobile whilst more highly skilled employees are more likely to commute further distances to work. Successful areas tend to display a high level of population ‘churn’, attracting and exporting individuals from and to other areas, whilst less successful areas can suffer from a static, ageing population alongside the net out-migration of well-qualified young people. If quality employment is limited in an area, there can be low levels of adult skills even if attainment is high at local schools and colleges - as high achieving young people will have little incentive to remain in the area.

Therefore, there is a close connection between the levels of skill in an area and other aspects of economic development, especially the occupational structure of employment, the extent of new business creation and the presence of large, R&D intensive employers.

The areas covered by the D2N2 LEP share some characteristics related to a common economic history, but there are significant variations in industrial structure across the sub-region (explored in detail in Evidence Report 3: The D2N2 Economy). A highly productive advanced manufacturing sector has led to strong demands for intermediate and higher-level technical skills, especially in and around Derby City and south Derbyshire, which is reflected in strong engineering departments in the area’s colleges and Universities. However, the decline of heavy and traditional manufacturing over the last three decades and the virtual disappearance of coal mining has ‘hollowed out’ the demand for manual and lower-level engineering skills in the former industrial areas of north Derbyshire and north Nottinghamshire. Both Nottingham and Derby Cities have been successful in attracting higher skill employment in the services, such as financial services and health, but many parts of the LEP area remain quite polarised, with good opportunities for highly skilled individuals alongside a high proportion of very low skilled, low paid service sector and manufacturing jobs .

Broadly speaking, the labour market and skills character of the D2N2 area can be conceptualised in terms of at least four different spatial areas:

- A relatively high skill and high pay employment profile in **Derby City, South Derbyshire and along the M1 corridor**, related to the presence of highly competitive advanced manufacturing firms. Although there are good employment opportunities for skilled individuals within these areas, there is also evidence of significant commuting of workers in professional and managerial occupations to other areas, such as Nottingham and the West Midlands;

- A lower skill employment profile across **north Nottinghamshire and north east Derbyshire**, which can reasonably be described as being in a ‘low pay, low skill equilibrium.’³ This describes a situation where there is a higher proportion of businesses whose products or services require low levels of skills input, leading to a relative over-reliance on low-paid, low-skilled work. This results in lower than average productivity of firms and organisations, lower than average earnings and a reliance on casual labour, leading to significant incidence of in-work poverty.⁴ This can lead to vulnerability to economic shocks, as has been evident in the impacts of the recession on the labour markets of these areas;
- The labour market **in and around Nottingham City, covering south and east Nottinghamshire** (including the districts of Broxtowe, Gedling, Newark and Sherwood and Rushcliffe, and into Derbyshire, especially the district of Erewash), is dominated by the effects of Nottingham – as an employment destination for commuters and a centre of business activity and services. The public sector (health, education and public administration) is an important employer, leading to potential vulnerability to public spending cuts. Retail is also an important employment sector, and an important element in Nottingham City’s tourism offer, providing an additional concern in the light of squeezed consumer spending. This area demonstrates a significant difference in the characteristics of individuals who live in the neighbouring districts, with higher wages and skill levels – many of whom are likely to commute to work in the city – and residents of Nottingham City itself, who are much more likely to be in low skilled work and have relatively low wage levels. Nottingham also demonstrates consistently high rates of unemployment; and
- Finally, the **Peak District National Park Area/north west Derbyshire**, is predominantly rural with a number of important market towns acting as employment and service centres in their own rights. There are important commuting links, especially for individuals in managerial and professional jobs, to Manchester, the West Midlands and Sheffield City Region (as well as to Derby and Nottingham), leading to a relatively highly skilled employment profile. However, evidence suggests that jobs held by those who live *and* work in the area are more likely to be low skilled/paid, with sectors associated with tourism (e.g. hotels and restaurants) providing significant employment.

Current Government policy suggests that LEPs have a number of potential roles in addressing the challenges and building on the opportunities facing these different areas, which are summarised in the following section.

4.1.2 Policy Context

The Coalition Government’s objective for local economic development is to ‘rebalance’ those local economies that may be overly reliant on the public services and a “narrow range of economic

³ For more information, see: Rob Wilson and Terrence Hogarth (eds.), Warwick Institute for Employment Research (IER), on behalf of the DTI Skills Research Programme, ‘*Tackling the Low Skills Equilibrium: A Review of Issues and Some New Evidence*’, November 2003.

⁴ For more information on the relatively high, and growing incidence of ‘in-work poverty’, see: Michael Orton et al, Warwick Institute for Employment Research (IER), on behalf of *emda*, ‘*In-Work Poverty in the East Midlands*’, 2010.

sectors". The Local Growth White Paper⁵ suggests this can be achieved through a far less interventionist approach than that attempted by the previous Government. In education and skills, this has led to attempts to 'free up' the market by removing central and regional strategic planning.

The previous Government had attempted to address weaknesses in the UK's skills-base by prioritising funding in line with high-level targets. Examples included the Skills Funding Agency's (SFA) prioritisation of investment for Level 3 (i.e. intermediate) courses relevant to nationally and regionally identified 'priority sectors'. Throughout this strategy, there was a focus on defining and then prioritising 'economically valuable skills' – the types of education and training that would bring about the most benefit in the labour market. The Coalition Government's skills strategy, '*Skills for Sustainable Growth*'⁶, describes this approach as excessively centralised and bureaucratic – and instead argues that the individual learner is best placed to identify the skills that will be most valuable for their current and future employment.

'*Skills for Sustainable Growth*' emphasises two key themes: increased freedom of choice, for both providers and learners, alongside a shift in financial responsibility - moving a greater proportion of the costs from the taxpayer towards the direct beneficiaries of education and training: the individual learner. Rather than intermediary organisations like the SFA making discrete funding streams available for providers to deliver against targets, central planning targets will be removed and colleges will be able to invest SFA funding as they see fit – directly responding to their local markets. In practice, the 'market' will result from the decisions made by individual learners – which assumes they will be adequately informed of the value of a given course to their future employment.

In the case of education and training for 16-19 year olds, the Government has removed the requirement on Local Authorities to maintain sub-regional and regional planning groups. Provision for 16-19 year olds should be mainstreamed within Local Authorities' wider vision for education, but it will be left up to individual authorities how they choose to influence provision (such as by building on existing 14-19 partnerships with providers where they already exist).⁷

The previous Government attempted to spread the financial burden of education and training between the taxpayer, employers, learners and providers – arguing that the balance of responsibility should change for various levels and types of skill. The current Government has increased the emphasis on the learner within the funding settlement. This has been particularly explicit in Higher Education funding following the publication, in October 2010, of the Browne Review, which recommended that the burden should shift further towards individual graduates, who benefit most due to the increased earnings they could expect to receive.⁸ Compared to the previous Government's strategy (where work-based, employer-driven courses were envisaged to account for an increasing number of publically funded places), employers' influence in identifying and receiving the skills they need from HE receives less emphasis. The Browne Review explicitly states that employers would not be asked to contribute to the new funding settlement - as employers already

⁵ HM Government, '*Local Growth: realising every place's potential*', October 2010.

⁶ Department for Business, Innovation and Skills (BIS), '*Skills for Sustainable Growth – Strategy Document*', November 2010.

⁷ Ibid.

⁸ Lord Browne of Madingley et al, '*Securing a Sustainable Future for Higher Education – an independent review of Higher Education funding & student finance*', October 2010.

pay for any benefits they receive through the premium they place on graduate salaries. Asking businesses to contribute (such as through a new tax) would also require universities to be far more responsive to business needs, leading to “a risk that these may displace the choices made by students.”⁹

With increased flexibility for the learner and provider, LEPs will be expected to exert strategic influence. The Government is encouraging Higher and Further Education Institutions to work collaboratively, through “self-organised networks”, so that LEPs can engage with them to “ensure alignment between the economic development priorities and the skills provision available locally.” The Government envisages that agreements will be made between LEPs and local providers, although LEPs will have no formal powers to direct or control the activity of skills providers. This places significant importance on LEPs providing local providers with good information on employer skill needs. To facilitate this, the Government has charged the SFA Data Service to publish regular information on FE performance.¹⁰

Summary

- This new skills policy environment, as it relates to LEPs, falls within a wider focus on encouraging business diversification, inward investment and business start-up in local areas in order to increase private sector jobs across a wider range of sectors.
- Providers in Further and Higher Education will have complete freedom to use public funds to deliver the courses they see fit, without any occupational or sectoral funding prioritisation from Government or from national and regional SFA offices.
- LEPs will have no formal powers to direct this activity, but will be expected to understand and communicate employer skill needs in order to influence the decisions of learners and providers.

In its proposal to Government for establishing a LEP, the D2N2 partners prioritised the need to develop the area’s workforce skills, “building on the strengths and reputation of our first rate FE and HE sector, that will meet and drive up employers’ current and future skills demands.”¹¹ The proposal suggests a number of specific areas where LEP partners can directly and indirectly influence the demand and supply of skills as follows:

- The LEP could work to influence the Government’s model for business support, including specific programmes such as the Manufacturing Advisory Service. If possible, this could include local, sector-specific delivery;
- In line with the responsibilities set out in ‘*Skills for Sustainable Growth*’, the D2N2 LEP could work with employers, providers, sector specialists and national agencies to determine skills

⁹ Ibid.

¹⁰ Department for Business, Innovation and Skills (BIS), ‘*Skills for Sustainable Growth – Strategy Document*’, November 2010.

¹¹ Derby City Council, Derbyshire County Council, Nottingham City Council, and Nottinghamshire County Council, ‘*Derby, Derbyshire, Nottingham, Nottinghamshire: Local Enterprise Partnership Proposal*’, September 2010.

priorities and ensure this is integrated into the 14-19 provision. Initial priorities would be to extend and deepen engagement between business sectors and training providers, create a comprehensive ladder of opportunities for Apprenticeships across all NVQ levels and ensure that young people are work ready;

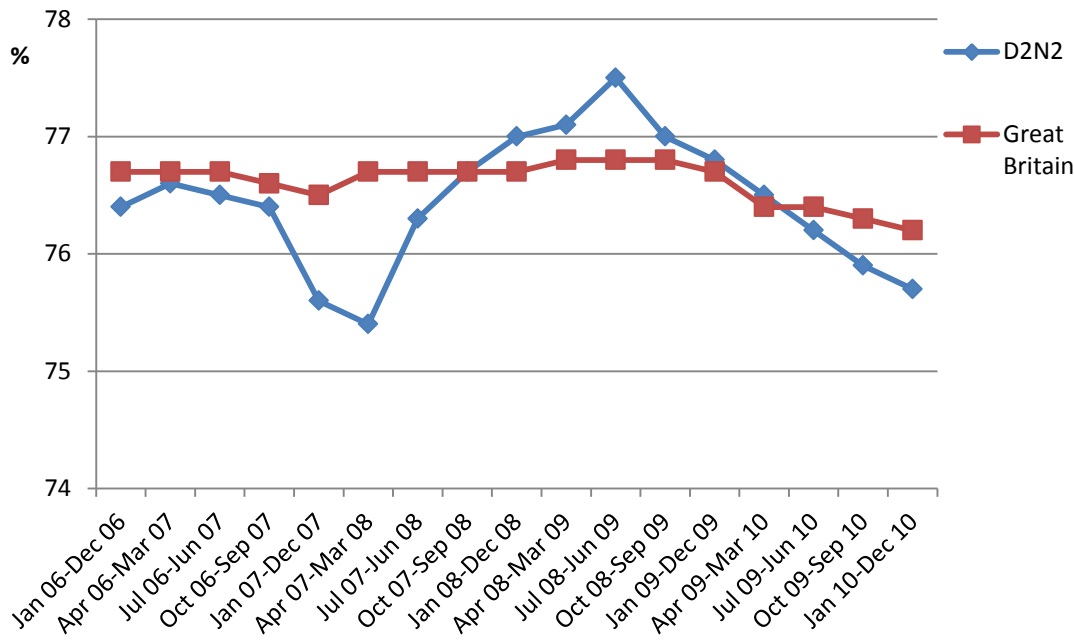
- The D2N2 proposal suggests that partners could produce a local ‘Skills Priority Statement’, similar to the regional statements requested by the Government in autumn 2010 to inform the national skills strategy, which articulated business skill needs with the objective of influencing national SFA and other skills and education resource allocations;
- The D2N2 proposal describes the need to “bridge the gap between school-based advice and guidance and adult advancement” but does not state how this can be achieved in relation to the previous and existing services (Next Steps and Connexions) and planned successor bodies (an all ages careers service, planned to be in operation by April 2012); and
- In linking employment support and welfare to the skills agenda, the D2N2 proposal expresses the need to establish a formal relationship with DWP across all its programmes of activity (including its local delivery arrangements such as Jobcentre Plus). This includes expanding the City Strategy pathfinder initiative in Nottingham to enable co-commissioning between local authorities and Jobcentre Plus across the LEP area. The proposal also requests that the reorganisation of local Jobcentre Plus districts reflects LEP boundaries, as well as the geographical scope of Work Programmes contracts, and that the partnership is able to influence the tendering for and award of these.

These objectives highlight the need for a shared understanding of local skill needs, how they differ across the LEP area, and how they are interrelated with other aspects of economic development.

In order to inform priorities for action, this section will: assess recent trends in overall labour market conditions, analyse measures of demand for skills and skill utilisation, and compare this data to measures of skill supply, before finally discussing earnings as an outcome of the skill levels of the workforce. This report can be read alongside Evidence Report 5: Education and Training, which assesses participation and attainment in the education system in the D2N2 area, the decisions made by learners, and the impact this may have on their labour market experiences.

4.2 Labour Market Conditions

This sub-section provides an overview of labour market conditions over recent years. This is important for two reasons. An overview in the change in the number of people employed and the number of jobs in the area provides an idea of the distribution of the workforce and demand for labour, whilst an analysis of employment and unemployment rates illustrates the relative ‘health’ of the D2N2 labour market, the effect of the recession, and the extent of any recovery.

Chart 1: Economic Activity Rates, January-December 2006 to January-December 2010 (%)

Source: ONS Crown Copyright, 'Annual Population Survey', rolling quarterly estimates, January 2006-December 2006 to January 2010-December 2010.

Chart 1 illustrates how economic activity rates¹² in the D2N2 area have changed since the final quarter of 2006 compared to the national average. Nationwide, economic activity remained broadly flat until the final rolling quarterly estimate of 2009 (covering the period January-December 2009)¹³ and the first release for 2010 (April 2009-March 2010), when it fell from 76.7% to 76.4%. Economic activity in Great Britain has since continued to fall slightly, to 76.2% in the latest release (January-December 2010).

In the D2N2 area overall, economic activity rates have been more variable.¹⁴ Rates fell to well below the national average during 2007 before recovering through 2008,¹⁵ which is likely to be a

¹² **Economic activity** describes those who are either in employment (part-time, full-time or self-employed) or unemployed. The economic activity rate is the number of economically active people as a percentage of the working age population (16-64 year olds). This group represents the total stock of potential labour available in a given area.

¹³ Annual Population Survey estimates are produced on a quarterly basis for a rolling twelve month period (thus each quarterly release contains a full twelve months' data), and are published six months after the end of the reference period: e.g. estimates for the period July 2009 to June 2010 were published in December 2010.

¹⁴ Changes over the period are statistically significant, exceeding the confidence intervals, which range between +/- 0.8 and 1.2 percentage points. The relatively small size of confidence intervals suggests that the greater variability in economic activity in the D2N2 area over the period compared to national averages cannot be explained in terms of sampling variability.

¹⁵ It is possible that the apparent fall in economic activity rates during 2007 in the D2N2 area was affected by the ONS' reweighting of the Annual Population Survey using population data for 2007, updating earlier population weightings (thus changing the denominator for economic activity, employment and other rates). The ONS state that reweighting has not affected national estimates, but may have affected estimates in some local areas.

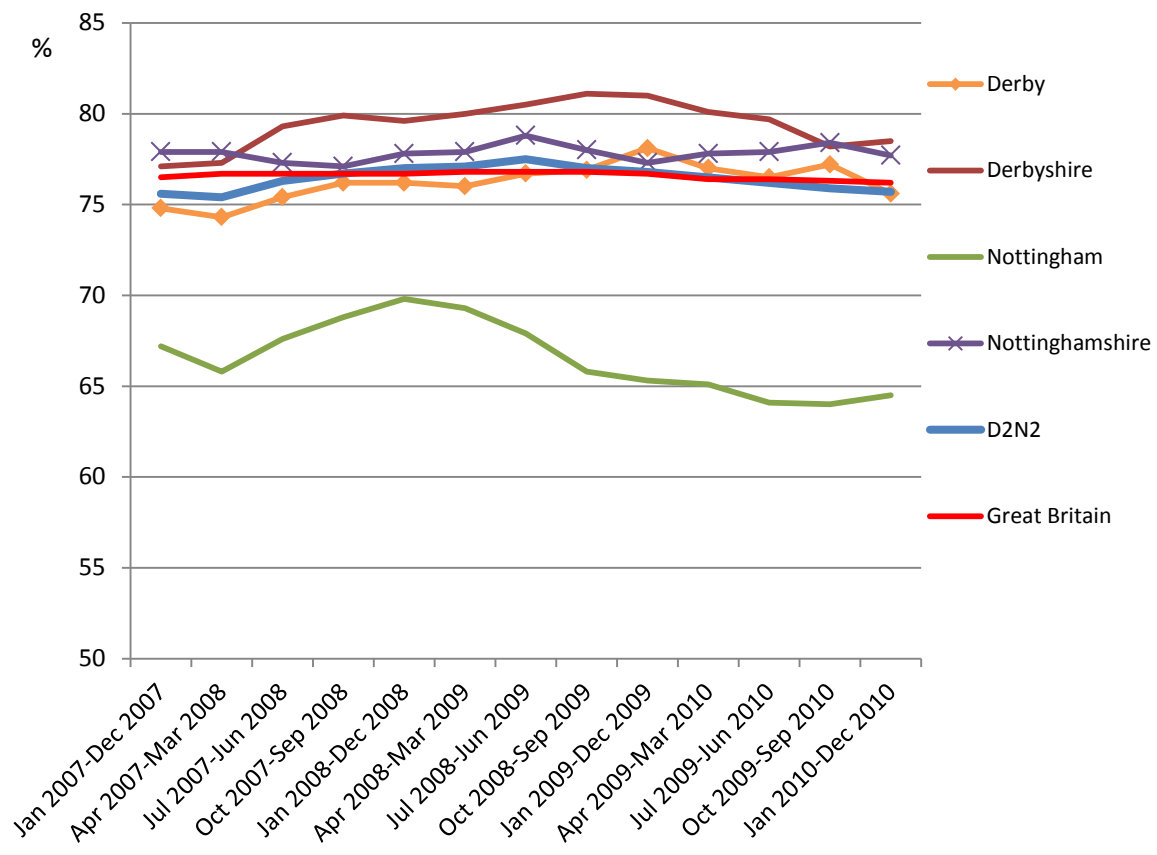
data issue as this did not occur nationally and is not supported by other indicators for the D2N2 area. However, the more recent quarter-on-quarter fall in the D2N2 area, from 77.5% in July 2008-June 2009 to the latest estimate of 75.7% for January-December 2010, is supported by other data (such as changes in the Claimant Count unemployment rate, presented later in this section). This suggests that economic activity in the D2N2 area was affected more significantly by the recession from late 2008/early 2009 (falling from above the national average to below the average) and has been continuing to fall in recent estimates, whilst the national rate appears to have stabilised.

Chart 2 shows economic activity rates for the Local Authorities within the D2N2 area, for the period January-December 2007 to January-December 2010. This shows that:

- Economic activity in Derbyshire has exceeded the national average throughout the period, increasing to 81.1% in October 2008-September 2009 (compared to 76.8% in Great Britain) before falling steadily to the latest estimate of 78.5% (January –December 2010) compared to 76.2% in Great Britain;
- Economic activity rates in Nottinghamshire and Derby City have remained close to the national and D2N2 averages, with latest estimates at 77.7% and 75.6% respectively;
- Nottingham is a clear outlier, with economic activity rates that have been as much as 10 percentage points below the national and D2N2 averages during the period. The trend for Nottingham City also indicates a more obvious decrease during the recession, from 69.8% in January-December 2008 to 64.5% in January-December 2010. Economic activity in Nottingham is affected by a large student population, but is also related to concentrations of worklessness in deprived parts of the city; and
- The contribution of Nottingham's student population to the area's lower levels of economic activity is significant. According to the January-December 2010 Annual Population Survey, approximately 77,000 adults resident in Nottingham City aged 16-64 were 'economically inactive'.¹⁶ Of these, 49.6% (approximately 38,000) were students – which is the highest proportion in the East Midlands (compared to 31.6% in Leicester, 23.3% in Derby and 24.6% in Great Britain overall).

¹⁶ **Economic inactivity** describes those who are neither in employment nor unemployed. This includes those who want a job but have not been seeking work in the last four weeks, those who want a job and are seeking work but not available to start work, and those who do not want a job. The **inactivity rate** is the number of economically inactive people as a percentage of the working age population. The economically inactive population includes full-time students, those who do not work due to parental or elder-care responsibilities, the retired and those who are not working due to health problems.

Chart 2: Local Authority Area Economic Activity Rates, January-December 2007 to January-December 2010 (%)



Source: ONS Crown Copyright, 'Annual Population Survey', rolling quarterly estimates, January 2007-December 2007 to January 2010-December 2010.

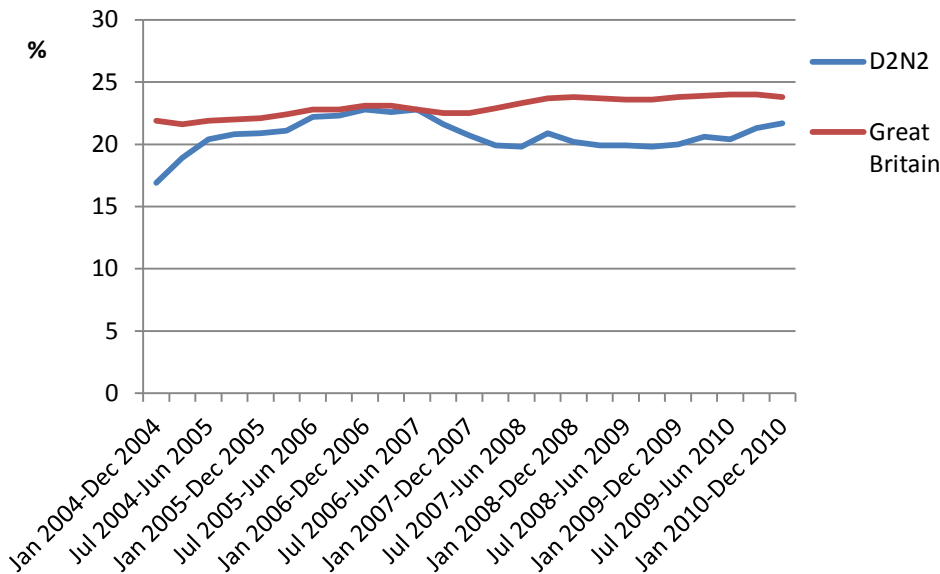
In the Annual Population Survey, respondents who have been identified as economically inactive are asked whether they want a job (therefore are out of work but not meeting the ILO definition of unemployment, i.e. not actively seeking and/or available for work) or do not want a job (including students, early retirees, full-time carers, and those with disabilities or illnesses that prevent any kind of work).

If economic activity decreases due to reduced demand in the labour market, one would expect the proportion of the inactive who want a job to increase. In Great Britain as a whole, this has been the case. In January-December 2007, 22.5% of economically inactive, working age adults 'wanted a job'. In January-December 2010, this increased to 23.8%. In the case of the D2N2 area, the trend has been more variable – which may reflect sampling variability, with confidence intervals above +/- 2 percentage points. Chart 3 illustrates this trend from January-December 2004, with the longer time-series showing this variability.

Throughout the period, the proportion of economically inactive who 'want a job' has been lower in the D2N2 area than nationally. The latest estimate, for January-December 2010, is 21.7%, 2.1 percentage points lower than the average for Great Britain. However, this represents a significant increase from the proportion at the start of the time period (16.9% in January – December 2004).

This could represent an increasing level of long-term and ‘hidden’ unemployed or ‘discouraged workers’¹⁷, which could reasonably be expected to increase as general labour market conditions tighten.

Chart 3: Economically Inactive who ‘want a job’, January-December 2004 to January-December 2010 (%)



Source: ONS Crown Copyright, ‘Annual Population Survey’, rolling quarterly estimates, January 2004-December 2004 to January 2010-December 2010.

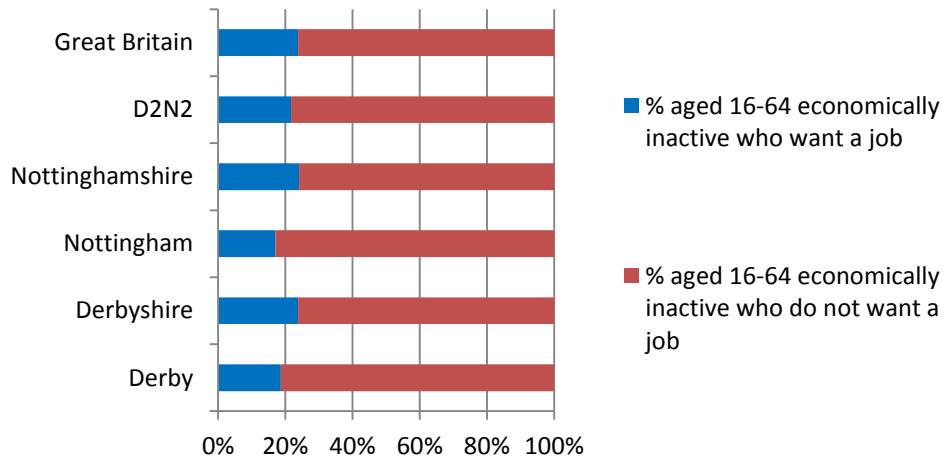
Chart 4 illustrates how the proportion of economically inactive adults who ‘want a job’ varies across the local authorities in the D2N2 area. This demonstrates that there are lower proportions who ‘want a job’ in Derby and Nottingham Cities (at 18.6% and 17% respectively for the period January-December 2010), which is likely to reflect both the student populations and higher levels of unemployment (i.e. more people classified as unemployed rather than economically inactive but ‘wanting a job’). Conversely, there are higher proportions who ‘want a job’ in Nottinghamshire and Derbyshire Counties, at 24.1% and 23.8%. This suggests a greater prevalence of long-term or ‘hidden’ unemployment compared to other reasons for inactivity (full time study, caring, etc. who make up the ‘do not want a job’ group).

This was also indicated in research undertaken by Sheffield Hallam University, which identified particular concentrations of ‘hidden unemployment’ amongst the economically inactive populations in north Derbyshire and north Nottinghamshire - in areas such as Mansfield and Bolsover. The

¹⁷ A ‘discouraged worker’ is a widely used term that refers to an individual who is able to work (i.e. working age and without a work-limiting illness or disability), but is currently unemployed and has not attempted to find employment in the last four weeks (and thus would not qualify for the ILO definition of unemployment). Discouraged workers have usually given up searching for a job because they have found no suitable employment options and/or were met with lack of success when applying. They may be long-term unemployment benefit claimants, or may have been moved off JSA to another benefit/combination of benefits.

authors defined the hidden unemployed as those who were out of work, not claiming unemployment benefits or meeting the criteria for ILO unemployment, but who could reasonably be expected to work in a 'fully employed economy'. Therefore, high proportions of people who are economically inactive but want to work could represent a weak demand from employers as well as issues affecting individual employability, such as low skills or poor health.¹⁸

Chart 4: Economically Inactive who want a job/don't want a job, January-December 2010 (%)



Source: ONS Crown Copyright, 'Annual Population Survey', January 2010-December 2010.

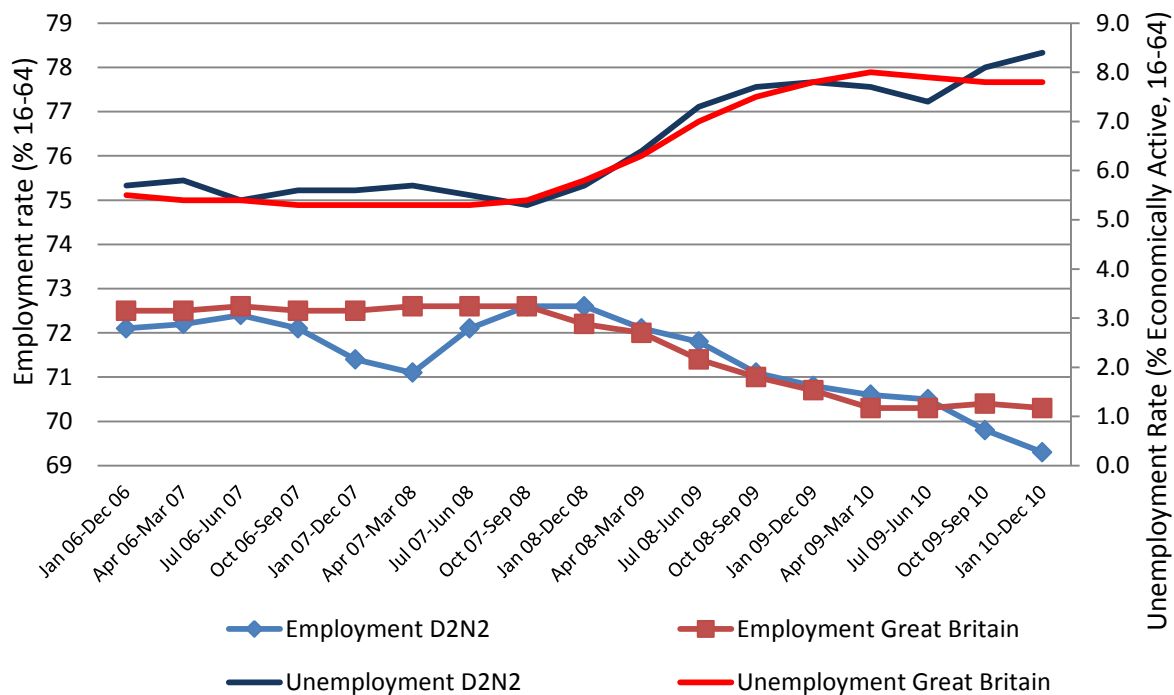
Summary

- The economically active population describes the total stock of potential labour in a given area, and includes those who are employed, self-employed and unemployed. It excludes students, full-time carers, the early retired, and so-called 'discouraged workers', who are out of work but are not actively seeking employment. These groups are described as 'economically inactive'.
- Economic activity rates have decreased slightly nationally and more significantly in the D2N2 area over the period of the recession, with economic activity falling below the national average in D2N2 in January-December 2010.
- Nottinghamshire County and Derby City have remained close to the trend for the wider D2N2 area, whilst economic activity has remained fairly flat in Derbyshire. Nottingham City has been a clear outlier, with significantly lower economic activity rates – which is affected by the large student population.
- The proportion of the economically inactive who 'want a job' (compared to students, full-time carers, etc.) is higher in the Counties compared to the Cities. In the D2N2 area overall, it has increased slightly, suggesting an increase in long-term and 'hidden unemployment' since the onset of the recession.

¹⁸ Christina Beatty, Stephen Fothergill et al, Centre for Regional Economic and Social Research, Sheffield Hallam University, 'Hidden Unemployment in the East Midlands' and 'The Real Level of Unemployment (in the UK)', 2002 to 2006.

The most widely used measure of labour market engagement and the relative supply of workers in an area is the employment rate.¹⁹ This is a sub-set of economic activity, referring specifically to those who are in employment or self-employment at the time the survey was conducted. It is therefore more sensitive to short-term changes in the economic cycle. Chart 5 shows employment rates since January-December 2006 for the D2N2 area compared to Great Britain, which clearly illustrates the impacts of recession.

Chart 5: Employment and Unemployment Rates, January-December 2006 to January-December 2010 (%)



Source: ONS Crown Copyright, 'Annual Population Survey', rolling quarterly estimates, January 2006-December 2006 to January 2010-December 2010.

The chart also shows unemployment rates (i.e. those actively seeking and available for work, in line with the ILO definition, regardless of benefit claimant status).²⁰ Note that the populations used to express the two rates are different: employment is expressed as a proportion of the *total* adult population; unemployment is expressed as a proportion of the *economically active* adult population. This distinction can have an impact on how changes in the employment, unemployment and

¹⁹ **Employment:** defined as people aged 16 or over who undertook paid work for at least one hour in the week prior to their Annual Population Survey interview (as an employee or self-employed), those who had a job that they were temporarily away from, those on Government-supported training and employment programmes, and those doing unpaid family work. The **employment rate** is the number of employed residents in a given area as a percentage of the *total working age* population

²⁰ **Unemployment:** the International Labour Organisation (ILO) definition of unemployment covers people who are not in employment, who want a job, have actively sought work in the previous four weeks and are available to start work within the next fortnight, or are out of work and have accepted a job which they are waiting to start in the next fortnight.²⁰ The **unemployment rate** is the number of unemployed as the percentage of the *economically active working age* population.

economic inactivity rates are interpreted. For example, if there is an increase in economic inactivity, the unemployment *rate* can increase even if the *number* unemployed remains constant. This is because an increase in inactivity decreases the size of the denominator used in calculating the unemployment rate. Nationally during the 2008-2009 recession, the rise in the number who were unemployed was coupled with a rise in the number who were inactive. This resulted in an even larger rise in the unemployment *rate*, although the change in the *numbers* unemployed was less sharp. The increases in economic inactivity particularly affected young people, which will be addressed in more detail in Evidence Report 5.

Chart 5 shows that employment and unemployment rates in the D2N2 area responded to the recession to a similar extent as the national rates, although the latest estimates of unemployment are higher than nationally and the estimates of employment are lower.

Falls in the employment rate did not occur nationally until quarter 3 of 2008, although economic output (GDP) started contracting in quarter 2 of 2008. This is because the employment effects of recession tend to 'lag' other indicators, as businesses try to protect the investment they have put into their workforce even though they will be experiencing a reduced demand for goods and services, initially avoiding redundancies through reduced hours etc.²¹ This 'labour hoarding' was more widespread in the recent recession compared to those of the 1980s and 1990s, resulting in a delayed and comparatively muted impact on the labour market (falls in the employment rate were significantly sharper during in the 1980s and 1990s recessions, despite output falling less than during the 2008-2009 recession).

As in the case of economic activity rates, the fall in employment in the D2N2 area in 2007 and subsequent recovery, that was not experienced elsewhere in Great Britain, is likely to be a result of data issues. There was not a corresponding increase in Claimant Count unemployment during this period (examined later in this section), strongly suggesting that the 2007 fall in the D2N2 area resulted from the ONS' reweighting of the Annual Population Survey over these quarters rather than a real change.²²

However, there is a clear fall in employment rates in the D2N2 area that correspond to the timeline of the recession. This is supported by other data. The fall in employment rates in the D2N2 area occurred slightly later than in Great Britain overall. Nationally, employment rates fell from 72.6% to 72.2% between the third and fourth quarters of 2008 (represented by the periods October 2007-September 2008 and January 2008-December 2008 in the APS rolling quarterly releases). Employment rates nationally continued to fall quarter-on-quarter to 70.3% in the first quarter of 2010 (April 2009-March 2010) before stabilising at that level up to and including the latest estimate (January-December 2010).

²¹ ONS Crown Copyright, *'The Impact of the Recession on the Labour Market'*, May 2009.

²² As in the case of economic activity in Chart 1, it is likely that the apparent fall in employment rates during 2007 in the D2N2 area was affected by the ONS' reweighting of the Annual Population Survey using population data for 2007, updating earlier population weightings (thus changing the denominator for economic activity, employment and other rates). The ONS state that reweighting has not affected national estimates, but "may have affected estimates in some local areas."

In the D2N2 area, employment rates began falling a quarter later, decreasing from 72.6% in the final quarter of 2008 to 72.1% in the first quarter of 2009. Employment rates continued to fall quarter-on-quarter, down to the latest estimate of 69.3% (January-December 2010), and do not yet appear to have stabilised as has been the case nationally.

There have been corresponding increases in working-age unemployment (16-64) rates both in the D2N2 area and nationally. In Great Britain, unemployment increased from 5.4% to 5.8% between quarter 3 and quarter 4 of 2008 and continued to increase quarter-on-quarter to 8% in the first quarter of 2010 (April 2009-March 2010), before stabilising at 7.8% in subsequent quarters.

In the D2N2 area, unemployment also increased in the final quarter of 2008, from 5.3% to 5.8% in the third quarter, but then increased somewhat more steeply – to 6.4% in the first quarter of 2009 and 7.3% in the second quarter. Unlike the national estimate, the unemployment rate in the D2N2 area has continued to increase in recent quarters, with the latest rate estimated at 8.4% (January-December 2010). Therefore, unemployment in the D2N2 area appears to have increased more significantly than nationally. During the period January-December 2008, the unemployment rate for D2N2 was 0.1 percentage points *lower* than the average for Great Britain. By January-December 2010, the unemployment rate was 0.6 percentage points *higher* in D2N2 than the national average.

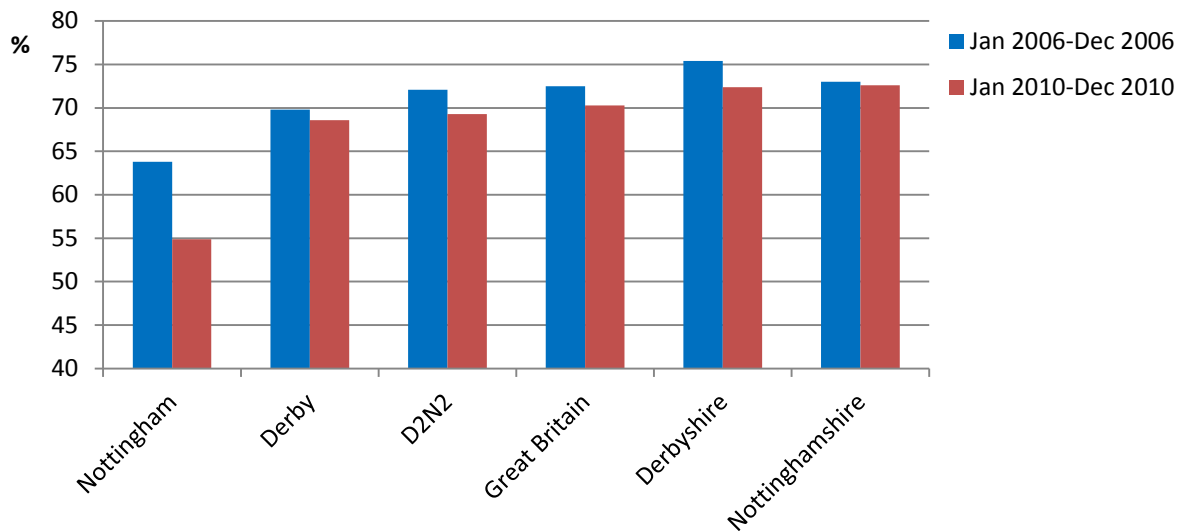
Chart 6 illustrates the change and variation in employment rates in the Local Authority areas in the D2N2 area, comparing pre-recession rates (January-December 2006) to the latest estimate (January-December 2010). This shows that:

- Employment rates in all of the (County and Unitary) Local Authority areas decreased by January-December 2010 compared to the same period in 2006;
- Nottingham City, which has the lowest employment rates overall, has also experienced the largest decrease, from 63.8% in 2006 to 54.9% in 2010, a change of 8.9 percentage points;
- Derby City experienced a much smaller fall, from 69.8% to 68.6%, suggesting that it has been less exposed to the recession than Nottingham; and
- Derbyshire and Nottinghamshire Counties both have higher rates of employment than either the average for D2N2 or for Great Britain overall, with January-December 2010 estimates at 72.4% and 72.6% respectively. However, Derbyshire experienced a larger decrease between 2006 and 2010, with employment rates falling by 3 percentage points whilst employment rates in Nottinghamshire have fallen by only 0.4 percentage points.

This illustrates the broader trend observed nationally. The impacts of recession appear to have widened labour market inequalities, with areas experiencing more challenged conditions prior to the recession recording larger falls in employment.²³

²³ For example, see: UK Commission for Employment and Skills (UKCES), '*Geographical inequalities in employment and the growth problems faced by under-performing areas – February 2011*', in '*Intelligence: February 2011*'.

Chart 6: Local Authority Area Employment Rates, January-December 2006 to January-December 2010 (%)



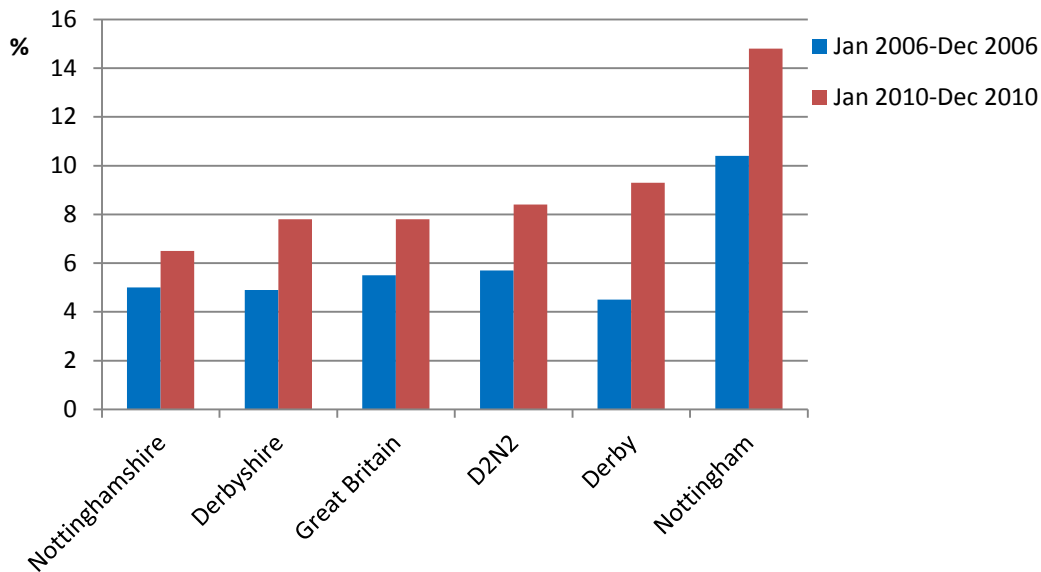
Source: ONS Crown Copyright, 'Annual Population Survey', rolling quarterly estimates, January 2006-December 2006 to January 2010-December 2010.

Chart 7 illustrates the corresponding changes in the unemployment rate²⁴ in the Local Authority areas covered by D2N2 between the periods January-December 2006 and January-December 2010:

- Unemployment rates present a similar picture, with those areas with higher rates of unemployment prior to the recession experiencing greater increases. Nottingham City had by far the highest rates of unemployment in both periods, at 10.4% and 14.8% in 2006 and 2010 respectively;
- The increase in unemployment in Derby City has been more significant than the reduction in employment (due to a fall in economic activity in Derby shown in Chart 2), with unemployment rates rising 4.8 percentage points from 4.5% in January-December 2006 to 9.3% in the same period in 2010; and
- Unemployment in the Counties is lower and has increased by less. Nottinghamshire currently has the lowest unemployment rate in the D2N2 area, at 6.5%, which increased by 1.5 percentage points from the rate in January-December 2006. Derbyshire has experienced a more significant increase, 2.9 percentage points on the rate in January-December 2006, to 7.8% by the same period in 2010.

²⁴ Note: estimates of unemployment cited in this section are drawn from the Annual Population Survey, in order to be consistent with the D2N2 average and the estimates of employment and economic inactivity rates. These will not be consistent with the 'model based' estimates of unemployment recommended by the ONS for Local Authority District level estimates.

Chart 7: Local Authority Area Unemployment Rates, January-December 2006 to January-December 2010 (%)

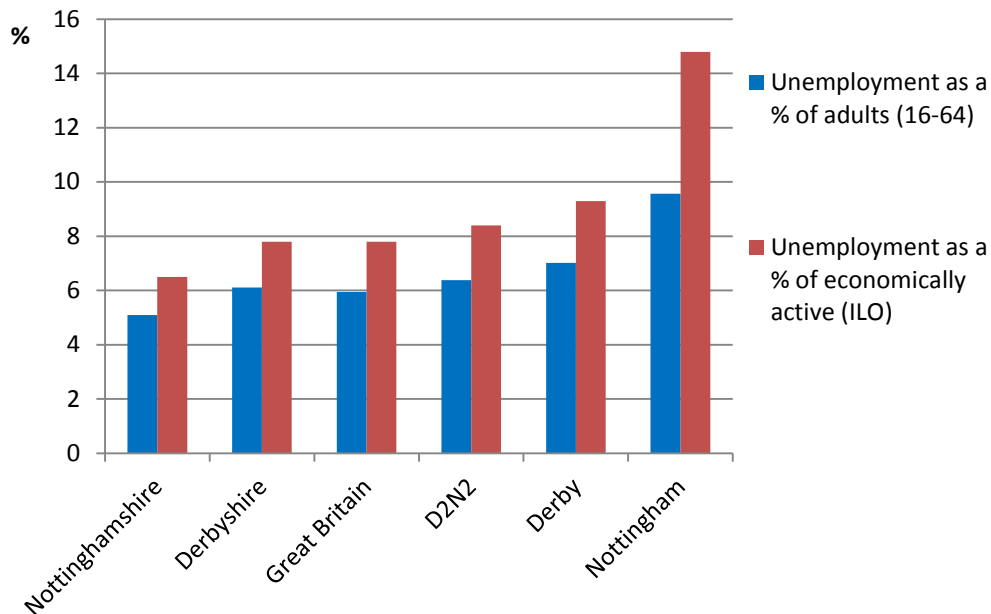


Source: ONS Crown Copyright, 'Annual Population Survey', rolling quarterly estimates, January 2006-December 2006 to January 2010-December 2010.

Chart 8 illustrates the impact of the use of the economically active population as the denominator for calculating the unemployment rate in the ILO method. This demonstrates the disproportionate impact on Nottingham City, due principally to the large student population.

The number unemployed in Nottingham expressed as a proportion of all adults aged 16-64 is 9.6% (compared to a D2N2 average of 6.4% and 5.9% in Great Britain). Therefore, using the economically active population as the denominator for the ILO unemployment rate leads to an increase of 5.2 percentage points in Nottingham – a disproportionate impact compared to other areas (2 percentage points in the D2N2 area overall, 1.9 percentage points in Great Britain and 2.3 percentage points in Derby City).

Chart 8: Local Authority Area Unemployment Measures – the impact of the ILO method (% of all adults 16-64 compared to % of economically active, 16-64), January-December 2010

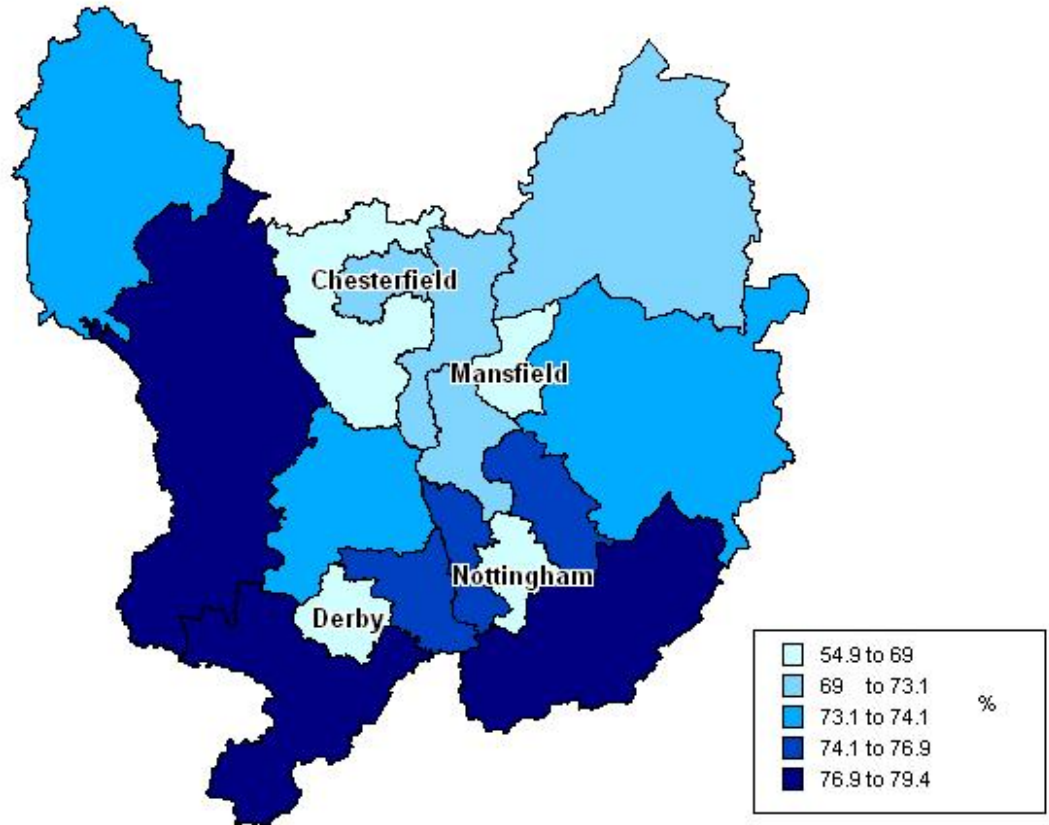


Source: ONS Crown Copyright, 'Annual Population Survey', January 2010-December 2010.

Map 1 illustrates the variation in labour market conditions at a more local level, for the 17 Local Authority Districts and Unitary Authorities in the D2N2 area. This provides more detail on the picture provided above. The highest employment rates are in the more affluent areas of Derbyshire County – the Derbyshire Dales (79.4%) and South Derbyshire (77.3%) – whilst employment is lower in the districts in the former coalfields area of north Nottinghamshire and north Derbyshire – e.g. Ashfield (69%), Bolsover and Chesterfield (both 69.1%), Mansfield (67.7%) and North East Derbyshire (65.1%). However, Nottingham City still stands out with the lowest employment rates of any District or Unitary Authority in the D2N2 area (at 54.9%, more than 10 percentage points below the next lowest employment rate), but the districts surrounding Nottingham also stand out with higher employment rates – e.g. Rushcliffe (76.9%) and Broxtowe (75.1%).

Map 1: Local Authority District Area Employment Rates, January-December 2010 (%)

NOTTINGHAM
BUSINESS SCHOOL
Nottingham Trent University



Source: ONS Crown Copyright,
'Annual Population Survey', January-December 2010
Contains Ordnance Survey data © Crown copyright and database right, 2011.

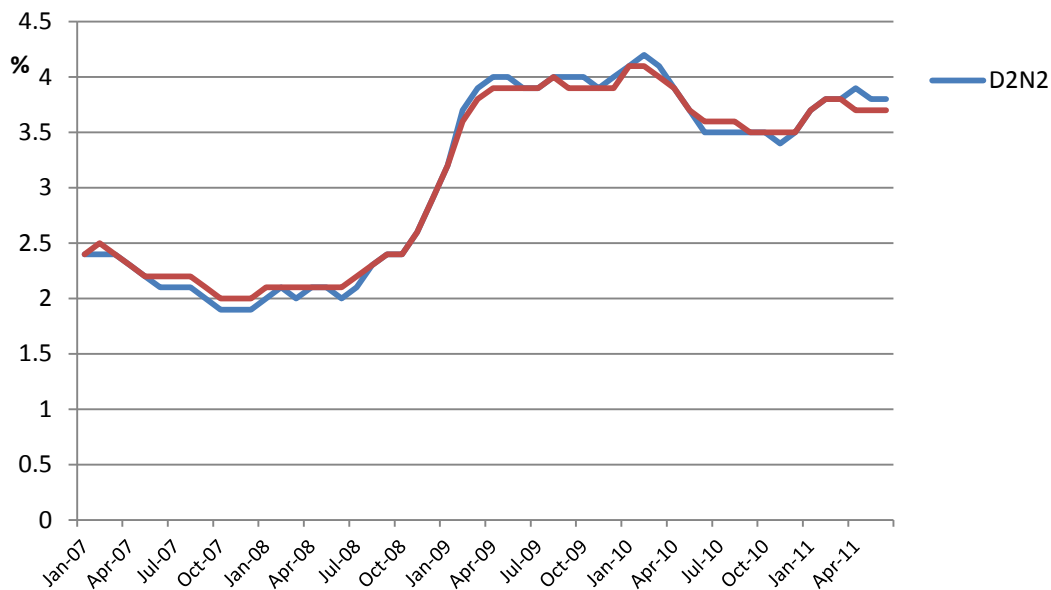
The most timely indicator of overall labour market conditions is the count of Jobseekers' Allowance claimants (known as the Claimant Count).²⁵ Claimant Count rates tend to be significantly lower than ILO unemployment rates because not all of those who are unemployed are eligible to claim benefits.

²⁵ The **Claimant Count** is the monthly count of people claiming unemployment benefits, which, since October 1996, has been Jobseekers' Allowance (JSA). The data comes directly from Jobcentre Plus management data, meaning that it is not affected by sampling issues and is available at a relatively detailed geographic level.

It is not a holistic measure of unemployment because not all people who are unemployed claim (especially those who are unemployed for short periods of time) and it can be affected by changes in eligibility criteria. For example, between late-2008 and mid-2011, changes in eligibility rules for Lone Parent Income Support resulted in fewer lone parents (predominantly women) being able to claim that benefit, instead claiming JSA. From April 2011, the Department for Work and Pensions has been re-assessing claimants of Incapacity Benefit (IB) resulting in additional individuals moving onto JSA. However, the ONS estimate that so far the effect of these exercises on the total claimant count and the claimant rate is likely to have been small.

Chart 9 illustrates changes in the Claimant Count rate (total claimants as a proportion of all working-age residents – so Claimant Count rates are not affected by differences in economic activity) from January 2007 to June 2011, the latest figure available at the time of writing, comparing the D2N2 area to the total for Great Britain. This shows that the D2N2 area has followed the national trend very closely, with the Claimant Count rate increasing steeply from around 2% (equivalent to 30,000 individuals) through 2007 and much of 2008 to around 4% in 2009. The Claimant Count rate reached a high point in February 2010 both nationally and locally, at 4.1% in Great Britain and 4.2% in the D2N2 area (equivalent to 56,500 individuals). The chart shows that this was followed by a significant recovery from mid-2010, with Claimant Count rates falling to 3.5% nationally and 3.4% in the D2N2 area by November 2010. However, the Claimant Count began to rise again in early 2011 both nationally and locally, and rates do not appear to have stabilised to quite the same extent in the D2N2 area compared to Great Britain overall. The national Claimant Count rate remained at 3.7% in April, May and June 2011, whilst rates in the D2N2 area increased to 3.9% in April 2011 before falling to 3.8% in June 2011. This is equivalent to 51,700 individuals claiming Jobseekers’ Allowance in the D2N2 area.

Chart 9: Monthly Claimant Count Unemployment Rate (% , resident adults), January 2007 – June 2011

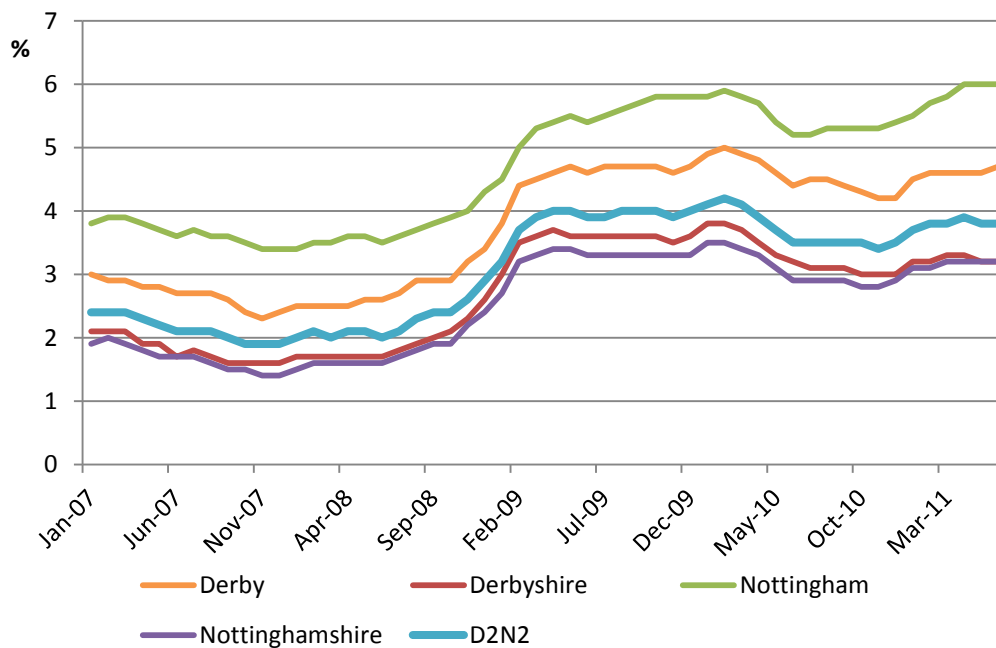


Source: ONS Crown Copyright, ‘Claimant Count with Rates and Proportions’ (Proportion of resident population aged 16-64), January 2007 to June 2011.

Chart 10 illustrates changes in the claimant count for the (County and Unitary) Local Authority areas covered by D2N2 for the period January 2007 to June 2011. This shows that Claimant Count rates in all four Local Authority areas followed the wider D2N2 and national trends, with a sustained period of relatively flat unemployment prior to the onset of recession followed by a relatively steep rise in late 2008, a slight recovery in early 2010 and then a subsequent deterioration in late 2010/early 2011:

- Claimant Count unemployment in Nottingham City significantly exceeded the D2N2 average throughout the period, increasing from 3.9% in January 2007 to 5.5% by April 2009 and 5.9% by February 2010. After a slight recovery through 2010, the latest monthly Claimant Count rates have now reached their highest level, at 6%, in April, May and June 2011. This is equivalent to 13,000 individuals (from 7-8,000 in 2007-2008);
- Claimant Count rates in Derby have also exceeded the average for the D2N2 area, but have been significantly lower than in Nottingham – reaching a high point of 5% in February 2010, falling to 4.2% in November 2010 before climbing again to the latest estimate of 4.7% (June 2011); and
- Nottinghamshire and Derbyshire both experienced increases in the Claimant Count rate in line with the national and D2N2 trend. Both Counties had rates below 2% through 2007, which increased to 3.5% (Derbyshire) and 3.2% (Nottinghamshire) by February 2009. January and February 2010 saw the highest rates in both Counties, at 3.8% (Derbyshire) and 3.5% (Nottinghamshire), before falling through the rest of 2010. Neither area has experienced the extent of deterioration in unemployment seen in Derby and Nottingham Cities in recent months. The latest rate (June 2011) for both Counties is 3.2%.

Chart 10: Local Authority Area Monthly Claimant Count Unemployment Rate (% , resident adults), January 2007 – June 2011



Source: ONS Crown Copyright, ‘Claimant Count with Rates and Proportions’ (Proportion of resident population aged 16-64), January 2007 to June 2011.

The Local Economic Assessments (LEAs) produced by Local Authorities in the D2N2 area make a number of relevant observations. For example, the Derbyshire LEA notes that unemployment increased more rapidly in the County compared to the national or East Midlands picture, exceeding national and regional averages, but has appeared to recover more rapidly, with unemployment rates falling back into line with the average. Within Derbyshire, the LEA makes the interesting observation

than more deprived local areas in the north east of the County have seen relatively small increases in unemployment, whilst South Derbyshire, with historically low rates on unemployment, experienced greater increases. However, South Derbyshire has since demonstrated a faster than average recovery, whilst falls in the unemployment rate in the north east of the County have been in line with the national and East Midlands averages.²⁶

Summary

- Employment rates in the D2N2 area started to fall between the end of 2008 and the first quarter of 2009, somewhat later than in Great Britain overall, but have since continued to fall quarter-on-quarter whilst they have appeared to stabilise nationally. The latest employment rate for D2N2 is 69.3% compared to 70.3% in Great Britain (January-December 2010).
- Nottingham City had the lowest employment rates prior to the recession and also experienced the largest decrease, from 63.8% in 2006 to 54.9% in 2010.
- Unemployment in the D2N2 area appears to have increased more significantly than nationally. Over the period January-December 2008, the ILO unemployment rate for D2N2 was 0.1 percentage points lower than the average for Great Britain. By the period January-December 2010, the unemployment rate was 0.6 percentage points higher in D2N2 than nationally.
- Across the UK, the impacts of recession appear to have widened labour market inequalities, with areas experiencing more challenged conditions prior to the recession recording larger falls in employment. In the D2N2 area, unemployment has increased least in the Counties and most in the Cities.
- It is important to note the impact of the large student population on the unemployment rate in Nottingham City.
- Monthly Claimant Count unemployment rates began to increase in early 2011 in all areas of the LEP following a recovery in 2010. The June 2011 Claimant Count rate was 3.8% in the D2N2 area, slightly higher than the average for Great Britain of 3.7%. The Claimant Count was significantly higher in Nottingham, at 6%, and lowest in Nottinghamshire and Derbyshire, at 3.2% in both cases.

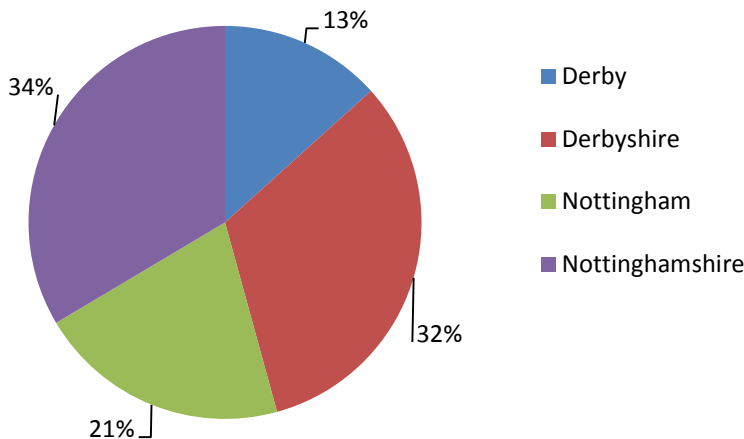
Finally, this section investigates the demand for labour in terms of the number of workforce jobs²⁷ based in an area (rather than the number of working adults living in an area) and the number of vacancies advertised by employers via Jobcentre Plus.

²⁶ Derbyshire County Council, *Derbyshire's Local Economic Assessment: 2011*, April 2011.

²⁷ **Workforce jobs** estimate the number of jobs on a workplace basis. This differs from estimates of employment (which count the individual, not the job, based on their place of residence rather than place of work, and can differ primarily because an individual can have more than one job). This data is often used as a labour market demand indicator. Workforce jobs are the sum of employee jobs (as measured by surveys of employers such as the BRES), self-employment jobs from the APS/LFS, those in HM Forces, and Government-supported trainees. At a local level, workforce jobs are published for 'civilian' jobs only, which exclude the figures for the Armed Forces. Vacant jobs are not included ('vacancies' are jobs identified by employers that

Estimates of workforce jobs provide a workplace-based measure of employment. Workforce job estimates below national and regional level are only available for 2009, unfortunately limiting the extent of analysis on the effects of recession. Chart 11 illustrates the distribution of workforce jobs across the D2N2 area. This shows that in 2009, workplaces in Nottinghamshire accounted for the largest share of jobs (322,000), followed by Derbyshire (311,000). Nottingham City also accounted for a large share, given its smaller area and population size compared to the Counties, at 199,000, whilst Derby accounted for the smallest share, at 128,000.

Chart 11: Workforce Jobs in the D2N2 Area by Local Authority (%), 2009



Source: ONS Crown Copyright, 'Workforce Jobs', 2009.

'Jobs density' is a measure used by the ONS to assess the concentration of jobs in a given area and the balance between supply and demand. The number of jobs in an area is divided by the resident population (aged 16-64). A jobs density of 1.0 would mean that there is one job for every working-aged adult resident in the area, whilst a value of less than 1.0 would indicate that there are more residents than jobs. Chart 12 shows job densities in the D2N2 Local Authority areas between 2007 and 2009 compared to the total for Great Britain. This shows that:

- In almost all parts of Great Britain, the number of residents significantly exceeds the number of workplace jobs (exceptions include Glasgow City, the City of Edinburgh, Westminster, Tower Hamlets, the City of London and Camden, where the reverse is true). The average for Great Britain is 0.78 jobs to every one resident in 2009, and jobs densities for all Local Authorities in the D2N2 area are lower than 1.0;
- Nottingham City has the highest jobs density ratio, at 0.92, followed by Derby City at 0.81;
- The Counties of Nottinghamshire and Derbyshire both had a jobs density of 0.64 in 2009, which is below the average for Great Britain;
- Jobs densities across the LEP area have decreased between 2007 and 2009. This is principally because of a fall in the number of workforce jobs, exacerbated by the fact that

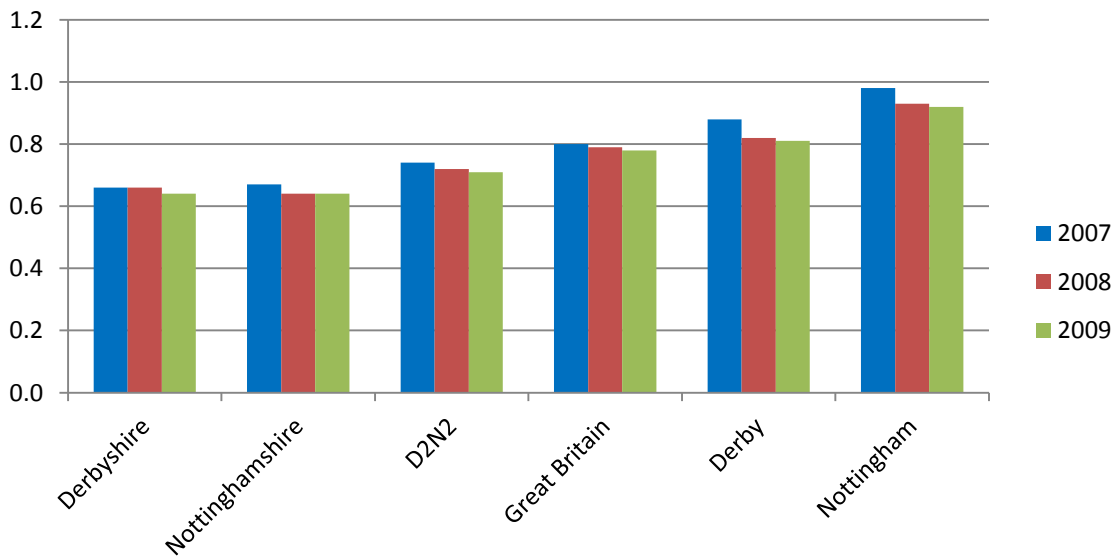
are not being undertaken by anyone). Quarterly data is published at a national and regional level, less timely annual data is published for Local Authorities.

the number of working-age adult residents increased in all areas. Derby City experienced a fall in workforce jobs of 11,000 between 2007 and 2009 (a fall of 7.9% compared to a 1.3% decrease in Great Britain), leading the jobs density ratio to decrease from 0.88 to 0.81. Nottinghamshire experienced a decrease of 10,000 workforce jobs (a fall of 3%), with jobs density decreasing from 0.67 to 0.64; and

- Nottingham City experienced a significant fall in jobs density, from 0.98 to 0.92, but this was due more to strong population growth, with workforce jobs falling by 6,000 (a fall of 2.9%, the second smallest decrease of the Local Authority areas in D2N2 behind Derbyshire).

Two conclusions can be drawn from this. Firstly, the demand for jobs from workplaces in D2N2 Local Authorities has decreased during the period of the recession, significantly in some areas (particularly Derby City). This will have contributed to the fall in employment rates across the D2N2 area observed earlier in this section. Secondly, the jobs density indicator across the D2N2 area (and across much of Great Britain) suggests that supply exceeds demand – i.e. there are more people than jobs. However, this has to be interpreted with great caution. The workforce jobs measure doesn't include vacancies – unfilled jobs (assessed in more detail below). Comparisons of jobs density don't indicate whether the skills of residents match the needs of local employers and, fundamentally, commuting behaviour means that many employees work in areas other than their place of residence.

Chart 12: Jobs Density in the D2N2 Area by Local Authority (workforce jobs/resident adults aged 16-64), 2007-2009



Source: ONS Crown Copyright, 'Jobs Density', 2007-2009.

Notified vacancies provide a more timely measure of demand in the labour market. These are published on a monthly basis, and reflect the number of positions that need to be filled as notified by employers to Jobcentre Plus. It should be noted that JCP only handles about one third of the available vacancies in the economy²⁸, so this data should not be taken as a reliable indicator of the

²⁸ ONS Crown Copyright, 'Labour Market Trends', vol. 113, no 06, p.p. 253-259.

volume of job opportunities in the labour market - rather change over time indicates trends in the level of employer demand. According to the latest notified vacancy data:²⁹

- Total vacancies across the D2N2 area in July 2011 were 8.7% lower compared to July 2010, at 12,227. This is a greater decrease than experienced in Great Britain overall, where vacancies fell by 4.8% between July 2010 and July 2011;
- However, the volume for July 2011 is higher than for July 2009 – when there were only 10,758 vacancies notified by employers across the D2N2 area (a 13.7% increase). Vacancies in the D2N2 area and in Great Britain overall fell to their lowest point in recent years in 2009, and subsequently increased through 2010 before falling in 2011. Note these are observations on the overall trend, as month-on-month vacancy statistics are extremely changeable, and are affected by seasonal variations (with low numbers of vacancies at the start of each year followed by steady increases, with a peak around October); and
- The largest stock of vacancies in July 2011 was in Derbyshire County, at 4,757 (38.9% of the D2N2 total). Nottinghamshire accounted for the next largest share, at 32%. Vacancies decreased in all local areas of the D2N2 LEP between July 2010 and July 2011, falling most significantly in Nottingham City (a fall of 17.1%) and least in Derbyshire (a fall of 2.4%). This adds weight to observations made in the Derbyshire LEA of a relative stabilisation of labour market conditions following the recession – with demand remaining stronger than elsewhere. However, it also confirms the picture of challenges facing Nottingham City – with weaker demand failing to keep pace with a growing population.

Summary

- Workforce jobs and jobs densities reflect the demand side of the labour market, representing the number of jobs located in workplaces in a given area (rather than the number of people in employment resident in an area).
- The number of Workforce jobs has fallen in all local areas of the D2N2 LEP, leading to a reduction in jobs density. This demonstrates that the demand for employment has decreased during the recession.
- Vacancies represent unfilled demand for jobs – when labour market conditions tighten, it is reasonable to expect vacancies to reduce.
- Vacancies notified with Jobcentre Plus fell across the D2N2 area between July 2010 and July 2011, with the biggest decrease experienced in Nottingham City – suggesting a relative weakening in the demand for labour compared to elsewhere.

²⁹ ONS Crown Copyright, 'Total JCP Notified Vacancies – Summary analysis', Flows standardised onto a 4 1/3 week basis, January 2009 – July 2011.

4.3 The Demand for Skills

The demand for skills is '*derived*' from the use employers and individuals intend to get from them. Factors affecting this demand include:

- The industrial structure of a national, regional or local economy - as the mix of goods and services produced by employers dictate the type and level of skill needed;
- The choices made by employers in how they recruit, deploy and organise their staff - which can result in the under or over-employment of skilled people; and
- Individual choices of subject and level of education and training - which are not always aligned to employer demand. They can reflect the learner's personal interests or the quality and range of local provision. Decisions may also be made on the basis of imperfect information on the value of different courses to employers.

The Government's skills and Local Growth strategies suggest that LEPs should understand the nature of employer demand for skills in particular, and could support the choices made by providers and individuals through improving access to information on these demands.

Employers' demand for skills is derived from, amongst other things, the use of process and product technologies, entrepreneurship, management practices, and product market strategy – therefore the higher the value of the goods and services produced, the greater the demand for skills. To have an effect on wider outcomes, such as the productivity of firms in an area, skills interventions need to raise demand as well as improve supply.

4.3.1 The Occupational Structure of Employment

The industrial structure of the D2N2 economy is described in detail in Evidence Report 3: The D2N2 Economy, providing an overview of the context (i.e. sectors) in which individuals work. The kind of jobs they do within the workplace is described by 'occupations' – a concept that covers what a job entails and what level of skill is required to do it. The Standard Occupational Classification (SOC) used in National Statistics is a hierarchical model that groups individuals' jobs by *skill specialisation* and *skill level*. An example of the *skill level* element is as follows:

- SOC 1 and 2 jobs (Managers and Professionals) are associated with skills that are equivalent to a Level 4 qualification (a first degree etc.)³⁰; whilst
- SOC 8 and 9 jobs (Process, plant and machine operatives and Elementary occupations) are associated with skills that are equivalent to Level 1 qualifications (the competence associated with compulsory, general education).

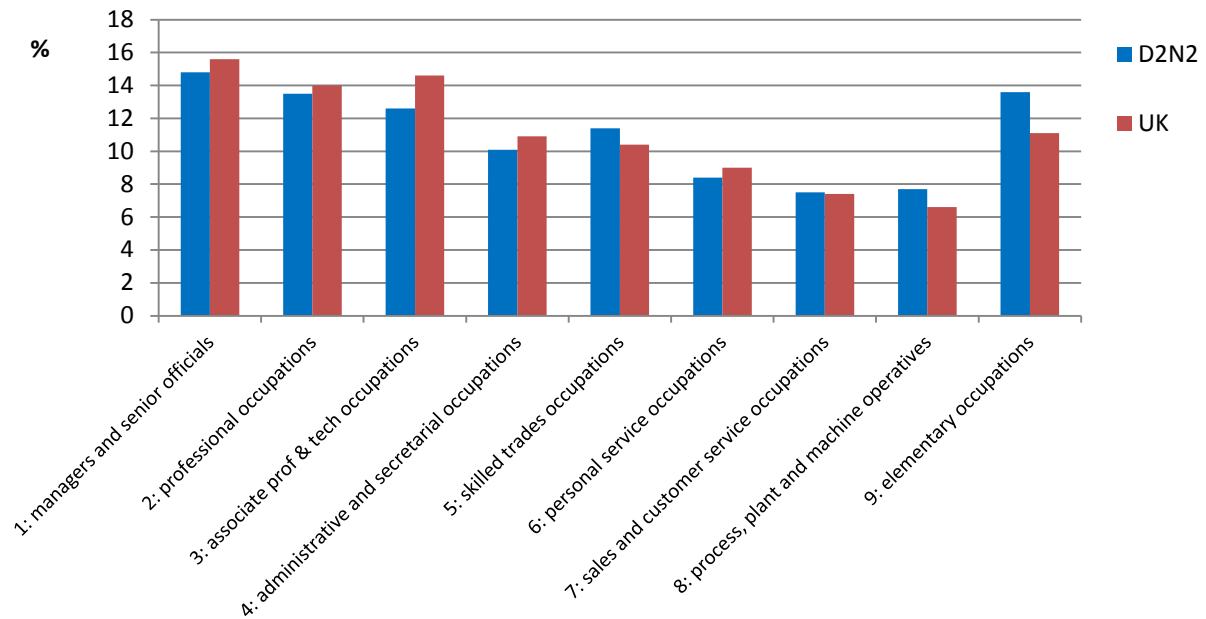
³⁰ Note that individuals in such jobs do not necessarily hold *qualifications* at these levels, but would reasonably be expected to demonstrate *skills* at an equivalent level (whether or not they can be accredited). A good example is an owner-manager, who needs to use a high level of skill in a number of areas to undertake his/her job effectively, but may not have any formal qualifications. Despite this caveat, qualifications are often used as a proxy measure of skill in labour market statistics because they can be readily measured.

Employer demand for skills can be indicated by the relative proportion of people in occupations requiring different levels of skill. A local area, or sector, with a lower proportion of employment in occupations requiring higher levels of skill could reasonably be said to have a relatively low demand for skills.

Over the last three decades, the decline of primary and manufacturing industries and a shift towards services has resulted in changes in the occupational structure of all developed economies. There has also been a fundamental change in the way the production of goods and services are organised within industrial sectors, with trends such as the increasing use of ICTs, the mechanisation of production, and the outsourcing of shared services. In the UK, this had led to an increase in employment in managerial occupations and a decrease in skilled manual occupations.

Chart 13 presents the profile of employment by broad occupational group (1 digit SOC) in the UK and in the D2N2 area over the period January-December 2010, whilst Chart 14 shows changes over time (comparing January-December 2010 to January-December 2004, the earliest point in the Annual Population Survey time series). Chart 13 shows that:

- Occupations associated with higher level skills are generally underrepresented in the D2N2 area compared to the national average. In 2010, 14.8% of the D2N2 workforce were Managers and Senior Officials, compared to 15.6% in the UK, whilst 13.5% were Professionals, compared to 14% in the UK. This could indicate a lower than average demand for higher-level skills in the D2N2 area;
- There is a particular underrepresentation of Associate Professionals, an occupational group associated with higher-intermediate (Level 3) specialist and technical skills (such as laboratory assistants, science and engineering technicians, etc.). The group accounts for 12.6% of employment in the D2N2 area, 2 percentage points less than the share in the UK;
- Due to the importance of manufacturing and also construction, the Skilled Trades are relatively overrepresented in their share of the D2N2 workforce, at 11.4% compared to 10.4% in the UK. This occupation is associated with specialist and technical skills at an intermediate level (equivalent to a NVQ Levels 2 or 3), and Apprenticeships are often a route to employment in such jobs;
- Given the lower proportion of employment in the services in the D2N2 area, lower proportions than average are employed in Administrative and Secretarial Occupations and Sales and Customer Services Occupations (which are associated with more general skills, such as ICT, customer service and team working); and
- The importance of manufacturing and lower-value services (e.g. hotels and catering and elements of distribution) to the D2N2 area means that there is a significant overrepresentation of occupational groups associated with low levels of skill. This is particularly true for the Elementary Occupations (which require little in the way of skill or formal qualification), which account for 13.6% of the D2N2 workforce compared to 11.1% in the UK.

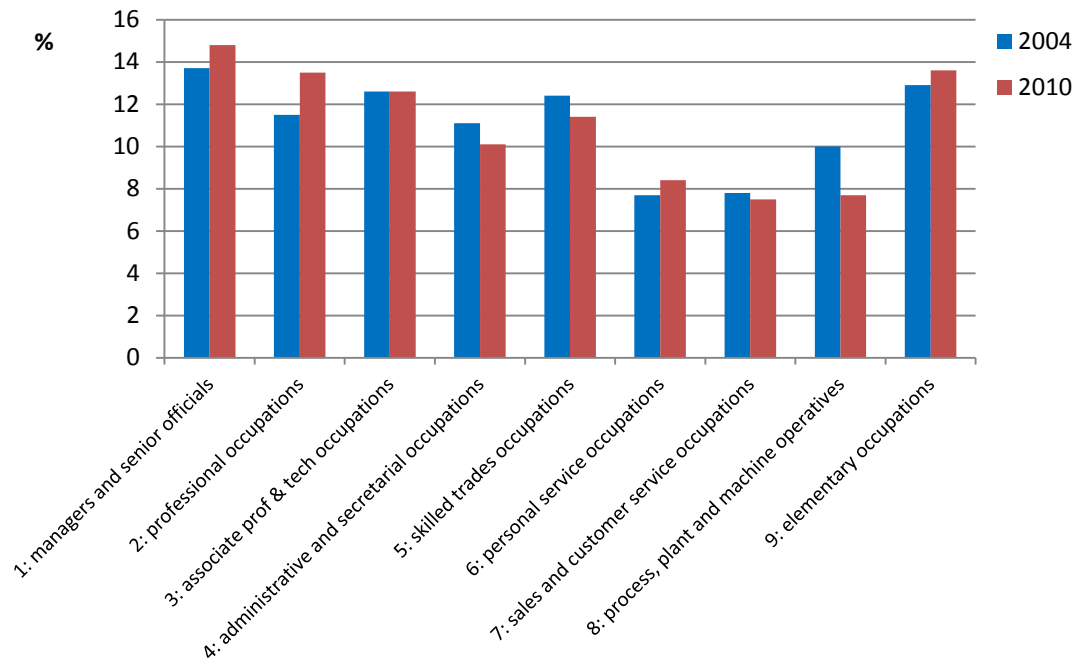
Chart 13: Employment by SOC (Major) Group (% employed adults), January-December 2010

Source: ONS Crown Copyright, 'Annual Population Survey,' January-December 2010, from NOMIS 5th August, 2011

Chart 14 shows that:

- The proportion of employment in occupations associated with higher-level skills has generally increased over time in the D2N2 area (as it has in the UK overall). Professional Occupations have increased particularly significantly over the period 2004 to 2010, from 11.5% to 13.5% of employment (slightly more than the increase experienced in the UK overall, meaning that the D2N2 area has closed the gap with the national average);
- As in the case of the UK overall, occupations associated with intermediate levels of skill have decreased in their share of the workforce in the D2N2 area (leading commentators to talk about a 'hollowing out of the middle', especially of skilled manual work, due to mechanisation, ICTs and other modern ways of working). Employment in the Skilled Trades fell from 12.4% to 11.4% (which is level with the change experienced nationally), whilst Administrative and Secretarial Occupations (particularly affected by the adoption of ICTs and outsourcing of shared services) fell from 11.1% to 10.1% in the D2N2 area; and
- Unlike in the UK overall, employment in Elementary Occupations has increased in the D2N2 area, from 12.9% to 13.6% (compared to a fall from 11.6% to 11.1% in the UK). This could indicate that there continues to be a strong demand for unskilled labour in the D2N2 area, and that more new jobs created over recent years have been unskilled compared to elsewhere in the country.

Chart 14: Employment by SOC (Major) Group in the D2N2 Area (% employed adults), January-December 2004 and January-December 2010



Source: ONS Crown Copyright, 'Annual Population Survey,' January-December 2004 to January-December 2010, from NOMIS 5th August, 2011

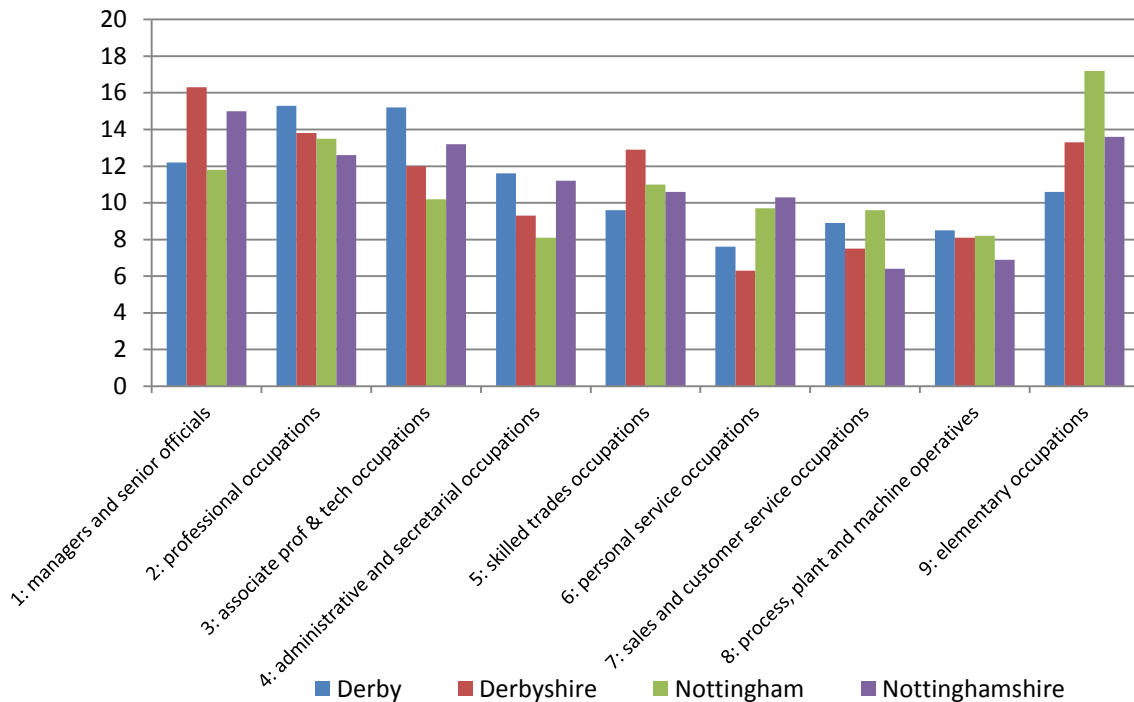
Chart 15 presents employment by broad occupational group (SOC Major) across the (County and Unitary) Local Authority areas within the LEP. This shows that:

- Derby City has particularly high proportions of residents employed as Professionals and Associate Professionals (at 15.3% and 15.2% respectively, exceeding the D2N2 and UK averages in both cases). This is likely to be related the concentration of advanced manufacturing, financial services and public sector employment in the city. Administrative and Secretarial Occupations are also relatively overrepresented, accounting for 11.6% of employed residents;
- In Derbyshire, Managers and Senior Officials account for a larger than average share of employed residents, at 16.3% (compared to 14.8% in the D2N2 area overall and 15.6% in the UK). This could be associated with employment in large firms in the County, such as Toyota, but could also reflect the County's connectivity to employment opportunities in Derby, Nottingham, Yorkshire and the West Midlands – as individuals employed as Managers and Senior Officials are the most mobile occupational group. The Skilled Trades are also relatively important in Derbyshire, accounting for 12.9% of employed residents (the largest share in the D2N2 area), clearly associated with the importance of manufacturing and construction in the County;
- The occupational profile for residents of Nottingham City is relatively low-skilled, with high proportions of employment in Sales and Customer Service Occupations (accounting for 9.6% of employed residents, compared to 7.5% across the D2N2 area) and Elementary Occupations, which account for 17.2% of employed residents (the highest share in the D2N2 area). Personal Service Occupations (associated with sectors such as health) are also

overrepresented in Nottingham, accounting for 9.7% of employment (compared to 8.4% in the D2N2 area overall); and

- Conversely, Nottinghamshire County has a fairly highly skilled occupational profile, and also has strengths in a number of intermediate-skilled occupations. Managers and Senior Officials account for 15% of employed residents (slightly higher than the D2N2 average), although – as in Derbyshire – a high proportion of this group are likely to commute elsewhere (including to Nottingham City). Associate Professionals are also overrepresented in Nottinghamshire, accounting for 13.2% of employed residents (0.6 percentage points more than the share for the D2N2 area overall) whilst Nottinghamshire has the largest share of residents employed in Personal Service Occupations in the D2N2 area (10.3% compared to the average for the LEP of 8.4%). Together, the Associate Professional and Personal Service Occupations could reflect the importance of the public sector to employment in the County.

Chart 15: Employment by SOC (Major) Group by Local Authority Area (% employed adults), January-December 2010



Source: ONS Crown Copyright, ‘Annual Population Survey,’ January-December 2010, from NOMIS 5th August, 2011

Table 1 presents estimates for employment by (2-digit) SOC groups. These more specific descriptions of job type provide greater insight into the relationship between skill requirements and industrial sectors. It must be noted that the sample size is relatively small for some 2-digit occupational groups at a Local Authority level, meaning that confidence intervals become quite large (between +/- 1.5 and 2 percentage points in some cases). Therefore differences between some local areas need to be interpreted with caution.

A number of occupations closely related to advanced manufacturing are relatively overrepresented in Derby City. These include: higher and higher-intermediate skilled occupations (equivalent to qualifications at Level 3 and 4) such as Science and technology professionals, accounting for 4.9% of employed residents compared to 3.8% in the UK, and Science and technology associate professionals, accounting for 2.8% compared to 1.7% in the UK. Higher employment in Skilled metal and electronic trades (4.9% compared to 3.8% in the UK) could demonstrate where the City's advanced manufacturing employers also generate demand for intermediate-skilled jobs (equivalent to qualifications at Level 2 and 3). The data also suggests a higher than average demand for low-skilled manufacturing jobs, with Process, plant and machine operatives accounting for 5.5% of employed residents compared to 3% in the UK, which is a statistically significant difference in the January-December 2010 APS.

The structure of employment by 2-digit SOC in Derbyshire County confirms the picture of a professional, highly skilled workforce. Corporate Managers account for the largest share of employed residents in the County, at 13.3% compared to 12.5% in the UK. Teaching and research professionals also account for a relatively high proportion of residents' jobs, at 6.9% of employment compared to 5.2% in the UK - demonstrating the relative importance of the education sector in the County. Like Derby, the occupational profile of Derbyshire also reflects the influence of the area's strong manufacturing sector, but this is concentrated towards the intermediate and lower-skilled end of the occupational hierarchy, in occupations such as Skilled metal and electronic trades and Process, plant and machine operatives. Lower-skill occupations associated with the services are also important in Derbyshire, with Elementary administration and service occupations accounting for 9.4% of employed residents, compared to 7.9% in the UK. The importance of this occupation to Derbyshire could be associated with the lower-skill elements of tourism.

In Nottingham City, high skill occupations associated with the service sector are well represented, including Teaching and research professionals and Health professionals – demonstrating the importance of the two universities and two hospitals as high-skill employers. However, the health sector also generates a demand for relatively low-skill work, with Caring personal service occupations accounting for 7.9% of employed residents compared to 7% in the UK. The importance of the retail sector to Nottingham means that a higher proportion of residents are employed in Sales occupations (7.7% compared to 6% in the UK) whilst the largest single occupation in the city covers service sector jobs at the bottom of the occupational hierarchy - Elementary administration and services, accounting for 12% of employed residents in Nottingham, compared to 7.9% in the UK (a highly statistically significant difference).

Corporate managers make up the largest single occupation in Nottinghamshire County, accounting for 12.8% of employed residents. Education is also an important high-skill employment sector in the County, with Teaching and research professionals accounting for 6.1% of employed residents compared to 5.2% in the UK. However, low-skilled occupations related to the services are overrepresented in Nottinghamshire, with Caring personal service occupations accounting for one of the largest proportions of employment in the County (8.9% of residents). As in the case of Derbyshire, intermediate-skilled manufacturing-related occupations are also important, with Skilled metal and electronic trades accounting for 4.8% of working residents in Nottinghamshire. This could also be linked to employers in the power generation and telecommunications sectors.

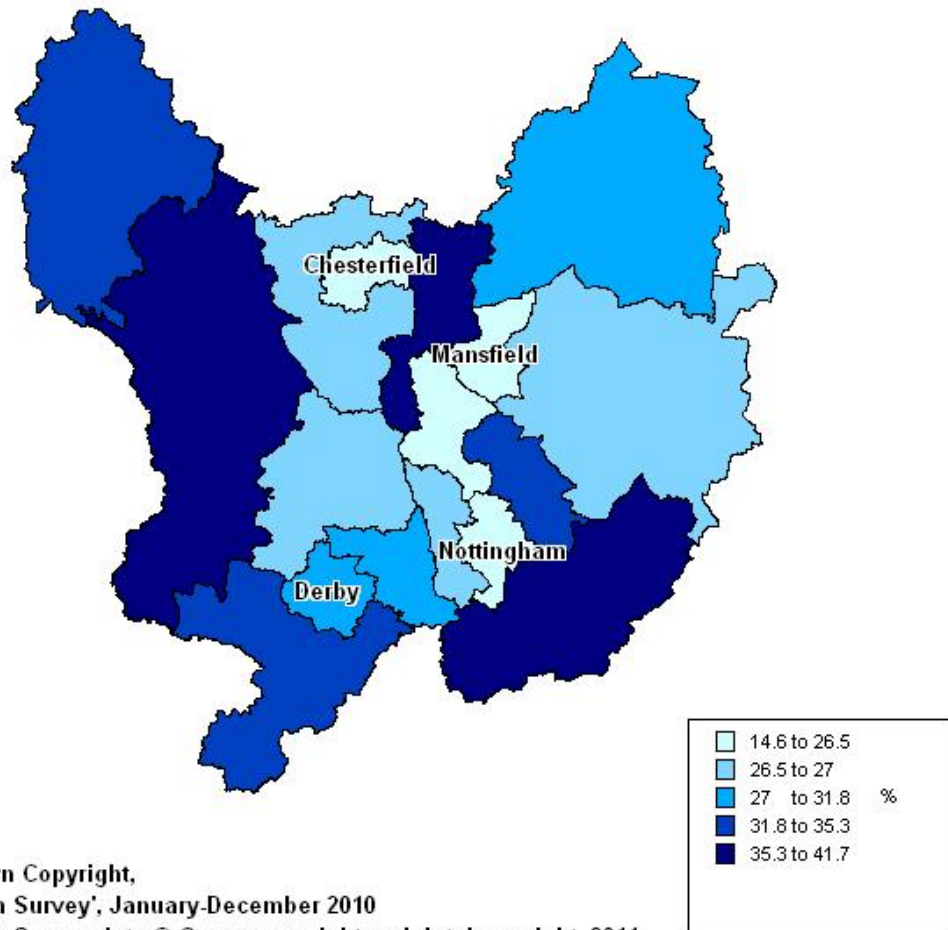
Table 1: Employment by detailed occupational group (%), January-December 2010

	UK	East Midlands	D2N2	Derby	Derbyshire	Nottingham	Nottingham shire
11: corporate managers	12.5	12.7	12.2	9.6	13.3	9.4	12.8
12: managers/proprietors in agriculture/services	3.1	3.0	2.6	2.6	3.0	2.4	2.2
21: science and technology professionals	3.8	3.2	3.4	4.9	3.8	2.4	2.8
22: health professionals	1.3	1.2	1.1	1.6	0.5	1.9	1.4
23: teaching and research professionals	5.2	5.5	6.4	5.9	6.9	6.1	6.1
24: business and public service professionals	3.6	2.7	2.6	2.9	2.6	3.1	2.4
31: science & technology associate professionals	1.7	1.7	1.8	2.8	2.0	1.6	1.4
32: health & social welfare associate professionals	4.0	3.6	3.7	4.8	3.3	4.2	3.6
33: protective service occupations	1.2	1.0	0.9	0.6	0.7	!	1.4
34: culture, media and sports occupations	2.4	1.7	1.5	1.8	1.7	1.4	1.1
35: business & public service assoc. professionals	5.3	4.8	4.7	5.1	4.2	3.0	5.7
41: administrative occupations	8.3	7.9	8.1	9.9	7.2	7.2	8.8
42: secretarial and related occupations	2.5	1.9	2.0	1.6	2.1	0.8	2.4
51: skilled agricultural trades	1.2	1.4	1.4	0.7	1.9	0.5	1.4
52: skilled metal and electronic trades	3.8	4.7	4.5	4.9	4.6	3.0	4.8
53: skilled construction and building trades	3.5	3.2	3.2	1.5	4.4	4.1	2.2
54: textiles, printing and other skilled trades	1.8	2.0	2.3	2.6	2.0	3.4	2.2
61: caring personal service occupations	7.0	7.3	7.0	6.4	4.9	7.9	8.9
62: leisure and other personal service	1.9	1.7	1.4	1.2	1.4	1.8	1.4
71: sales occupations	6.0	5.8	6.3	7.5	6.3	7.7	5.4
72: customer service occupations	1.4	1.4	1.2	1.4	1.1	1.9	1.0
81: process, plant and machines operatives	3.0	4.3	4.1	5.5	4.4	4.1	3.3
82: transport & mobile machine drivers/operatives	3.6	4.1	3.6	3.0	3.6	4.2	3.6
91: elementary trades, plant and storage related	3.2	4.8	4.2	3.1	3.9	5.2	4.6
92: elementary administration & service	7.9	8.1	9.4	7.6	9.4	12.0	9.0

! sample size insufficient for publication of estimate. Source: ONS Crown Copyright, 'Annual Population Survey,' January-December 2010, from NOMIS 5th August, 2011

Map 2: Employment in SOCs 1 and 2, Managers and Professionals, by Local Authority District and Unitary Authority (% employed adults), January-December 2010

NOTTINGHAM
BUSINESS SCHOOL
Nottingham Trent University



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2010
Contains Ordnance Survey data © Crown copyright and database right, 2011.

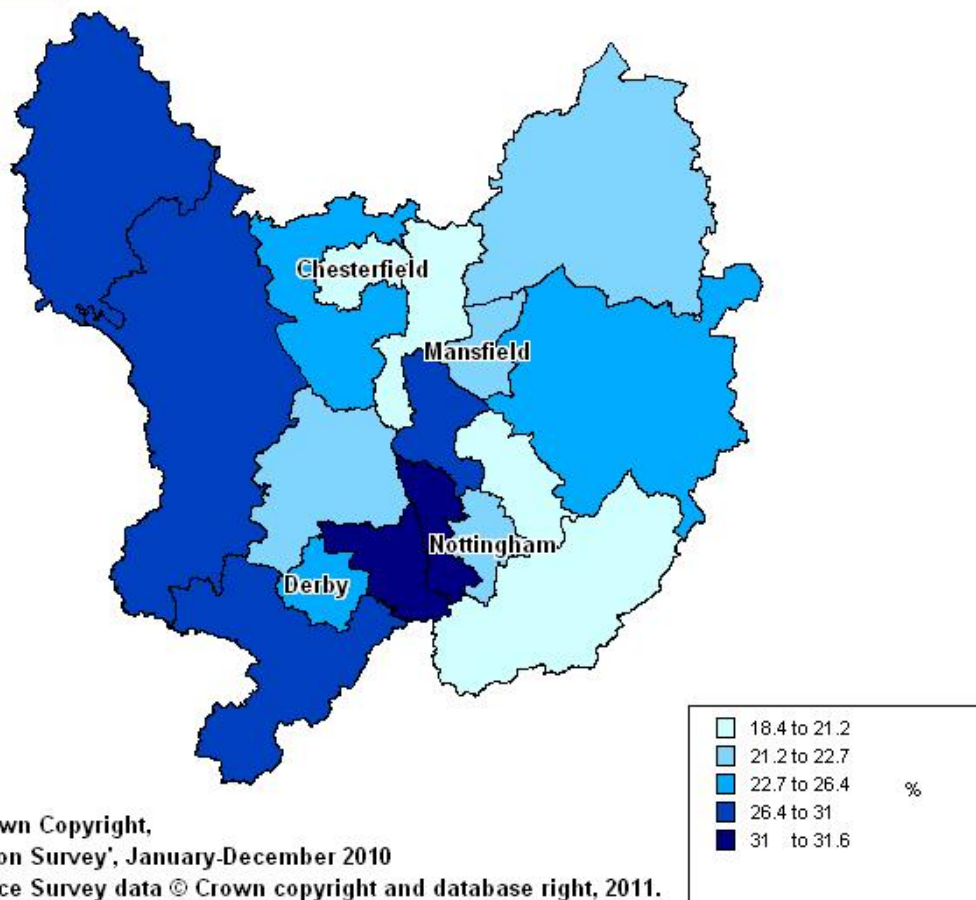
Finally, Maps 2 and 3 illustrate how employment by occupation varies across the D2N2 area at a more local level. Map 2 shows the total proportion employed in SOCS 1 and 2, Managers and Professionals, for the 17 Local Authority Districts and Unitary Authorities. This presents two clear messages: that the more affluent areas associated with high levels of commuting, Rushcliffe in Nottinghamshire and the Derbyshire Dales, have the highest proportions of residents in these higher skill occupations (at 40.8% and 41.7% respectively); and that districts in Derbyshire, especially close to Derby, also have higher proportions – related to high skill local employment in manufacturing. It is also interesting to note that Bolsover, in North Nottinghamshire, has high proportions of employment in higher skill occupations, which could be associated with commuting to Chesterfield and Mansfield, as well as to the Sheffield City Region and Nottingham.

Map 3 presents employment in intermediate skilled occupations, in terms of the total proportion employed in Associate Professional/technical occupations and the Skilled Trades (SOCs 3 and 5). As demonstrated above, employment in these occupations in the D2N2 area is closely associated with

employment in manufacturing. It is therefore unsurprising that almost all districts in Derbyshire have a higher proportion of employment in these occupations, including Erewash (31.6%), South Derbyshire (29.2%) and Derbyshire Dales (26.4%). Employment in these occupations is also high in Broxtowe (31%), which could be related to technician-level employment in locally-based manufacturing firms (such as Siemens and Alliance Boots) as well as those who commute to Derby and Nottingham.

Map 3: Employment in SOCs 3 and 5, Associate Professional/technical and Skilled Trades, by Local Authority District and Unitary Authority (% employed adults), January-December 2010

NOTTINGHAM
BUSINESS SCHOOL
Nottingham Trent University



Summary

- Occupations associated with higher level skills are generally underrepresented in the D2N2 area compared to the national average. This could indicate a lower than average demand for skills from employers in the area compared to elsewhere.
- However, employment in higher skill occupations has been increasing, with the gap between the D2N2 area and the national average closing between 2004 and 2010 in the case of Professional Occupations.
- There is a significant over-representation of occupational groups associated with low

levels of skill in the D2N2 area. Moreover, since 2004 the share of employment in this group has increased in the D2N2 area, whilst it has decreased in the UK overall.

- Derby City has particularly high proportions of residents employed as Professionals and Associate Professionals. This is likely to be related to the concentration of advanced manufacturing, financial services and public sector employment in the city.
- Derbyshire has a relatively skilled occupational profile, with higher proportions employed as Managers and Senior Officials, although many of these skilled residents may travel to work outside the County, to Derby, Nottingham, Sheffield etc. The Skilled Trades, particularly Skilled metal and electronic trades, are also relatively important in Derbyshire clearly associated with the importance of manufacturing and construction in the County.
- The occupational profile for residents of Nottingham City is relatively low-skilled, with high proportions of employment in Sales and Customer Service Occupations and Elementary Occupations. However, Teaching and Research Professionals and Health Professionals are relatively overrepresented occupations in Nottingham, demonstrating the importance of the Higher Education and health sectors to the demand for skilled jobs in the City.
- Nottinghamshire County has a fairly highly skilled occupational profile, and also has strengths in a number of intermediate-skilled occupations. Managers and Senior Officials and Associate Professional Occupations are both relatively overrepresented, many of whom are likely to commute to work in Nottingham City. Personal Service Occupations are also overrepresented compared to the national average, particularly Caring Personal Services, related to the health sector.
- Occupations associated with the public sector appear to be more important for skilled employment in Nottingham and Nottinghamshire, whilst Derby City appears to have high proportions of employment in a broader range of skilled occupations (potentially making the demand for skills in Derby less vulnerable to the direct impacts of public sector cuts).

4.3.2 Employer Recruitment and Skills Issues

The National Employer Skills Survey (NESS) provides an indication of employers' own perceptions of skills issues. The NESS is a survey of between 70,000 and 80,000 employers³¹ in England which provides detailed information on recruitment difficulties, skills gaps, training, and the work-readiness of leavers from education. The most recent NESS took place between May and August 2009, and provides headline findings for the East Midlands region and for County and Unitary Local Authority areas. Results for the 2009 NESS are not published for the LEP areas (which had not yet been confirmed at the time of reporting), but data for these geographies may be available in future surveys.

³¹ The NESS is carried out on an 'establishment' basis, which describes a single employment site – which may or may not be part of a wider organisation (a branch, for example). Employers' views are therefore specific to the location from which they are interviewed. The individual interviewed is either a Human Resources manager or else, in the case of smaller firms, whoever is best placed to provide information on recruitment and training.

The first section of the NESS covers vacancies and the challenges employers encounter in filling them. This provides an idea of the level of demand for workers from employers and the extent to which skills weaknesses in the local workforce present barriers to recruitment. The indicator ‘Hard-to-Fill vacancies’ describes vacancies that have, in the employers’ opinion, remained unfilled due to a range of reasons: issues related to the vacancy itself (poor terms and conditions, low pay etc.) and issues related to the quality of candidates (lack of skills, experience, etc.). This indicator reflects the extent of total recruitment difficulties in the labour market and is usually reported alongside ‘Skills-Shortage Vacancies’ (SSVs). SSVs are a sub-set of hard-to-fill vacancies that have remained unfilled specifically because of a lack of applicants with the required skills, qualifications or experience. SSVs reflect the extent to which skills shortages in the external labour market affect employers’ ability to meet their skill demands, and can be used to discuss ‘mismatch’ between employer demand and the supply of workforce skills in a local area.

Due to the recession, the volume of overall recruitment activity in 2009 fell in comparison to the 2007 survey across England. Nationally, the number of vacancies fell from 2.8% of all employment in 2007 to 1.7% in 2009 (in the East Midlands, vacancies fell from 2.3% to 1.6% of employment). In the D2N2 area, Nottinghamshire had the largest volume of vacancies overall in 2009, at 4,801, 1.7% of employment. The proportion in Nottingham City was similar (1.6%, or 2,880 vacancies), and also in Derbyshire (4,237 equivalent to 1.5% of employment). Recruitment activity in Derby City was lower (1,498 vacancies, equivalent to 1.2% of employment).³² This could indicate the weakening in demand for employment in Derby City, related to the recession, reflected in the significant fall in the number of workforce jobs between 2007 and 2009 described in Section 4.2.

Chart 16 shows ‘hard-to-fill vacancies’ and SSVs as a proportion of total vacancies, compared to the East Midlands regional average and England overall. This shows that:

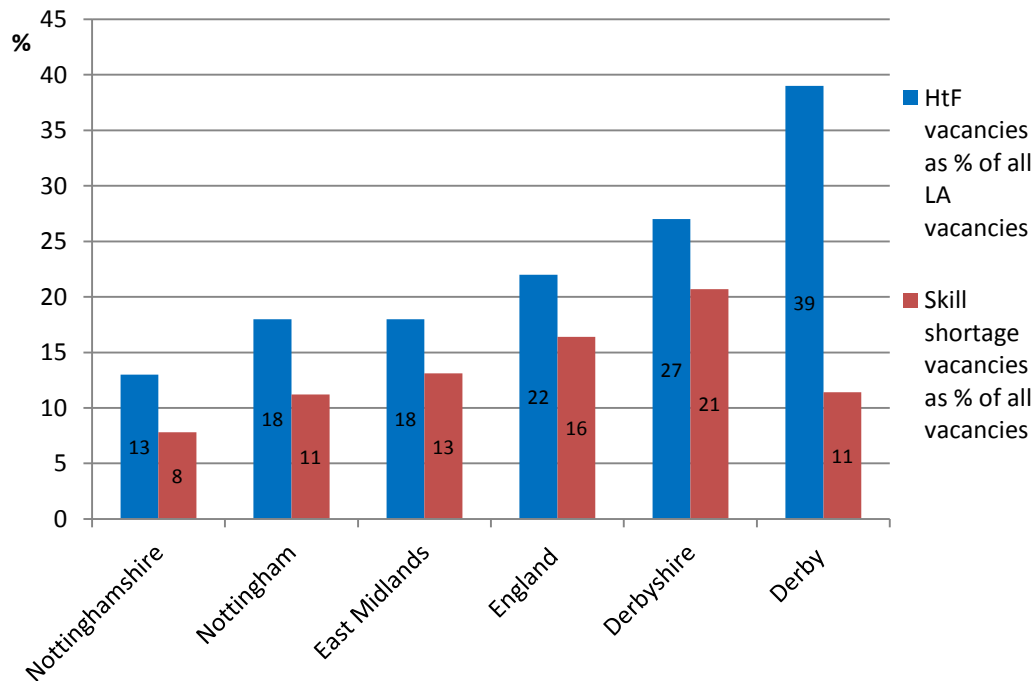
- Although Derby had the smallest number of vacancies in 2009, employers in the city were encountering the greatest problems in filling them – with 39% of vacancies proving ‘hard-to-fill’, above the averages for both the East Midlands and England. However, skills issues accounted for a relatively small proportion (with 11% of vacancies classed as SSVs), meaning that other issues were preventing employers in Derby finding the right candidates – such as a lack of suitable candidates more generally, or problems related to the job itself;
- Although Nottingham had a larger volume of vacancies overall in 2009 than Derby, employers in Nottingham were encountering fewer recruitment problems. Nottingham had a low proportion of vacancies unfilled due to skills shortages (also 11%), but, unlike Derby, also had a low proportion of ‘hard-to-fill’ vacancies overall (18%). This may be a function of the different industrial structures of the two Cities, with manufacturing-related sectors particularly likely to report recruitment difficulties according to data for England overall;³³
- Employers in Nottinghamshire had the largest number of vacancies overall in 2009, but only a small proportion had proved difficult to fill. Nottinghamshire had the lowest proportion of both hard-to-fill vacancies and SSVs in the D2N2 area, at 13% and 8% respectively – significantly below the East Midlands and national averages in both cases; and

³² Roe, P, and Godfrey, D, BMG Research, on behalf of YPLA and SFA East Midlands, *The National Employer Skills Survey 2009: report of results for the East Midlands*, 2010.

³³ Ibid.

- Hard-to-fill vacancies and SSVS were more of a challenge for Derbyshire, accounting for 27% and 21% of all vacancies respectively - above the East Midlands and national averages in both cases.

Chart 16: 'Hard-to-Fill' and 'Skills Shortage' vacancies (as a % of all vacancies), 2009



Source: Tables 17 and 20, BMG Research, on behalf of YPLA and SFA East Midlands, *'The National Employer Skills Survey 2009: report of results for the East Midlands'*, 2010.

This demonstrates a significant difference in recruitment issues between the two Counties in the D2N2 area. Although employers in Derbyshire and Nottinghamshire reported similar volumes of vacancies overall, employers in Derbyshire encountered much greater problems in filling them. This could be function of the different industrial structures, as mentioned above, with manufacturing accounting for a higher proportion of employers in Derbyshire.

Derbyshire and Nottinghamshire Chamber of Commerce's *'Quarterly Economic Review'* confirms this picture, with manufacturing firms in the second quarter of 2011 much more likely to cite recruitment as a challenge compared to service sector employers, and more likely to prioritise the availability of skilled labour as an important factor in determining business location. Overall in 2011 Q2, 37% of businesses in Derbyshire and Nottinghamshire reported difficulties in recruiting "suitably qualified and experienced" workers.³⁴

The NESS also investigates how well the skills of employers' current workforce meet their needs, by asking respondents whether any of their current staff can be described as not being 'fully proficient' in their jobs. Employers who identified staff who were 'not fully proficient' are described as having 'skills gaps'. Skills gaps need to be interpreted with care, as a large proportion tend to be attributed

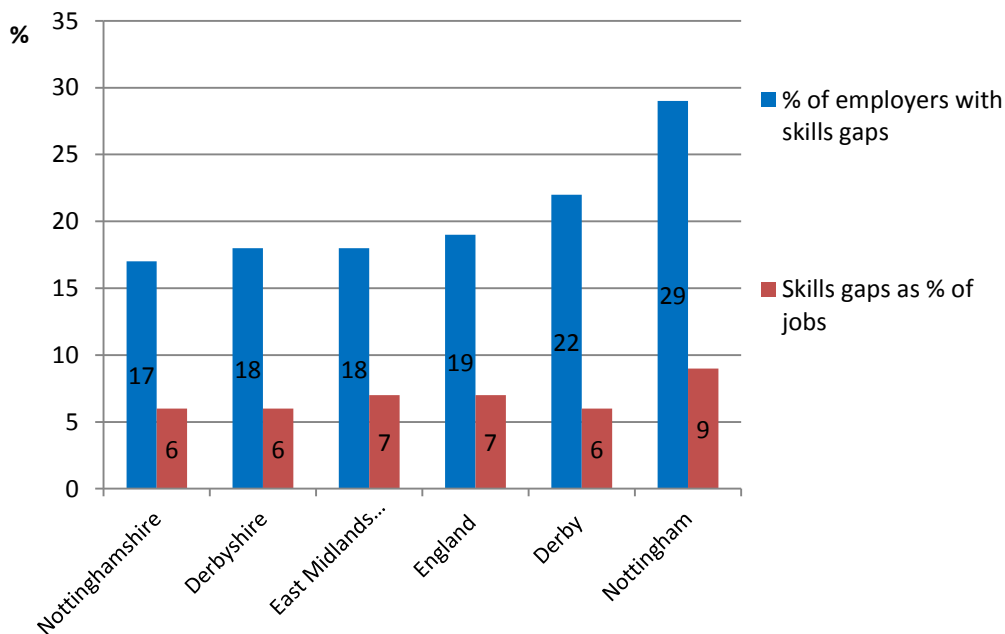
³⁴ Derbyshire and Nottinghamshire Chamber of Commerce, *'Quarterly Economic Review'*, Quarter 2 2011, June 2011.

to high staff turnover – with many individuals described as ‘not fully proficient’ because they are new starters. Skills gaps therefore tend to be higher in sectors with generally low skill requirements.

The proportion of establishments reporting skills gaps has risen from 15% in 2007 to 19% in 2009 in England overall. This could be because, due to the recession, companies controlled their costs by reducing staff. As a result, the workload of those remaining employees may have increased, affecting their ‘proficiency’. In the East Midlands, the proportion of employers reporting skills gaps also increased, from 15% to 18%. Time series data is not available for Local Authority areas, but Chart 17 shows how skills gaps varied across the areas within the D2N2 LEP in 2009:

- Most of the areas in the D2N2 LEP were quite close to the national and regional averages, with skills gaps affecting 18% and 17% of employers in Derbyshire and Nottinghamshire respectively (which is equivalent to 6% of jobholders not being ‘fully proficient’ in both cases); and
- Skills gaps affected a higher proportion of employers in Derby, at 22%, but this was still equivalent to only 6% of jobs (because of the relative concentration of employment in a small number of large employers in Derby). However, both employers and jobholders were affected more significantly in Nottingham, with 29% of employers reporting staff who were not ‘fully proficient’ in 2009, equivalent to 9% of all jobholders. This is likely to be a function of both the industrial structure in Nottingham, with a high proportion of skills gaps reported by retail employers and in the health sector, and the skills profile of the City, with higher proportions of employed residents with very low skills levels compared to elsewhere, as described in Section 4.4.

Chart 17: Employers Reporting ‘Skills Gaps’ (% of employers and % of jobs), 2009



Source: Table 40, BMG Research, on behalf of YPLA and SFA East Midlands, ‘The National Employer Skills Survey 2009: report of results for the East Midlands’, 2010.

Summary

- The 2009 National Employer Skills Survey (NESS) indicates that overall recruitment activity across the East Midlands has decreased compared to 2007, which is likely to reflect the recession. Within the D2N2 area, Nottinghamshire had the greatest number of vacancies overall, but lower proportions of employers in the County reported difficulties finding the right candidates (13% of vacancies in Nottinghamshire were 'hard-to-fill' vacancies compared to 22% nationally).
- A significant proportion of firms in Derby City and Derbyshire encountered recruitment difficulties (39% and 27% of vacancies respectively were 'hard-to-fill'). This could be a function of the importance of the manufacturing sector to Derby and Derbyshire (which, in England overall, is known to be particularly affected by recruitment difficulties).
- In the case of skills issues amongst current staff, employers in Nottingham City were far more likely to report 'skills gaps' compared to other areas (29% compared to 19% nationally). This could also be a function of industrial structure, with employers in retail and health particularly likely to report skills gaps, but it may also reflect lower levels of workforce skills – with higher proportions of individuals lacking any qualifications in Nottingham especially affecting staff in low skill jobs.

4.4 The Supply of Skills

To assess how closely the skills available to employers in the D2N2 area meet demand, this section will use accredited qualifications as a proxy measure. Although they are the most readily available measure, qualifications are only tangentially related to 'skill', so must be interpreted with care. Many skills valued by employers – such as communication and team working - are not necessarily reflected by qualifications. Robust data is available for the *level* of qualifications held, but very little is available on the course *subject*, preventing judgement on their applicability to available jobs. However, data on qualification levels have the advantages of comparability over time and between geographic areas (nationally and internationally). There are also positive associations between qualification levels, employment and productivity - although there is debate on whether gaining a qualification develops the skills that make individuals more employable and productive, or whether a level of qualification simply 'signals' an individuals' innate capability. On balance, however, qualifications remain useful, if imperfect, measures of skill.³⁵

International data shows that employment rates and earnings increase with each level of qualification gained. Across OECD³⁶ member states, the difference in employment rates between

³⁵ For a review of these issues, see: Tamkin, P, Giles, G, Campbell, M, and Hillage, J, Institute for Employment Studies (IES) on behalf of the Sector Skills Development Agency (SSDA – now the UKCES), '*Skills Pay: The Contribution of Skills to Business Success*', September 2004.

³⁶ The Organisation of Economic Cooperation and Development, which includes developed countries across Europe, the United States and Canada, Australia, Japan and South East Asia.

individuals qualified to the equivalent of a degree and other school/college leavers is particularly significant. In the UK in 2008, degree holders had an employment rate that was 5.6 percentage points higher than those with an equivalent of A levels, and 22.2 percentage points higher than those lacking the equivalent of 5 GCSE passes. In Germany, there was a 30.5 percentage point difference between the employment rates of graduates and those lacking the equivalent of 5 GCSE passes.³⁷

There are substantial earnings benefits associated with higher levels of qualification. As described in more detail in Section 4.5, labour market theory would suggest that more highly skilled, productive workers have higher earnings – thus earnings differentials can indicate both the benefits to the individual and the wider productivity benefits to the national or local economy. The benefits of completing a degree in the UK have remained stable and high, despite the increase in supply of graduates over the last decade - with the latest estimate, for 2008, of UK graduate earnings 54% higher than non-graduates. This has also been the case in the United States, but with a significantly greater earning differential – with graduates earning 77% more than non-graduates in 2008.³⁸

These international comparisons suggest that higher proportions of workers with higher level qualifications are likely to increase earnings/productivity in a given area, which is often cited as the reason why national and local policy should aspire to increase workforce qualifications.

Within the UK, qualifications are grouped in a hierarchical framework, known as the National Qualification Framework (NQF). The proportions of the workforce qualified to given NQF levels are presented as follows in this section:

- **Level 4 and above:** equivalent to a First or Higher Degree (e.g. a BA, BSc, MA, MSc), an NVQ Level 4 or 5, a recognised degree-level professional qualification, a HNC/HND or other higher-level vocational or management qualification etc. Skills associated with this level of qualification are broadly equivalent to the skills required for SOCs 1 and 2, Managers and Professionals;
- **Level 3:** equivalent to at least two A Level passes, four AS Levels, an Advanced GNVQ, or equivalent vocational qualification. Apprenticeships are allocated to their equivalent NQF/NVQ level and those Apprenticeships reported without a specific level are split evenly between Level 2 and Level 3 qualifications. Skills associated with this level of qualification are broadly equivalent to those required for SOCs 3, 4 and 5, Associate Professional and Technical Occupations, Administrative and Secretarial Occupations, and the Skilled Trades;
- **Level 2:** equivalent to at least five GCSEs at grades A*-C or equivalent vocational qualification, such as a NVQ Level 2. A Level 2 is described in Government policy as the “minimum level of qualification”³⁹ necessary for labour market entry and progression. This is the level of qualification expected of school leavers at 16; and
- **Below Level 2:** all other levels of qualification, such as a NVQ Level 1 or less than five GCSE passes, and no formal qualifications.

³⁷ OECD, *Education at Glance - OECD Indicators 2010*, September 2010.

³⁸ OECD, *Education at Glance - OECD Indicators 2010*, September 2010. Table A7.1a Note: Upper secondary and post-secondary non-tertiary education=100.

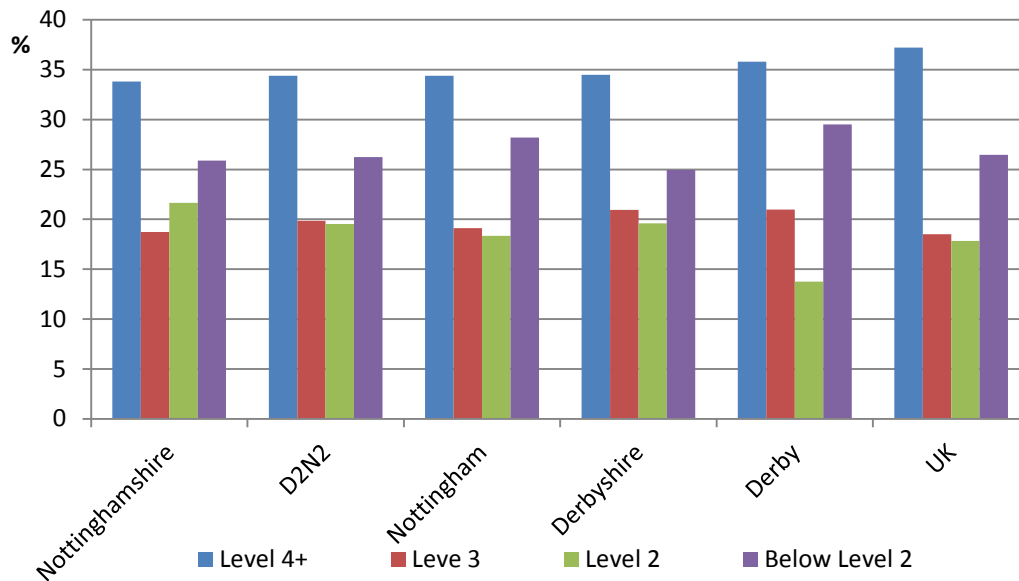
³⁹ The Leitch Review of Skills, *Prosperity for All in the Global Economy – World Class Skills: Final Report*, December 2006.

Using these groupings of qualification, Chart 18 presents the proportion of employed adults in the D2N2 area and its constituent Local Authority area compared to the UK average. Individuals are grouped according to their highest qualification levels, so the proportion for Level 3, for example, groups those who have the equivalent of a Level 3 but no higher.

Chart 18 shows that:⁴⁰

- All areas in the D2N2 LEP have lower proportions of employed residents qualified to a Level 4 and above compared to the national average;
- In line with its higher average earnings (both workplace and residence based) and demand for higher-skill occupations (in its SOC profile), Derby City has the highest proportion of resident employees qualified to a Level 4 and above, at 35.8%. This is above the D2N2 average of 34.4%, but below the UK average of 37.2%;
- Nottingham City and Derbyshire are both in line with the D2N2 average in terms of the proportion of employed residents qualified to a Level 4+. Nottinghamshire has the lowest proportion of employed residents qualified to a Level 4+, at 33.8%;
- Derby City and Derbyshire both have higher proportions with highest qualifications at Level 3, at 21% and 20.9% respectively (compared to 19.8% across the D2N2 area and 18.5% in the UK). This can be associated with the demands for skills at this level from manufacturing employers, also indicated by relative overrepresentation in SOC groups such as the Skilled Trades and Associate Professionals; and
- Nottingham and Derby Cities both have higher proportions of employed residents lacking a Level 2, at 28.2% and 29.5% respectively, compared to 26.5% in the UK and 26.2% across the D2N2 area. In the case of Nottingham, this could explain the high proportion of employers reporting skills gaps and could point to serious skills issues facing a higher proportion of Nottingham's workforce compared to elsewhere. Derby has high proportions of employed residents qualified to a Level 4 and Level 3, but also high proportions with few formal qualifications. This suggests a relatively polarised skills profile, which is not matched by the occupational profile of the city – which could suggest an over-supply of low-skilled residents in the City.

⁴⁰ APS data on the occupations and qualifications held by working age residents applies to the calendar year January - December 2010. This is because qualifications data is only published in the calendar year release.

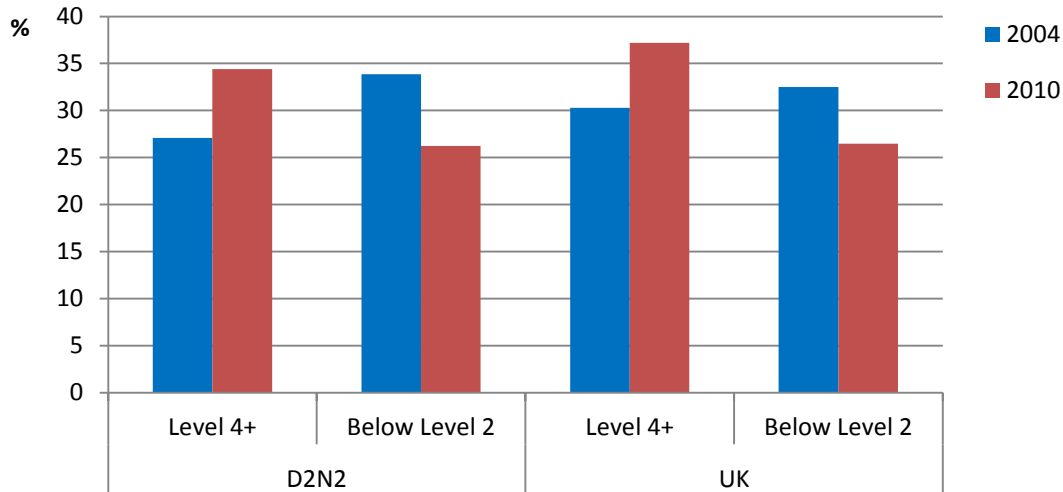
Chart 18: Highest Qualifications of Employed Adults (% in employment, 16-64), 2010

Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2010.

Chart 19 illustrates the change from 2004 to 2010 for the D2N2 area compared to the UK, in terms of higher level (Level 4 and above) and low level qualifications (below a Level 2). In both the UK and the D2N2 area, the proportion of employed residents with qualifications at Level 4 and above increased over the period whilst the proportion with very low level qualifications decreased:

- In the D2N2 area, the proportion qualified to a Level 4 and above increased from 27.1% to 34.4% (an increase of 7.3 percentage points). In the UK, the proportion qualified to a Level 4 and above increased from 30.3% to 37.2% (6.9 percentage points). This means that the D2N2 area has closed the gap with the UK average in terms of the stock of higher-level qualifications in the workforce;
- The proportion of employed residents with very low level qualifications (below a Level 2) decreased from 33.9% to 26.2% (7.6 percentage points) in the D2N2 area. In 2004, the D2N2 area had a higher proportion with very low level qualifications compared to the national average. In 2010 it had fallen to slightly below the national average (with the UK proportion falling from 32.5% to 26.5%); and
- This change was driven by a higher than average increase in the proportion of employed residents with a Level 2 as their highest qualification in the D2N2 area, from 18.6% to 19.5% - compared to a decrease in the UK (from 18.7% to 17.8%). This coincided with a decrease in the proportion of residents with a Level 3 as their highest qualification in the D2N2 area (falling from 20.4% in 2004 to 18.8% in 2010). In the UK, this has remained stable at 18.5%.

Chart 19: Employed Adults with Level 4+ and Below Level 2 (% in employment, 16-64), 2004 and 2010



Source: ONS Crown Copyright, 'Annual Population Survey', January-December 2004 and January-December 2010.

Although the D2N2 area has experienced a significant fall in the proportion of employed adults lacking Level 2 qualifications, and has experienced an increase in those qualified to an equivalent of a degree, the change in the profile of intermediate qualifications (not shown in Chart 19) is less positive. Given the apparent demand for skills at Level 3, especially in Derby and Derbyshire and in the manufacturing, construction and health sectors across the D2N2 area, it is concerning that the stock of workers qualified to this level has fallen over time (whilst the stock with Level 2 qualifications, but no higher, has increased). When surveyed, employers report that skills equivalent to a Level 2 tend not to meet their requirements, and have voiced support for increasing provision at Level 3 – especially Apprenticeships at that level (with Level 2 Apprenticeships viewed as far less useful). Research on wage returns find that employers are more likely to reward those with a Level 3 qualification, recognising the value of associated skills, whilst the evidence suggests that a highest qualification at Level 2 is associated with little or no wage return in most sectors.⁴¹

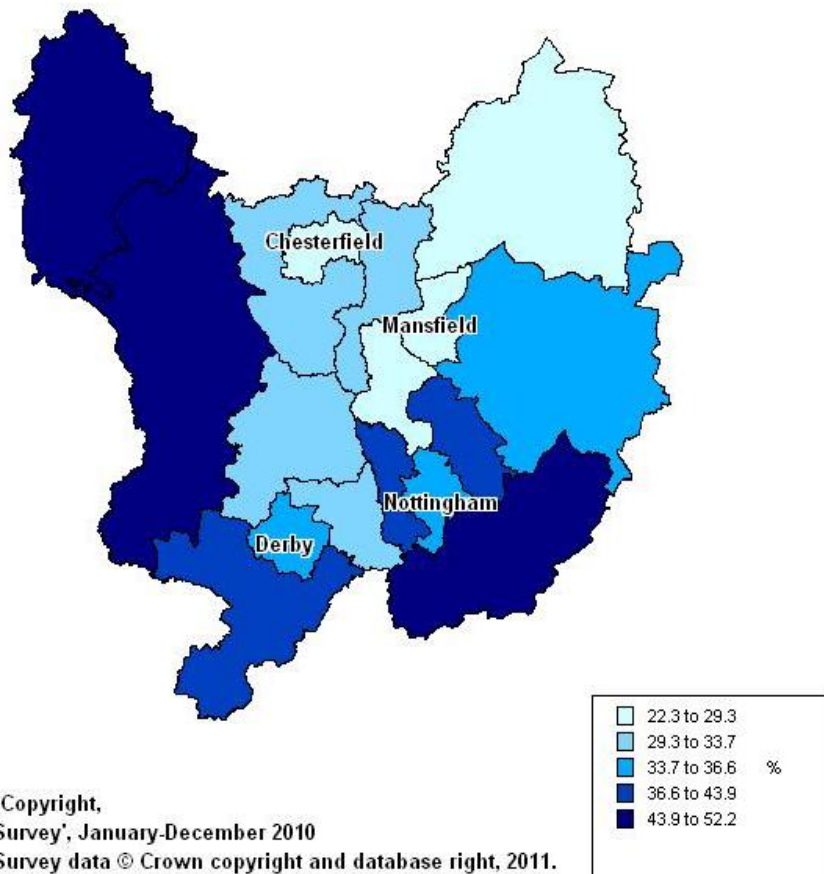
Finally, Map 4 shows the variation in skills supply at a more local level, represented by the proportion of employed residents with qualifications at Level 4 and above for the 17 Local Authority Districts and Unitary Authorities. This shows that a number of Derbyshire districts, notably the Derbyshire Dales and High Peak, have very high proportions of residents qualified to degree level, at 51.7% and 43.9% respectively. This reflects the occupational profile of employment – with high proportions employed as Managers or Professionals (see Map 2) – many of whom may commute to work in Derby, Manchester, Nottingham or Sheffield. Rushcliffe also has high proportions qualified to this level (52.2%), which reflects the high number of skilled residents who commute to Nottingham. Also note the contrast between Nottingham City, with lower proportions of residents

⁴¹ Dickerson, A, and Vignoles, A, on behalf of the SSDA, 'The Distribution and Returns to Qualifications in the Sector Skills Councils', Research Report 21, April 2007.

qualified to a Level 4 (34.4%), and other surrounding districts, Broxtowe (36.8%) and Gedling (36.6%), suggesting a lower skilled resident workforce within Nottingham compared to neighbouring areas.

Map 4: Employed Adults with Level 4+ by Local Authority District and Unitary Authority (% in employment, 16-64), 2004 and 2010

NOTTINGHAM
BUSINESS SCHOOL
Nottingham Trent University



Source: ONS Crown Copyright,
'Annual Population Survey', January-December 2010
Contains Ordnance Survey data © Crown copyright and database right, 2011.

Summary

- Qualifications are an imperfect measure of skill. In particular, they do not capture the type of skill held or its applicability to individuals' jobs. However, they are comparable over time and across geographical areas.
- There is a strong association between higher levels of qualification and higher employment rates and earnings. In the UK and other OECD countries, employment rates and earnings for graduates are significantly higher than for non-graduates.
- Across the D2N2 area, there are lower proportions of employed residents with qualifications at Level 4 or above (equivalent to a degree). The proportion is highest in Derby City, reflecting the demand for higher skill/higher wage employment.
- Derby City and Derbyshire also have higher proportions of residents with Level 3

qualifications (equivalent to at least two A-levels, an Advanced GNVQ, or a Level 3 Apprenticeship), related to the demand for intermediate, technician-level skills. However, Nottingham and Derby Cities both have higher proportions of residents with very low levels of qualification (below a Level 2).

- In the D2N2 area, as in the UK as a whole, the proportion of employed residents qualified to a Level 4 has increased between 2004 and 2010, whilst the proportion with few formal qualifications (below a Level 2) has decreased. The D2N2 area has closed the gap with the UK average in the case of Level 4 qualifications, and now has a slightly lower than average proportion lacking a Level 2.
- The D2N2 area has experienced a slight decline in the proportion qualified to a Level 3, which could be a concern given the sustained demand for technician-level, intermediate skills from employers in the area – especially in the manufacturing, construction and health sectors.
- Generally speaking, there appears to be a fairly close relationship between the occupational profiles (an indicator of skills demand) across the areas in the D2N2 LEP and the qualifications of employed residents (an indicator of skills supply).
- The skills and occupational profiles of Nottingham and Derby Cities differ considerably. Derby appears to have a strong demand for employment in highly skilled professional and technical occupations, associated with Apprenticeships and Level 3 and 4 qualifications, whilst Nottingham appears to have a strong demand for lower level skills, associated with service sectors such as retail and health.

4.5 Earnings

Earnings can be interpreted as an outcome of the skills of the workforce in a local area, based on two assumptions from labour market theory:

- Highly skilled workers are likely to be more productive, and more productive workers are **rewarded** through higher wages; and
- Employers who value/require skills will pay a relative premium to attract skilled staff, thus their **demand is indicated** through higher wages.

The main source for earnings estimates is the Annual Survey of Hours and Earnings (ASHE). Estimates are available based on where individuals live (residence based) and where they work (workplace based)⁴², which enable a discussion of some of the issues around the commuting patterns of skilled workers raised in Section 4.4 above.

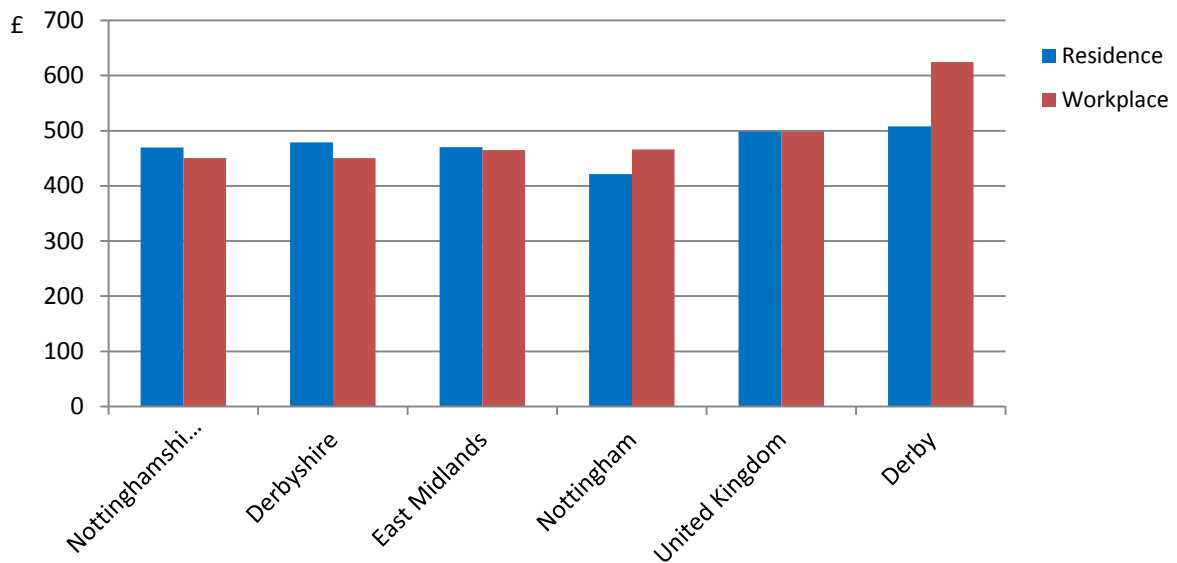
Chart 20 presents earnings estimates for 2010 on a residence compared to a workplace basis for Local Authority areas within the LEP compared to the UK average and the East Midlands region.

⁴² In presenting data from the ASHE, it is recommended that the median – the value at the centre of the distribution of responses – is cited rather than the mean – the arithmetically calculated average – as the median is not skewed by a small number of very high earners in an area.

Comparable estimates for D2N2 as a whole have not yet been published. The chart shows the following:

- In Nottinghamshire and Derbyshire, and in the East Midlands region as a whole, the median of residents’ earnings exceeds the median of earnings for those working in the area. In Derbyshire, residents in full-time employment earned a median of £478.90 per week in 2010, compared to £450.50 for individuals working in the County – a 5.9% difference. In Nottinghamshire, residents earned a median of £469.60 per week, 4.1% higher than the workplace-based median of £450.20 - the lowest workplace-based earnings in the D2N2 area; and
- In Nottingham and Derby, the reverse is true, with those working in the Cities earning more than residents. Derby City has the highest workplace-based earnings in the D2N2 area (and in the East Midlands region), at a median of £624.90 per week (exceeding the UK median of £498.80). Residence-based earnings in Derby are 23% lower, at £508.10 per week, but this is still above the UK median. In Nottingham, the difference is less striking (11%). The median earnings for full-time employees in workplaces in Nottingham was close to the East Midlands average, at £466.40 per week, whilst residents earned a median of £421.60 - below the East Midlands average and the lowest residence-based earnings in the D2N2 area.

Chart 20: Gross Weekly Earnings, Residence and Workplace-based Estimates (median £), 2010



Source: ONS Crown Copyright, ‘Annual Survey of Hours and Earnings 2010’, residence and workplace based estimates, median of Gross Weekly Pay (total full-time workers).

In line with the analysis of commuting flows in Evidence Report 3: The D2N2 Economy, this suggests that the two Cities, as net importers of commuters, are likely to be drawing in individuals to meet demand for high-skilled employment from elsewhere – whilst residents are, on average, less likely to be in high paid/high skill employment.

Summary

- The earnings of those *working* in Derby and Nottingham exceeded the earnings of *residents* of both Cities, whilst earnings of *residents* of Derbyshire and Nottinghamshire exceeded the earnings of those *working* in either of the two Counties. Derby City had the highest workplace-based earnings in the D2N2 area, at a median of £624.90 per week in 2010, whilst Nottingham City had the lowest residence-based earnings, at a median of £421.60 per week.
- This suggests that many higher skilled/paid residents of Nottinghamshire and Derbyshire commute to work elsewhere (including to Nottingham and Derby Cities), whilst those who remain working in the Counties are more likely to be in lower skilled/paid jobs. In Derby City, there was a particularly significant difference between the earnings of those working in the city and those resident there.